



Product Data

38AH024-134 With 40RM016-034 Commercial Air-Cooled Split Systems 50 Hz

63 to 390 Nominal kW (18 to 111 Tons)

Quality Assurance



Certificate No FM 21837

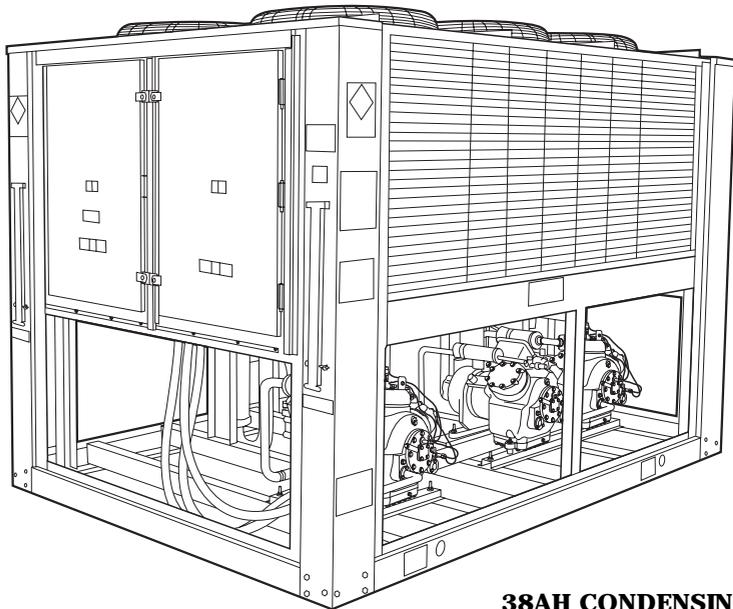
Approvals:

ISO 9002

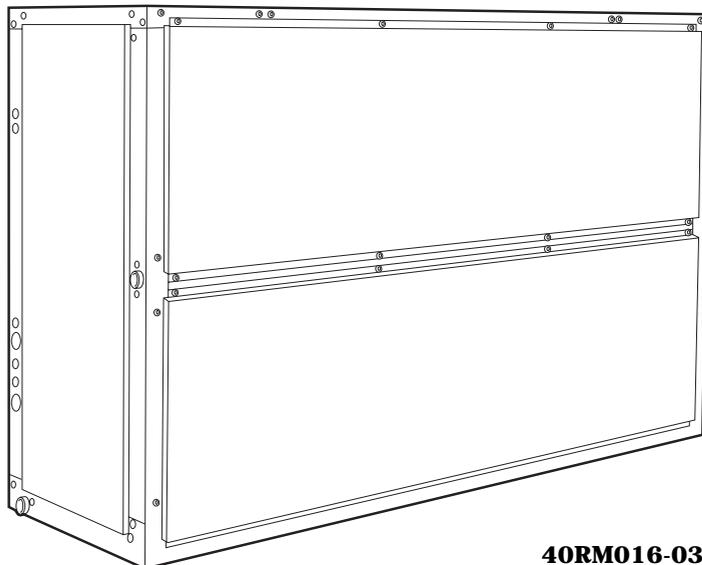
EN 29002

BS5750 PART 2

ANSI/ASQC Q92



38AH CONDENSING UNIT



40RM016-034

This catalog describes the full range of versatile 38AH condensing units. For 38AH sizes 024-034, this catalog also describes matching Carrier 40RM air handlers, and gives combined ratings for these 38AH/40RM systems. All 38AH condensing units can also be matched to Carrier's 39 Series air handlers. Use Carrier's exclusive AHU (Air-Handling Unit) selection program to select these matching indoor units.

Features/Benefits

- Up to 4 compressors and 2 independent refrigerant circuits provide design flexibility; size 044-134 condensing units can supply one or 2 air handlers
- Efficient 38AH Series units save energy
- Variable air volume units operate at as low as 8% of nominal capacity without the use of energy-inefficient hot gas bypass.
- Constant volume units operate at as low as 16% of nominal capacity (standard) or 8% of nominal capacity (with accessory unloader)
- Weatherized steel cabinet ensures corrosion protection
- Protection against high discharge and low suction refrigerant pressure, and low oil pressure ensure compressor reliability
- Timed bypass of low pressure switch on start-up of 024-034 size units.
- Crankcase heaters prevent oil dilution and ensure compressor lubrication



The 38AH condensing unit offers the utmost in system configuration and control adaptability. Its premium-quality standard components ensure durable, efficient and reliable operation.

Versatility

38AH Series condensing units feature up to 4 compressors and 2 refrigerant circuits, and can be matched with a wide variety of air-handling units. All condensing unit circuits can supply a single air handler; size 044-134 units can supply 2 separate air handlers.

Standard units have constant volume control. A variable air volume (VAV) option is available. The VAV units have electric unloaders on the compressors to closely match building loads. The VAV option requires only a simple connection to the Carrier ModuPanel™ discharge air controller, thereby saving installation time and cost. (NOTE: Unit sizes 024-034 require field supplied and installed accumulator.)

Durable construction

All 38AH units have weatherized cabinets constructed of heavy-duty galvanized steel prepainted with corrosion-resistant baked enamel. Inside and outside surfaces are protected to ensure long life and good looks. The durable, galvanized steel, prepainted components exceed the requirements of the 500-hour salt spray test per ASTM B117.

The unit's coils have aluminum fins mechanically bonded to copper tubes for long-term reliability and improved heat transfer. An inert epoxy barrier is available on precoated fins to provide improved durability in mildly corrosive coastal environments. Copper fins on copper tubes are available for harsh industrial or coastal conditions.

Reliability

The 38AH condensing units feature time-proven, highly reliable 06D and 06E semi-hermetic compressors. Unloading capability is a standard feature on the lead compressor of each circuit. Each compressor has vibration isolators to provide quiet operation and reduced component stress.

Because 38AH units have 2 independent circuits, they provide inherent backup capability. Each circuit is also protected by the following safety features:

- Time Guard® anti-short-cycling device
- low oil pressure safety switch
- low refrigerant pressure switch (suction)
- high refrigerant pressure switch (discharge)
- calibrated circuit breakers for compressors and outdoor fans

Easier installation and service

38AH units are equipped with hinged control-box access doors, liquid line shutoff valves, and service valves on the compressors.

Larger 38AH124 and 134 size units are shipped as 2 modules for easier handling and rigging.

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Innovative Carrier 40RM air-handling units in sizes 016-034: ideal matches for 38AH024-034 condensing units

The 40RM 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 40RM 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 016-034 sizes feature dual-circuit coils.

Standard 51-mm (2-in.) disposable filters remove dust and airborne particles from the occupied space.

Thermal insulation contains an immobilized anti-microbial agent to inhibit the growth of bacteria and fungi. The anti-microbial agent is registered with the U.S. Environmental Protection Agency (EPA).

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

The 40RM accessory economizer can provide ventilation air to improve indoor-air quality. When used with CO₂ sensors, the economizer admits

fresh outdoor air to replace stale, recirculated indoor air. Includes 24-v controls.

Economy

The 40RM Series packaged air handlers save money by providing reduced installation expense and energy-efficient performance.

Quick installation is ensured by the multiposition design. Units can be installed in either the horizontal or vertical (upflow) configuration without modifications. All units have drain-pan connections on both sides, and pans can be pitched for right- or left-hand operation with a simple adjustment. Fan motors and contactors are prewired and thermostatic expansion valves (TXVs) are factory-installed on all 40RM 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

40RM 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 40RM direct-expansion coils have galvanized steel tube sheets; inlet and outlet connections are on the same end. The coils are designed for use with Refrigerant 22 and have 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 multiposition 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.

Model number nomenclature — 38AH024-034



38AH 024 — — 9 1 3 A A

38AH — Commercial Air-Cooled
Condensing Unit

Nominal Capacity — kW (Tons)

- 024 — 63 (18)
- 028 — 73 (21)
- 034 — 87 (25)

Not Used

Condenser Coil Fin Material

- — Aluminum (Standard)
- C — Copper (Optional)
- K — Precoated Aluminum (Optional)
- SO — Post-Coated Aluminum (Contact Factory)
- SO — Post-Coated Copper (Contact Factory)

Voltage Designation

- 3 — 346-3-50
- 8 — 230-3-50
- 9 — 400-3-50

Compressors

- A — Standard Compressors — One Suction Pressure-Actuated Unloader on Lead Compressor
- C — Variable Air Volume (VAV) Option — Includes 2 Electric Unloaders on Lead Compressor and Control Box Modifications

Fan Motors and Labels

- A — Standard Condenser Fan Motors and Labels
- B — Class F Fan Motors (Export Only) — Not UL Approved

Packaging

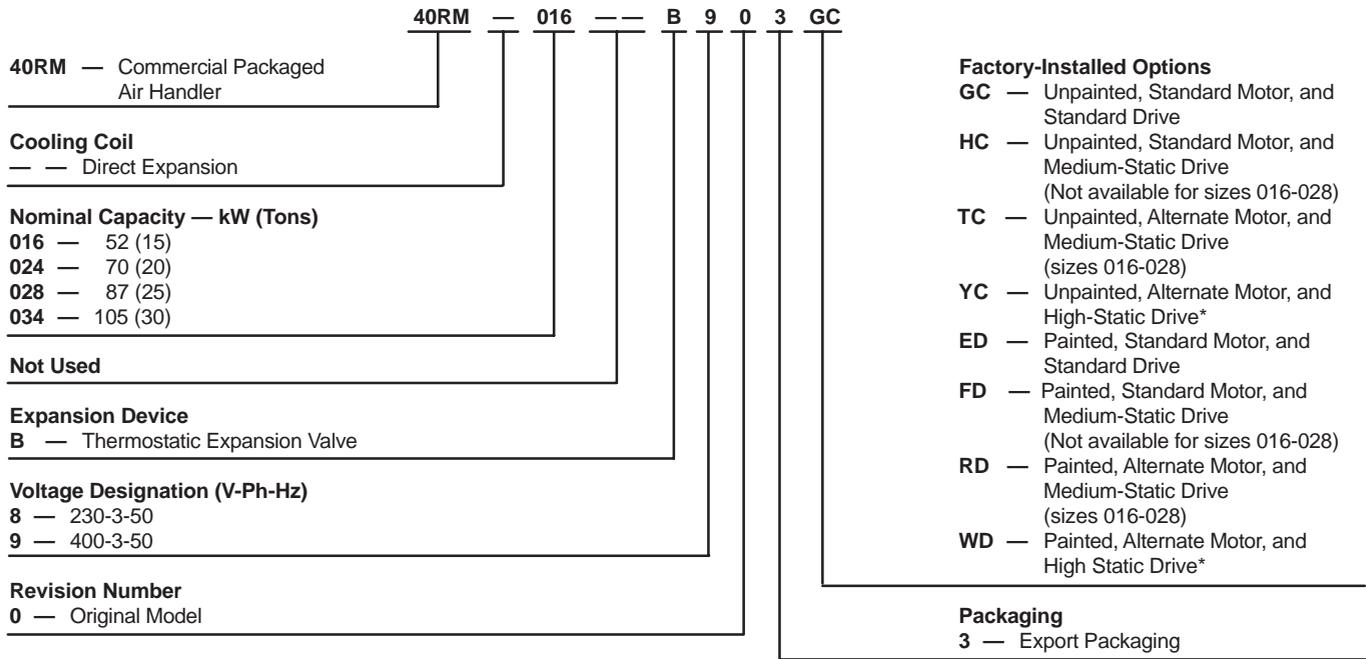
- 1 — Standard Domestic Packaging — Bottom Skid
- 3 — Export Packaging — Top and Bottom Skid

Revision Number

- 1 — Current Revision

- SO — Special Order
- UL — Underwriters' Laboratories (U.S.A.)

Model number nomenclature — 40RM



*YC and WD option codes for all 034 size units designate standard motor and high-static drive.

Ratings summary — 38AH024-034/40RM

OUTDOOR UNIT 38AH	INDOOR UNIT 40RM	AIRFLOW		SYSTEM GROSS CAPACITY		CONDENSING UNIT ONLY GROSS CAPACITY*	
		L/s	Cfm	kW†	Btuh**	kW	Btuh
024	016	2,800	6,000	57.3	195,000	63	216,000
	024	3,800	8,000	62.5	214,000		
	028	4,700	10,000	66.3	227,000		
028	024	3,800	8,000	68.9	236,000	73	250,000
	028	4,700	10,000	73.5	251,000		
	034	5,650	12,000	77.6	265,000		
034	028	4,700	10,000	82.6	283,000	87	297,000
	034	5,650	12,000	87.7	300,000		

*Condensing unit only ratings are at 7.2 C (45 F) saturated suction temperature and 36 C (95 F) entering-air temperature.

†Total gross system capacity (kW) is based on 20 C wet bulb and 26.7 C dry bulb air entering indoor unit, and 36 C dry bulb air entering outdoor unit.

**Total gross system capacity (Btuh) is based on 67 F wet bulb and 80 F dry bulb air entering indoor unit, and 95 F dry bulb air entering outdoor unit.

Options and accessories — 38AH024-034/40RM



38AH024-034 factory-installed options

VAV option provides unit with 2 electric unloaders and control box modifications necessary to connect to a field-installed ModuPanel™ control.

Class F fan motors provide additional motor insulation for high ambient temperature environments.

Condenser coil options are available to match coil construction to site conditions for the best corrosion durability. Pre-coated coils provide protection in mild coastal environments. All copper coils are best suited for moderate coastal applications, while post-coated coils provide superior protection in severe coastal and industrial applications.

38AH024-034 field-installed accessories

Pressure-operated unloading allows compressors to be unloaded in response to compressor suction pressure.

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

Electric unloading package provides an additional step of electric unloading.

–29 C (–20 F) low-ambient temperature kit (Motor-master® III) 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.

Gage panel package provides a suction and a discharge pressure gage for one refrigerant circuit.

ModuPanel control box allows 38AH system to operate VAV system. Includes microprocessor satellite sequencer, 4 status lights, 5-hour bypass timer, and locked enclosure. Requires field-installed accumulator.

Carrier's line of thermostats provide both programmable and non-programmable capability with the new **Debonair™** line of commercial programmable thermostats, the **TEMP System** controls offer communication capability with staged heating and cooling, the **Commercial Electronic** thermostats provide 7-day programmable capability for economical applications, while the **non-programmable** thermostats offer a multitude of staged heating and cooling subbase options.

40RM 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. (Check availability and lead times.)

Alternate fan motors and drives are available to provide the widest possible range of performance.

40RM field-installed accessories

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

Two-row hot water coils have 5.9-mm (5/8-in.) diameter copper tubes mechanically bonded to aluminum plate fins. Coils have non-ferrous headers.

One-row steam coil has 25.4-mm (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 1207 kPag at 204.4 C (175 psig at 400 F) and up to 2069 kPag at 148.9 C (300 psig at 300 F). IDT steam coils are especially suited to applications where sub-freezing air enters the unit.

Electric resistance heaters have a one- or two-stage, open-wire design and are mounted in a rigid frame. Safety cutouts for high temperature conditions are standard. Heaters also feature single-point power connection.

Economizer (enthalpy controlled) provides ventilation air and “free” cooling if outside ambient temperature and humidity are suitable. Can also be used with CO₂ sensors to help meet indoor air quality requirements. Economizer comes complete with 24 v controls.

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. Field assembly required.

CONDENSER COIL PROTECTION APPLICATIONS

DESCRIPTION (Enviro-Shield™ Option)	ENVIRONMENT*					
	Standard, Non-Corrosive	Mild Coastal	Moderate Coastal	Severe Coastal	Industrial	Combined Coastal and Industrial
Standard, Al/Cu	X					
Pre-Coated Al/Cu		X				
Cu/Cu			X			
Post-Coated Al/Cu					X	
Post-Coated Cu/Cu				X		X

LEGEND

- Al/Cu — Aluminum Fin with Copper Tube Coil
- Cu/Cu — Copper Fin with Copper Tube Coil
- Enviro-Shield — Family of Coil Protection Options
- Post-Coated — Organic Coating applied to Entire Coil Assembly
- Pre-Coated — Epoxy Coating Applied to Fin Stock Material

*See “Selection Guide: Environmental Corrosion Protection” Catalog No. 811-839 for more information.

Overhead suspension brackets support units in horizontal ceiling installations.

Carrier's line of thermostats provide both programmable and non-programmable capability with the new **Debonair™** line of commercial programmable thermostats, the **TEMP System** controls offer communication capability with staged heating and cooling, the **Commercial Electronic** thermostats provide 7-day programmable capability for economical applications, while the **non-programmable** thermostats offer a multitude of staged heating and cooling subbase options.

CO₂ 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

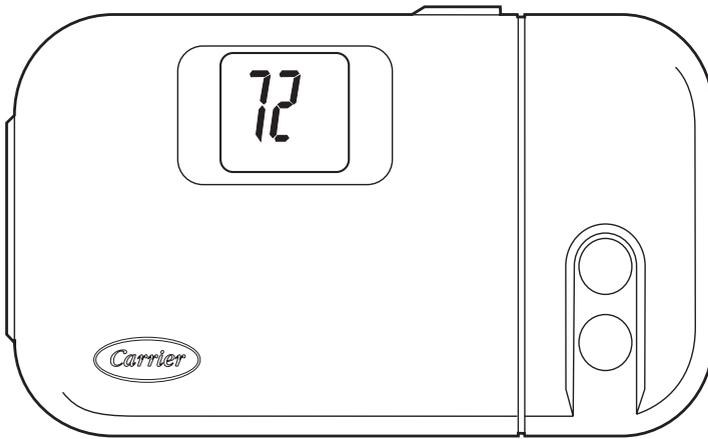
the CO₂ level in the space exceeds the set point. A Carrier Comfort System programmable thermostat can be used to override the sensor if the outside-air temperature is too high or too low.

CO₂ sensors can be connected to the Carrier Comfort System relay pack or to the economizer accessory. Connection to the economizer requires field-supplied and installed Honeywell dc adapter no. Q769C1004.

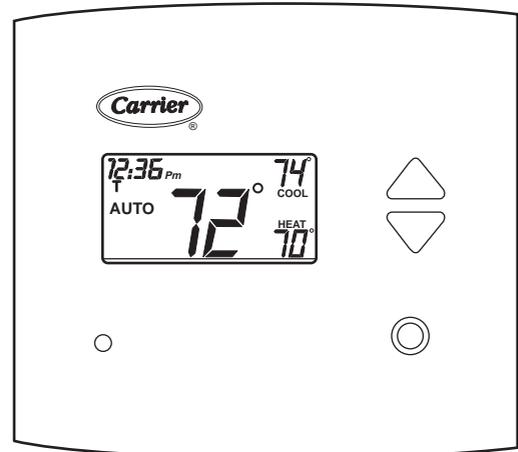
Condensate drain trap includes an overflow shutoff switch than can be wired to turn off the unit if the trap becomes plugged. The kit also includes a wire harness that can be connected to an alarm if desired. The transparent trap is designed for easy service and maintenance.

CARRIER THERMOSTATS

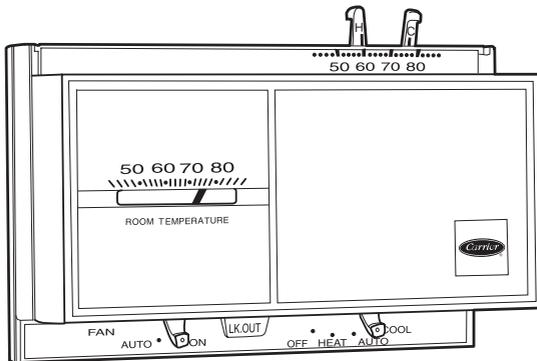
COMMERCIAL ELECTRONIC THERMOSTAT



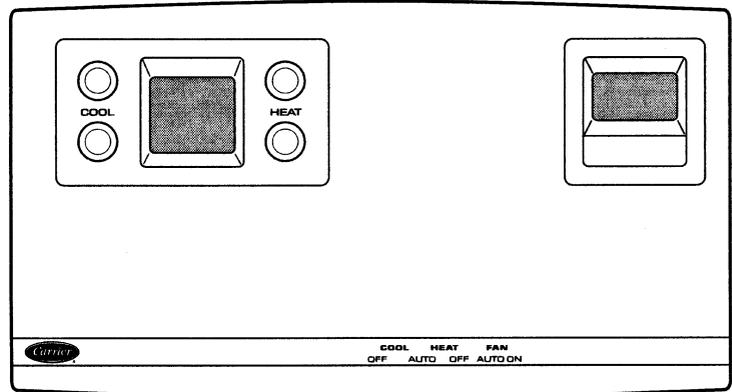
DEBONAIR™ COMMERCIAL PROGRAMMABLE THERMOSTAT



NON-PROGRAMMABLE THERMOSTAT



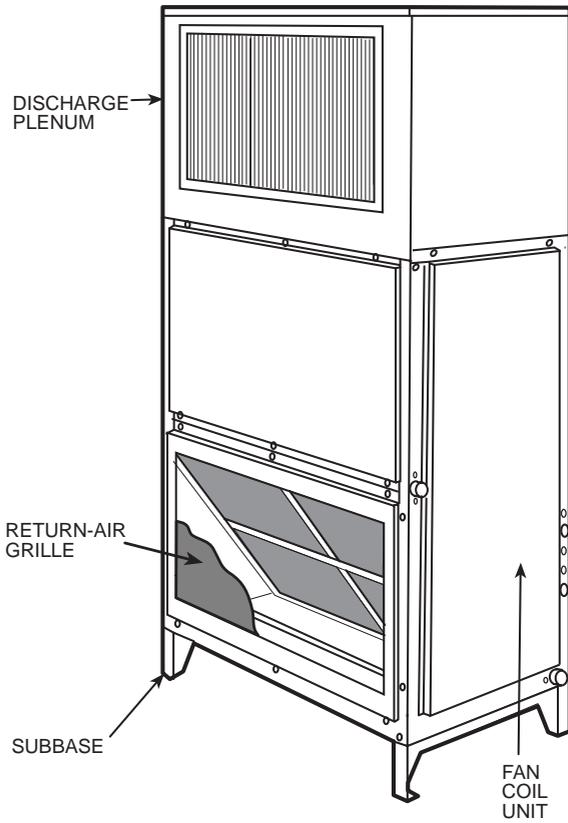
TEMP SYSTEM THERMOSTAT WITH TIMECLOCK



Options and accessories — 38AH024-034/40RM (cont)



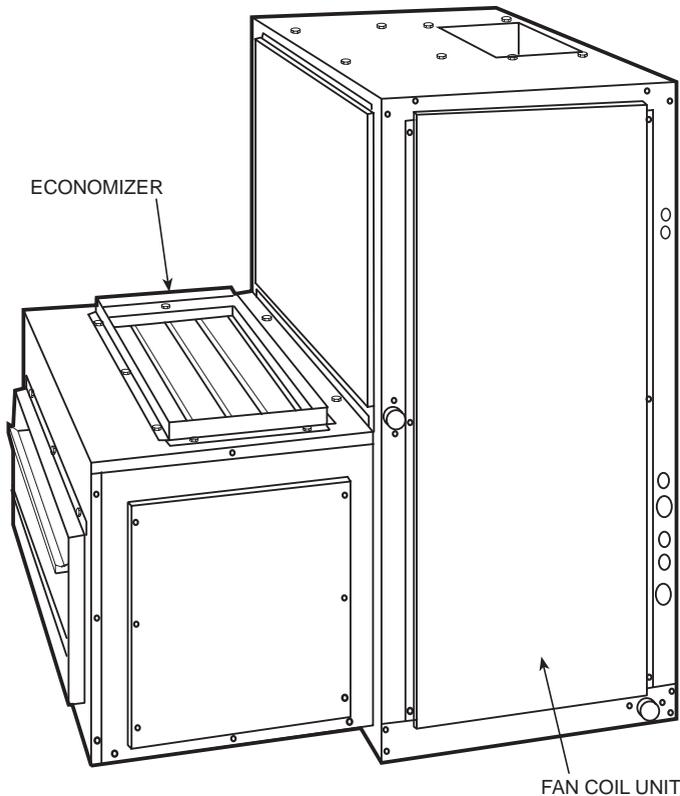
40RM WITH DISCHARGE PLENUM, RETURN GRILLE, AND SUBBASE



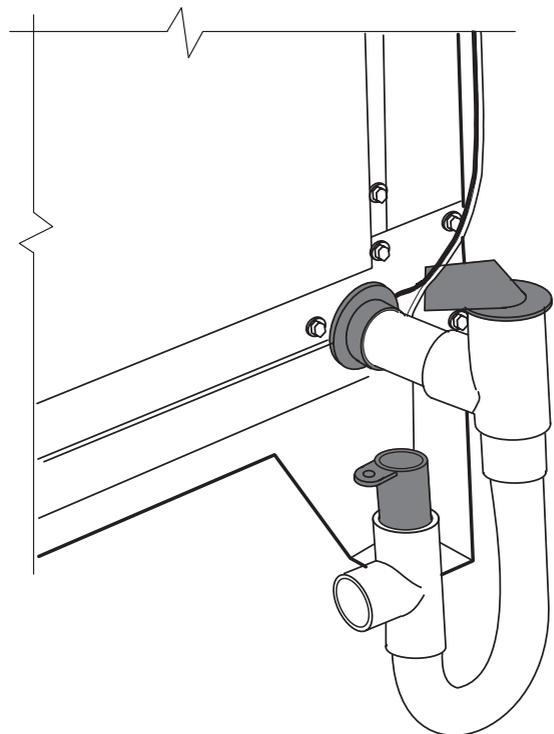
40RM WITH HOT WATER OR STEAM COIL



40RM WITH ECONOMIZER



40RM WITH CONDENSATE DRAIN TRAP



Physical data — 38AH024-034



38AH024-034 UNITS — SI

UNIT 38AH	024		028		034	
	Circuit 1	Circuit 2	Circuit 1	Circuit 2	Circuit 1	Circuit 2
NOMINAL CAPACITY (kW)	63		73		87	
OPERATING WEIGHT (kg) With Aluminum-Fin Coil With Copper-Fin Coil	798.3 872.3		825.6 899.0		853.0 951.2	
COMPRESSOR			Reciprocating Semi-Hermetic			
Type	06DH824	06DA824	06DH328	06DA328	06DH328	06DA537
Quantity Cylinders (ea)	6	6	6	6	6	6
Speed (r/s)	24.3	24.3	24.3	24.3	24.3	24.3
Capacity Steps						
(FIOP or Acy) — %	100	100	100	100	100	100
— %	67*	—	67*	—	67*	—
— %	33†	—	33†	—	33†	—
Unloader Setting (kPa)			Factory Installed			
— Load	524	—	524	—	524	—
— Unload	400	—	400	—	400	—
OIL CHARGE PER CIRCUIT (L)			4.73			
REFRIGERANT			R-22			
Shipping Charge (kg)**	1.36	1.36	1.36	1.36	1.36	1.36
Operating Charge, Typical (kg)**	9.1	9.1	9.1	9.1	11.4	11.4
CONDENSER FANS			Propeller Type — Direct Driven			
Quantity...Dia (mm)	2...762		2...762		2...762	
Nominal Hp	1.0		1.0		1.0	
Nominal Airflow (L/s)	7870		7870		7400	
Speed (r/s)			16			
Watts (total)			3100			
CONDENSER COIL			Enhanced Copper Tubes, Aluminum Lanced Fin			
Rows...Fins/m	2...748		2...748		3...670	
Total Face Area (sq m)	3.64		3.64		3.64	
Storage Cap. (kg)††	17.4		17.4		26.0	
CONTROLS						
Pressurestat (kPa)						
High Pressure						
Cutout			2937 ± 48			
Cut-in			2206 ± 138			
Low Pressure						
Cutout			186 ± 21			
Cut-in			303 ± 34			
Oil Pressure			Manual Reset			
Cutout (Diff)			41.4			
Cut-in (Diff)			60.7			
FAN CYCLING CONTROLS						
No. 2 Fan:						
Temp Close (C)			21.1 ± 1.6			
Temp Open (C)			15.6 ± 1.6			
PRESSURE RELIEF			Fusible Plug			
Location			Liquid Line, Suction Line, Compressor			
Temp (C)			99			
CONNECTIONS (Sweat) (ea ckt)						
Suction — in. OD			1 ³ / ₈			
Liquid — in. OD			5 ⁸ / ₁₆			

LEGEND

Diff — Differential
 FIOP — Factory-Installed Option
 VAV — Variable Air Volume

*Standard unit — single pressure-actuated suction unloader on compressor no. 1.

†VAV FIOP — double electrically actuated unloaders on compressor no. 1.

**With 7.6 m of interconnecting piping.

††Condenser 80% full of liquid R-22 at 48.8 C.

Physical data — 38AH024-034 (cont)



38AH024-034 UNITS — ENGLISH

UNIT 38AH	024		028		034	
	Circuit 1	Circuit 2	Circuit 1	Circuit 2	Circuit 1	Circuit 2
NOMINAL CAPACITY (Tons)	18		21		25	
OPERATING WEIGHT (lb) With Aluminum-Fin Coil With Copper-Fin Coil	1760 1923		1820 1982		1880 2097	
COMPRESSOR			Reciprocating	Semi-Hermetic		
Type	06DH824	06DA824	06DH328	06DA328	06DH328	06DA537
Quantity Cylinders (ea)	6	6	6	6	6	6
Speed (rpm)	1450	1450	1450	1450	1450	1450
Capacity Steps (FIOP or Acy) — %	100	100	100	100	100	100
— %	67*	—	67*	—	67*	—
— %	33†	—	33†	—	33†	—
Unloader Setting (psig)			Factory Installed			
— Load	76	—	76	—	76	—
— Unload	58	—	58	—	58	—
OIL CHARGE PER CIRCUIT (Pt)	10					
REFRIGERANT	R-22					
Shipping Charge (lb)**	3	3	3	3	3	3
Operating Charge, Typical (lb)**	20	20	20	20	25	25
CONDENSER FANS			Propeller Type — Direct Driven			
Quantity...Dia (in.)	2...30		2...30		2...30	
Nominal Hp	1.0		1.0		1.0	
Nominal Airflow (cfm)	16,700		16,700		15,700	
Speed (rpm)			950			
Watts (total)			3100			
CONDENSER COIL	Enhanced Copper Tubes, Aluminum Lanced Fin					
Rows...Fins/in.	2...19		2...19		3...17	
Total Face Area (sq ft)	39.20		39.20		39.20	
Storage Cap. (lb)††	37.7		37.7		56.6	
CONTROLS						
Pressurestat (psig)						
High Pressure						
Cutout	426 ± 7					
Cut-in	320 ± 20					
Low Pressure						
Cutout	27 ± 3					
Cut-in	44 ± 5					
Oil Pressure						
Manual Reset						
Cutout (Diff)	6.0					
Cut-in (Diff)	8.8					
FAN CYCLING CONTROLS						
No. 2 Fan:						
Temp Close (F)	70 ± 3					
Temp Open (F)	60 ± 3					
PRESSURE RELIEF						
Location	Fusible Plug					
Temp (F)	Liquid Line, Suction Line, Compressor 210					
CONNECTIONS (Sweat) (ea ckt)						
Suction — in. OD	1 ³ / ₈					
Liquid — in. OD	5 ⁸ / ₈					

LEGEND

Diff — Differential
 FIOP — Factory-Installed Option
 VAV — Variable Air Volume

*Standard unit — single pressure-actuated suction unloader on compressor no. 1.

†VAV FIOP — double electrically actuated unloaders on compressor no. 1.

**With 25 ft of interconnecting piping.

††Condenser 80% full of liquid R-22 at 120 F.

Physical data — 40RM



40RM — SI

UNIT 40RM	016	024	028	034
NOMINAL CAPACITY (kW)	52	70	87	105
OPERATING WEIGHT (kg)				
Base Unit with TXV	311	313	463	467
Plenum	63	63	82	82
FANS				
Qty...Diam. (mm)	2...381	2...381	2...457	2...457
Nominal Airflow (L/s)	2831	3775	4719	5663
Airflow Range (L/s)	2124-3539	2831-4719	3539-5899	4247-7079
Nominal Motor kW (Standard Motor)				
230-3-50, 400-3-50	2.16	3.73	5.60	7.46
Motor Speed (r/s)				
230-3-50, 400-3-50	23.8	23.8	23.8	23.8
REFRIGERANT				
Operating charge (kg)				
(approx per circuit)*	1.13/1.13	1.59/1.59	2.04/2.04	2.27/2.27
DIRECT-EXPANSION COIL				
Max Working Pressure (kPag)				
Face Area (sq m)	1.64	1.85	2.30	2.77
No. of Splits	2	2	2	2
No. of Circuits per Split	12	13	15	18
Split Type...Percentage			Face...50/50	
Rows...Fins/m	3...591	3...670	3...591	3...591
STEAM COIL				
Max Working Pressure (kPag at 204.4 C)			1207	
Total Face Area (sq m)	1.24	1.24	1.39	1.39
Rows...Fins/m	1...394	1...394	1...394	1...394
HOT WATER COIL				
Max Working Pressure (kPag)			1034	
Total Face Area (sq m)	1.24	1.24	1.39	1.39
Rows...Fins/m	2...335	2...335	2...493	2...493
Water Volume				
(L)		52.6		54.1
(m ³)		0.052		0.054
PIPING CONNECTIONS,				
Quantity...Size (in.)				
DX Coil — Suction (ODF)	2...1½	2...1½	2...1¾	2...1¾
DX Coil — Liquid Refrigerant (ODF)			2...5/8	
Steam Coil, In (MPT)			1...2½	
Steam Coil, Out (MPT)			1...2½	
Hot Water Coil, In (MPT)			1...2	
Hot Water Coil, Out (MPT)			1...2	
Condensate (PVC)			1...1¼ ODM/1 IDF	
FILTERS				
Quantity...Size	4...406 x 508 x 51		4...508 x 610 x 51	
Access Location	4...406 x 610 x 51		4...508 x 635 x 51	
			Throwaway — Factory Supplied	
			Right or Left Side	

LEGEND

DX — Direct Expansion

TXV — Thermostatic Expansion Valve

*Units are shipped without refrigerant charge.

Physical data — 40RM (cont)



40RM — ENGLISH

UNIT 40RM	016	024	028	034
NOMINAL CAPACITY (Tons)	15	20	25	30
OPERATING WEIGHT (lb)				
Base Unit with TXV	685	690	1020	1030
Plenum	140	140	180	180
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 Motor Hp (Standard Motor)				
230-3-50, 400-3-50	2.9	5.0	7.5	10.0
Motor Speed (rpm)			1425	
230-3-50, 400-3-50				
REFRIGERANT			R-22	
Operating charge (lb)	2.5/2.5	3.5/3.5	4.5/4.5	5.0/5.0
(approx per circuit)*				
DIRECT-EXPANSION COIL	Enhanced Copper Tubes, Aluminum Sine-Wave Fins			
Max Working Pressure (psig)			435	
Face Area (sq ft)	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	12	13	15	18
Rows...Fins/in.	3...15	3...17	3...15	3...15
STEAM COIL			175	
Max Working Pressure (psig at 400 F)				
Total Face Area (sq ft)	13.33	13.33	15.0	15.0
Rows...Fins/in.	1...10	1...10	1...10	1...10
HOT WATER COIL			150	
Max Working Pressure (psig)				
Total Face Area (sq ft)	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,				
Quantity...Size (in.)				
DX Coil — Suction (ODF)	2...1 ⁵ / ₈	2...1 ⁵ / ₈	2... ⁵ / ₈	2...1 ⁵ / ₈
DX Coil — Liquid Refrigerant (ODF)			2... ⁵ / ₈	
Steam Coil, In (MPT)			1...2 ¹ / ₂	
Steam Coil, Out (MPT)			1...2 ¹ / ₂	
Hot Water Coil, In (MPT)			1...2	
Hot Water Coil, Out (MPT)			1...2	
Condensate (PVC)			1...1 ¹ / ₄ ODM/1 IDF	
FILTERS	Throwaway — Factory Supplied			
Quantity...Size (in.)	4...16 x 20 x 2			4...20 x 24 x 2
Access Location	4...16 x 24 x 2		Right or Left Side	4...20 x 25 x 2

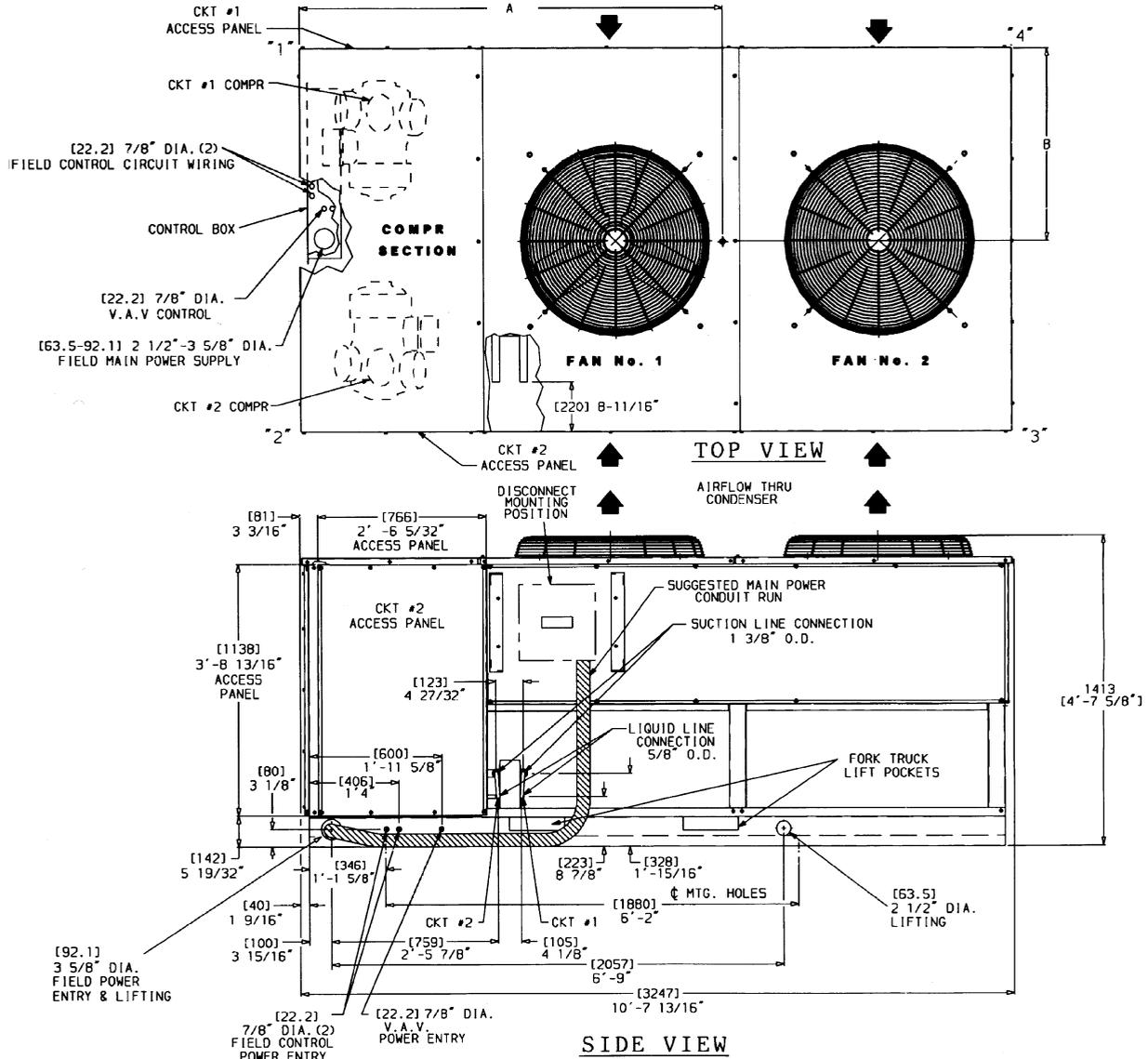
LEGEND

DX — Direct Expansion

TXV — Thermostatic Expansion Valve

*Units are shipped without refrigerant charge.

Dimensions — 38AH024-034



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. "C" in the package 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 38AH	CORNER WEIGHT — lbs [kg]				CENTER OF GRAVITY		TOTAL UNIT WT lb [kg]
	"1"	"2"	"3"	"4"	A Dim. in. [mm]	B Dim. in. [mm]	
024	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]
024C	666.5 [302.3]	609.5 [276.5]	309.0 [140.2]	337.9 [153.3]	43.00 [1092]		1923 [872.3]
028	658.7 [298.8]	602.4 [273.3]	267.0 [121.1]	291.9 [132.4]	39.25 [997]		1820 [825.6]
028C	693.0 [314.3]	633.8 [287.5]	313.0 [142.0]	342.2 [155.2]	42.25 [1073]		1982 [899.0]
034	667.0 [302.5]	610.0 [276.7]	288.0 [130.7]	315.0 [142.9]	41.00 [1041]		1880 [853.0]
034C	718.3 [325.8]	656.8 [297.9]	344.8 [156.4]	377.0 [171.0]	44.00 [1117]		2097 [951.2]

Dimensions — 40RM

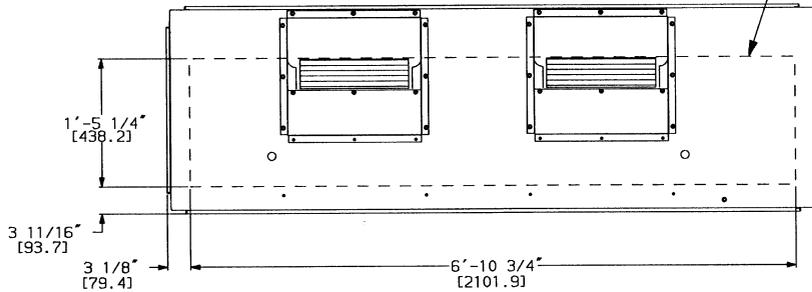


40RM016,024

TOP

ALTERNATE
RETURN AIR
INTAKE

ACCESS FOR CONTROLS,
FILTERS, MOTOR AND BELT



1'-4 1/16" [407.9]
1 5/8" [41.3]
DUCT FLANGE
(SEE NOTE #5)

ALTERNATE
ENTRANCE
FOR POWER
WIRING

ALTERNATE
ENTRANCE
FOR COIL
CONNECTIONS

ALTERNATE
DRAIN
LOCATION

CONDENSATE DRAIN
1 1/4" MALE PVC

LEFT SIDE

2'-4 3/16" [716.3]

1'-4 1/2" [419.1]
1'-6 3/8" [467.4]
1'-3 3/8" [390.5]
1'-6 3/8" [467.4]
1/2" TYP [12.7]
DUCT FLANGE
(SEE NOTE #5)
TYP 2 PLACES

RETURN AIR
INTAKE

1'-6 1/2" [469.9]

6 3/4" [171.5]

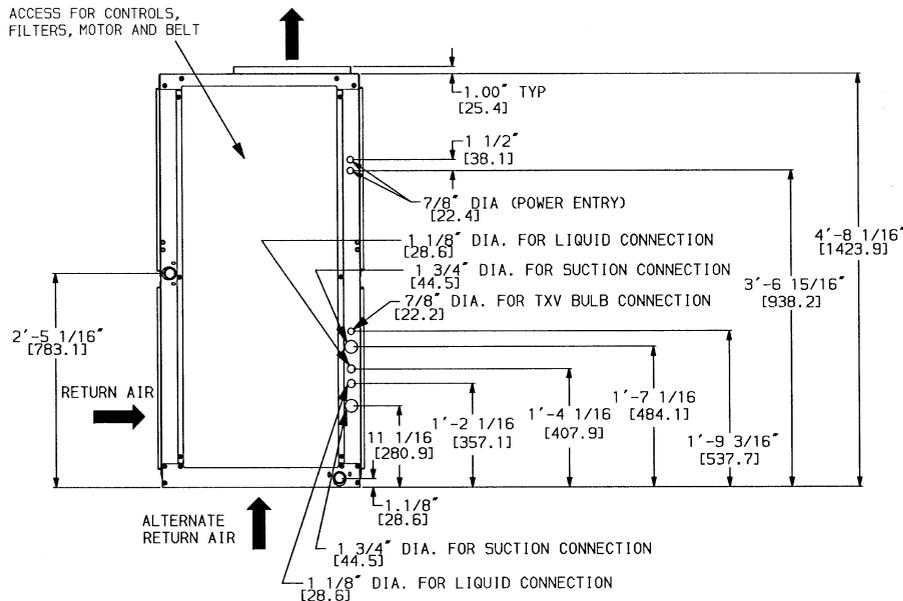
3 1/8" [79.4]

6'-10 3/4" [2101.9]

FRONT

7'-5" [2260.6]

ACCESS FOR CONTROLS,
FILTERS, MOTOR AND BELT



TXV — Thermostatic Expansion Valve

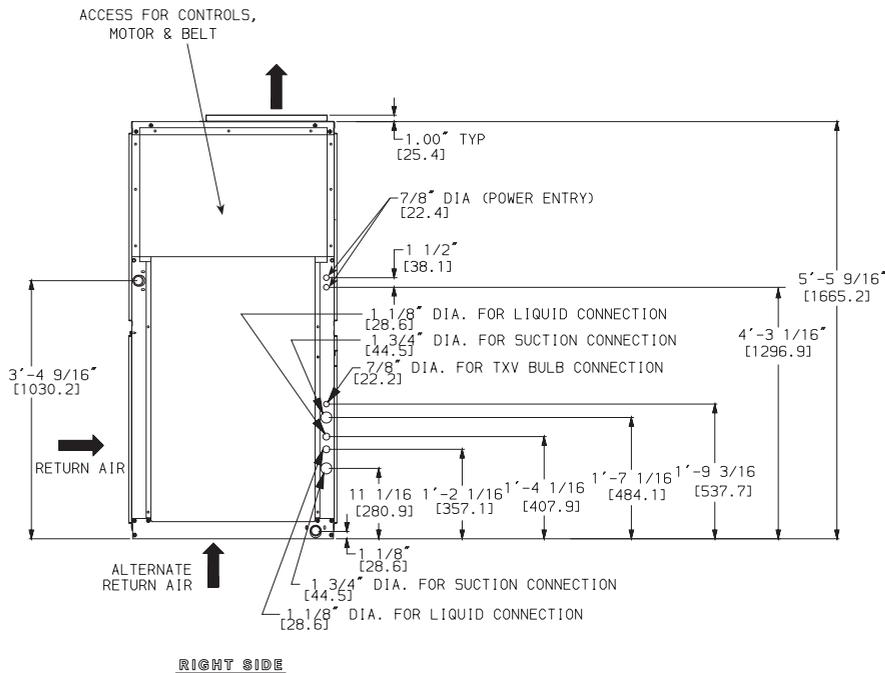
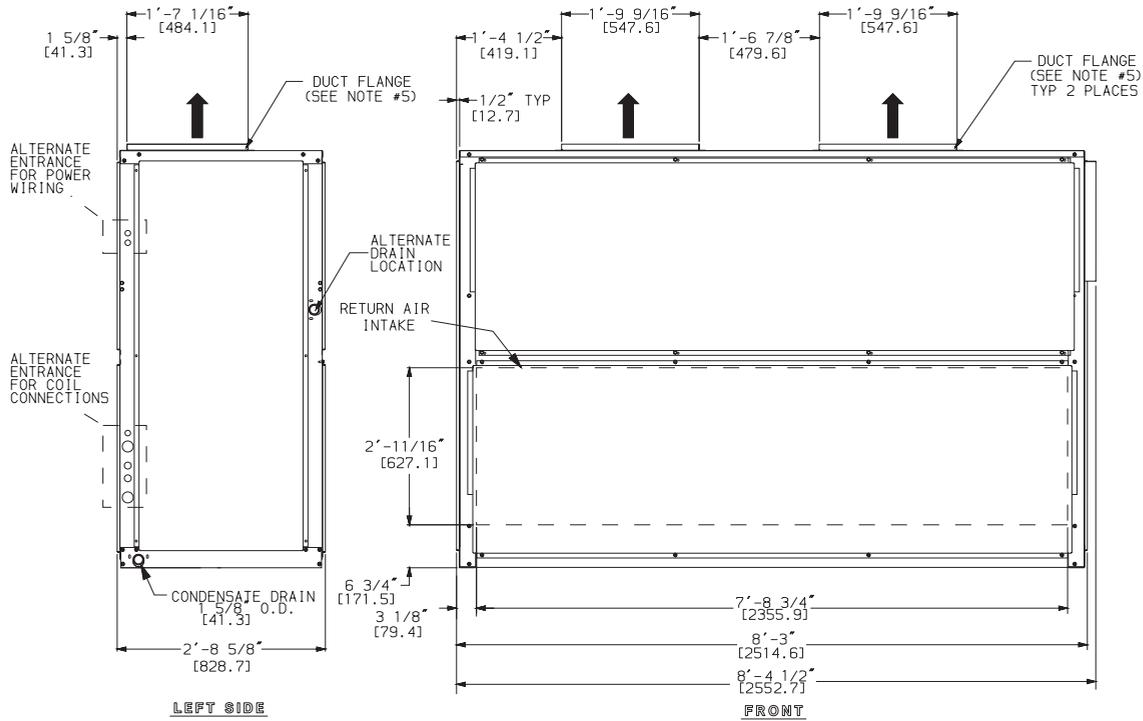
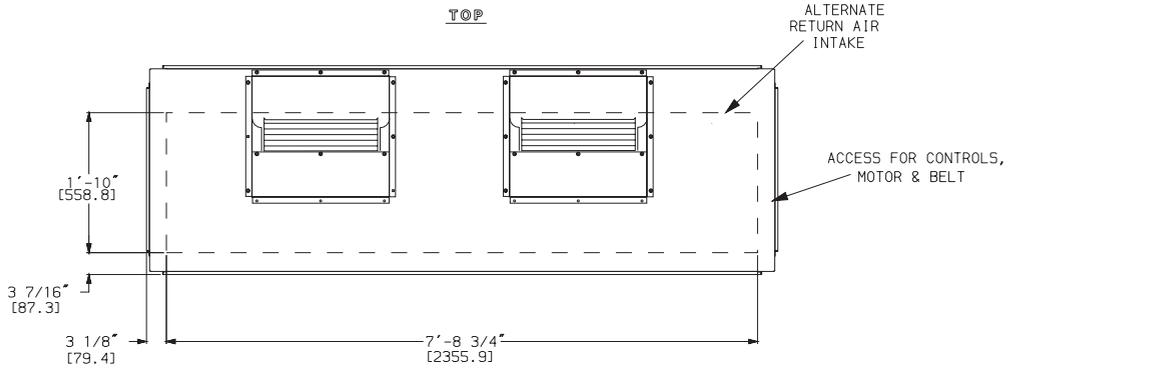
NOTES:

- Dimensions in [] are in millimeters.
- Direction of airflow.
- Recommended clearance:
 - Rear: 76 mm (3 in.)
 - Front: 762 mm (2 ft, 6 in.)
 - Right side: 762 mm (2 ft, 6 in.)
 - Left side: 762 mm (2 ft, 6 in.)
 - Local codes or jurisdiction may prevail.
- Liquid piping not supplied by Carrier.
- Duct flange is factory supplied and field installed.

UNIT 40RM	UNIT WEIGHT lb (kg)
016	685 (311)
024	690 (313)

40RM028,034

TOP



TXV — Thermostatic Expansion Valve

NOTES:

1. Dimensions in [] are in millimeters.
2. Direction of airflow.
3. Recommended clearance:
 - Rear: 76 mm (3 in.)
 - Front: 762 mm (2 ft, 6 in.)
 - Right side: 762 mm (2 ft, 6 in.)
 - Left side: 762 mm (2 ft, 6 in.)
 - Local codes or jurisdiction may prevail.
4. Liquid piping not supplied by Carrier.
5. Duct flange is factory supplied and field installed.

Selection procedure — 38AH024-034/40RM — SI



NOTE: Pages 22 and 23 contain combination ratings for 38AH024-034 units and matching 40RM air handlers. If the 38AH units are matched with 39L or 39NX air handlers, use the Carrier AHU (Air-Handling Unit) selection program software package for combination ratings. If Totaline® P702 water coolers are used, determine the performance by cross-plotting the condensing unit performance found in this book against the P702 performance in the P702 product data book. If the 38AH condensing units are matched with 2 independent 40RM units, cross-plot for performance ratings or contact Carrier Application Engineering for assistance.

I Determine cooling load, evaporator-air temperature and quantity.

Given:

Total Cooling Capacity	
Required (TC)	60 kW
Sensible Heat Capacity	
Required (SHC)	48 kW
Temperature Air Entering	
Condenser (Edb)	36 C
Temperature Air Entering	
Evaporator (db/wb)	26.7 C db, 20 C wb
Evaporator Air Quantity	3800 L/s
External Static Pressure	150 Pa
Length of Interconnecting	
Refrigerant Piping	18 m (Linear)

II Select condensing unit air-handler combination.

For this example, select a 38AH024 matched with a 40RM024. (See Combination Ratings table, page 22) This 38AH024/40RM024 condensing unit-air handler combination provides 62.5 kW of total cooling capacity and 49.2 kW 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 (page 40). 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 a more accurate determination of actual equivalent length in place of using the estimated 50% value, refer to Carrier System Design Manual.) 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).

At the Air Handler Fan Performance table (page 27), enter the 40RM024 section at 3800 L/s and move to the External Static Pressure (ESP) column. Note that the conditions require 14.30 r/s at 2.64 kW.

V Determine motor and drive.

Enter the Fan Motor Data tables on page 41, and find that the standard motor for a 40RM024 unit is rated at 3.73. Since the kW required is 2.64, a standard motor satisfies the requirement and should be used.

Next, find the type of drive that satisfies the 14.30 r/s requirement in the Drive Data tables on page 42. For a 40RM024 unit, the Standard Drive table shows an r/s range of 11.9 to 14.6. Since the r/s required is 14.30, the standard drive satisfies the requirement and should be used. Select the standard motor and standard drive combination (option code GC or ED).

Selection procedure — 38AH024-034/40RM — English



NOTE: Pages 24 and 25 contain combination ratings for 38AH024-034 units and matching 40RM air handlers. If the 38AH units are matched with 39L or 39NX air handlers, use the Carrier AHU (Air-Handling Unit) selection program software package for combination ratings. If Totaline® P702 water coolers are used, determine the performance by cross-plotting the condensing unit performance found in this book against the P702 performance in the P702 product data book. If the 38AH condensing units are matched with 2 independent 40RM units, cross-plot for performance ratings or contact Carrier Application Engineering for assistance.

I Determine cooling load, evaporator-air temperature and quantity.

Given:

Total Cooling Capacity	
Required (TC)	210,000 Btuh
Sensible Heat Capacity	
Required (SHC)	175,000 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	1.0 in. wg
Length of Interconnecting	
Refrigerant Piping	30 ft (Linear)

II Select condensing unit air-handler combination.

For this example, select a 38AH024 matched with a 40RM024. (See Combination Ratings table, page 24.) This 38AH024/40RM024 condensing unit-air handler combination provides 214,500 Btuh of total cooling capacity and 179,000 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 (page 40). 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 a more accurate determination of actual equivalent length in place of using the estimated 50% value, refer to Carrier System Design Manual.) 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).

At the Air Handler Fan Performance table (page 29), enter the 40RM024 section at 8000 cfm and move to the External Static Pressure (ESP) column. Note that the conditions require 954 rpm at 4.23 bhp.

V Determine motor and drive.

Enter the Fan Motor Data tables on page 41, and find that the alternate motor for a 40RM024 unit is rated at 7.5 hp. Since the bhp required is 4.23, an alternate motor satisfies the requirement and should be used.

Next, find the type of drive that satisfies the 954 rpm requirement in the Drive Data tables on pages 42 and 43. For a 40RM024 unit, the Medium-Static Drive table shows an rpm range of 814 to 1018. Since the rpm required is 954, the medium-static drive satisfies the requirement and should be used. Select the alternate motor and medium-static drive combination (option code TC or RD).

Performance data — 38AH024-034/40RM



CONDENSING UNIT RATINGS — SI

38AH024									
SST (C)		Air Temperature Entering Condenser (C)							
		24	28	32	36	40	44	48	52
-6	TCG	42.9	40.6	38.0	35.6	33.0	30.6	28.2	25.7
	CMP	11.3	11.6	12.1	12.6	13.0	13.4	13.7	14.2
	SDT	35.2	39.2	43.2	47.1	51.1	55.2	59.2	63.2
-4	TCG	47.0	44.6	41.8	39.2	36.6	34.0	31.4	28.8
	CMP	11.5	11.9	12.5	13.0	13.5	13.9	14.3	14.9
	SDT	35.2	39.2	43.2	47.2	51.2	55.2	59.2	63.2
-2	TCG	51.4	48.6	45.8	43.0	40.2	37.4	34.8	31.8
	CMP	11.7	12.1	12.8	13.4	14.0	14.5	15.0	15.6
	SDT	35.2	39.2	43.2	47.2	51.2	55.2	59.2	63.2
0	TCG	55.5	52.8	49.8	47.0	44.0	41.2	38.4	35.5
	CMP	11.9	12.4	13.1	13.8	14.5	15.0	15.6	16.3
	SDT	35.6	39.6	43.5	47.4	51.3	55.3	59.2	63.2
2	TCG	59.9	57.0	54.0	51.0	48.2	45.2	42.2	39.3
	CMP	12.1	12.7	13.5	14.2	14.9	15.5	16.1	16.9
	SDT	36.2	40.1	43.9	47.8	51.6	55.5	59.3	63.2
4	TCG	64.3	61.4	58.2	55.2	52.2	49.0	46.0	42.9
	CMP	12.3	13.0	13.8	14.6	15.4	16.0	16.7	17.5
	SDT	36.9	40.7	44.4	48.1	51.9	55.6	59.4	63.1
6	TCG	69.2	66.0	62.8	59.6	56.4	53.2	50.0	46.8
	CMP	12.5	13.3	14.1	15.0	15.8	16.5	17.3	18.1
	SDT	37.7	41.4	45.1	48.8	52.4	56.2	59.9	63.6
8	TCG	74.1	70.8	67.4	64.0	60.8	57.4	54.0	50.7
	CMP	12.8	13.6	14.5	15.4	16.3	17.1	17.8	18.8
	SDT	38.5	42.1	45.8	49.4	53.1	56.8	60.4	64.1
10	TCG	78.9	75.6	72.0	68.6	65.2	61.6	58.2	54.7
	CMP	13.0	13.8	14.8	15.8	16.7	17.6	18.4	19.4
	SDT	39.2	42.9	46.5	50.1	53.8	57.4	61.0	64.7

38AH028									
SST (C)		Air Temperature Entering Condenser (C)							
		24	28	32	36	40	44	48	52
-6	TCG	51.1	48.6	46.0	43.4	40.8	38.4	36.0	33.3
	CMP	13.4	14.0	14.7	15.3	15.9	16.5	17.1	17.7
	SDT	35.4	39.3	43.3	47.3	51.2	55.2	59.1	63.1
-4	TCG	55.2	52.8	50.0	47.4	44.8	42.2	39.6	37.0
	CMP	13.8	14.3	15.1	15.8	16.5	17.1	17.7	18.4
	SDT	36.0	39.8	43.7	47.6	51.4	55.3	59.2	63.0
-2	TCG	59.7	57.0	54.2	51.4	48.6	46.0	43.2	40.5
	CMP	14.1	14.7	15.5	16.3	17.0	17.7	18.3	19.1
	SDT	36.5	40.3	44.1	47.8	51.6	55.5	59.3	63.1
0	TCG	64.5	61.6	58.6	55.6	52.8	49.8	47.0	43.9
	CMP	14.4	15.1	15.9	16.8	17.5	18.3	19.0	19.8
	SDT	37.1	40.9	44.6	48.4	52.1	55.9	59.6	63.4
2	TCG	69.3	66.2	63.2	60.0	57.0	54.0	51.0	47.9
	CMP	14.7	15.5	16.4	17.3	18.1	18.9	19.7	20.6
	SDT	37.8	41.7	45.3	49.0	52.7	56.5	60.2	64.0
4	TCG	74.0	71.0	67.6	64.4	61.2	58.0	54.8	51.6
	CMP	15.0	15.9	16.8	17.8	18.7	19.5	20.4	21.3
	SDT	38.8	42.4	46.1	49.7	53.4	57.1	60.7	64.4
6	TCG	79.4	76.2	72.6	69.2	65.8	62.4	59.2	55.6
	CMP	15.3	16.3	17.3	18.3	19.2	20.2	21.0	22.2
	SDT	39.6	43.3	46.9	50.5	54.1	57.8	61.4	65.1
8	TCG	85.0	81.6	77.8	74.2	70.6	67.0	63.4	59.8
	CMP	15.7	16.6	17.7	18.8	19.8	20.8	21.8	22.9
	SDT	40.5	44.1	47.7	51.3	54.9	58.5	62.2	65.7
10	TCG	90.6	86.8	83.0	79.0	75.2	71.6	67.8	64.0
	CMP	16.0	17.0	18.2	19.3	20.4	21.4	22.4	23.6
	SDT	41.5	45.0	48.6	52.1	55.7	59.3	62.9	66.4

38AH034									
SST (C)		Air Temperature Entering Condenser (C)							
		24	28	32	36	40	44	48	52
-6	TCG	59.8	57.1	54.0	51.1	48.1	45.3	42.4	39.5
	CMP	16.6	17.3	18.1	18.9	19.7	20.4	21.0	21.8
	SDT	35.9	40.0	43.9	47.9	51.9	55.9	59.9	63.8
-4	TCG	65.5	62.2	59.2	56.0	52.9	49.8	46.8	43.5
	CMP	17.0	17.7	18.6	19.5	20.3	21.0	21.8	22.7
	SDT	36.1	40.1	44.0	48.0	51.9	55.9	59.9	63.8
-2	TCG	70.8	67.5	64.2	60.8	57.5	54.3	51.0	47.7
	CMP	17.3	18.1	19.1	20.0	21.0	21.7	22.6	23.5
	SDT	36.2	40.3	44.1	48.1	52.0	56.0	59.9	63.9
0	TCG	76.4	73.0	69.5	66.0	62.5	59.1	55.7	52.2
	CMP	17.6	18.6	19.5	20.6	21.6	22.5	23.4	24.5
	SDT	36.8	40.7	44.5	48.4	52.2	56.1	60.1	63.8
2	TCG	82.2	78.7	75.0	71.4	67.7	64.2	60.6	57.0
	CMP	18.0	19.0	20.1	21.2	22.2	23.2	24.1	25.3
	SDT	37.5	41.3	45.1	48.8	52.7	56.4	60.3	64.0
4	TCG	88.0	84.3	80.5	76.8	72.9	69.2	65.5	61.7
	CMP	18.4	19.5	20.7	21.8	22.9	24.0	24.9	26.2
	SDT	38.2	42.0	45.6	49.3	53.0	56.8	60.5	64.2
6	TCG	94.4	90.4	86.5	82.4	78.5	74.6	70.6	66.7
	CMP	18.9	20.0	21.2	22.5	23.6	24.7	25.8	27.1
	SDT	39.0	42.8	46.4	50.0	53.7	57.4	61.1	64.8
8	TCG	100.8	96.7	92.5	88.2	84.1	80.0	75.8	71.7
	CMP	19.4	20.5	21.8	23.1	24.3	25.5	26.6	28.0
	SDT	39.9	43.7	47.2	50.8	54.5	58.1	61.7	65.4
10	TCG	107.3	102.9	98.6	94.1	89.7	85.5	81.1	76.8
	CMP	19.6	20.9	22.3	23.7	25.1	26.3	27.5	29.0
	SDT	40.9	44.5	48.1	51.7	55.3	58.9	62.4	66.0

LEGEND

- CMP** — Compressor Power, kW
- SDT** — Saturated Discharge Temperature (leaving compressor) (C)
- SST** — Saturated Suction Temperature (entering condensing unit)
- TCG** — Total Cooling Capacity, Gross (kW)

NOTES:

1. Ratings are based on 8.3 C superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.



CONDENSING UNIT CIRCUIT RATINGS — SI

38AH024 CIRCUIT NO. 1 OR 2									
SST (C)		Air Temperature Entering Condenser (C)							
		24	28	32	36	40	44	48	52
-6	TCG	21.5	20.3	19.0	17.8	16.5	15.3	14.1	12.8
	CMP	5.6	5.8	6.1	6.3	6.5	6.7	6.9	7.1
	SDT	35.2	39.2	43.2	47.1	51.1	55.2	59.2	63.2
-4	TCG	23.5	22.3	20.9	19.6	18.3	17.0	15.7	14.4
	CMP	5.7	5.9	6.2	6.5	6.8	7.0	7.2	7.5
	SDT	35.2	39.2	43.2	47.2	51.2	55.2	59.2	63.2
-2	TCG	25.7	24.3	22.9	21.5	20.1	18.7	17.4	15.9
	CMP	5.8	6.1	6.4	6.7	7.0	7.3	7.5	7.8
	SDT	35.2	39.2	43.2	47.2	51.2	55.2	59.2	63.2
0	TCG	27.8	26.4	24.9	23.5	22.0	20.6	19.2	17.7
	CMP	5.9	6.2	6.6	6.9	7.2	7.5	7.8	8.2
	SDT	35.6	39.6	43.5	47.4	51.3	55.3	59.2	63.2
2	TCG	29.9	28.5	27.0	25.5	24.1	22.6	21.1	19.7
	CMP	6.1	6.4	6.7	7.1	7.5	7.8	8.1	8.5
	SDT	36.2	40.1	43.9	47.8	51.6	55.5	59.3	63.2
4	TCG	32.2	30.7	29.1	27.6	26.1	24.5	23.0	21.4
	CMP	6.2	6.5	6.9	7.3	7.7	8.0	8.4	8.8
	SDT	36.9	40.7	44.4	48.1	51.9	55.6	59.4	63.1
6	TCG	34.6	33.0	31.4	29.8	28.2	26.6	25.0	23.4
	CMP	6.3	6.6	7.1	7.5	7.9	8.3	8.6	9.1
	SDT	37.7	41.4	45.1	48.8	52.4	56.2	59.9	63.6
8	TCG	37.0	35.4	33.7	32.0	30.4	28.7	27.0	25.4
	CMP	6.4	6.8	7.2	7.7	8.1	8.5	8.9	9.4
	SDT	38.5	42.1	45.8	49.4	53.1	56.8	60.4	64.1
10	TCG	39.5	37.8	36.0	34.3	32.6	30.8	29.1	27.3
	CMP	6.5	6.9	7.4	7.9	8.4	8.8	9.2	9.7
	SDT	39.2	42.9	46.5	50.1	53.8	57.4	61.0	64.7

38AH034 CIRCUIT NO. 1									
SST (C)		Air Temperature Entering Condenser (C)							
		24	28	32	36	40	44	48	52
-6	TCG	25.0	23.7	22.3	21.0	19.6	18.3	17.0	15.6
	CMP	6.7	7.0	7.3	7.7	8.0	8.3	8.5	8.9
	SDT	35.2	39.2	43.2	47.2	51.2	55.2	59.3	63.2
-4	TCG	27.5	26.0	24.6	23.1	21.7	20.3	18.9	17.4
	CMP	6.8	7.1	7.5	7.9	8.2	8.5	8.9	9.2
	SDT	35.2	39.2	43.2	47.2	51.2	55.2	59.3	63.2
-2	TCG	29.9	28.4	26.8	25.2	23.7	22.2	20.7	19.1
	CMP	6.9	7.2	7.7	8.1	8.5	8.8	9.2	9.6
	SDT	35.1	39.2	43.2	47.3	51.3	55.3	59.3	63.4
0	TCG	32.4	30.8	29.2	27.6	25.9	24.4	22.8	21.2
	CMP	7.0	7.4	7.8	8.3	8.7	9.1	9.5	9.9
	SDT	35.5	39.5	43.4	47.4	51.3	55.3	59.3	63.2
2	TCG	35.0	33.4	31.7	30.0	28.3	26.7	25.0	23.4
	CMP	7.1	7.5	8.0	8.5	8.9	9.3	9.7	10.2
	SDT	36.1	39.9	43.8	47.6	51.5	55.3	59.2	63.0
4	TCG	37.7	35.9	34.2	32.5	30.7	29.0	27.3	25.5
	CMP	7.2	7.7	8.2	8.7	9.1	9.6	10.0	10.5
	SDT	36.6	40.4	44.1	47.8	51.6	55.4	59.2	62.9
6	TCG	40.6	38.7	36.9	35.0	33.2	31.4	29.6	27.7
	CMP	7.3	7.8	8.3	8.9	9.4	9.8	10.3	10.9
	SDT	37.2	41.1	44.7	48.4	52.1	55.9	59.6	63.4
8	TCG	43.5	41.5	39.6	37.6	35.7	33.8	31.9	29.9
	CMP	7.5	8.0	8.5	9.1	9.6	10.1	10.6	11.2
	SDT	38.2	41.9	45.5	49.1	52.8	56.5	60.1	63.8
10	TCG	46.3	44.3	42.3	40.2	38.2	36.3	34.3	32.3
	CMP	7.6	8.1	8.7	9.3	9.9	10.4	10.9	11.5
	SDT	39.1	42.7	46.3	49.9	53.5	57.1	60.7	64.3

38AH028 CIRCUIT NO. 1 OR 2									
SST (C)		Air Temperature Entering Condenser (C)							
		24	28	32	36	40	44	48	52
-6	TCG	25.5	24.3	23.0	21.7	20.4	19.2	18.0	16.7
	CMP	6.7	7.0	7.3	7.7	8.0	8.3	8.5	8.9
	SDT	35.4	39.3	43.3	47.3	51.2	55.2	59.1	63.1
-4	TCG	27.6	26.4	25.0	23.7	22.4	21.1	19.8	18.5
	CMP	6.9	7.2	7.5	7.9	8.2	8.5	8.9	9.2
	SDT	36.0	39.8	43.7	47.6	51.4	55.3	59.2	63.0
-2	TCG	29.8	28.5	27.1	25.7	24.3	23.0	21.6	20.3
	CMP	7.0	7.4	7.8	8.1	8.5	8.8	9.2	9.5
	SDT	36.5	40.3	44.1	47.8	51.6	55.5	59.3	63.1
0	TCG	32.2	30.8	29.3	27.8	26.4	24.9	23.5	22.0
	CMP	7.2	7.6	8.0	8.4	8.8	9.1	9.5	9.9
	SDT	37.1	40.9	44.6	48.4	52.1	55.9	59.6	63.4
2	TCG	34.7	33.1	31.6	30.0	28.5	27.0	25.5	23.9
	CMP	7.4	7.8	8.2	8.6	9.1	9.5	9.8	10.3
	SDT	37.8	41.7	45.3	49.0	52.7	56.5	60.2	64.0
4	TCG	37.0	35.5	33.8	32.2	30.6	29.0	27.4	25.8
	CMP	7.5	7.9	8.4	8.9	9.3	9.8	10.2	10.7
	SDT	38.8	42.4	46.1	49.7	53.4	57.1	60.7	64.4
6	TCG	39.7	38.1	36.3	34.6	32.9	31.2	29.6	27.8
	CMP	7.7	8.1	8.6	9.2	9.6	10.1	10.5	11.1
	SDT	39.6	43.3	46.9	50.5	54.1	57.8	61.4	65.1
8	TCG	42.5	40.8	38.9	37.1	35.3	33.5	31.7	29.9
	CMP	7.8	8.3	8.9	9.4	9.9	10.4	10.9	11.4
	SDT	40.5	44.1	47.7	51.3	54.9	58.5	62.2	65.7
10	TCG	45.3	43.4	41.5	39.5	37.6	35.8	33.9	32.0
	CMP	8.0	8.5	9.1	9.7	10.2	10.7	11.2	11.8
	SDT	41.5	45.0	48.6	52.1	55.7	59.3	62.9	66.4

38AH034 CIRCUIT NO. 2									
SST (C)		Air Temperature Entering Condenser (C)							
		24	28	32	36	40	44	48	52
-6	TCG	34.8	33.4	31.7	30.1	28.5	27.0	25.4	23.9
	CMP	9.9	10.3	10.8	11.2	11.7	12.1	12.5	13.0
	SDT	36.7	40.7	44.6	48.6	52.6	56.5	60.5	64.4
-4	TCG	38.0	36.2	34.6	32.9	31.2	29.5	27.9	26.1
	CMP	10.2	10.6	11.1	11.6	12.1	12.5	12.9	13.4
	SDT	36.9	41.0	44.8	48.7	52.6	56.6	60.5	64.5
-2	TCG	40.9	39.1	37.4	35.6	33.8	32.1	30.3	28.6
	CMP	10.4	10.9	11.4	11.9	12.5	12.9	13.4	13.9
	SDT	37.3	41.3	45.0	48.8	52.7	56.6	60.5	64.3
0	TCG	44.0	42.2	40.3	38.4	36.6	34.7	32.9	31.0
	CMP	10.6	11.2	11.7	12.3	12.9	13.4	13.9	14.5
	SDT	38.1	41.8	45.6	49.3	53.1	56.9	60.8	64.4
2	TCG	47.2	45.3	43.3	41.4	39.4	37.5	35.6	33.6
	CMP	10.9	11.5	12.1	12.7	13.3	13.9	14.4	15.1
	SDT	38.8	42.7	46.3	50.0	53.8	57.5	61.3	65.0
4	TCG	50.4	48.4	46.3	44.3	42.2	40.2	38.2	36.1
	CMP	11.2	11.8	12.5	13.1	13.8	14.4	14.9	15.7
	SDT	39.8	43.5	47.1	50.8	54.4	58.1	61.8	65.4
6	TCG	53.9	51.7	49.6	47.4	45.3	43.2	41.0	38.9
	CMP	11.6	12.2	12.9	13.6	14.2	14.9	15.5	16.2
	SDT	40.7	44.4	48.0	51.6	55.2	58.9	62.5	66.2
8	TCG	57.4	55.2	52.9	50.6	48.4	46.2	43.9	41.7
	CMP	11.9	12.5	13.3	14.0	14.7	15.4	16.0	16.8
	SDT	41.7	45.4	48.9	52.5	56.1	59.7	63.3	66.9
10	TCG	61.0	58.6	56.3	53.9	51.5	49.2	46.8	44.5
	CMP	12.1	12.8	13.6	14.4	15.2	15.9	16.6	17.4
	SDT	42.8	46.3	49.9	53.4	57.0	60.6	64.1	67.7

LEGEND
CMP — Compressor Power, kW
SDT — Saturated Discharge Temperature (leaving compressor) (C)
SST — Saturated Suction Temperature (entering condensing unit)
TCG — Total Cooling Capacity, Gross (kW)

NOTES:
1. Ratings are based on 8.3 C superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.

Performance data — 38AH024-034/40RM (cont)



CONDENSING UNIT RATINGS — ENGLISH

38AH024								
SST (F)		Air Temperature Entering Condenser (F)						
		75	85	95	100	105	115	125
20	TCG	141.8	130.6	119.0	113.2	107.4	96.2	84.8
	CMP	11.4	11.7	12.4	12.7	12.9	13.3	13.8
	SDT	95.0	105.0	115.0	120.0	125.0	135.0	145.0
25	TCG	161.6	149.4	136.8	130.6	124.4	112.0	99.6
	CMP	11.7	12.1	12.9	13.3	13.6	14.2	14.8
	SDT	95.0	105.0	115.0	120.0	125.0	135.0	145.0
30	TCG	181.6	168.2	154.8	148.0	141.4	128.0	114.6
	CMP	11.9	12.5	13.5	13.9	14.3	15.0	15.8
	SDT	95.0	105.0	115.0	120.0	125.0	135.0	145.0
35	TCG	202.4	188.4	174.4	167.4	160.4	146.4	132.4
	CMP	12.2	12.9	14.0	14.5	14.9	15.8	16.6
	SDT	97.0	107.0	116.0	121.0	126.0	135.0	145.0
40	TCG	223.0	208.0	194.0	186.8	179.6	165.0	150.5
	CMP	12.5	13.4	14.5	15.0	15.6	16.5	17.5
	SDT	98.0	108.0	117.0	122.0	126.0	136.0	146.0
45	TCG	247.6	232.0	216.0	208.0	200.0	184.4	168.6
	CMP	12.8	13.8	15.0	15.6	16.2	17.3	18.4
	SDT	101.0	110.0	119.0	123.0	128.0	137.0	146.0
50	TCG	268.0	254.0	236.0	228.0	220.0	204.0	188.0
	CMP	13.1	14.2	15.6	16.2	16.8	18.0	19.3
	SDT	103.0	112.0	121.0	125.0	130.0	139.0	148.0

38AH034								
SST (F)		Air Temperature Entering Condenser (F)						
		75	85	95	100	105	115	125
20	TCG	198.0	185.5	171.2	164.4	157.6	144.4	131.0
	CMP	16.6	17.4	18.5	19.0	19.5	20.4	21.4
	SDT	97.0	107.0	117.0	122.0	127.0	137.0	147.0
25	TCG	223.5	209.4	194.4	187.0	179.6	165.3	150.8
	CMP	17.1	18.1	19.3	19.8	20.5	21.5	22.6
	SDT	97.0	107.0	117.0	122.0	127.0	137.0	147.0
30	TCG	249.4	234.3	217.7	210.0	202.3	186.0	170.2
	CMP	17.6	18.7	20.1	20.7	21.3	22.5	23.8
	SDT	97.0	107.0	117.0	122.0	127.0	137.0	147.0
35	TCG	276.2	260.0	243.0	235.5	226.5	209.8	193.2
	CMP	18.0	19.4	20.8	21.5	22.2	23.6	25.0
	SDT	99.0	109.0	118.0	123.0	128.0	137.0	147.0
40	TCG	304.5	287.0	269.0	260.0	251.0	233.5	215.8
	CMP	18.7	20.0	21.7	22.4	23.2	24.7	26.2
	SDT	101.0	110.0	119.0	124.0	129.0	138.0	147.0
45	TCG	335.0	316.0	297.0	287.0	278.0	259.0	240.0
	CMP	19.3	20.7	22.6	23.3	24.2	25.8	27.4
	SDT	103.0	112.0	121.0	126.0	130.0	140.0	149.0
50	TCG	367.0	346.0	325.0	314.0	305.0	283.0	262.0
	CMP	19.7	21.4	23.4	24.3	25.2	27.0	28.8
	SDT	106.0	115.0	124.0	128.0	133.0	141.0	150.0

LEGEND

- CMP** — Compressor Power, kW
- SDT** — Saturated Discharge Temperature (leaving compressor) (F)
- SST** — Saturated Suction Temperature (entering condensing unit)
- TCG** — Total Cooling Capacity, Gross (1000 Btuh)

NOTES:

1. Ratings are based on 15 F superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.

38AH028								
SST (F)		Air Temperature Entering Condenser (F)						
		75	85	95	100	105	115	125
20	TCG	168.4	157.6	145.6	139.8	134.0	122.8	111.4
	CMP	13.5	14.1	15.0	15.4	15.8	16.6	17.4
	SDT	95.0	105.0	115.0	120.0	125.0	135.0	145.0
25	TCG	189.0	177.4	164.6	158.4	152.2	140.2	128.0
	CMP	13.9	14.6	15.7	16.1	16.6	17.4	18.3
	SDT	97.0	106.0	116.0	121.0	126.0	135.0	145.0
30	TCG	210.2	197.4	183.8	177.2	170.6	157.4	144.2
	CMP	14.3	15.2	16.3	16.8	17.3	18.3	19.3
	SDT	98.0	107.0	117.0	121.0	126.0	136.0	146.0
35	TCG	231.6	220.0	204.0	197.6	190.4	176.4	162.6
	CMP	14.8	15.7	17.0	17.6	18.1	19.2	20.3
	SDT	99.0	109.0	118.0	123.0	128.0	137.0	147.0
40	TCG	256.8	242.0	226.0	218.0	210.0	195.2	179.8
	CMP	15.1	16.3	17.7	18.3	18.9	20.2	21.5
	SDT	102.0	111.0	120.0	125.0	129.0	138.0	147.0
45	TCG	284.0	266.0	250.0	242.0	232.0	216.0	199.0
	CMP	15.7	16.9	18.3	19.0	19.7	21.0	22.3
	SDT	104.0	113.0	122.0	127.0	131.0	140.0	149.0
50	TCG	306.0	292.0	272.0	264.0	256.0	238.0	221.0
	CMP	16.0	17.4	19.0	19.8	20.6	22.0	23.5
	SDT	106.0	115.0	124.0	129.0	133.0	142.0	151.0



CONDENSING UNIT CIRCUIT RATINGS — ENGLISH

38AH024 CIRCUIT NO. 1 OR 2								
SST (F)		Air Temperature Entering Condenser (F)						
		75	85	95	100	105	115	125
20	TCG	70.9	65.3	59.5	56.6	53.7	48.1	42.4
	CMP	5.7	5.9	6.2	6.3	6.5	6.7	6.9
	SDT	95.0	105.0	115.0	120.0	125.0	135.0	145.0
25	TCG	80.8	74.7	68.4	65.3	62.2	56.0	49.8
	CMP	5.8	6.1	6.5	6.7	6.8	7.1	7.4
	SDT	95.0	105.0	115.0	120.0	125.0	135.0	145.0
30	TCG	90.8	84.1	77.4	74.0	70.7	64.0	57.3
	CMP	6.0	6.3	6.7	7.0	7.2	7.5	7.9
	SDT	95.0	105.0	115.0	120.0	125.0	135.0	145.0
35	TCG	101.2	94.2	87.2	83.7	80.2	73.2	66.2
	CMP	6.1	6.5	7.0	7.2	7.5	7.9	8.3
	SDT	97.0	107.0	116.0	121.0	126.0	135.0	145.0
40	TCG	111.5	104.0	97.0	93.4	89.8	82.5	75.3
	CMP	6.3	6.7	7.3	7.5	7.8	8.3	8.8
	SDT	98.0	108.0	117.0	122.0	126.0	136.0	146.0
45	TCG	123.8	116.0	108.0	104.0	100.0	92.2	84.3
	CMP	6.4	6.9	7.5	7.8	8.1	8.6	9.2
	SDT	101.0	110.0	119.0	123.0	128.0	137.0	146.0
50	TCG	134.0	127.0	118.0	114.0	110.0	102.0	94.0
	CMP	6.6	7.1	7.8	8.1	8.4	9.0	9.6
	SDT	103.0	112.0	121.0	125.0	130.0	139.0	148.0

38AH034 CIRCUIT NO. 1								
SST (F)		Air Temperature Entering Condenser (F)						
		75	85	95	100	105	115	125
20	TCG	82.4	76.5	70.2	67.1	64.0	58.0	51.9
	CMP	6.7	7.0	7.5	7.7	7.9	8.3	8.7
	SDT	95.0	105.0	115.0	120.0	125.0	135.0	145.0
25	TCG	93.8	87.4	80.4	77.0	73.6	67.0	60.3
	CMP	6.9	7.3	7.8	8.0	8.3	8.7	9.2
	SDT	95.0	105.0	115.0	120.0	125.0	135.0	145.0
30	TCG	105.4	98.3	90.7	87.0	83.3	76.0	68.7
	CMP	7.0	7.5	8.1	8.4	8.6	9.1	9.7
	SDT	95.0	105.0	115.0	120.0	125.0	135.0	145.0
35	TCG	117.2	110.0	102.0	98.5	94.5	86.8	79.2
	CMP	7.1	7.7	8.3	8.6	8.9	9.5	10.1
	SDT	97.0	106.0	116.0	121.0	126.0	135.0	145.0
40	TCG	130.5	122.0	114.0	110.0	106.0	97.5	89.3
	CMP	7.3	7.9	8.6	8.9	9.2	9.9	10.5
	SDT	97.0	107.0	116.0	121.0	126.0	135.0	145.0
45	TCG	145.0	135.0	127.0	122.0	118.0	109.0	100.0
	CMP	7.4	8.1	8.9	9.2	9.6	10.3	11.0
	SDT	99.0	109.0	118.0	123.0	127.0	137.0	147.0
50	TCG	158.0	149.0	139.0	134.0	130.0	120.0	110.5
	CMP	7.6	8.3	9.2	9.5	9.9	10.7	11.5
	SDT	102.0	111.0	120.0	125.0	129.0	138.0	147.0

38AH028 CIRCUIT NO. 1 OR 2								
SST (F)		Air Temperature Entering Condenser (F)						
		75	85	95	100	105	115	125
20	TCG	84.2	78.8	72.8	69.9	67.0	61.4	55.7
	CMP	6.7	7.0	7.5	7.7	7.9	8.3	8.7
	SDT	95.0	105.0	115.0	120.0	125.0	135.0	145.0
25	TCG	94.5	88.7	82.3	79.2	76.1	70.1	64.0
	CMP	6.9	7.3	7.8	8.1	8.3	8.7	9.2
	SDT	97.0	106.0	116.0	121.0	126.0	135.0	145.0
30	TCG	105.1	98.7	91.9	88.6	85.3	78.7	72.1
	CMP	7.2	7.6	8.2	8.4	8.7	9.2	9.7
	SDT	98.0	107.0	117.0	121.0	126.0	136.0	146.0
35	TCG	115.8	110.0	102.0	98.8	95.2	88.2	81.3
	CMP	7.4	7.9	8.5	8.8	9.1	9.6	10.2
	SDT	99.0	109.0	118.0	123.0	128.0	137.0	147.0
40	TCG	128.4	121.0	113.0	109.0	105.0	97.6	89.9
	CMP	7.6	8.2	8.8	9.2	9.5	10.1	10.7
	SDT	102.0	111.0	120.0	125.0	129.0	138.0	147.0
45	TCG	142.0	133.0	125.0	121.0	116.0	108.0	99.5
	CMP	7.8	8.4	9.2	9.5	9.9	10.5	11.2
	SDT	104.0	113.0	122.0	127.0	131.0	140.0	149.0
50	TCG	153.0	146.0	136.0	132.0	128.0	119.0	110.5
	CMP	8.0	8.7	9.5	9.9	10.3	11.0	11.8
	SDT	106.0	115.0	124.0	129.0	133.0	142.0	151.0

38AH034 CIRCUIT NO. 2								
SST (F)		Air Temperature Entering Condenser (F)						
		75	85	95	100	105	115	125
20	TCG	115.6	109.0	101.0	97.3	93.6	86.4	79.1
	CMP	9.9	10.4	11.0	11.3	11.6	12.1	12.7
	SDT	98.0	108.0	118.0	123.0	128.0	138.0	148.0
25	TCG	129.7	122.0	114.0	110.0	106.0	98.3	90.5
	CMP	10.2	10.8	11.5	11.8	12.2	12.8	13.5
	SDT	98.0	108.0	118.0	123.0	128.0	138.0	148.0
30	TCG	144.0	136.0	127.0	123.0	119.0	110.0	101.5
	CMP	10.6	11.2	12.0	12.3	12.7	13.4	14.1
	SDT	98.0	109.0	118.0	123.0	128.0	138.0	148.0
35	TCG	159.0	150.0	141.0	137.0	132.0	123.0	114.0
	CMP	10.9	11.7	12.5	12.9	13.3	14.1	14.9
	SDT	101.0	111.0	120.0	125.0	129.0	139.0	149.0
40	TCG	174.0	165.0	155.0	150.0	145.0	136.0	126.5
	CMP	11.4	12.1	13.1	13.5	14.0	14.8	15.7
	SDT	104.0	113.0	122.0	127.0	131.0	140.0	149.0
45	TCG	190.0	181.0	170.0	165.0	160.0	150.0	140.0
	CMP	11.9	12.6	13.7	14.1	14.6	15.5	16.4
	SDT	106.0	115.0	124.0	129.0	133.0	142.0	151.0
50	TCG	209.0	197.0	186.0	180.0	175.0	163.0	151.5
	CMP	12.1	13.1	14.2	14.8	15.3	16.3	17.4
	SDT	110.0	118.0	127.0	131.0	136.0	144.0	153.0

LEGEND

- CMP** — Compressor Power, kW
- SDT** — Saturated Discharge Temperature (leaving compressor) (F)
- SST** — Saturated Suction Temperature (entering condensing unit)
- TCG** — Total Cooling Capacity, Gross (1000 Btuh)

NOTES:

1. Ratings are based on 15 F superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.

Performance data — 38AH024-034/40RM (cont)



COMBINATION RATINGS — SI

38AH024 AND 40RM016										
Temp (C) Air Entering Condenser	Evaporator Air — L/s/BF									
	2100/0.06			2800/0.10			3500/0.12			
	Evaporator Air — Ewb (C)									
	22	20	16	22	20	16	22	20	16	
24	TC	63.9	59.4	53.2	67.3	62.9	56.9	69.8	64.9	59.2
	SHC	32.7	37.7	53.2	36.4	43.2	56.9	40.1	48.3	59.2
	KW	12.18	11.90	11.52	12.39	12.11	11.75	12.54	12.24	11.89
28	TC	62.2	57.6	51.7	65.4	61.0	55.3	67.8	63.0	57.6
	SHC	32.0	36.9	51.7	35.7	42.4	55.3	39.4	47.3	57.6
	KW	13.06	12.78	12.40	13.26	12.99	12.63	13.41	13.11	12.77
32	TC	60.4	56.0	50.3	63.5	59.2	53.7	65.8	61.1	56.0
	SHC	31.4	36.2	50.3	35.0	41.5	53.7	38.7	46.3	56.0
	KW	13.89	13.51	13.01	14.16	13.79	13.31	14.36	13.95	13.51
36	TC	58.6	54.2	48.8	61.5	57.3	52.1	63.7	59.1	54.4
	SHC	30.7	35.4	48.8	34.2	40.6	52.1	38.0	45.3	54.4
	KW	14.91	14.51	14.02	15.17	14.79	14.32	15.37	14.96	14.52
40	TC	56.7	52.3	47.0	59.5	55.2	50.3	61.7	57.1	52.5
	SHC	30.0	34.6	47.0	33.5	39.7	50.3	37.3	44.3	52.5
	KW	15.84	15.34	14.74	16.15	15.67	15.10	16.40	15.88	15.36
44	TC	54.8	50.5	45.5	57.3	53.2	48.6	59.5	55.0	50.8
	SHC	29.2	33.8	45.5	32.8	38.8	48.6	36.5	43.2	50.8
	KW	16.73	16.11	15.40	17.09	16.50	15.84	17.40	16.76	16.16
48	TC	52.8	48.6	43.8	55.1	51.1	46.8	57.2	52.9	49.0
	SHC	28.5	32.9	43.8	32.0	37.8	46.8	35.7	42.1	49.0
	KW	17.72	17.09	16.38	18.07	17.47	16.82	18.39	17.73	17.15
52	TC	50.8	46.6	42.1	53.0	49.0	44.9	55.0	50.7	47.1
	SHC	27.7	32.1	42.1	31.2	36.9	44.9	35.0	41.0	47.1
	KW	18.71	18.07	17.37	19.05	18.44	17.81	19.37	18.70	18.14

38AH024 AND 40RM028										
Temp (C) Air Entering Condenser	Evaporator Air — L/s/BF									
	3500/0.06			4700/0.10			5900/0.12			
	Evaporator Air — Ewb (C)									
	22	20	16	22	20	16	22	20	16	
24	TC	77.3	70.6	65.0	79.7	73.4	68.9	81.2	76.1	72.2
	SHC	43.2	51.6	65.0	49.3	60.1	68.9	55.2	67.6	72.2
	KW	13.00	12.58	12.24	13.14	12.76	12.48	13.24	12.92	12.68
28	TC	75.1	68.1	63.1	77.4	71.1	67.0	78.8	73.7	70.2
	SHC	42.4	50.9	63.1	48.5	59.1	67.0	54.4	66.6	70.2
	KW	13.87	13.43	13.12	14.01	13.62	13.36	14.10	13.78	13.56
32	TC	72.8	65.5	61.1	74.8	68.7	65.0	76.1	71.2	68.1
	SHC	41.5	50.2	61.1	47.6	58.1	65.0	53.5	65.5	68.1
	KW	14.97	14.34	13.96	15.15	14.62	14.29	15.26	14.83	14.56
36	TC	70.4	62.9	59.1	72.2	66.3	62.9	73.4	68.7	66.0
	SHC	40.6	49.5	59.1	46.7	57.0	62.9	52.5	64.3	66.0
	KW	15.98	15.30	14.96	16.15	15.61	15.30	16.26	15.83	15.58
40	TC	68.3	60.4	57.1	69.9	64.0	60.9	71.1	66.4	64.0
	SHC	39.9	48.8	57.1	45.9	56.0	60.9	51.8	63.3	64.0
	KW	17.15	16.25	15.88	17.34	16.66	16.31	17.47	16.94	16.66
44	TC	65.8	57.7	55.0	67.2	61.4	58.7	68.3	63.7	61.7
	SHC	38.9	48.0	55.0	44.9	54.9	58.7	50.8	62.1	61.7
	KW	18.30	17.14	16.76	18.50	17.67	17.28	18.65	18.00	17.72
48	TC	63.2	55.0	52.8	64.4	58.5	56.4	65.4	61.0	59.4
	SHC	38.0	47.2	52.8	43.9	53.8	56.4	49.8	60.9	59.4
	KW	19.28	18.04	17.72	19.46	18.62	18.26	19.60	18.95	18.71
52	TC	60.8	52.3	50.7	61.8	56.3	54.2	62.7	58.4	57.1
	SHC	37.1	46.5	50.7	43.0	52.7	54.2	48.9	58.1	57.1
	KW	20.25	18.94	18.69	20.41	19.55	19.24	20.54	19.89	19.69

38AH024 AND 40RM024										
Temp (C) Air Entering Condenser	Evaporator Air — L/s/BF									
	2900/0.06			3800/0.10			4700/0.12			
	Evaporator Air — Ewb (C)									
	22	20	16	22	20	16	22	20	16	
24	TC	71.3	66.0	59.9	74.4	68.9	63.5	76.4	71.3	66.3
	SHC	38.0	45.1	59.9	43.1	52.1	63.5	47.6	58.3	66.3
	KW	12.63	12.31	11.93	12.82	12.48	12.15	12.94	12.63	12.32
28	TC	69.2	64.0	58.1	72.2	66.9	61.7	74.1	69.2	64.5
	SHC	37.2	44.3	58.1	42.3	51.2	61.7	46.8	57.3	64.5
	KW	13.50	13.18	12.81	13.69	13.35	13.03	13.81	13.50	13.20
32	TC	67.1	62.0	56.4	69.9	64.7	59.9	71.7	66.9	62.6
	SHC	36.3	43.5	56.4	41.5	50.2	59.9	45.9	56.2	62.6
	KW	14.48	14.03	13.55	14.72	14.27	13.84	14.87	14.46	14.08
36	TC	65.0	59.9	54.7	67.5	62.5	58.0	69.2	64.6	60.7
	SHC	35.5	42.6	54.7	40.6	49.2	58.0	45.1	55.2	60.7
	KW	15.49	15.03	14.55	15.72	15.27	14.86	15.87	15.46	15.10
40	TC	62.9	57.8	52.7	65.4	60.4	56.1	67.0	62.4	58.7
	SHC	34.7	41.8	52.7	39.8	48.3	56.1	44.3	54.2	58.7
	KW	16.54	15.96	15.38	16.82	16.26	15.76	17.00	16.49	16.06
44	TC	60.6	55.6	50.9	62.9	58.1	54.1	64.4	60.0	56.7
	SHC	33.8	40.9	50.9	39.0	47.3	54.1	43.4	53.1	56.7
	KW	17.56	16.84	16.17	17.89	17.20	16.63	18.10	17.47	17.00
48	TC	58.2	53.4	48.9	60.4	55.8	52.1	61.8	57.5	54.6
	SHC	32.8	40.0	48.9	38.0	46.2	52.1	42.5	51.9	54.6
	KW	18.54	17.80	17.14	18.86	18.17	17.61	19.07	18.43	17.99
52	TC	56.0	51.1	46.9	58.0	53.5	50.0	59.3	55.1	52.5
	SHC	31.9	39.0	46.9	37.2	45.2	50.0	41.6	50.8	52.5
	KW	19.51	18.76	18.12	19.82	19.12	18.60	20.02	19.38	18.97

38AH028 AND 40RM024										
Temp (C) Air Entering Condenser	Evaporator Air — L/s/BF									
	2900/0.06			3800/0.10			4700/0.12			
	Evaporator Air — Ewb (C)									
	22	20	16	22	20	16	22	20	16	
24	TC	77.4	71.9	64.7	81.1	75.1	68.6	83.5	77.9	71.6
	SHC	40.4	47.5	64.7	45.5	54.9	68.6	50.1	61.3	71.6
	KW	15.16	14.77	14.25	15.42	14.99	14.53	15.59	15.20	14.75
28	TC	75.6	70.1	63.2	79.1	73.2	67.0	81.3	75.9	70.0
	SHC	39.7	46.8	63.2	44.8	54.0	67.0	49.3	60.4	70.0
	KW	16.26	15.96	15.58	16.46	16.14	15.79	16.59	16.28	15.96
32	TC	73.4	68.1	61.6	76.7	71.1	65.3	78.8	73.6	68.2
	SHC	38.8	45.9	61.6	43.9	53.1	65.3	48.4	59.3	68.2
	KW	17.36	16.95	16.44	17.62	17.18	16.72	17.79	17.38	16.95
36	TC	71.3	66.0	59.8	74.4	68.9	63.4	76.4	71.4	66.3
	SHC	38.0	45.1	59.8	43.1	52.1	63.4	47.6	58.3	66.3
	KW	18.51	17.98	17.36	18.82	18.27	17.72	19.02	18.52	18.01
40	TC	69.1	63.9	58.0	72.1	66.7	61.5	74.0	69.0	64.3
	SHC	37.1	44.2	58.0	42.2	51.1	61.5	46.7	57.2	64.3
	KW	19.61	18.96	18.23	19.98	19.32	18.67	20.22	19.60	19.02
44	TC	66.9	61.7	56.2	69.6	64.5	59.6	71.4	66.7	62.4
	SHC	36.2	43.4	56.2	41.4	50.1	59.6	45.8	56.1	62.4
	KW	20.78	20.11	19.39	21.15	20.47	19.84	21.38	20.76	20.19
48	TC	64.7	59.6	54.4	67.3	62.3	57.8	68.9	64.3	60.4
	SHC	35.4	42.5	54.4	40.5	49.1	57.8	45.0	55.9	60.4
	KW	21.75	21.06	20.35	22.10	21.42	20.80	22.33	21.70	21.17
52	TC	62.0	57.2	52.4	64.3	59.6	55.6	65.7	61.5	58.1
	SHC	34.3	41.5	52.4	39.4	47.9	55.6	43.9	53.7	58.1
	KW	23.63	22.55	21.49	24.15	23.10	22.20	24.48	23.52	22.76

LEGEND

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

NOTES:

1. All combination ratings are based on refrigerant R-22.
2. Direct interpolation is permissible. Do not extrapolate.
3. The SHC is based on 26.7 C db temperature of air entering



COMBINATION RATINGS — SI (cont)

38AH028 AND 40RM028										
Temp (C) Air Entering Condenser		Evaporator Air — L/s/BF								
		3500/0.06			4700/0.10			5900/0.12		
		Evaporator Air — Ewb (C)								
		22	20	16	22	20	16	22	20	16
24	TC	84.1	78.3	70.6	87.3	80.6	74.8	89.3	83.5	78.2
	SHC	45.8	53.8	70.6	52.0	63.2	74.8	57.9	70.9	78.2
	KW	15.64	15.22	14.67	15.87	15.39	14.97	16.01	15.60	15.22
28	TC	82.1	75.9	68.9	85.0	78.4	73.0	86.9	81.3	76.4
	SHC	45.0	53.1	68.9	51.2	62.3	73.0	57.1	69.9	76.4
	KW	16.63	16.28	15.89	16.79	16.42	16.12	16.89	16.58	16.31
32	TC	79.6	73.2	67.0	82.3	75.9	70.9	83.9	78.6	74.3
	SHC	44.1	52.3	67.0	50.2	61.2	70.9	56.1	68.7	74.3
	KW	17.85	17.35	16.86	18.06	17.56	17.17	18.19	17.77	17.43
36	TC	77.4	70.6	65.0	79.9	73.5	68.8	81.4	76.2	72.2
	SHC	43.3	51.6	65.0	49.4	60.1	68.9	55.2	67.7	72.2
	KW	19.12	18.44	17.88	19.37	18.73	18.27	19.52	19.00	18.60
40	TC	75.0	67.9	63.0	77.2	71.0	66.8	78.7	73.6	70.1
	SHC	42.4	50.9	63.0	48.4	59.1	66.8	54.3	66.5	70.1
	KW	20.35	19.46	18.84	20.63	19.85	19.33	20.81	20.18	19.74
44	TC	72.5	65.2	60.9	74.5	68.5	64.7	75.9	71.0	67.9
	SHC	41.4	50.1	60.9	47.5	58.0	64.7	53.4	65.3	67.9
	KW	21.52	20.56	20.00	21.78	20.99	20.50	21.96	21.32	20.92
48	TC	70.1	62.6	58.9	71.9	66.0	62.6	73.1	68.4	65.7
	SHC	40.6	49.4	58.9	46.6	56.9	62.6	52.4	64.2	65.7
	KW	22.49	21.46	20.96	22.73	21.92	21.47	22.90	22.25	21.89
52	TC	67.0	59.4	56.5	68.5	62.9	60.1	69.5	65.1	63.0
	SHC	39.4	48.5	56.5	45.4	55.6	60.1	51.2	62.8	63.0
	KW	24.77	23.07	22.41	25.10	23.84	23.21	25.33	24.34	23.87

38AH034 AND 40RM028										
Temp (C) Air Entering Condenser		Evaporator Air — L/s/BF								
		3500/0.06			4700/0.10			5900/0.12		
		Evaporator Air — Ewb (C)								
		22	20	16	22	20	16	22	20	16
24	TC	93.1	88.9	78.1	97.3	90.2	82.5	99.8	93.5	86.2
	SHC	49.1	56.8	78.1	55.5	67.3	82.5	61.4	75.3	86.2
	KW	18.80	18.47	17.63	19.13	18.57	17.97	19.32	18.83	18.26
28	TC	90.8	86.1	76.1	94.8	87.7	80.4	97.2	90.9	84.1
	SHC	48.2	56.0	76.1	54.6	66.2	80.4	60.5	74.2	84.1
	KW	20.03	19.66	18.86	20.35	19.79	19.21	20.54	20.04	19.50
32	TC	88.5	83.4	74.2	92.2	85.3	78.5	94.4	88.3	82.1
	SHC	47.4	55.2	74.2	53.7	65.2	78.5	59.6	73.1	82.1
	KW	21.40	20.89	19.97	21.77	21.08	20.40	21.99	21.38	20.76
36	TC	86.0	80.5	72.1	89.4	82.6	76.4	91.5	85.6	79.9
	SHC	46.5	54.4	72.1	52.7	64.0	76.4	58.6	71.9	79.9
	KW	22.88	22.30	21.44	23.23	22.52	21.87	23.44	22.83	22.24
40	TC	83.6	77.6	70.1	86.7	80.0	74.2	88.7	82.9	77.7
	SHC	45.6	53.6	70.1	51.8	62.9	74.2	57.7	70.7	77.7
	KW	24.24	23.49	22.55	24.63	23.79	23.07	24.87	24.15	23.50
44	TC	81.1	74.7	67.9	84.0	77.3	72.1	85.8	80.2	75.5
	SHC	44.6	52.8	67.9	50.8	61.8	72.1	56.7	69.5	75.5
	KW	25.66	24.72	23.71	26.09	25.11	24.32	26.35	25.53	24.83
48	TC	78.4	71.7	65.7	80.9	74.5	69.8	82.6	77.2	73.1
	SHC	43.6	51.9	65.7	49.7	60.6	69.8	55.6	68.1	73.1
	KW	27.17	25.99	24.94	27.62	26.49	25.65	27.91	26.97	26.24
52	TC	75.8	68.7	63.4	78.2	71.8	67.4	79.7	74.5	70.7
	SHC	42.7	51.1	63.4	48.8	59.4	67.4	54.7	66.9	70.7
	KW	28.74	27.45	26.51	29.16	28.01	27.23	29.44	28.50	27.83

38AH028 AND 40RM034										
Temp (C) Air Entering Condenser		Evaporator Air — L/s/BF								
		4250/0.06			5650/0.10			7050/0.12		
		Evaporator Air — Ewb (C)								
		22	20	16	22	20	16	22	20	16
24	TC	90.2	81.9	75.9	92.7	85.5	80.5	94.4	88.5	84.3
	SHC	50.5	61.0	75.9	58.3	70.8	80.5	65.4	79.8	84.3
	KW	16.07	15.48	15.05	16.25	15.73	15.38	16.37	15.95	15.63
28	TC	87.8	79.6	73.9	90.2	83.1	78.5	91.7	86.0	82.2
	SHC	49.6	60.0	73.9	57.4	69.7	78.5	64.5	78.7	82.2
	KW	16.95	16.49	16.17	17.08	16.68	16.43	17.16	16.84	16.63
32	TC	85.0	76.9	71.7	87.1	80.2	76.1	88.5	82.9	79.7
	SHC	48.5	58.9	71.7	56.3	68.4	76.1	63.4	77.4	79.7
	KW	18.27	17.64	17.23	18.43	17.89	17.58	18.55	18.11	17.86
36	TC	82.5	74.4	69.5	84.4	77.6	73.9	85.8	80.3	77.5
	SHC	47.6	57.9	69.5	55.4	67.3	73.9	62.5	76.2	77.5
	KW	19.63	18.82	18.33	19.82	19.14	18.77	19.96	19.41	19.13
40	TC	79.9	71.7	67.3	81.5	74.9	71.6	82.7	77.5	75.1
	SHC	46.5	56.8	67.3	54.4	66.1	71.6	61.5	74.9	75.1
	KW	20.96	19.94	19.38	21.17	20.33	19.92	21.32	20.66	20.36
44	TC	77.1	69.0	65.0	78.6	72.1	69.2	79.7	74.6	72.6
	SHC	45.5	55.6	65.0	53.3	64.9	69.2	60.5	73.6	72.6
	KW	22.12	21.07	20.53	22.31	21.46	21.08	22.45	21.79	21.53
48	TC	74.4	66.4	62.7	75.7	69.4	66.8	76.7	71.8	70.1
	SHC	44.4	54.6	62.7	52.3	63.7	66.8	59.5	72.4	70.1
	KW	23.08	21.99	21.48	23.25	22.39	22.04	23.38	22.72	22.49
52	TC	70.9	63.2	60.0	71.8	65.9	63.8	72.6	68.1	67.0
	SHC	43.1	53.2	60.0	51.0	62.2	63.8	58.2	68.1	67.0
	KW	25.63	23.91	23.19	25.85	24.51	24.05	26.03	25.02	24.76

38AH034 AND 40RM034										
Temp (C) Air Entering Condenser		Evaporator Air — L/s/BF								
		4250/0.06			5650/0.10			7050/0.12		
		Evaporator Air — Ewb (C)								
		22	20	16	22	20	16	22	20	16
24	TC	100.3	92.2	84.4	103.9	96.2	89.4	106.2	99.5	93.4
	SHC	54.4	65.3	84.4	62.2	75.4	89.4	69.3	84.8	93.4
	KW	19.36	18.73	18.12	19.65	19.04	18.51	19.82	19.30	18.82
28	TC	97.8	89.6	82.1	101.2	93.4	87.1	103.3	96.7	91.1
	SHC	53.4	64.2	82.1	61.2	74.2	87.1	68.3	83.5	91.1
	KW	20.59	19.93	19.34	20.86	20.24	19.74	21.02	20.50	20.06
32	TC	95.1	86.9	80.0	98.2	90.7	84.8	100.1	93.8	88.8
	SHC	52.4	63.1	80.0	60.2	73.0	84.8	67.3	82.2	88.8
	KW	22.06	21.24	20.55	22.37	21.62	21.03	22.56	21.93	21.43
36	TC	92.3	84.1	77.6	95.1	87.7	82.4	96.9	90.8	86.2
	SHC	51.3	61.9	77.6	59.1	71.7	82.4	66.2	80.9	86.2
	KW	23.53	22.67	22.01	23.82	23.05	22.50	24.00	23.37	22.90
40	TC	89.6	81.3	75.3	92.1	84.8	80.0	93.8	87.8	83.8
	SHC	50.3	60.7	75.3	58.1	70.5	80.0	65.2	79.5	83.8
	KW	24.99	23.95	23.20	25.30	24.39	23.78	25.51	24.77	24.26
44	TC	86.8	78.5	72.9	89.1	81.9	77.5	90.6	84.8	81.2
	SHC	49.2	59.6	72.9	57.0	69.2	77.5	64.1	78.2	81.2
	KW	26.50	25.28	24.45	26.84	25.78	25.13	27.07	26.21	25.68
48	TC	83.7	75.5	70.4	85.6	78.7	74.9	87.0	81.5	78.5
	SHC	48.0	58.3	70.4	55.8	67.8	74.9	62.9	76.7	78.5
	KW	28.11	26.66	25.77	28.45	27.24	26.55	28.70	27.72	27.19
52	TC	80.9	72.6	67.9	82.6	75.8	72.3	83.9	78.5	75.9
	SHC	46.9	57.1	67.9	54.7	66.5	72.3	61.9	75.4	75.9
	KW	29.65	28.16	27.31	29.97	28.74	28.11	30.20	29.22	28.75

LEGEND

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

NOTES:

1. All combination ratings are based on refrigerant R-22.
2. Direct interpolation is permissible. Do not extrapolate.
3. The SHC is based on 26.7 C db temperature of air entering the indoor unit. At any other temperature, correct the SHC reading from the table of cooling capacities as follows:
Correction factor = $1.23 \times 10^{-3} \times (1 - BF) \times (db -$

Performance data — 38AH024-034/40RM (cont)



COMBINATION RATINGS — ENGLISH

38AH024 AND 40RM016										
Temp (F) Air Entering Condenser		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	211.3	191.6	173.6	221.7	203.6	186.3	229.2	211.4	195.4
	SHC	106.1	131.1	166.6	118.5	151.3	186.3	130.3	169.2	195.4
	kW	13.46	13.13	12.83	13.63	13.33	13.04	13.75	13.46	13.19
95	TC	202.6	184.4	167.6	211.9	195.4	179.6	218.9	202.5	188.3
	SHC	103.0	127.9	161.4	114.9	147.4	179.6	126.6	164.7	188.3
	kW	14.70	14.28	13.90	14.91	14.53	14.17	15.06	14.69	14.37
100	TC	198.0	180.5	164.3	206.8	191.0	175.8	213.5	197.8	184.4
	SHC	101.4	126.1	158.5	112.9	145.2	175.8	124.7	162.4	184.4
	kW	15.32	14.82	14.36	15.57	15.12	14.69	15.75	15.31	14.93
105	TC	193.2	176.4	160.8	201.5	186.4	172.0	208.0	192.9	180.3
	SHC	99.7	124.3	155.4	111.0	143.0	172.0	122.7	160.0	180.3
	kW	16.00	15.51	15.05	16.25	15.80	15.38	16.43	15.99	15.62
115	TC	183.5	167.7	153.1	191.0	177.0	163.7	197.0	183.0	171.8
	SHC	96.3	120.4	148.6	107.0	138.5	163.7	118.8	155.0	171.8
	kW	17.26	16.61	16.01	17.57	17.00	16.45	17.82	17.24	16.78
125	TC	173.2	158.7	145.1	179.8	167.2	155.1	185.4	172.5	162.9
	SHC	92.7	116.3	141.6	102.8	133.7	155.1	114.6	149.8	162.9
	kW	18.63	17.91	17.23	18.96	18.33	17.73	19.23	18.60	18.11

38AH024 AND 40RM028										
Temp (F) Air Entering Condenser		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	252.4	229.4	214.3	261.8	239.0	229.0	266.4	248.1	241.2
	SHC	140.1	181.8	212.5	160.6	212.9	229.0	180.5	240.6	241.2
	kW	14.14	13.76	13.50	14.30	13.92	13.75	14.37	14.07	13.95
95	TC	240.2	218.3	205.3	248.7	227.1	219.4	252.6	235.7	230.9
	SHC	135.6	177.3	204.2	155.9	208.0	219.4	175.9	235.2	230.9
	kW	15.55	15.05	14.76	15.74	15.25	15.08	15.83	15.45	15.34
100	TC	234.0	212.6	200.5	242.1	221.0	214.3	245.7	229.4	225.6
	SHC	133.3	175.0	199.9	153.6	205.5	214.3	173.6	229.4	225.6
	kW	16.34	15.73	15.39	16.56	15.97	15.78	16.67	16.21	16.10
105	TC	227.7	206.7	195.6	235.3	214.8	209.1	238.6	223.0	220.1
	SHC	131.0	172.6	195.3	151.2	202.9	209.1	171.2	223.0	220.1
	kW	17.01	16.40	16.07	17.24	16.63	16.47	17.34	16.88	16.79
115	TC	215.5	195.1	185.6	222.6	202.6	198.8	225.4	210.6	209.5
	SHC	126.6	167.9	186.2	146.8	197.9	198.8	166.8	210.6	209.5
	kW	18.58	17.74	17.35	18.87	18.05	17.89	18.99	18.38	18.33
125	TC	202.4	182.9	175.0	208.8	189.8	187.7	211.2	197.4	197.9
	SHC	121.8	163.0	176.5	141.9	189.8	187.7	162.1	197.4	197.9
	kW	20.08	19.11	18.72	20.40	19.45	19.35	20.52	19.83	19.86

38AH024 AND 40RM024										
Temp (F) Air Entering Condenser		Evaporator Air — Cfm/BF								
		6,000/0.03			8,000/0.06			10,000/0.07		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	234.5	214.7	196.5	244.6	224.8	209.7	249.6	232.7	220.2
	SHC	123.6	158.1	191.1	140.2	183.3	209.7	154.6	206.1	220.2
	kW	13.84	13.51	13.21	14.01	13.68	13.43	14.09	13.81	13.60
95	TC	223.9	205.4	188.9	233.0	214.5	201.4	237.2	221.8	211.5
	SHC	119.5	154.3	184.5	136.0	179.0	201.4	150.2	201.1	211.5
	kW	15.18	14.76	14.38	15.39	14.96	14.67	15.48	15.13	14.90
100	TC	218.4	200.4	184.7	227.0	209.1	196.9	230.9	216.2	206.8
	SHC	117.4	152.2	180.9	133.9	176.7	196.9	148.0	198.6	206.8
	kW	15.89	15.39	14.94	16.14	15.63	15.29	16.25	15.83	15.57
105	TC	212.7	195.4	180.4	220.9	203.5	192.4	224.4	210.4	202.0
	SHC	115.3	150.2	177.1	131.7	174.4	192.4	145.7	195.9	202.0
	kW	16.57	16.06	15.62	16.82	16.30	15.98	16.92	16.51	16.26
115	TC	201.6	185.1	171.4	209.2	192.5	183.0	212.1	199.1	192.3
	SHC	111.0	145.9	169.3	127.4	169.7	183.0	141.4	190.8	192.3
	kW	18.01	17.33	16.76	18.32	17.63	17.24	18.44	17.91	17.63
125	TC	189.8	174.3	162.0	196.6	180.8	173.1	198.9	187.1	182.0
	SHC	106.5	141.5	161.1	122.8	164.8	173.1	136.7	185.3	182.0
	kW	19.45	18.68	18.07	19.79	19.01	18.62	19.90	19.32	19.07

38AH028 AND 40RM024										
Temp (F) Air Entering Condenser		Evaporator Air — Cfm/BF								
		6,000/0.03			8,000/0.06			10,000/0.07		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	256.2	235.7	215.7	267.1	247.0	228.8	273.1	255.0	239.4
	SHC	131.8	166.7	207.8	148.3	192.7	228.8	162.9	216.3	239.4
	kW	16.65	16.14	15.64	16.93	16.42	15.97	17.08	16.63	16.24
95	TC	246.0	225.8	206.6	256.5	236.5	219.8	262.0	244.5	230.4
	SHC	127.9	162.6	200.0	144.5	188.3	219.8	159.0	211.5	230.4
	kW	18.20	17.70	17.22	18.46	17.96	17.54	18.60	18.16	17.81
100	TC	240.9	220.9	202.1	251.2	231.3	215.3	256.5	239.3	225.9
	SHC	126.0	160.6	196.1	142.6	186.1	215.3	157.0	209.1	225.9
	kW	18.97	18.38	17.84	19.27	18.69	18.22	19.42	18.92	18.53
105	TC	234.4	215.6	198.2	243.9	225.2	210.7	248.5	232.6	220.8
	SHC	123.5	158.5	192.7	139.9	183.5	210.7	154.2	206.1	220.8
	kW	19.79	19.10	18.47	20.13	19.45	18.93	20.30	19.72	19.29
115	TC	223.6	205.8	189.8	232.3	214.5	201.9	236.3	221.6	211.6
	SHC	119.4	154.4	185.3	135.8	179.0	201.9	149.9	201.0	211.6
	kW	21.29	20.61	19.99	21.63	20.94	20.46	21.78	21.22	20.83
125	TC	196.6	180.3	167.0	203.9	187.4	178.6	206.6	193.9	187.8
	SHC	109.1	144.0	165.5	125.5	167.5	178.6	139.4	188.4	187.8
	kW	23.11	22.43	21.88	23.41	22.72	22.36	23.52	23.00	22.74

LEGEND

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

NOTES:

1. All combination ratings are based on refrigerant R-22.
2. Direct interpolation is permissible. Do not extrapolate.
3. The SHC is based on 80 F dry-bulb temperature of air entering the evaporator coil.

Below 80 F dry-bulb, subtract (correction factor x cfm) from SHC.
Above 80 F dry bulb, add (correction factor x cfm) to SHC.

BYPASS FACTOR	ENTERING-AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	82	83	84	85	over 85
	Correction Factor					
0.10	0.99	1.98	2.97	3.96	4.95	Use formula shown below.
0.20	0.88	1.76	2.64	3.52	4.40	
0.30	0.77	1.54	2.31	3.08	3.85	

Interpolation is permissible.

$$\text{Correction Factor} = 1.1 \times (1 - \text{BF}) \times (\text{db} - 80).$$

4. Gross capacities shown do not include a deduction for evaporator-fan motor heat.
5. Formulas

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

$$t_{wb} = \text{wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil } (h_{lwb})$$

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

where h_{ewb} = enthalpy of air entering evaporator coil

6. Combination ratings are based on a 2° F line loss. For a close-coupled system (less than 15 ft), add 2% to ratings. Piping sizes in Refrigerant Pipe Sizes table on page 40 are based on 2° F line loss.



COMBINATION RATINGS — ENGLISH (cont)

38AH028 AND 40RM028										
Temp (F) Air Entering Condenser		Evaporator Air — Cfm/BF								
		7,500/0.04			10,000/0.06			12,500/0.08		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	275.2	252.7	234.7	285.3	262.8	249.2	290.6	271.7	261.4
	SHC	148.5	191.1	231.2	168.8	222.6	249.2	188.5	250.9	261.4
	KW	17.13	16.57	16.12	17.38	16.82	16.48	17.52	17.04	16.78
95	TC	264.5	241.8	225.1	274.3	251.6	239.7	279.2	260.6	251.9
	SHC	144.5	186.7	222.4	164.9	218.0	239.7	184.7	246.1	251.9
	KW	18.66	18.09	17.68	18.91	18.34	18.04	19.03	18.56	18.35
100	TC	259.1	236.3	220.3	268.7	246.0	235.0	273.5	255.0	247.2
	SHC	142.6	184.5	218.0	163.0	215.7	235.0	182.8	243.6	247.2
	KW	19.50	18.83	18.37	19.78	19.12	18.79	19.92	19.38	19.15
105	TC	251.2	229.6	215.2	260.0	238.6	229.2	264.3	247.1	240.8
	SHC	139.7	181.8	213.4	159.9	212.7	229.2	179.8	240.2	240.8
	KW	20.40	19.61	19.09	20.72	19.94	19.60	20.87	20.25	20.02
115	TC	239.3	218.3	205.6	247.4	226.7	219.2	251.1	234.9	230.4
	SHC	135.3	177.2	204.6	155.5	207.8	219.2	175.4	234.8	230.4
	KW	21.89	21.09	20.60	22.21	21.41	21.12	22.35	21.73	21.55
115	TC	210.1	189.8	180.9	217.0	197.1	194.0	219.6	205.1	204.6
	SHC	124.6	165.7	181.9	144.8	195.7	194.0	164.9	221.8	204.6
	KW	23.67	22.82	22.45	23.96	23.13	23.00	24.07	23.46	23.44

38AH034 AND 40RM028										
Temp (F) Air Entering Condenser		Evaporator Air — Cfm/BF								
		7,500/0.04			10,000/0.06			12,500/0.08		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	307.8	283.0	258.8	320.5	295.3	274.6	327.8	305.2	288.2
	SHC	160.5	203.4	253.3	181.2	236.0	274.6	200.9	265.5	288.2
	KW	20.50	19.90	19.32	20.81	20.20	19.70	20.99	20.44	20.03
95	TC	295.9	271.4	249.2	307.9	283.1	264.9	314.6	292.9	278.2
	SHC	156.1	198.7	244.5	176.8	231.0	264.9	196.5	260.2	278.2
	KW	22.57	21.78	21.06	22.95	22.15	21.57	23.17	22.47	22.00
100	TC	289.5	265.4	244.4	301.0	276.7	259.9	307.3	286.3	272.9
	SHC	153.7	196.3	240.2	174.3	228.3	259.9	194.1	257.3	272.9
	KW	23.38	22.58	21.88	23.77	22.96	22.40	23.98	23.28	22.83
105	TC	283.7	259.5	239.3	295.0	270.6	254.8	301.0	280.3	267.8
	SHC	151.6	193.9	235.4	172.2	225.8	254.8	192.0	254.6	267.8
	KW	24.41	23.52	22.77	24.83	23.93	23.34	25.05	24.28	23.82
115	TC	271.0	247.4	229.4	281.4	257.8	244.5	286.8	267.2	257.2
	SHC	146.9	189.0	226.4	167.5	220.6	244.5	187.3	248.9	257.2
	KW	26.32	25.30	24.52	26.77	25.75	25.18	27.00	26.15	25.72
125	TC	257.9	234.9	219.0	267.5	244.6	233.7	272.3	253.7	246.0
	SHC	142.1	184.0	216.8	162.6	215.2	233.7	182.4	243.1	246.0
	KW	28.29	27.15	26.36	28.76	27.63	27.09	29.00	28.08	27.70

38AH028 AND 40RM034										
Temp (F) Air Entering Condenser		Evaporator Air — Cfm/BF								
		9,000/0.04			12,000/0.06			15,000/0.08		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	291.7	266.7	251.6	300.7	276.9	267.5	305.2	286.3	280.5
	SHC	162.4	214.9	249.7	189.9	251.2	267.5	211.7	283.4	280.5
	KW	17.54	16.92	16.54	17.77	17.17	16.94	17.88	17.41	17.26
95	TC	280.4	255.1	241.3	289.1	265.1	257.4	293.2	274.5	270.3
	SHC	158.1	210.3	240.4	186.0	246.5	257.4	207.7	274.5	270.3
	KW	19.06	18.43	18.08	19.28	18.68	18.48	19.38	18.91	18.81
100	TC	274.7	249.3	236.2	283.2	259.2	252.3	287.2	268.7	265.2
	SHC	156.0	208.0	235.8	184.0	244.1	252.3	205.7	268.7	265.2
	KW	19.95	19.21	18.83	20.20	19.50	19.30	20.32	19.78	19.68
105	TC	265.5	241.5	229.9	273.2	250.6	245.1	276.7	259.5	257.4
	SHC	152.5	204.9	230.1	180.6	240.6	245.1	202.2	259.5	257.4
	KW	20.92	20.04	19.62	21.20	20.38	20.18	21.32	20.70	20.62
115	TC	252.4	229.1	219.2	259.4	237.6	234.0	262.4	246.2	245.8
	SHC	147.5	200.0	220.4	175.9	235.4	234.0	197.5	246.2	245.8
	KW	22.40	21.50	21.12	22.67	21.83	21.69	22.78	22.16	22.14
125	TC	221.1	198.5	192.2	226.8	206.2	206.4	228.9	214.4	217.6
	SHC	135.6	187.9	195.9	166.2	206.2	206.4	186.3	214.4	217.6
	KW	24.13	23.19	22.92	24.37	23.51	23.52	24.45	23.85	23.98

38AH034 AND 40RM034										
Temp (F) Air Entering Condenser		Evaporator Air — Cfm/BF								
		9,000/0.04			12,000/0.06			15,000/0.08		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	328.6	301.1	279.6	340.3	313.3	297.3	346.7	324.0	311.8
	SHC	176.4	228.6	275.2	203.3	265.9	297.3	225.6	300.0	311.8
	KW	21.00	20.34	19.82	21.29	20.64	20.25	21.44	20.89	20.60
95	TC	315.5	288.3	268.9	326.5	300.0	286.3	332.2	310.4	300.5
	SHC	171.4	223.5	265.4	198.6	260.5	286.3	220.7	294.0	300.5
	KW	23.19	22.32	21.70	23.55	22.70	22.26	23.73	23.03	22.71
100	TC	308.2	281.5	263.3	318.6	292.8	280.4	324.0	303.0	294.4
	SHC	168.7	220.8	260.4	196.0	257.6	280.4	218.0	290.8	294.0
	KW	24.01	23.12	22.51	24.35	23.49	23.08	24.53	23.83	23.55
105	TC	302.1	275.2	257.8	312.3	286.4	275.0	317.5	296.6	288.9
	SHC	166.3	218.3	255.4	193.9	255.0	275.0	215.8	287.9	288.9
	KW	25.09	24.10	23.45	25.47	24.51	24.09	25.66	24.89	24.60
115	TC	287.9	261.8	246.6	297.3	272.3	263.2	301.8	282.1	276.7
	SHC	161.0	213.0	245.2	188.8	249.4	263.2	210.6	281.6	276.7
	KW	27.05	25.92	25.26	27.45	26.37	25.98	27.65	26.80	26.56
125	TC	273.5	247.9	234.8	282.0	257.8	251.1	—	267.4	264.1
	SHC	155.5	207.5	234.6	183.6	243.5	251.1	—	267.4	264.1
	KW	29.06	27.79	27.14	29.48	28.28	27.95	—	28.76	28.59

LEGEND

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

NOTES:

1. All combination ratings are based on refrigerant R-22.
2. Direct interpolation is permissible. Do not extrapolate.
3. The SHC is based on 80 F dry-bulb temperature of air entering the evaporator coil.

Below 80 F dry-bulb, subtract (correction factor x cfm) from SHC.
Above 80 F dry bulb, add (correction factor x cfm) to SHC.

BYPASS FACTOR	ENTERING-AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	82	83	84	85	over 85
Correction Factor						
0.10	0.99	1.98	2.97	3.96	4.95	Use formula shown below.
0.20	0.88	1.76	2.64	3.52	4.40	
0.30	0.77	1.54	2.31	3.08	3.85	

Interpolation is permissible.

Correction Factor = 1.1 x (1 - BF) x (db - 80).

4. Gross capacities shown do not include a deduction for evaporator-fan motor heat.
5. Formulas

$$t_{ldb} = t_{edb} - \frac{\text{sensible heat capacity (Btuh)}}{1.1 \times \text{cfm}}$$

$$t_{lwb} = \text{wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil } (h_{lwb})$$

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

where h_{ewb} = enthalpy of air entering evaporator coil

6. Combination ratings are based on a 2° F line loss. For a close-coupled system (less than 15 ft), add 2% to ratings. Piping sizes in Refrigerant Pipe Sizes table on page 40 are based on 2° F line loss.

Performance data — 38AH024-034/40RM (cont)



40RM COIL ACCESSORY HEATING CAPACITIES — SI

UNIT 40RM	AIRFLOW (L/s)	1-ROW STEAM*		2-ROW HOT WATER COIL†			
		Cap. (kW)	Ldb	Cap. (kW)	Ldb	Water Flow (L/s)	PD (kPa)
016	2100	117	61	120	62	2.6	13.3
	2800	129	53	137	55	3.0	16.2
	3500	140	48	154	51	3.3	19.5
024	2900	135	53	150	58	3.3	15.6
	3800	140	46	170	52	3.7	18.6
	4700	146	41	191	49	4.1	22.3
028	3500	149	50	189	60	4.1	16.9
	4700	166	44	218	53	4.7	20.8
	5900	183	41	247	50	5.4	25.4
034	4250	164	47	215	57	4.7	18.5
	5650	180	41	247	51	5.4	22.8
	7050	196	38	278	48	6.0	27.7

LEGEND

Cap. — Capacity (kW)
 Ldb — Leaving-Air Dry-Bulb Temp (C)
 PD — Pressure Drop (kPa)

*Based on 34.5 kPag steam, 15.6 C entering-air temperature. All steam coils are non-freeze type.

†Based on 93.3 C entering-water temperature, 11.1 C water temperature drop, 15.6 C entering-air temperature.

NOTES:

- Maximum operating limit for heating coils: 1207 kPag at 204.4 C.
- Leaving db = ent db (C) + $\frac{\text{Capacity (kW)}}{1.23 \times 10^{-3} \times \text{L/s}}$
- See Heating Correction Factors table.

40RM HEATING CORRECTION FACTORS — SI

HOT WATER COIL						
Water Temp Drop (C)	Ent Water Temp (C)	Entering-Air Temp (C)				
		4	10	16	20	25
5	60	0.72	0.64	0.55	0.50	0.43
	70	0.87	0.79	0.71	0.65	0.58
	80	1.02	0.94	0.86	0.80	0.73
	90	1.17	1.09	1.01	0.95	0.89
	100	1.32	1.24	1.16	1.10	1.04
11	60	0.65	0.56	0.48	0.42	0.35
	70	0.80	0.72	0.63	0.58	0.51
	80	0.95	0.87	0.79	0.73	0.66
	90	1.10	1.02	0.94	0.89	0.82
	100	1.26	1.18	1.09	1.04	0.97
16	60	0.56	0.48	0.39	0.33	0.26
	70	0.72	0.63	0.55	0.49	0.42
	80	0.87	0.79	0.70	0.65	0.58
	90	1.02	0.94	0.86	0.81	0.74
	100	1.18	1.10	1.02	0.97	0.90

STEAM COIL

Steam Pressure (kPag)	Entering-Air Temp (C)				
	4	10	16	20	25
0	1.07	0.99	0.91	0.86	0.80
14	1.10	1.02	0.95	0.90	0.84
35	1.14	1.07	0.99	0.95	0.89

NOTE: Multiply capacity given in the Coil Accessory Heating Capacities table by the correction factor for conditions at which unit is actually operating. Correct leaving-air temperature using formula in Note 2 of Coil Accessory Heating Capacities table.

40RM COIL ACCESSORY HEATING CAPACITIES — ENGLISH

UNIT 40RM	AIRFLOW (Cfm)	1-ROW STEAM*		2-ROW HOT WATER COIL†			
		Cap.	Ldb	Cap.	Ldb	Gpm	PD
016	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
024	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
028	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
034	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:

- Maximum operating limit for heating coils: 175 psig at 400 F.
- Leaving db = ent db (F) + $\frac{\text{Capacity (Btuh)}}{1.1 \times \text{cfm}}$
- See Heating Correction Factors table.

40RM HEATING CORRECTION FACTORS — ENGLISH

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 Coil Accessory Heating Capacities table by the correction factor for conditions at which unit is actually operating. Correct leaving-air temperature using formula in Note 2 of Coil Accessory Heating Capacities table.



40RM FAN PERFORMANCE DATA — 0-300 Pa ESP — SI

UNIT 40RM	AIRFLOW (L/s)	EXTERNAL STATIC PRESSURE (Pa)													
		0		50		100		150		200		250		300	
		r/s	kW	r/s	kW	r/s	kW	r/s	kW	r/s	kW	r/s	kW	r/s	kW
016	2100	6.43	0.37	8.19	0.55	9.65	0.73	10.90	0.92	<u>12.10</u>	<u>1.11</u>	<u>13.10</u>	<u>1.30</u>	<u>14.10</u>	<u>1.50</u>
	2450	7.51	0.57	9.06	0.77	10.40	0.97	11.60	1.18	<u>12.70</u>	<u>1.39</u>	<u>13.70</u>	<u>1.60</u>	<u>14.60</u>	<u>1.81</u>
	2800	8.58	0.82	9.96	1.05	11.20	1.27	<u>12.30</u>	<u>1.49</u>	<u>13.30</u>	<u>1.72</u>	<u>14.30</u>	<u>1.95</u>	<u>15.10</u>	<u>2.18</u>
	3150	9.65	1.14	10.90	1.38	<u>12.00</u>	<u>1.63</u>	<u>13.10</u>	<u>1.87</u>	<u>14.00</u>	<u>2.12</u>	<u>14.90</u>	<u>2.36</u>	<u>15.80</u>	<u>2.61</u>
	3500	10.70	1.52	<u>11.90</u>	<u>1.78</u>	<u>12.90</u>	<u>2.05</u>	<u>13.90</u>	<u>2.31</u>	<u>14.80</u>	<u>2.58</u>	<u>15.60</u>	<u>2.84</u>	<u>16.40</u>	<u>3.11</u>
024	2900	8.58	0.86	9.96	1.09	11.20	1.32	12.30	1.55	13.30	1.78	14.20	2.01	15.10	2.25
	3350	9.91	1.28	11.10	1.53	12.20	1.79	13.20	2.04	14.20	2.30	15.10	2.55	15.90	2.81
	3800	11.30	1.81	12.30	2.09	13.30	2.37	14.30	2.64	<u>15.10</u>	<u>2.93</u>	<u>16.00</u>	<u>3.21</u>	<u>16.80</u>	<u>3.49</u>
	4250	12.60	2.46	13.60	2.76	14.50	3.07	15.30	3.37	<u>16.10</u>	<u>3.67</u>	<u>16.90</u>	<u>3.98</u>	<u>17.70</u>	<u>4.28</u>
	4700	13.90	3.24	<u>14.80</u>	<u>3.57</u>	<u>15.60</u>	<u>3.90</u>	<u>16.40</u>	<u>4.22</u>	<u>17.20</u>	<u>4.55</u>	<u>17.90</u>	<u>4.88</u>	<u>18.60</u>	<u>5.21</u>
028	3500	6.79	0.84	8.14	1.12	9.42	1.47	10.70	1.89	<u>11.80</u>	<u>2.39</u>	<u>12.90</u>	<u>2.96</u>	<u>14.00</u>	<u>3.61</u>
	4100	7.95	1.29	9.12	1.60	10.20	1.96	11.30	2.38	<u>12.40</u>	<u>2.86</u>	<u>13.40</u>	<u>3.40</u>	<u>14.30</u>	<u>4.00</u>
	4700	9.12	1.88	10.10	2.21	11.10	2.59	<u>12.10</u>	<u>3.02</u>	<u>13.00</u>	<u>3.49</u>	<u>13.90</u>	<u>4.02</u>	<u>14.80</u>	<u>4.60</u>
	5300	10.30	2.62	11.20	3.00	<u>12.10</u>	<u>3.37</u>	<u>12.90</u>	<u>3.81</u>	<u>13.80</u>	<u>4.29</u>	<u>14.60</u>	<u>4.82</u>	<u>15.40</u>	<u>5.38</u>
	5900	11.40	3.52	<u>12.30</u>	<u>3.90</u>	<u>13.10</u>	<u>4.32</u>	<u>13.90</u>	<u>4.77</u>	<u>14.60</u>	<u>5.26</u>	<u>15.40</u>	<u>5.79</u>	16.10	6.35
034	4250	7.86	1.33	8.99	1.63	10.10	1.97	11.10	2.37	<u>12.20</u>	<u>2.83</u>	<u>13.20</u>	<u>3.34</u>	<u>14.10</u>	<u>3.92</u>
	4950	9.15	2.03	10.10	2.35	11.10	2.72	<u>12.00</u>	<u>3.12</u>	<u>12.90</u>	<u>3.58</u>	<u>13.80</u>	<u>4.08</u>	<u>14.70</u>	<u>4.62</u>
	5650	10.40	2.92	11.30	3.27	<u>12.20</u>	<u>3.66</u>	<u>13.00</u>	<u>4.08</u>	<u>13.80</u>	<u>4.54</u>	<u>14.60</u>	<u>5.04</u>	15.40	5.57
	6350	<u>11.70</u>	<u>4.02</u>	<u>12.50</u>	<u>4.40</u>	<u>13.30</u>	<u>4.81</u>	<u>14.00</u>	<u>5.25</u>	<u>14.70</u>	<u>5.72</u>	15.50	6.23	16.20	6.77
	7050	<u>13.00</u>	<u>5.37</u>	<u>13.70</u>	<u>5.77</u>	<u>14.40</u>	<u>6.21</u>	15.10	6.66	<u>15.70</u>	<u>7.15</u>	<u>16.40</u>	<u>7.67</u>	<u>17.10</u>	<u>8.21</u>

LEGEND

ESP — External Static Pressure

Bold indicates field-supplied drive required.

Plain type indicates standard motor and standard drive.

Underline indicates a different motor and drive combination is required.

Refer to fan motor and drive tables, pages 41-43, to complete the selection.

NOTES:

1. Maximum allowable fan speed is 18.3 r/s for unit sizes 028 and 034; 20 r/s for all other sizes.
2. Fan performance is based on deductions for wet coil, clean 51-mm filters, and unit casing. See right for factory-supplied filter pressure drop.
3. The standard motor and medium-static drive combination is not available for 40RM016-028 units. Use the alternate motor if the medium-static drive is required for these sizes.

**40RM FACTORY-SUPPLIED FILTER
PRESSURE DROP — SI**

UNIT 40RM	AIRFLOW (L/s)	PRESSURE DROP (Pa)
016	2100	20
	2800	30
	3500	42
024	2900	32
	3800	47
	4700	64
028	3500	36
	4700	55
	5900	76
034	4250	47
	5650	71
	7050	98

Performance data — 38AH024-034/40RM (cont)



40RM FAN PERFORMANCE DATA — 350-600 Pa ESP — SI

UNIT 40RM	AIRFLOW (L/s)	EXTERNAL STATIC PRESSURE (Pa)											
		350		400		450		500		550		600	
		r/s	kW	r/s	kW	r/s	kW	r/s	kW	r/s	kW	r/s	kW
016	2100	15.00	1.70	15.80	1.90	16.70	2.11	17.40	2.32	18.20	2.53	18.90	2.74
	2450	15.50	2.03	16.30	2.25	17.10	2.47	17.80	2.70	18.60	2.93	19.30	3.16
	2800	16.00	2.42	16.80	2.66	17.60	2.90	18.30	3.14	19.00	3.38	19.70	3.63
	3150	16.60	2.87	17.40	3.12	18.10	3.38	18.80	3.64	19.50	3.90	—	—
	3500	17.20	3.38	18.00	3.65	18.70	3.93	19.40	4.20	—	—	—	—
024	2900	16.00	2.49	16.80	2.73	17.50	2.97	18.30	3.22	19.00	3.47	19.70	3.72
	3350	16.70	3.08	17.50	3.34	18.20	3.61	18.90	3.87	19.60	4.14	—	—
	3800	17.50	3.77	18.20	4.06	18.90	4.35	19.60	4.64	—	—	—	—
	4250	18.40	4.59	19.10	4.90	19.80	5.21	—	—	—	—	—	—
	4700	19.30	5.54	20.00	5.87	—	—	—	—	—	—	—	—
028	3500	15.10	4.33	16.10	5.12	17.10	5.98	18.00	6.92	—	—	—	—
	4100	15.30	4.67	16.20	5.39	17.10	6.18	18.00	7.02	—	—	—	—
	4700	15.70	5.23	16.50	5.91	17.40	6.64	18.20	7.43	—	—	—	—
	5300	16.20	5.99	17.00	6.65	17.80	7.35	—	—	—	—	—	—
	5900	16.90	6.95	17.60	7.59	18.30	8.27	—	—	—	—	—	—
034	4250	15.00	4.55	16.00	5.24	16.80	5.99	17.70	6.79	—	—	—	—
	4950	15.50	5.22	16.30	5.86	17.10	6.56	17.90	7.30	—	—	—	—
	5650	16.10	6.16	16.90	6.77	17.60	7.43	18.30	8.13	—	—	—	—
	6350	16.90	7.34	17.50	7.94	18.20	8.58	—	—	—	—	—	—
	7050	17.70	8.79	18.30	9.39	—	—	—	—	—	—	—	—

LEGEND

ESP — External Static Pressure

Bold indicates field-supplied drive required.

Plain type indicates standard motor and standard drive.

Underline indicates a different motor and drive combination is required.

Refer to fan motor and drive tables, pages 41-43, to complete the selection.

NOTES:

- Maximum allowable fan speed is 18.3 r/s for unit sizes 028 and 034; 20 r/s for all other sizes.
- Fan performance is based on deductions for wet coil, clean 51-mm filters, and unit casing. See right for factory-supplied filter pressure drop.
- The standard motor and medium-static drive combination is not available for 40RM016-028 units. Use the alternate motor if the medium-static drive is required for these sizes.

40RM FACTORY-SUPPLIED FILTER PRESSURE DROP — SI

UNIT 40RM	AIRFLOW (L/s)	PRESSURE DROP (Pa)
016	2100	20
	2800	30
	3500	42
024	2900	32
	3800	47
	4700	64
028	3500	36
	4700	55
	5900	76
034	4250	47
	5650	71
	7050	98



40RM FAN PERFORMANCE DATA — 0.0-1.2 in. wg ESP — ENGLISH

UNIT 40RM	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
016	4,500	391	0.51	495	0.75	581	1.00	657	1.25	725	1.50	787	1.76	845	2.02
	5,300	460	0.80	551	1.08	629	1.35	700	1.63	764	1.91	823	2.20	878	2.48
	6,000	521	1.13	602	1.43	675	1.73	741	2.04	801	2.34	858	2.65	911	2.96
	6,800	590	1.60	663	1.93	730	2.26	791	2.59	847	2.92	901	3.26	951	3.60
	7,500	651	2.10	718	2.45	779	2.81	837	3.16	890	3.52	941	3.88	990	4.24
024	6,000	503	1.07	587	1.37	661	1.67	727	1.97	789	2.28	846	2.59	900	2.90
	7,000	586	1.64	660	1.98	726	2.31	787	2.65	844	2.99	898	3.33	948	3.67
	8,000	670	2.37	735	2.74	795	3.12	851	3.49	904	3.86	954	4.23	1001	4.61
	9,000	754	3.28	812	3.69	867	4.09	918	4.50	967	4.90	1014	5.31	1059	5.72
	10,000	838	4.39	891	4.83	941	5.27	988	5.70	1034	6.14	1077	6.85	1120	7.02
028	7,500	412	1.15	492	1.53	568	2.00	640	2.56	710	3.22	776	3.98	840	4.83
	8,750	481	1.76	550	2.17	616	2.66	680	3.22	742	3.86	802	4.58	860	5.38
	10,000	549	2.55	610	2.99	669	3.50	726	4.07	782	4.70	836	5.40	889	6.17
	11,250	618	3.52	672	4.00	725	4.53	777	5.12	827	5.76	876	6.45	925	7.21
	12,500	687	4.71	735	5.22	783	5.78	830	6.38	876	7.04	922	7.74	966	8.49
034	9,000	471	1.78	539	2.17	604	2.63	667	3.17	728	3.78	788	4.46	845	5.22
	10,500	550	2.72	608	3.15	665	3.64	720	4.18	774	4.79	827	5.45	878	6.18
	12,000	628	3.93	679	4.40	730	4.92	779	5.48	827	6.09	874	6.76	921	7.47
	13,500	707	5.44	752	5.94	797	6.49	841	7.08	885	7.71	928	8.38	970	9.10
	15,000	785	7.27	826	7.81	867	8.39	907	9.01	947	9.66	986	10.35	1024	11.07

LEGEND

ESP — External Static Pressure

Bold indicates field-supplied drive required.

Plain type indicates standard motor and standard drive.

Underline indicates a different motor and drive combination is required.

Refer to fan motor and drive tables, pages 41-43, to complete the selection.

NOTES:

1. Maximum allowable fan speed is 1100 rpm for unit sizes 028 and 034; 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. The standard motor and medium-static drive combination is not available for 40RM016-028 units. Use the alternate motor if the medium-static drive is required for these sizes.

**40RM FACTORY-SUPPLIED FILTER
PRESSURE DROP — ENGLISH**

UNIT 40RM	AIRFLOW (Cfm)	PRESSURE DROP (in. wg)
016	4,500	0.08
	6,000	0.12
	7,500	0.17
024	6,000	0.12
	8,000	0.19
	10,000	0.26
028	7,500	0.15
	10,000	0.22
	12,500	0.30
034	9,000	0.19
	12,000	0.29
	15,000	0.40

Performance data — 38AH024-034/40RM (cont)



FAN PERFORMANCE DATA — 1.4-2.4 in. wg ESP — ENGLISH

UNIT 40RM	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
016	4,500	899	2.29	951	2.56	999	2.84	1046	3.12	1091	3.41	1133	3.70
	5,300	930	2.78	980	3.08	1027	3.38	1072	3.68	1116	3.99	1157	4.30
	6,000	961	3.28	1009	3.60	1055	3.92	1098	4.24	1141	4.57	1181	4.91
	6,800	999	3.94	1045	4.28	1089	4.63	1132	4.98	1173	5.33	—	—
	7,500	1036	4.60	1080	4.97	1123	5.34	1164	5.71	—	—	—	—
024	6,000	950	3.21	999	3.53	1045	3.85	1089	4.17	1131	4.50	1172	4.83
	7,000	996	4.02	1042	4.37	1086	4.72	1129	5.07	1169	5.43	—	—
	8,000	1047	4.99	1091	5.37	1133	5.75	1173	6.13	—	—	—	—
	9,000	1102	6.13	1143	6.54	1183	6.96	—	—	—	—	—	—
	10,000	1160	7.46	1200	7.91	—	—	—	—	—	—	—	—
028	7,500	903	5.79	963	6.83	1021	7.98	1078	9.21	—	—	—	—
	8,750	917	6.26	972	7.22	1025	8.26	1078	9.38	—	—	—	—
	10,000	941	7.01	991	7.91	1040	8.89	1089	9.93	—	—	—	—
	11,250	972	8.02	1019	8.89	1064	9.83	—	—	—	—	—	—
	12,500	1010	9.29	1053	10.15	1095	11.05	—	—	—	—	—	—
034	9,000	901	6.07	955	6.98	1008	7.98	1060	9.05	—	—	—	—
	10,500	928	6.98	978	7.84	1026	8.76	1073	9.74	—	—	—	—
	12,000	966	8.24	1011	9.07	1055	9.95	1098	10.88	—	—	—	—
	13,500	1011	9.86	1052	10.67	1092	11.52	—	—	—	—	—	—
	15,000	1062	11.84	—	—	—	—	—	—	—	—	—	—

LEGEND

ESP — External Static Pressure

Bold indicates field-supplied drive required.

Plain type indicates standard motor and standard drive.

Underline indicates a different motor and drive combination is required.

Refer to fan motor and drive tables, pages 41-43, to complete the selection.

NOTES:

1. Maximum allowable fan speed is 1100 rpm for unit sizes 028 and 034; 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. The standard motor and medium-static drive combination is not available for 40RM016-028 units. Use the alternate motor if the medium-static drive is required for these sizes.

40RM FACTORY-SUPPLIED FILTER PRESSURE DROP — ENGLISH

UNIT 40RM	AIRFLOW (Cfm)	PRESSURE DROP (in. wg)
016	4,500	0.08
	6,000	0.12
	7,500	0.17
024	6,000	0.12
	8,000	0.19
	10,000	0.26
028	7,500	0.15
	10,000	0.22
	12,500	0.30
034	9,000	0.19
	12,000	0.29
	15,000	0.40



**40RM PLENUM ACCESSORY AIR THROW DATA — SI
(m)**

UNIT 40RM	AIRFLOW (L/s)	VANE DEFLECTION		
		Straight	22½°	45°
016	2800	15.41	13.25	9.55
024	3800	18.17	15.44	11.20
028	4700	23.26	19.89	14.38
034	5650	25.97	22.00	15.89

NOTE: Throw distances shown are for 0.381 m/sec terminal velocity. Use the following multipliers to determine throw values for other terminal velocities.

TERMINAL VELOCITY (m/sec)	THROW FACTOR
0.254	X 1.50
0.508	X 0.75
0.762	X 0.50

**40RM PLENUM ACCESSORY AIR THROW DATA —
ENGLISH (Ft)**

UNIT 40RM	AIRFLOW (Cfm)	VANE DEFLECTION		
		Straight	22½°	45°
016	6,000	50	43	31
024	8,000	60	51	37
028	10,000	76	65	47
034	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

**40RM ACCESSORY PRESSURE DROP — SI
(Pa)**

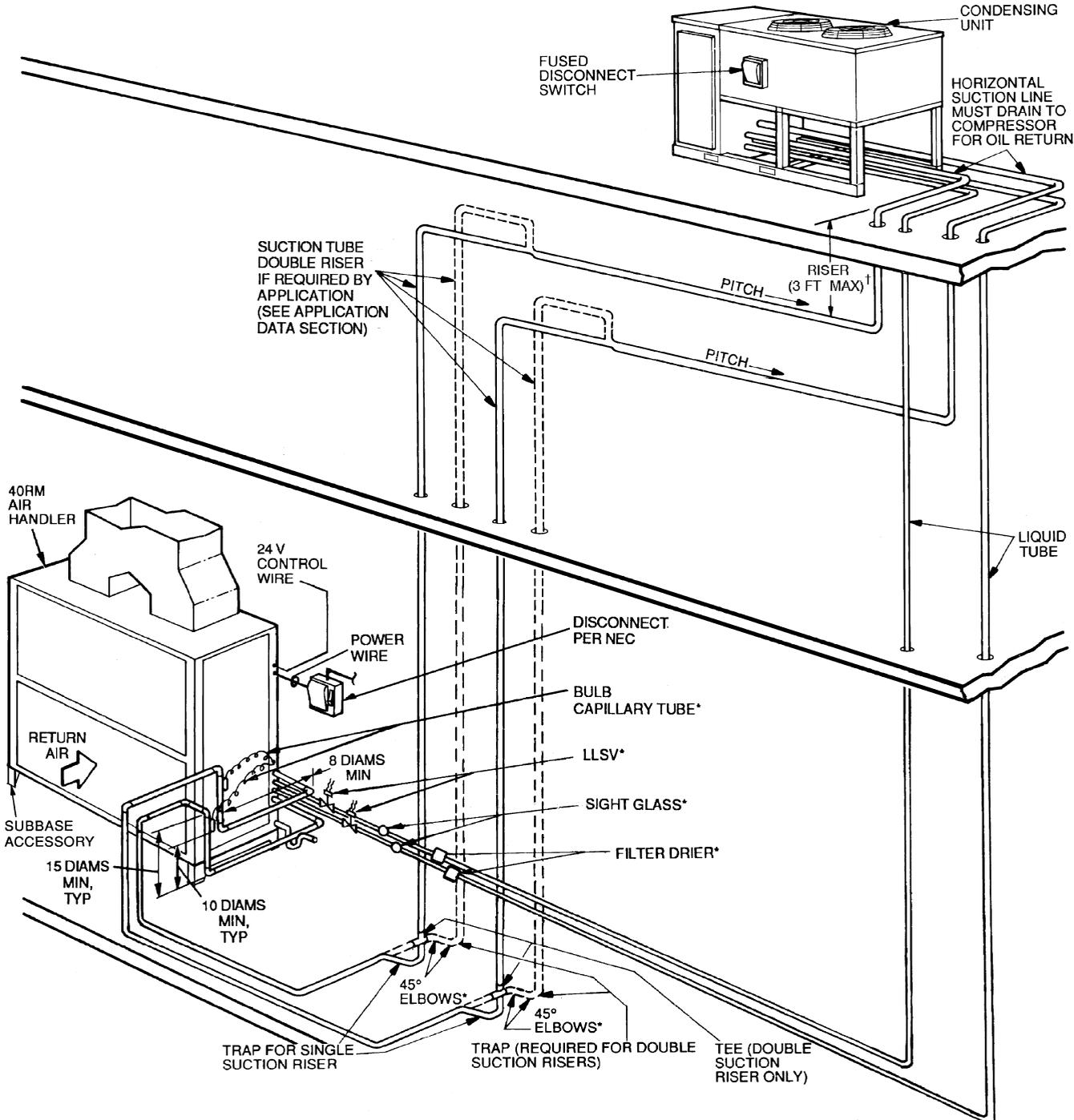
UNIT 40RM	AIRFLOW (L/s)	DISCHARGE PLENUM	RETURN AIR GRILLE	HEATING COILS			ECONOMIZER
				Hot Water	Steam	Electric	
016	2100	24	2	36	36	14	15
	2800	39	5	57	57	24	22
	3500	56	7	82	82	37	37
024	2900	41	5	60	60	26	23
	3800	64	10	93	93	43	43
	4700	91	15	132	132	65	69
028	3500	37	5	67	67	22	15
	4700	59	7	109	109	39	22
	5900	86	12	157	157	60	35
034	4250	50	7	92	92	32	20
	5650	80	12	147	147	56	35
	7050	114	17	210	210	85	52

**40RM ACCESSORY PRESSURE DROP — ENGLISH
(in. wg)**

UNIT 40RM	AIRFLOW (Cfm)	DISCHARGE PLENUM	RETURN AIR GRILLE	HEATING COILS			ECONOMIZER
				Hot Water	Steam	Electric	
016	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
024	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
028	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
034	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



ROOFTOP INSTALLATION



LEGEND

- TXV — Thermostatic Expansion Valve
- Piping
- == Double Riser Piping (If Required)

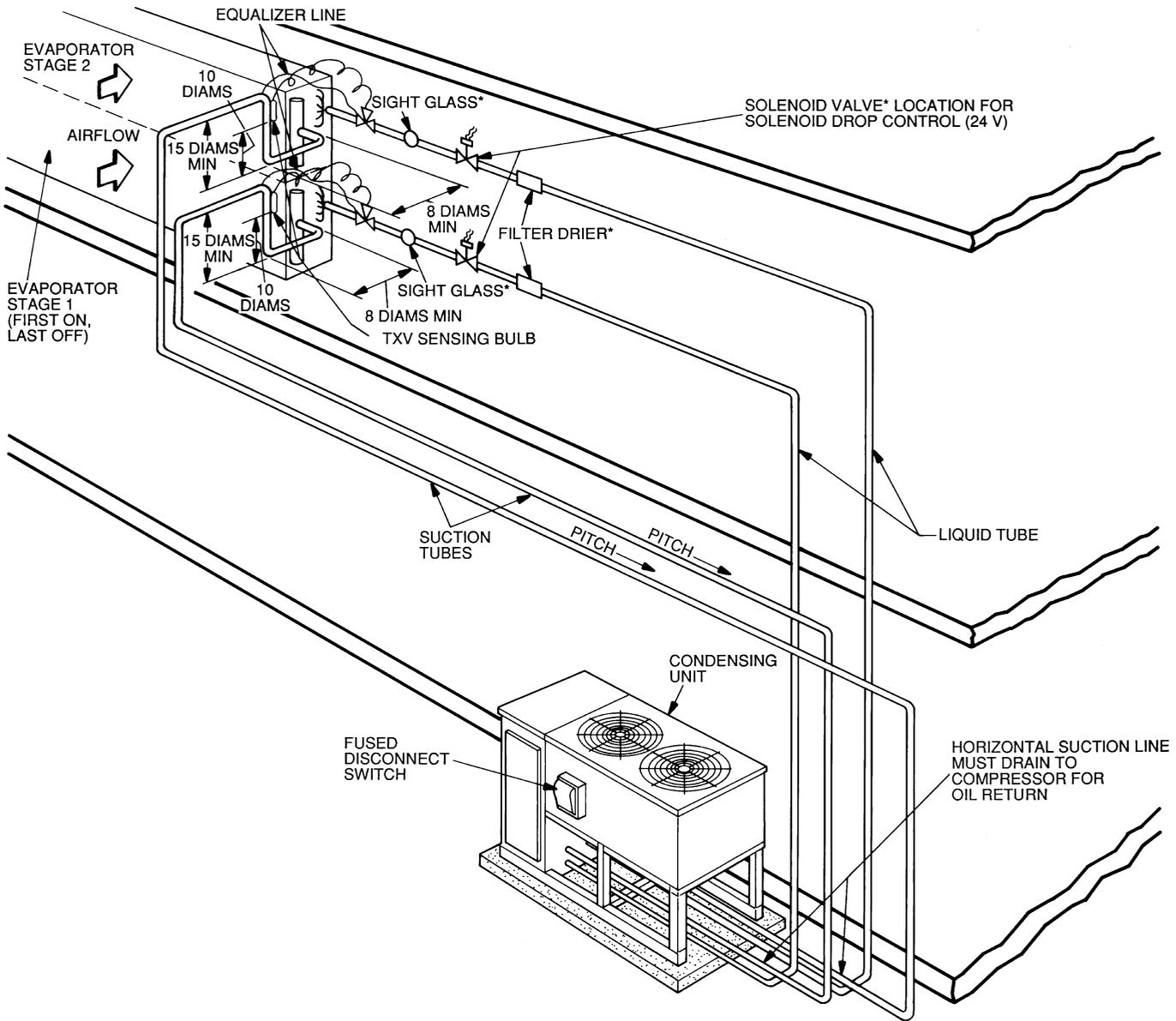
*Field supplied.

†If double suction riser is required for piping system, size pipe diameter of 3 ft (maximum) riser according to application data on page 40.

NOTES:

1. All piping must follow standard refrigerant piping techniques. Refer to Carrier System Design Manual for details.
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.

GROUND LEVEL INSTALLATION



LEGEND

TXV — Thermostatic Expansion Valve

Piping

*Field supplied.

NOTES:

1. All piping must follow standard refrigerant piping techniques. Refer to Carrier System Design Manual for details.
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.



38AH024-034

UNIT 38AH	VOLTAGE DESIGNATION	NAMEPLATE VOLTAGE (3 Ph, 50 Hz)	SUPPLY VOLTAGE*		POWER SUPPLY			COMPRESSOR				FAN MOTORS†			
			Min	Max	MCA	MOCP	ICF	RLA		LRA		QTY	FLA (ea)	Nominal Hp	Nominal kW
								Ckt 1	Ckt 2	Ckt 1	Ckt 2				
024	803	230	198	254	101.2	125	268.8	39.3	39.3	128	128	2	6.4	1	0.75
	903	400	342	400	46.5	60	204.0	18.0	18.0	99	99	2	3.0		
	303	346	311	380	62.8	80	194.8	24.0	24.0	93	93	2	4.4		
028	803	230	198	254	110.9	150	298.8	43.6	43.6	143	143	2	6.4	1	0.75
	903	400	342	400	55.7	70	234.0	22.1	22.1	114	114	2	3.0		
	303	346	311	380	68.2	90	216.8	26.4	26.4	104	104	2	4.4		
034	803	230	198	254	135.9	175	355.8	43.6	63.6	143	200	2	6.4	1	0.75
	903	400	342	400	65.1	90	240.0	22.1	30.0	114	120	2	3.0		
	303	346	311	380	78.1	110	257.8	26.4	34.3	104	145	2	4.4		

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) (U.S.A. Standard)
- MOCP** — Maximum Overcurrent Protection
- RLA** — Rated Load Amps

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

40RM STANDARD MOTORS

UNIT 40RM	V*-PH-HZ	VOLTAGE LIMITS	FAN MOTOR		POWER SUPPLY	
			kW (Hp)	FLA	Minimum Circuit Amps	MOCP
016	230-3-50	207-253	2.16 (2.9)	7.5	9.4	15
	400-3-50	360-440	2.16 (2.9)	3.4	4.3	15
024	230-3-50	207-253	3.73 (5.0)	15.2	19.0	30
	400-3-60	360-440	3.73 (5.0)	7.6	9.5	15
028	230-3-50	207-253	5.59 (7.5)	22.8	28.5	50
	400-3-50	360-440	5.59 (7.5)	11.4	14.3	25
034	230-3-50	207-253	7.46 (10.0)	32.2	40.3	70
	400-3-50	360-440	7.46 (10.0)	16.1	20.1	30

LEGEND

- FLA** — Full Load 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.

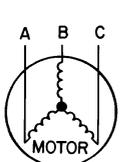
NOTES:

- Minimum circuit amp and MOCP values are calculated in accordance with NEC (National Electrical Code) (U.S.A. standard), Article 440.
- Motor FLA values are established in accordance with UL (Underwriters' Laboratories) Standard 1995 (U.S.A. standard).
- Unbalanced 3-Phase Supply Voltage**
Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percentage of voltage imbalance.

% Voltage Imbalance

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

EXAMPLE: Supply voltage is 400-3-50.



AB = 393 v
BC = 403 v
AC = 396 v

$$\begin{aligned} \text{Average Voltage} &= \frac{393 + 403 + 396}{3} \\ &= \frac{1192}{3} \\ &= 397 \end{aligned}$$

Determine maximum deviation from average voltage.

$$\begin{aligned} \text{(AB)} \quad &397 - 393 = 4 \text{ v} \\ \text{(BC)} \quad &403 - 397 = 6 \text{ v} \\ \text{(AC)} \quad &397 - 396 = 1 \text{ v} \end{aligned}$$

Maximum deviation is 6 v.

Determine percent voltage imbalance.

$$\begin{aligned} \% \text{ Voltage Imbalance} &= 100 \times \frac{6}{397} \\ &= 1.5\% \end{aligned}$$

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

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

40RM ALTERNATE MOTORS

UNIT 40RM	V*-PH-HZ	VOLTAGE LIMITS	FAN MOTOR		POWER SUPPLY	
			kW (Hp)	FLA	Minimum Circuit Amps	MOCP
016	230-3-50	207-253	3.73 (5.0)	15.2	19.0	30
	400-3-50	360-440	3.73 (5.0)	7.6	9.5	15
024	230-3-50	207-253	5.59 (7.5)	22.8	28.5	50
	400-3-50	360-440	5.59 (7.5)	11.4	14.3	25
028	230-3-50	207-253	7.46 (10.0)	32.2	40.3	60
	400-3-50	360-440	7.46 (10.0)	16.1	20.1	30

LEGEND

FLA — Full Load 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.

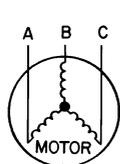
NOTES:

- Minimum circuit amp and MOCP values are calculated in accordance with NEC (National Electrical Code) (U.S.A. standard), Article 440.
- Motor FLA values are established in accordance with UL (Underwriters' Laboratories) Standard 1995 (U.S.A. standard).
- Unbalanced 3-Phase Supply Voltage**

Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percentage of voltage imbalance.

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

EXAMPLE: Supply voltage is 400-3-50.



AB = 393 v

BC = 403 v

AC = 396 v

$$\begin{aligned} \text{Average Voltage} &= \frac{393 + 403 + 396}{3} \\ &= \frac{1192}{3} \\ &= 397 \end{aligned}$$

Determine maximum deviation from average voltage.

(AB) 397 - 393 = 4 v

(BC) 403 - 397 = 6 v

(AC) 397 - 396 = 1 v

Maximum deviation is 6 v.

Determine percent voltage imbalance.

$$\begin{aligned} \% \text{ Voltage Imbalance} &= 100 \times \frac{6}{397} \\ &= 1.5\% \end{aligned}$$

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

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

40RM FAN CONTACTOR COIL

UNIT 40RM	VOLTAGE (vac)	MAXIMUM HOLDING VA
016-034	24	10

Electrical data — 38AH024-034/40RM (cont)



40RM ELECTRIC HEATER ACCESSORY DATA

UNIT 40RM	HEATER PART NO.	V-PH-Hz	FAN MOTOR			ELECTRIC HEATERS(S)					MCA*	MOCP*
			Hp	kW	FLA	Nominal Capacity (kW)	Actual Capacity (kW)			FLA		
							Stage 1	Stage 2	Total			
016,024	CAELHEAT016A00	240-3-50	2.9	2.16	7.5	10	10.0	—	10.0	24.1	39.4	40
			5.0	3.73	15.2	10	10.0	—	10.0	24.1	49.1	50
			7.5	5.59	22.8	10	10.0	—	10.0	24.1	58.6	70
	CAELHEAT017A00	400-3-50	2.9	2.16	3.4	10	6.9	—	6.9	10.0	16.8	20
			5.0	3.73	7.6	10	6.9	—	6.9	10.0	22.0	25
			7.5	5.59	11.4	10	6.9	—	6.9	10.0	26.8	35
	CAELHEAT019A00	240-3-50	2.9	2.16	7.5	20	20.0	—	20.0	48.1	69.5	70
			5.0	3.73	15.2	20	20.0	—	20.0	48.1	79.1	80
7.5			5.59	22.8	20	20.0	—	20.0	48.1	86.4	90	
CAELHEAT020A00	400-3-50	2.9	2.16	3.4	20	13.9	—	13.9	20.0	29.3	30	
		5.0	3.73	7.6	20	13.9	—	13.9	20.0	45.1	50	
		7.5	5.59	11.4	20	13.9	—	13.9	20.0	49.2	50	
CAELHEAT022A00	240-3-50	2.9	2.16	7.5	30	20.0	10.0	30.0	72.2	99.6	100	
		5.0	3.73	15.2	30	20.0	10.0	30.0	72.2	109.2	110	
		7.5	5.59	22.8	30	20.0	10.0	30.0	72.2	118.7	125	
CAELHEAT023A00	400-3-50	2.9	2.16	3.4	30	13.9	6.9	20.8	30.1	41.8	50	
		5.0	3.73	7.6	30	13.9	7.9	20.8	30.1	47.1	50	
		7.5	5.59	11.4	30	13.9	7.9	20.8	30.1	51.8	60	
CAELHEAT025A00	240-3-50	2.9	2.16	7.5	50	30.0	20.0	50.0	120.3	159.7	175	
		5.0	3.73	15.2	50	30.0	20.0	50.0	120.3	169.4	175	
		7.5	5.59	22.8	50	30.0	20.0	50.0	120.3	178.9	200	
CAELHEAT026A00	400-3-50	2.9	2.16	3.4	50	20.8	13.9	34.7	50.1	66.9	70	
		5.0	3.73	7.6	50	20.8	13.9	34.7	50.1	72.1	80	
		7.5	5.59	11.4	50	20.8	13.9	34.7	50.1	76.9	80	
028,034	CAELHEAT028A00	240-3-50	7.5	5.59	22.8	20	20.0	—	20.0	48.1	88.6	90
			10.0	7.46	32.2	20	20.0	—	20.0	48.1	100.4	110
	CAELHEAT029A00	400-3-50	7.5	5.59	11.4	20	13.9	—	13.9	20.0	39.3	40
			10.0	7.46	16.1	20	13.9	—	13.9	20.0	45.2	50
	CAELHEAT031A00	240-3-50	7.5	5.59	22.8	40	20.0	20.0	40.0	96.2	148.8	150
			10.0	7.46	32.2	40	20.0	20.0	40.0	96.2	160.5	175
	CAELHEAT032A00	400-3-50	7.5	5.59	11.4	40	13.9	13.9	27.8	40.1	64.4	70
			10.0	7.46	16.1	40	13.9	13.9	27.8	40.1	70.2	80
CAELHEAT034A00	240-3-50	7.5	5.59	22.8	50	30.0	20.0	50.0	120.3	178.9	200	
		10.0	7.46	32.2	50	30.0	20.0	50.0	120.3	190.6	200	
CAELHEAT035A00	400-3-50	7.5	5.59	11.4	50	20.8	13.9	34.7	50.1	76.9	80	
		10.0	7.46	16.1	50	20.8	13.9	34.7	50.1	82.8	90	
CAELHEAT037A00	240-3-50	7.5	5.59	22.8	70	40.0	30.0	70.0	168.4	196.9	200	
		10.0	7.46	32.2	70	40.0	30.0	70.0	168.4	208.6	225	
CAELHEAT038A00	400-3-50	7.5	5.59	11.4	70	27.8	20.8	48.6	70.2	84.4	90	
		10.0	7.46	16.1	70	27.8	20.8	48.6	70.2	90.3	100	

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.

†Single-phase motors. All other motors are 3-phase.

NOTES:

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

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

Operating sequence

Within 6 seconds to 5 minutes (depending on timing logic) from a thermostat call for the first stage of cooling, compressor no. 1 and the condenser fans start. The no. 2 fan only starts if the outdoor ambient temperature is above 21.1 C (70 F). The oil pressure switch and the low pressure switch are bypassed for the first 2 minutes. If either the low pressure switch or oil pressure switch remain open after 2 minutes, the unit shuts down and goes into a lockout mode. The evaporator-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 6 seconds to 5 minutes (depending on timing logic) 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 for the first two minutes.

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.

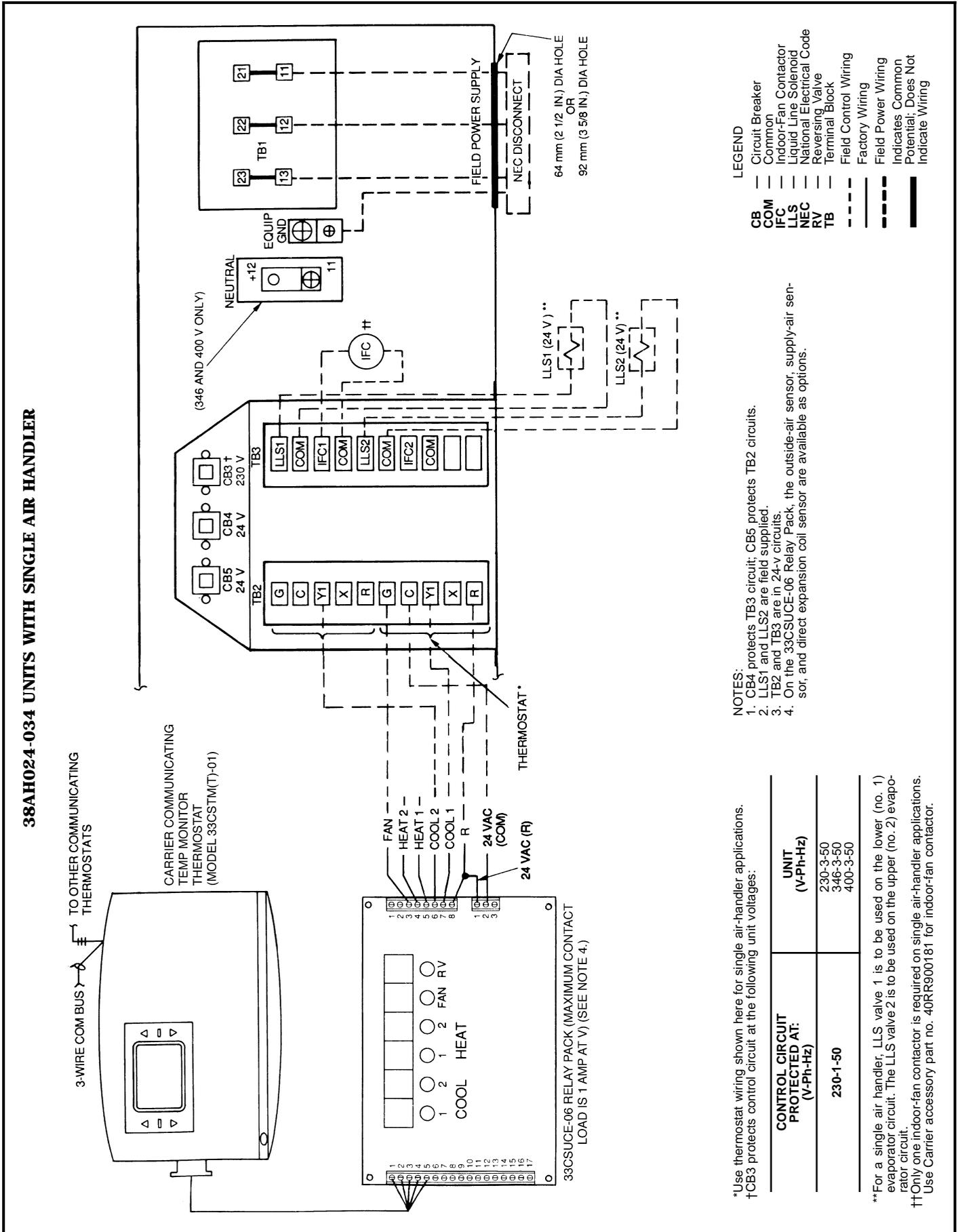
If the space temperature continues to decrease, then the thermostat stops the call for the first stage of cooling, which then deenergizes compressor no. 1 and the condenser fans, closes the no. 1 liquid line solenoid valve (if installed), and energizes the compressor no. 1 crankcase heater.

The unit controls prevent both compressors from reenergizing within 5 minutes from a previous call for operation.

If the unit safeties trip during operation, then the compressor remains locked out from further operation. To reset the lockout mode, the thermostat must be forced to stop calling for cooling by resetting the thermostat setting above the space temperature and then back to the desired set point.

NOTE: If the thermostat fan switch is in the auto position, the evaporator 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 condensing unit is powered.

Typical control wiring schematic — 38AH024-034



Application data — 38AH024-034



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.

Indoor equipment should be selected at no less than 40 L/s per kW (300 cfm/ton).

IMPORTANT: Condensing units applied in VVT or VAV systems must have field-supplied and installed accumulators. Order 2 part number --KH--73LZ-001 from Service Parts (1 required for each refrigerant circuit).

IMPORTANT: When application is in a VAV (variable air volume) system, total building load is not the sum of the individual peak loads. If individual peak loads are summed, the equipment tends to be oversized for the load.

To minimize return-air temperature extremes, use the equipment room as a return-air plenum when applying VVT® (variable volume temperature) systems with supply-to-return air recycle as used with Carrier VVT control systems.

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.

OPERATING LIMITS

Maximum Outdoor Ambient	52C (125 F)
Minimum Outdoor Ambient	See Minimum Outdoor-Air Operating Temperature table below.
Minimum Return-Air Temperature	12.8 C (55 F)
Maximum Return-Air Temperature	35 C (95 F)
Normal Acceptable Saturation Suction Temperature Range	-6.6 to 10.0 C (20 to 50 F)
Maximum Discharge Temperature	135.0 C (275 F)
Minimum Discharge Superheat	15.6 C (60 F)

UNLOADING SEQUENCES

UNIT 38AH	CAPACITY/STAGE (%)	
	CV Units (Standard)*	VAV Units (Optional)
024	100, 83, 50, 33	100, 83, 67, 50, 33, 17
028	100, 83, 50, 33	100, 83, 67, 50, 33, 17
034	100, 85, 43, 28	100, 85, 77, 43, 28, 14

LEGEND

CV — Constant Volume
VAV — Variable Air Volume

*Additional unloading available with field-installed accessory unloader.

NOTE: Capacities are based on 7.2 C (45 F) saturated suction temperature and 35 C (95 F) outdoor air temperature.

MINIMUM OUTDOOR-AIR OPERATING TEMPERATURE AND UNLOADING SEQUENCES

UNIT 38AH	SYSTEM CAPACITY (%)	MINIMUM OUTDOOR-AIR TEMP			
		Standard Unit		Low Ambient Control	
		C	F	C	F
024	100	11.7	53	-29	-20
	83			-29	-20
	67†			*	*
	50			-29	-20
	33			-29	-20
028	100	10.0	50	-29	-20
	83			-29	-20
	67†			*	*
	50			-29	-20
	33			-29	-20
034	100	9.4	49	-29	-20
	81			-29	-20
	62†			*	*
	43			-29	-20
	29			-29	-20
	14†			*	*

*Motormaster® III cannot be used with 2 unloaders.

†VAV or accessory unloader on Circuit 1.

NOTE: Minimum outdoor-air operating temperature is based on 32 C (90 F) saturated condensing temperature and 100% capacity.

REFRIGERANT PIPE SIZES SINGLE SUCTION RISERS

UNIT 38AH	LENGTH OF INTERCONNECTING PIPING, FOR EACH CIRCUIT — FT (M)									
	0-25 (0-7.6)		25-50 (7.6-15.2)		50-75 (15.2-22.9)		75-100 (22.9-30.5)		100-200 (30.5-61.0)	
	L	S	L	S	L	S	L	S	L	S
024 Ckt 1 Ckt 2	1/2	1 1/8	5/8	1 1/8	5/8	1 3/8	5/8	1 3/8	7/8	1 5/8*†
	1/2	1 1/8	5/8	1 1/8	5/8	1 3/8	5/8	1 3/8	7/8	1 5/8*†
028 Ckt 1 Ckt 2	1/2	1 1/8	5/8	1 3/8	5/8	1 3/8	5/8	1 3/8	7/8	1 5/8*†
	1/2	1 1/8	5/8	1 3/8	5/8	1 3/8	5/8	1 3/8	7/8	1 5/8*†
034 Ckt 1 Ckt 2	1/2	1 1/8	5/8	1 3/8	5/8	1 3/8	5/8	1 3/8	7/8	1 5/8*†
	5/8	1 3/8	5/8	1 5/8	5/8	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 (Motomaster® III control).

NOTES:

- All line sizes are inches OD.
- 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 (Motor-master III control), each circuit's compressor may only be equipped with *one* unloader.
- Equivalent line sizes in mm follow:

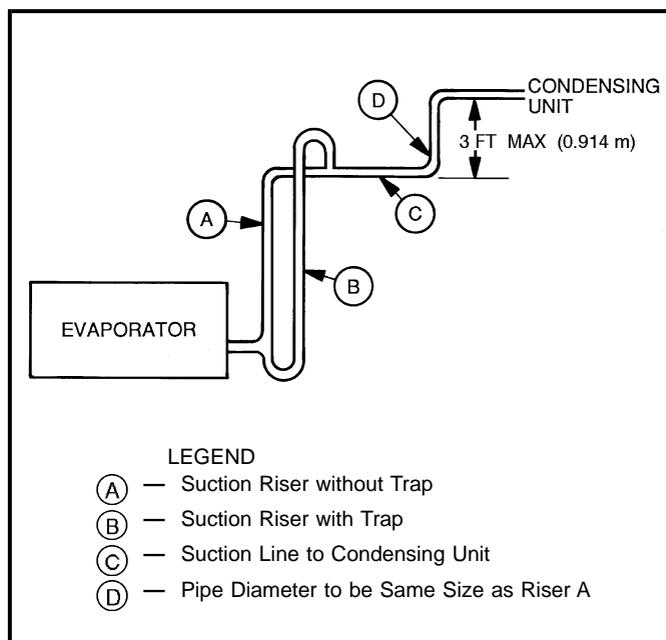
in.	mm	in.	mm
1/2	12.7	1 3/8	34.9
5/8	15.9	1 5/8	41.3
7/8	22.2	2 1/8	54.0
1 1/8	28.6		

DOUBLE SUCTION RISERS

UNIT 38AH	LENGTH OF INTERCONNECTING PIPING — Ft (M)		
	100-200 (30.5-61.0)		
	A	B	C
024 Ckt 1 Ckt 2	1 1/8	1 3/8	1 5/8
	1 3/8	1 3/8	1 5/8
028 Ckt 1 Ckt 2	1 1/8	1 3/8	1 5/8
	1 1/8	1 3/8	1 5/8
034 Ckt 1 Ckt 2	1 1/8	1 3/8	1 5/8
	1 3/8	1 5/8	2 1/8

MAXIMUM LIQUID LIFT

UNIT 38AH	MAXIMUM LIQUID LIFT PER CIRCUIT — M (Ft)
024	23.2 (76)
028	22.3 (73)
034	30.5 (100)



Application data — 40RM



Operating limits

Maximum fan speed —

40RM016,024 20 r/s (1200 rpm)

Maximum fan speed —

40RM028,034 18.3 r/s (1100 rpm)

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 40 L/s per kW (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.

For variable air volume (VAV) systems with supply-to-return air recycling, use the equipment room as a return air plenum.

FACTORY-INSTALLED NOZZLE AND DISTRIBUTOR DATA

UNIT 40RM	TXV Qty...Part No.	DISTRIBUTOR Qty...Part No.	FEEDER TUBES PER DISTRIBUTOR*	NOZZLE Qty...Part No.
016	2...XVE-8	2...1116	12	2...E6
024	2...XVE-10	2...1116	13	2...E8
028	2...EBSVE-11	2...1126	15	2...C10
034	2...SVE-15	2...1126	18	2...C12

*Feeder tube size is 6.35 mm (¼ in.).

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

40RM FAN MOTOR DATA

STANDARD MOTOR — SI

UNIT 40RM	016	024	028	034
230-3-50 and 400-3-50				
Speed (r/s)	23.75	23.75	23.75	23.75
Shaft kW	2.16	3.73	5.59	7.46
Frame (NEMA)	56Y	184T	S213T	S215T
Shaft Dia (mm)	22.2	28.6	34.9	34.9

NEMA — National Electrical Manufacturers Association (U.S.A.)

ALTERNATE MOTOR — SI

UNIT 40RM	016	024	028
230-3-50 and 400-3-50			
Speed (r/s)	23.75	23.75	23.75
Shaft kW	3.73	5.59	7.46
Frame (NEMA)	S184T	S213T	S215T
Shaft Dia (mm)	28.6	34.9	34.9

NEMA — National Electrical Manufacturers Association (U.S.A.)

STANDARD MOTOR — ENGLISH

UNIT 40RM	016	024	028	034
230-3-50 and 400-3-50				
Speed (rpm)	1425	1425	1425	1425
Hp	2.9	5.0	7.5	10.0
Frame (NEMA)	56Y	184T	S213T	S215T
Shaft Dia (in.)	7/8	1 1/8	1 3/8	1 3/8

NEMA — National Electrical Manufacturers Association (U.S.A.)

ALTERNATE MOTOR — ENGLISH

UNIT 40RM	016	024	028
230-3-50 and 400-3-50			
Speed (rpm)	1425	1425	1425
Hp	5.0	7.5	10.0
Frame (NEMA)	S184T	S213T	S215T
Shaft Dia (in.)	1 1/8	1 3/8	1 3/8

NEMA — National Electrical Manufacturers Association (U.S.A.)

Application data — 40RM (cont)



40RM DRIVE DATA

STANDARD DRIVE — SI

UNIT 40RM	016	024	028	034
MOTOR DRIVE				
Motor Pulley Pitch Diameter (mm)	86.4-111.8	109.2-134.6	109.2-134.6	109.2-134.6
Pulley Factory Setting Full Turns Open	2.5	3.0	3.0	3.0
FAN DRIVE				
Pulley Pitch Dia (mm)	229	218	279	279
Pulley Bore (mm)	36.5	36.5	49.2	49.2
Belt No. — Section	1—A	1—B	2—B	2—B
Belt Pitch (mm)	1074	1062	1113	1113
FAN SPEEDS (r/s)				
Factory Setting	10.3	13.3	10.4	10.4
Range	9.0-11.6	11.9-14.6	9.3-11.5	9.3-11.5
Max Allowable Speed (r/s)	20.0	20.0	18.3	18.3
Change per ½ Turn of Moveable Motor Pulley Flange	0.265	0.230	0.180	0.180
MAX FULL TURNS FROM CLOSED POSITION	5	6	6	6
SHAFTS CENTER DISTANCE (mm)	265-313	232-279	169-240	169-240

HIGH-STATIC DRIVE — SI

UNIT 40RM	016	024	028	034
MOTOR DRIVE				
Motor Pulley Pitch Diameter (mm)	101.6-127.0	101.6-127.0	109.2-134.6	109.2-134.6
Pulley Factory Setting Full Turns Open	3.0	3.0	3.0	3.0
FAN DRIVE				
Pulley Pitch Dia (mm)	178	163	203	218
Pulley Bore (mm)	36.5	36.5	49.2	49.2
Belt No. — Section	2—A	2—A	2—B	2—B
Belt Pitch (mm)	998	871	935	960
FAN SPEEDS (r/s)				
Factory Setting	15.3	16.7	14.3	13.3
Range	13.6-17.0	14.9-18.6	12.8-15.7	11.9-14.6
Max Allowable Speed (r/s)	20.0	20.0	18.3	18.3
Change per ½ Turn of Moveable Motor Pulley Flange	0.283	0.308	0.247	0.230
MAX FULL TURNS FROM CLOSED POSITION	6	6	6	6
SHAFTS CENTER DISTANCE (mm)	232-279	207-255	169-240	169-240

MEDIUM-STATIC DRIVE — SI

UNIT 40RM	016	024	028	034
MOTOR DRIVE				
Motor Pulley Pitch Diameter (mm)	94.0-119.4	101.6-127.0	109.2-134.6	109.2-134.6
Pulley Factory Setting Full Turns Open	3.0	2.5	3.0	3.0
FAN DRIVE				
Pulley Pitch Dia (mm)	201	178	239	239
Pulley Bore (mm)	36.5	36.5	49.2	49.2
Belt No. — Section	1—B	2—A	2—B	2—B
Belt Pitch (mm)	1011	922	1011	1011
FAN SPEEDS (r/s)				
Factory Setting	12.6	15.3	12.1	12.1
Range	11.1-14.1	13.6-17.0	10.9-13.4	10.9-13.4
Max Allowable Speed (r/s)	20.0	20.0	18.3	18.3
Change per ½ Turn of Moveable Motor Pulley Flange	0.252	0.340	0.210	0.210
MAX FULL TURNS FROM CLOSED POSITION	6	5	6	6
SHAFTS CENTER DISTANCE (mm)	232-279	232-279	169-240	169-240

STANDARD DRIVE — ENGLISH

UNIT 40RM	016	024	028	034
MOTOR DRIVE				
Motor Pulley Pitch Diameter (in.)	3.4-4.4	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.)	9.0	8.6	11.0	11.0
Pulley Bore (in.)	1 ⁷ / ₁₆	1 ⁷ / ₁₆	1 ¹⁵ / ₁₆	1 ¹⁵ / ₁₆
Belt No. — Section	1—A	1—B	2—B	2—B
Belt Pitch (in.)	42.3	41.8	43.8	43.8
FAN SPEEDS (rpm)				
Factory Setting	618	795	622	622
Range	538-697	713-878	557-687	557-687
Max Allowable Speed (rpm)	1200	1200	1100	1100
Change per ½ Turn of Moveable Motor Pulley Flange	15.9	13.8	10.8	10.8
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



40RM DRIVE DATA (cont)

MEDIUM-STATIC DRIVE — ENGLISH

UNIT 40RM	016	024	028	034
MOTOR DRIVE				
Motor Pulley Pitch Diameter (in.)	3.7-4.7	4.0-5.0	4.3-5.3	4.3-5.3
Pulley Factory Setting Full Turns Open	3.0	2.5	3.0	3.0
FAN DRIVE				
Pulley Pitch Dia (in.)	7.9	7.0	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—A	2—B	2—B
Belt Pitch (in.)	39.8	36.8	39.8	39.8
FAN SPEEDS (rpm)				
Factory Setting	756	916	728	728
Range	667-848	814-1018	652-803	652-803
Max Allowable Speed (rpm)	1200	1200	1100	1100
Change per ½ Turn of Moveable Motor Pulley Flange	15.1	20.4	12.6	12.6
MAX FULL TURNS FROM CLOSED POSITION	6	5	6	6
SHAFTS CENTER DISTANCE (in.)	9.16-10.99	9.16-10.99	6.67-9.43	6.67-9.43

HIGH-STATIC DRIVE — ENGLISH

UNIT 40RM	016	024	028	034
MOTOR DRIVE				
Motor Pulley Pitch Diameter (in.)	4.0-5.0	4.0-5.0	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.)	7.0	6.4	8.0	8.6
Pulley Bore (in.)	1 ⁷ / ₁₆	1 ⁷ / ₁₆	1 ¹⁵ / ₁₆	1 ¹⁵ / ₁₆
Belt No. — Section	2—A	2—A	2—B	2—B
Belt Pitch (in.)	39.3	34.3	36.8	37.8
FAN SPEEDS (rpm)				
Factory Setting	916	1002	855	795
Range	814-1018	891-1113	766-944	713-878
Max Allowable Speed (rpm)	1200	1200	1100	1100
Change per ½ Turn of Moveable Motor Pulley Flange	17.0	18.5	14.8	13.8
MAX FULL TURNS FROM CLOSED POSITION	6	6	6	6
SHAFTS CENTER DISTANCE (in.)	9.16-10.99	8.16-10.02	6.67-9.43	6.67-9.43

Model number nomenclature — 38AH044-134



38AH — 094 — — — 9 0 3 AA

38AH — Split System
Condensing Unit

Start Options

- — Across-the-Line Start
- P — Part-Wind Start

Nominal Capacity

- 044 — 123 kW (35 Tons)
- 054 — 144 kW (41 Tons)
- 064 — 175 kW (50 Tons)
- 074 — 214 kW (61 Tons)
- 084 — 242 kW (69 Tons)
- 094 — 274 kW (78 Tons)
- 104 — 305 kW (87 Tons)
- 124 — 351 kW (100 Tons)
- 134 — 390 kW (111 Tons)

Not Used

Condenser Fin Material

- — Aluminum (Standard)
- C — Copper (Optional)
- K — Pre-Coated Aluminum (Optional)
- SO — Post-Coated Aluminum (Contact Factory)
- SO — Post-Coated Copper (Contact Factory)

Voltage Designation

- 3 — 346-3-50 (Part Wind)
- 8 — 230-3-50 (Part-Wind, 044 Size)
- 9 — 380/415-3-50

Revision Number

Factory-Installed Options

044-084:

- — Standard Unit
- AA — Class F Fan Motors
- BA — VAV Control Box Modification and Electric Unloaders
- CA — VAV Modifications and Class F Fan Motors
- DA — Single-Circuit Piping
- EA — Single-Circuit Piping with Class F Fan Motors
- FA — Single-Circuit Piping and VAV Modifications
- GA — Single-Circuit Piping, VAV Modifications, and Class F Fan Motors

094,104:

- — Standard Unit
- AA — Class F Fan Motors
- BA — VAV (Variable Air Volume) Modifications
- CA — Class F Fan Motors with VAV Modifications

124,134:

- DA — Standard Unit
- EA — Class F Fan Motors
- FA — VAV Modifications
- GA — Class F Fan Motors with VAV Modifications

Packaging

- 2 — Coil Protection Only (For Closed Container Shipments)
- 3 — Standard Export (Top and Bottom Skid, Coil Protector and Full Plastic Bag Enclosure)
- 4 — Optional Export (Full Export Box)

SO — Special Order

Ratings summary — 38AH044-134

UNIT SIZE	NOMINAL CAPACITY		EER*
	kW	Tons	
044	123	35	10.8
054	144	41	10.7
064	175	50	10.8
074	214	61	10.3
084	242	69	10.6
094	274	78	10.6
104	305	87	10.9
124	351	100	10.8
134	390	111	10.6

LEGEND

EER — Energy Efficiency Ratio

*Rated in accordance with ARI (Air Conditioning & Refrigeration Institute) standard 365-87 (U.S.A.).

NOTE: Ratings are based on 7.2 C (45 F) suction temperature and 35 C (95 F) outside-air temperature, and include suction line losses.



Factory-installed options

VAV (Variable Air Volume) Control Box Modification makes the condensing unit compatible with the ModuPanel™ VAV controller. Includes factory-installed accumulator. Also includes electric unloaders on compressors as follows:

- 1 — 38AH044
- 2 — 38AH054-084,104
- 3 — 38AH094
- 4 — 38AH124,134 (2 per module)

Single-Circuit Modification (Sizes 38AH044-084 Only) includes factory-installed accumulator and all piping and wiring modifications required to make the unit single circuit.

Single-Circuit Modification with VAV (Sizes 38AH044-084 Only) includes piping, wiring, and electric unloaders on compressors (one on 38AH044 and 2 on 38AH054-084) to make the unit single circuit, VAV-ready. Also includes factory-installed accumulator.

Class F Fan Motors provide additional motor insulation for high ambient temperature environments.

Condenser coil options are available to match coil construction to site conditions for the best corrosion durability. Pre-coated coils provide protection in mild coastal environments. All copper coils are best suited for moderate coastal applications, while post-coated coils provide superior protection in severe coastal and industrial applications.

Field-installed accessories

Transformer relay package for remote-control (24-v) thermostat. One 2-stage thermostat is required for use with the relay package.

Additional electric unloader package includes hardware to add an additional step of unloading (coil not included).

Additional pressure unloader package includes all unloader valves and hardware.

Gage panel package contains panel-mounted suction and discharge pressure gages.

Hail guard package protects coils against damage from hail and airborne debris.

ModuPanel control provides 10-step microprocessor-based control for VAV applications.

Motormaster® III control maintains correct condensing pressure at low ambient temperatures.

Sound-reduction kit provides a specially designed system of fan propellers and stacks that lower noise without reducing unit performance; compatible with the Motormaster III accessory.

Unloader conversion kit allows you to convert factory-installed pressure unloaders to electric unloading.

Compressor grille package protects the compressor area after the unit is installed.

Condenser coil grille package protects the condenser area after the unit is installed.

Carrier's line of thermostats provide both programmable and non-programmable capability with the new **Debonair™** line of commercial programmable thermostats, the **TEMP System** controls offer communication capability with staged heating and cooling, the **Commercial Electronic** thermostats provide 7-day programmable capability for economical applications, while the **non-programmable** thermostats offer a multitude of staged heating and cooling subbase options.

CONDENSER COIL PROTECTION APPLICATIONS

DESCRIPTION (Enviro-Shield™ Option)	ENVIRONMENT*					
	Standard, Non-Corrosive	Mild Coastal	Moderate Coastal	Severe Coastal	Industrial	Combined Coastal and Industrial
Standard, Al/Cu	X					
Pre-Coated Al/Cu		X				
Cu/Cu			X			
Post-Coated Al/Cu					X	
Post-Coated Cu/Cu				X		X

LEGEND

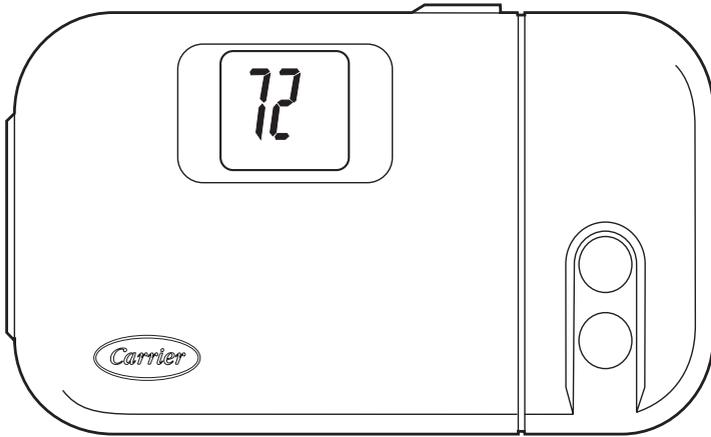
- Al/Cu — Aluminum Fin with Copper Tube Coil
- Cu/Cu — Copper Fin with Copper Tube Coil
- Enviro-Shield — Family of Coil Protection Options
- Post-Coated — Organic Coating applied to Entire Coil Assembly
- Pre-Coated — Epoxy Coating Applied to Fin Stock Material

*See "Selection Guide: Environmental Corrosion Protection" Catalog No. 811-839 for more information.

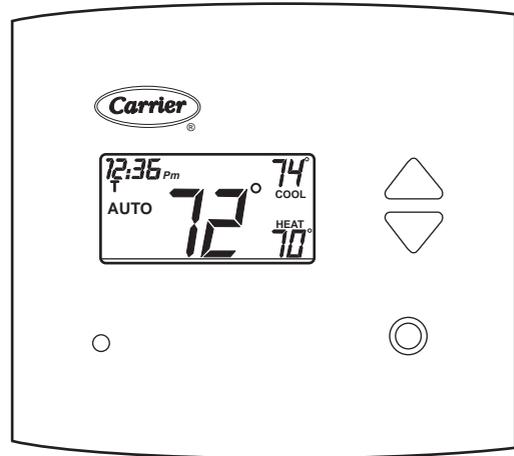


CARRIER THERMOSTATS

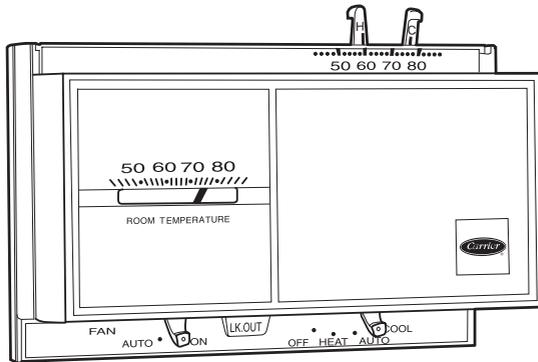
COMMERCIAL ELECTRONIC THERMOSTAT



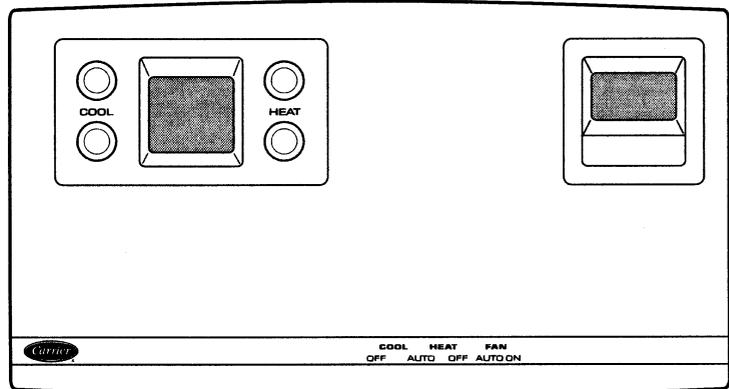
DEBONAIR™ COMMERCIAL PROGRAMMABLE THERMOSTAT



NON-PROGRAMMABLE THERMOSTAT



TEMP SYSTEM THERMOSTAT WITH TIMECLOCK



Physical data — 38AH044-134



SI

38AH	044	054	064	074	084					
NOMINAL CAPACITY (kW)	123	144	175	214	242					
OPERATING WEIGHT WITH REFRIGERANT (kg) (Approx.)	Cu-Al Coils 1480	Cu-Cu Coils 1501	1617	1729	1840					
SHIPPING WEIGHT WITH COIL PROTECTION ONLY (kg) (Approx.)	Cu-Al Coils 1605	Cu-Cu Coils 1632	1813	1918	2148					
TYPICAL OPERATING REFRIGERANT CHARGE (kg, approx.) R-22	28.1	32.7	39.9	47.2	58.9					
COMPRESSOR Type...r/s (Qty Cylinder)* Circuit†	Reciprocating Semi-Hermetic...24.3 @ 50 Hz									
Model No. 06E-	(4) A	(4) B	(4) A	(6) B	(6) A	(6) B	(6) A	(6) B	(6) A	(6) B
Oil Charge (L)	250	250	250	265	265	275	275	299	299	299
Capacity Control Steps**	8.0	8.0	8.0	9.9	9.9	9.9	9.9	9.0	9.0	9.0
CONDENSER FANS (6 Blade)	4									
Qty...Dia (mm)	4...762					6...762				
Airflow (L/s)	16 500					24 500				
Speed (r/s)	15.8					15.8				
Total Power (kW)	6.2					9.3				
CONDENSER COIL	Enhanced Copper Tubes, Lanced Aluminum Fins									
Row...Fins per m	2...669	2...669	3...669	2...782	3...669	2...782	3...669	2...782	3...669	3...669
Face Area (m²)	7.48	7.48	7.48	10.84	7.48	10.84	7.48	10.84	10.84	10.84
Storage Capacity (kg per circuit, approx.) at 48.9 C	16	16	25	25	16	25	25	36	36	36
FAN CYCLING CONTROLS ††	1758 ± 69									
Close (kPa)	1103 ± 69									
Open (kPa)										
CONNECTIONS										
Suction, ODF (in.) 	2 1/8					2 1/8				
Liquid, ODF (in.) 	5/8	5/8	5/8	7/8	5/8	5/8	5/8	7/8	5/8	5/8
Hot Gas Bypass, ODF (in.)	5/8					5/8				

LEGEND

- Cu-Al** — Copper Tube, Aluminum Fin
- Cu-Cu** — Copper Tube, Copper Fin
- ODF** — Outside Diameter, Female

*06E250 compressors have 4 cylinders; all others have 6.

†Circuit A compressor is lead on standard units; circuit B compressor is lead on optional single-circuit units.

**Capacity control steps listed are for constant volume units with no accessories. Refer to Minimum Outdoor-Air Operating Temperature and Unloading Sequences tables, pages 94-96, for additional system capacity information.

††On all 044-134 units, fan no. 3 and 4; also on 38AH074,084 (dual-circuit units only) and 38AH094,104, fans no. 5 and 6.

||For single-circuit units, suction ODF is 2 5/8 in. and liquid ODF is 1 1/8 inches. **Single circuit units have a factory-installed manifold; no field modification is required.**

NOTES:

1. Certified dimensional drawings available on request.
2. Equivalent connection values in mm are as follows:

in.	mm
5/8	15.9
7/8	22.2
1 1/8	28.6
2 1/8	54.0
2 5/8	66.7

Physical data — 38AH044-134 (cont)



SI (cont)

38AH	094			104			124		134		
	124A		124B		134A		134B				
NOMINAL CAPACITY (kW)	274			305			175.5	175.5	175.5	214.5	
OPERATING WEIGHT WITH REFRIGERANT (Approx.) (kg)											
Cu-AI	2308			2465			1647*	1647*	1647*	1759*	
Cu-Cu	2637			2794			1843*	1843*	1843*	1843*	
SHIPPING WEIGHT WITH COIL PROTECTION AND SKID (Approx.) (kg)											
Cu-AI	2554			2717			1860*	1860*	1860*	1851	
Cu-Cu	2883			3046			1968*	1968*	1968*	2040	
TYPICAL OPERATING REFRIGERANT Charge (Approx.) (kg)	67.1			61.2			39.9	39.9	39.9	47.2	
Qty of Circuits	2			2			1	1	1	1	
COMPRESSOR Type...R/s (Qty Cylinder)/Compressor† Model No. 06E	R-22										
Oil Charge (L)	Reciprocating Semi-Hermetic...24.3										
Circuit Capacity (%) (Approx.)	(6)A1	(4)A2	(6)B1	(6)A1	(4)A2	(6)B1	(6)B2	(6)A1	(6)A2	(6)A1	(6)A2
Capacity Control Steps**	-275	-250	-299	-265	-250	-265	-265	-275	-265	-275	-265
	10	8	9	10	8	10	10	10	10	10	10
	55	8	45	47	8	53	50	50	45	55	10
	6			8			4	4	4	4	4
CONDENSER FANS (6 Blade) Qty...Dia (mm)	6...762			6...762			4...762	4...762	4...762	6...762	
Airflow (L/s)	24 544			24 544			16 520	16 520	16 520	24 544	
Speed (R/s)	15.8			15.8			15.8	15.8	15.8	15.8	
Total Power (kW)	9.4			9.5			6.4	6.4	6.4	9.2	
CONDENSER COIL Rows...Fins per m	3...669.3			Enhanced Copper Tubes, Lanced Aluminum Fins			3...669.3	3...669.3	3...669.3	2...781.6	
Face Area (sq m)	11.9			11.9			7.5	7.5	7.5	10.8	
Storage Capacity (kg per circuit, approx.) at 49 C	81			81			50	50	50	50	
FAN CYCLING CONTROLS ††											
Close (kPa)	1758 ± 69										
Open (kPa)	1103 ± 69										
CONNECTIONS											
Suction, ODF (in.)	2 1/8			2 1/8			2 5/8	2 5/8	2 5/8	2 5/8	
Liquid, ODF (in.)	7/8			7/8			1 1/8	1 1/8	1 1/8	1 1/8	
Hot Gas Bypass, ODF (in.)	5/8			5/8			5/8	5/8	5/8	5/8	

LEGEND

- Cu-AI** — Copper Tube, Aluminum Fin
- Cu-Cu** — Copper Tube, Copper Fin
- ODF** — Outside Diameter, Female
- VAV** — Variable Air Volume

*Includes piping and trim kit.

†Compressor A1 is lead compressor on all circuits except circuit B on units 38AH094 and 104. Compressor B1 is lead on circuit B on units 38AH094 and 104. Compressors are shipped with minimum oil charge.

**Capacity control steps listed are for constant volume units with no accessories. Refer to Minimum Outdoor-Air Operating Temperature and Unloading Sequences tables, pages 94-96, for additional system capacity information.

††On all 044-134 units, fan no. 3 and 4; also on 38AH074,084 (dual-circuit units only) and 38AH094,104, fans no. 5 and 6.

NOTES:

1. Unit 38AH124 consists of one 124A module and one 124B module. Unit 38AH134 consists of one 134A module and one 134B module.
2. Certified dimensional drawings available on request.



ENGLISH

38AH	044		054		064		074		084	
NOMINAL CAPACITY (Tons)	35		41		50		61		69	
OPERATING WEIGHT WITH REFRIGERANT (lb) (Approx.)	Cu-Al Coils 3259		Cu-Cu Coils 3547		3309 3597		3565 3998		3812 4229	
SHIPPING WEIGHT WITH COIL PROTECTION ONLY (lb) (Approx.)	Cu-Al Coils 3250		Cu-Cu Coils 3538		3290 3578		3530 3963		3780 4197	
TYPICAL OPERATING REFRIGERANT CHARGE (lb, approx.) R-22	62		72		88		104		130	
COMPRESSOR Type...Rpm (Qty Cylinder)* Circuit† Model No. 06E-Oil Charge (pt) Capacity Control Steps**	(4) A 250 17	(4) B 250 17	Reciprocating (4) A 250 17		(6) B 265 21	Semi-Hermetic... (6) A 265 21		(6) B 275 21	1458 @ 50 Hz (6) A 275 21	
CONDENSER FANS (6 Blade) Qty...Dia (in.) Airflow (cfm) Speed (rpm) Total Power (kW)			4...30 35,000 950 6.2				52,000 6...30 950 9.3		51,000	
CONDENSER COIL — Rows Fins per...in. Face Area (ft ²) Storage Capacity (lb per circuit, approx.) at 120 F	2 17 80.5 35	2 17 80.5 35	3 17 80.5 55	2 19 116.7 55	3 17 116.7 80					
FAN CYCLING CONTROLS †† Close (psig) Open (psig)						255 ± 10 160 ± 10				
CONNECTIONS Suction, ODF (in.)†† Liquid, ODF (in.)†† Hot Gas Bypass, ODF (in.)	5/8		2 1/8 5/8 Ckt A		7/8 Ckt B		2 1/8 7/8 5/8			

LEGEND

- Cu-Al — Copper Tube, Aluminum Fn
- Cu-Cu — Copper Tube, Copper Fn
- ODF — Outside Diameter, Female

*06E250 compressors have 4 cylinders; all others have 6.

†Circuit A compressor is lead on standard units; circuit B compressor is lead on optional single-circuit units.

**Capacity control steps listed are for constant volume units with no accessories. Refer to Minimum Outdoor-Air Operating Temperature and Unloading Sequences tables, pages 94-96, for additional system capacity information.

††On all 044-134 units, fan no. 3 and 4; also on 38AH074,084 (dual-circuit units only) and 38AH094,104, fans no. 5 and 6.

||For single-circuit units, suction ODF is 2 5/8 in. and liquid ODF is 1 1/8 inches. **Single circuit units have a factory-installed manifold; no field modification is required.**

NOTE: Certified dimensional drawings available on request.

Physical data — 38AH044-134 (cont)



ENGLISH (cont)

38AH	094			104			124		134				
	124A		124B		134A		134B						
NOMINAL CAPACITY (Tons)	78			87			50	50	50	61			
OPERATING WEIGHT WITH REFRIGERANT (Approx.) (lb)	5088			5435			3630*	3630*	3630*	3877*			
Cu-AI	5813			6160			4063*	4063*	4063*	4294*			
Cu-Cu													
SHIPPING WEIGHT WITH COIL PROTECTION AND SKID (Approx.) (lb)	5630			5990			3907*	3907*	3907*	4080			
Cu-AI	6355			6715			4340*	4340*	4340*	4497			
Cu-Cu													
TYPICAL OPERATING REFRIGERANT Charge (Approx.) (lb)	148			135			88	88	88	104			
Qty of Circuits	2			2			1	1	1	1			
COMPRESSOR Type...Rpm (Qty Cylinder)/Compressor† Model No. 06E	R-22												
Oil Charge (pt)	Reciprocating Semi-Hermetic...1450												
Circuit Capacity (%) (Approx.)	(6)A1	(4)A2	(6)B1	(6)A1	(4)A2	(6)B1	(6)B2	(6)A1	(6)A2	(6)A1	(6)A2	(6)A1	(6)A2
Capacity Control Steps**	-275	-250	-299	-265	-250	-265	-265	-275	-265	-275	-265	-275	-265
	21	17	19	21	17	21	21	21	21	21	21	21	21
	55	17	45	47	17	53	21	50	50	45	45	55	21
	6			8			4	4	4	4	4	4	4
CONDENSER FANS (6 Blade) Qty...Dia (in.)	6...30			6...30			4...30	4...30	4...30	6...30			
Airflow (cfm)	52,000			52,000			35,000	35,000	35,000	52,000			
Speed (rpm)	950			950			950	950	950	950			
Total Power (kW)	9.4			9.5			6.4	6.4	6.4	9.2			
CONDENSER COIL Rows...Fins per in.	Enhanced Copper Tubes, Lanced Aluminum Fin												
Face Area (sq ft)	3...17			3...17			3...17	3...17	3...17	2...19			
Storage Capacity (lb per ckt, approx.) at 120 F	128.3			128.3			80.5	80.5	80.5	116.7			
	178			178			110	110	110	110			
FAN CYCLING CONTROLS †† Close (psig)	255 ± 10												
Open (psig)	160 ± 10												
CONNECTIONS Suction, ODF (in.)	2 1/8			2 1/8			2 5/8	2 5/8	2 5/8	2 5/8			
Liquid, ODF (in.)	7/8			7/8			1 1/8	1 1/8	1 1/8	1 1/8			
Hot Gas Bypass, ODF (in.)	5/8			5/8			5/8	5/8	5/8	5/8			

LEGEND

- Cu-AI** — Copper Tube, Aluminum Fin
- Cu-Cu** — Copper Tube, Copper Fin
- ODF** — Outside Diameter, Female
- VAV** — Variable Air Volume

*Includes piping and trim kit.

†Compressor A1 is lead compressor on all circuits except circuit B on units 38AH094 and 104. Compressor B1 is lead on circuit B on units 38AH094 and 104. Compressors are shipped with minimum oil charge.

**Capacity control steps listed are for constant volume units with no accessories. Refer to Minimum Outdoor-Air Operating Temperature and Unloading Sequences tables, pages 94-96, for additional system capacity information.

††On all 044-134 units, fan no. 3 and 4; also on 38AH074,084 (dual-circuit units only) and 38AH094,104, fans no. 5 and 6.

NOTES:

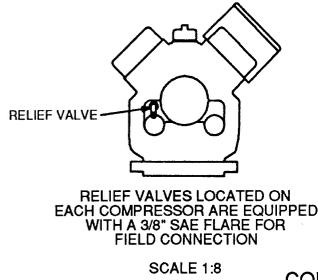
1. Unit 38AH124 consists of one 124A module and one 124B module. Unit 38AH134 consists of one 134A module and one 134B module.
2. Certified dimensional drawings available on request.

Dimensions — 38AH044-134



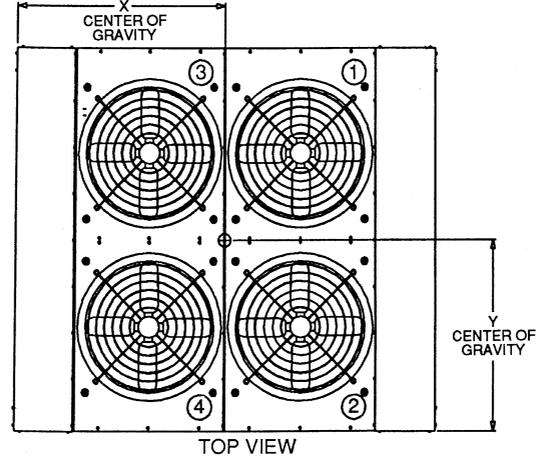
SIZES 044-064 (See Page 53 for Corner Weights)

UNIT 38AH	DIMENSION Y	DIMENSION X
044	3'-23/4" [984 mm]	4'-1/2" [1232 mm]
044C	3'-31/8" [994 mm]	4'-9/16" [1234 mm]
054	3'-21/2" [978 mm]	4'-3/16" [1224 mm]
054C	3'-3" [991 mm]	4'-3/8" [1229 mm]
064	3'-21/2" [978 mm]	4'-1/2" [1232 mm]
064C	3'-33/8" [995 mm]	4'-5/8" [1235 mm]



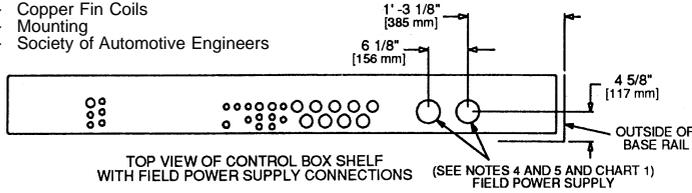
SCALE 1:8

CONTROL BOX END



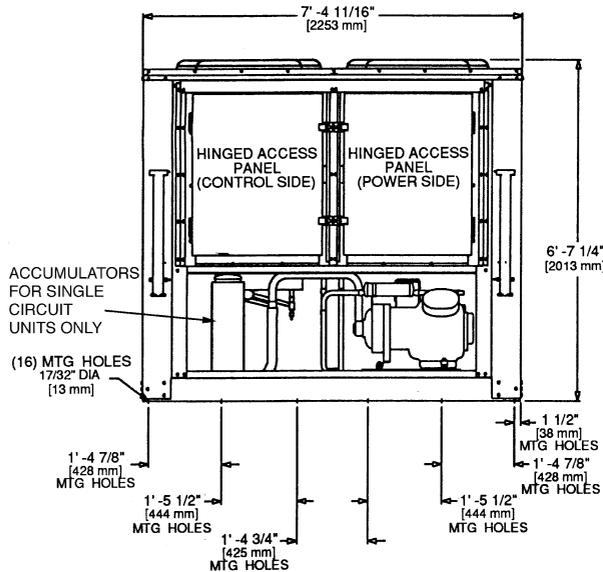
TOP VIEW

- LEGEND**
- C — Copper Fin Coils
 - MTG — Mounting
 - SAE — Society of Automotive Engineers

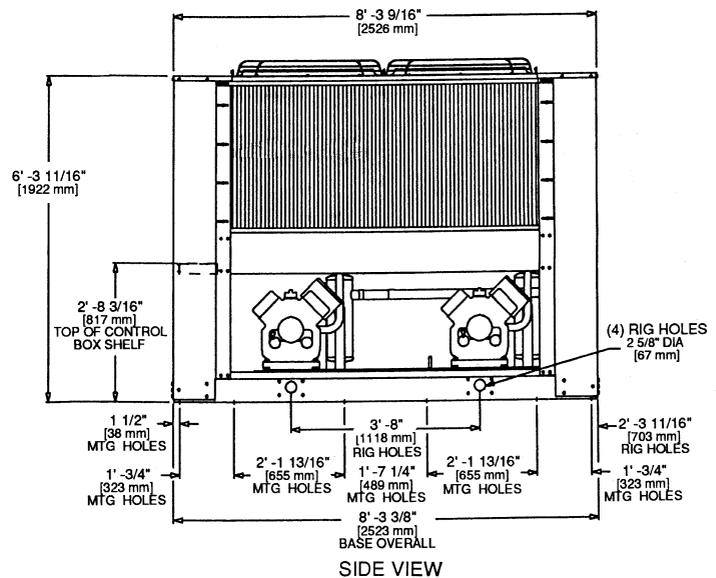


TOP VIEW OF CONTROL BOX SHELF WITH FIELD POWER SUPPLY CONNECTIONS (SEE NOTES 4 AND 5 AND CHART 1) FIELD POWER SUPPLY

SCALE 1:10



LEFT END VIEW



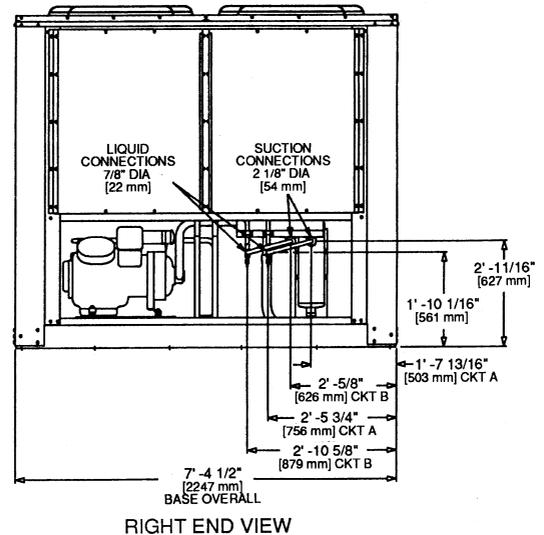
SIDE VIEW

CHART 1, FIELD POWER SUPPLY CONNECTIONS

UNIT	VOLTAGE	Hz	DIAMETER	QTY.
044	230	50	35/8" [92 mm]	1
044,054	346	50	21/2" [63 mm]	1
064	346	50	35/8" [92 mm]	1
044,054	380/415	50	21/2" [63 mm]	1
064	380/415	50	35/8" [92 mm]	1

NOTES:

- The approximate operating weight of the unit is:
 - 38AH044 —> 3259 lb (1480 kg)
 - 38AH044C —> 3547 lb (1609 kg)
 - 38AH054 —> 3309 lb (1501 kg)
 - 38AH054C —> 3597 lb (1632 kg)
 - 38AH064 —> 3565 lb (1617 kg)
 - 38AH064C —> 3998 lb (1813 kg)
- Unit must have clearances for airflow as follows:
 - Top — Do not restrict in any way.
 - Ends — 5 ft [153 cm]
 - Sides — 6 ft [183 cm]
- Mounting holes may be used to mount unit to concrete pad. They are not recommended for mounting unit to spring isolators.
- Two 51 mm (2 in.) dia holes are recommended for parallel conductors on 044 (230-V) units.
- Circled numerals in Top View refer to condenser fans; refer to Electrical Data section, Fans table, page 88 and Wiring Diagram book.
- If spring isolators are used, a perimeter support channel between the unit and the isolators is recommended.



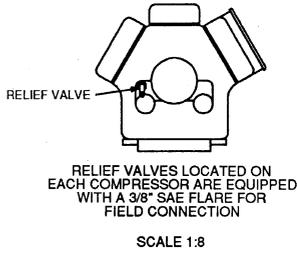
RIGHT END VIEW

Dimensions — 38AH044-134 (cont)

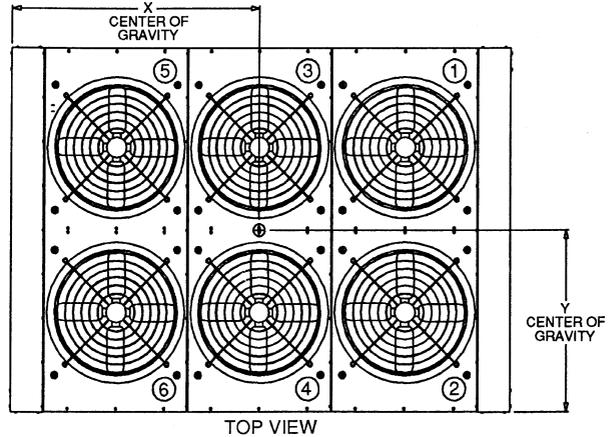


SIZES 074, 084 (See Page 53 for Corner Weights)

UNIT	DIMENSION Y	DIMENSION X
38AH		
074	3'-3 ¹ / ₈ " [994 mm]	4'-8 ¹³ / ₁₆ " [1443 mm]
074C	3'-3 ⁵ / ₈ " [1006 mm]	4'-8 ¹ / ₈ " [1425 mm]
084	3'-3" [991 mm]	4'-9" [1448 mm]
084C	3'-3 ¹¹ / ₁₆ " [1008 mm]	4'-8" [1422 mm]



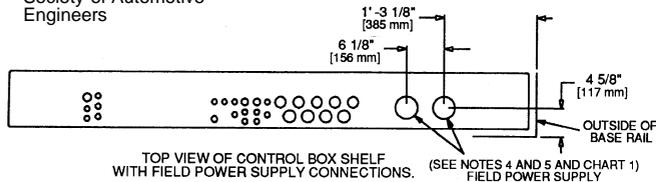
SCALE 1:8



TOP VIEW

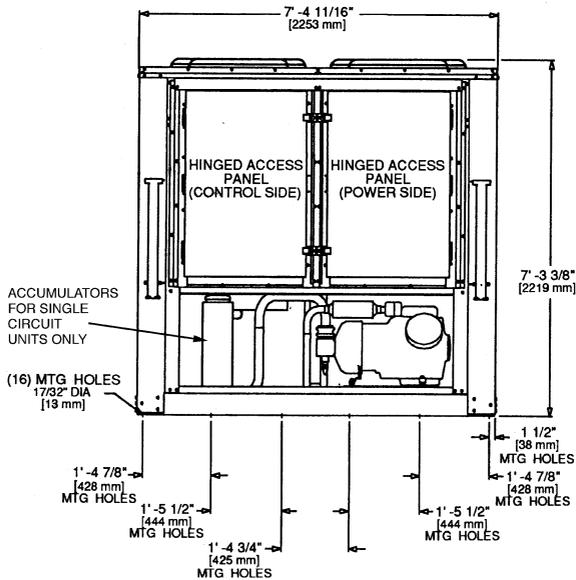
- LEGEND**
- C — Copper Fin Coils
 - MTG — Mounting
 - SAE — Society of Automotive Engineers

CONTROL BOX END

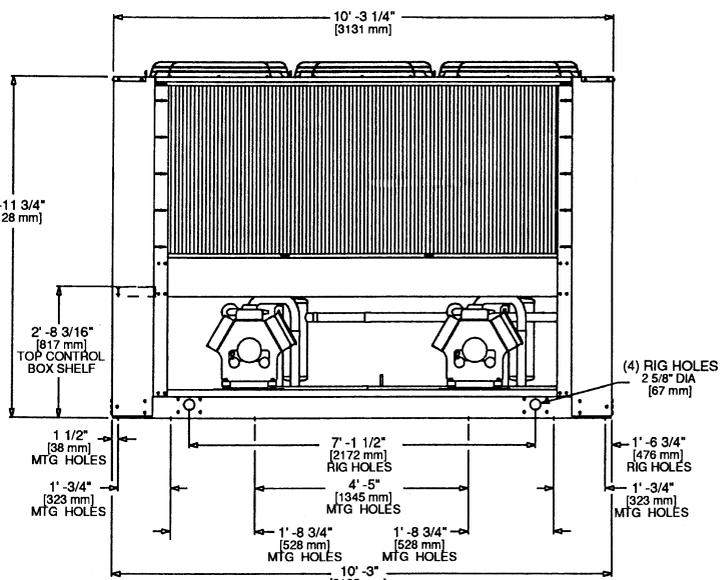


TOP VIEW OF CONTROL BOX SHELF WITH FIELD POWER SUPPLY CONNECTIONS. (SEE NOTES 4 AND 5 AND CHART 1) FIELD POWER SUPPLY

SCALE 1:10



LEFT END VIEW



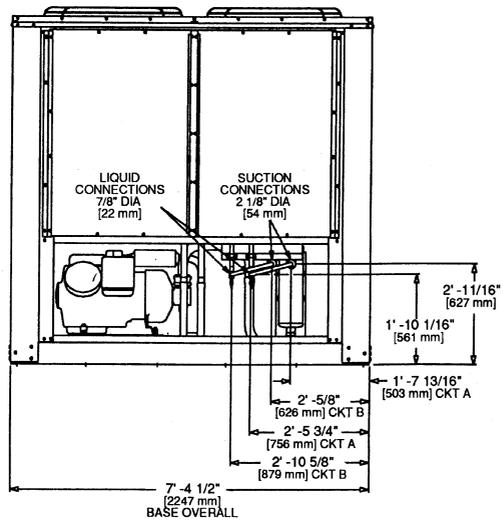
BASE OVERALL
SIDE VIEW

CHART 1, FIELD POWER SUPPLY CONNECTIONS

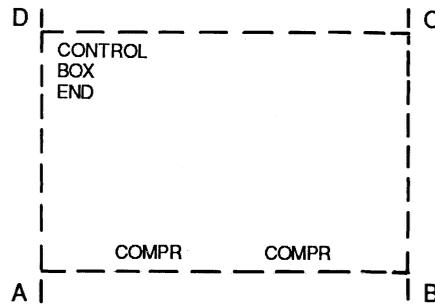
UNIT	VOLTAGE	Hz	DIAMETER	QTY.
074,084	346	50	3 ⁵ / ₈ " [92 mm]	1
074,084	380/415	50	3 ⁵ / ₈ " [92 mm]	1

NOTES:

1. The approximate operating weight of the unit is:
 - 38AH074 —> 3812 lb (1729 kg)
 - 38AH074C —> 4229 lb (1918 kg)
 - 38AH084 —> 4057 lb (1840 kg)
 - 38AH084C —> 4735 lb (2148 kg)
2. Unit must have clearances for airflow as follows:
 - Top — Do not restrict in any way.
 - Ends — 5 ft [153 cm]
 - Sides — 6 ft [183 cm]
3. Mounting holes may be used to mount unit to concrete pad. They are not recommended for mounting unit to spring isolators.
4. Circled numerals in Top View refer to condenser fans; refer to Electrical Data section, Fans table, page 88 and Wiring Diagram book.
5. If spring isolators are used, a perimeter support channel between the unit and the isolators is recommended.



BASE OVERALL
RIGHT END VIEW



TOP VIEW, TYPICAL

OPERATIONAL CORNER WEIGHTS WITH REFRIGERANT CHARGE (Approximate) — Kg

UNIT 38AH	TOTAL WEIGHT	OPERATIONAL CORNER WEIGHT			
		A	B	C	D
044	1480	426	405	316	332
044C	1609	460	438	347	364
054	1501	437	411	316	337
054C	1632	469	444	350	369
064	1617	462	459	347	350
064C	1813	510	508	397	399
074	1729	520	447	352	410
074C	1918	577	481	391	470
084	1840	553	476	375	436
084C	2148	646	538	438	526

C — Copper Fin Coils

OPERATIONAL CORNER WEIGHTS WITH REFRIGERANT CHARGE (Approximate) — Lb

UNIT 38AH	TOTAL WEIGHT	OPERATIONAL CORNER WEIGHT			
		A	B	C	D
044	3259	939	893	695	732
044C	3547	1013	967	765	802
054	3309	964	905	697	742
054C	3597	1034	978	771	814
064	3565	1018	1011	765	771
064C	3998	1125	1117	874	879
074	3812	1146	986	777	903
074C	4229	1272	1059	862	1035
084	4057	1220	1049	827	961
084C	4735	1425	1186	965	1159

C — Copper Fin Coils

Dimensions — 38AH044-134 (cont)

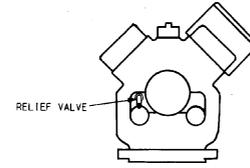
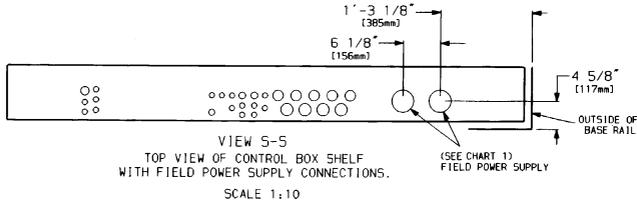


UNIT 38AH094

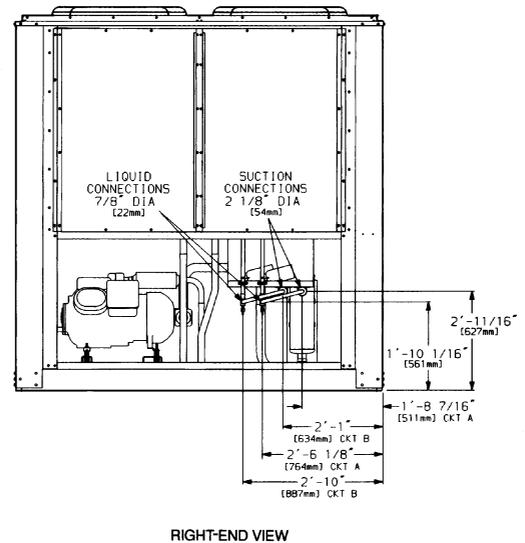
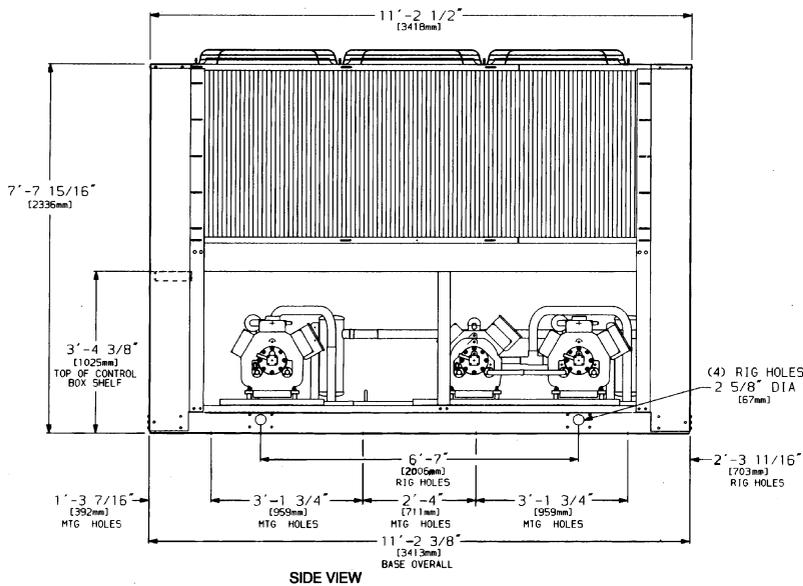
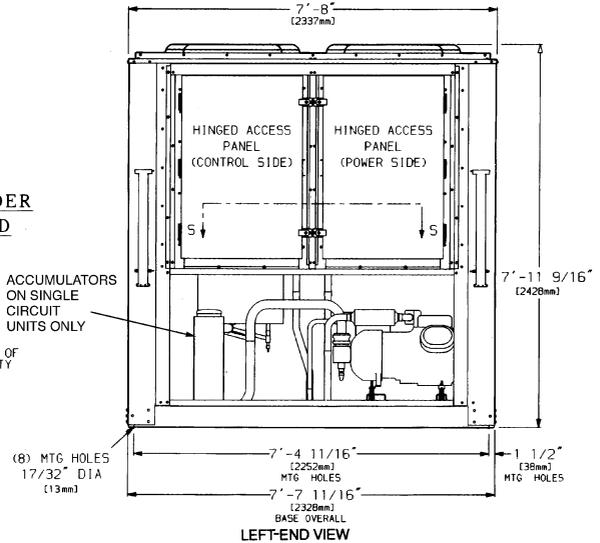
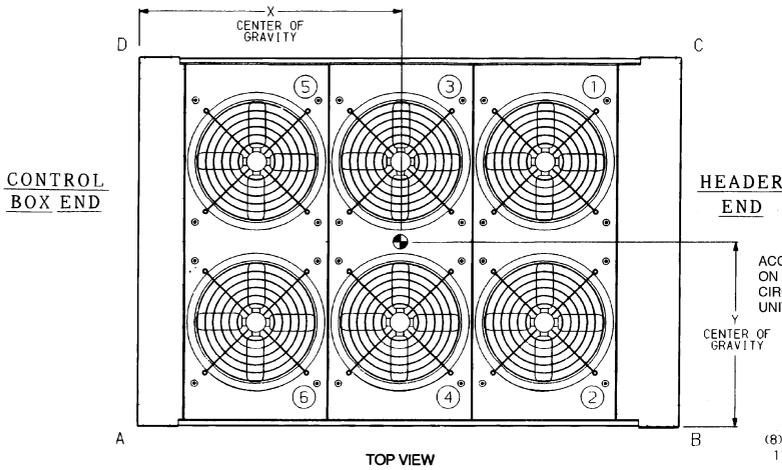
CHART 1, FIELD POWER SUPPLY CONNECTIONS

UNIT 38AH	DIMENSIONS ft-in. [mm]		OPERATIONAL CORNER WEIGHTS — lb [kg]			
	X	Y	A	B	C	D
094	5-6 [1676]	2-7 [787]	1114 [505]	2192 [994]	1182 [536]	601 [273]
094C	5-6 [1676]	2-7 [787]	1273 [577]	2504 [1136]	1350 [612]	686 [311]

UNIT 38AH	VOLT-AGE	DIAMETER in. [mm]	QUANTITY
094	346 380/415	3 5/8 92]	1



RELIEF VALVES LOCATED ON COMPRESSORS A2 AND B1 ARE EQUIPPED WITH A 3/8" SAE FLARE FOR FIELD CONNECTION
SCALE 1:8



- LEGEND**
- C** — Copper Fin Coils
 - MTG** — Mounting
 - SAE** — Society of Automotive Engineers

- NOTES:**
1. The approximate operating weight of the unit is:
38AH094 — 5088 lb [2308 Kg]
38AH094C — 5813 lb [2637 Kg]
 2. Unit must have clearances for airflow as follows:
Top — Do not restrict in any way.
Ends — 5 ft [153 cm]
Sides — 6 ft [183 cm]

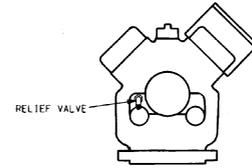
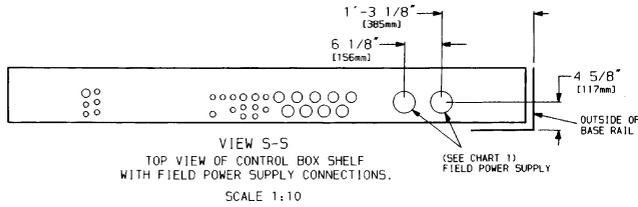
3. Mounting holes may be used to mount unit to concrete pad. They are not recommended for mounting unit to spring isolators.
4. Circled numerals in Top View refer to condenser fans; refer to Electrical Data section, Fans table, page 88 and Wiring Diagram book.
5. If spring isolators are used, a perimeter support channel between the unit and the isolators is recommended.

UNIT 38AH104

UNIT 38AH	DIMENSIONS ft-in. [mm]		OPERATIONAL CORNER WEIGHTS — lb [kg]			
	X	Y	A	B	C	D
104	5-3 [1600]	2-9½ [851]	1240 [562]	2138 [970]	1302 [591]	755 [342]
104C	5-3 [1600]	2-9½ [851]	1405 [637]	2423 [1099]	1476 [670]	856 [388]

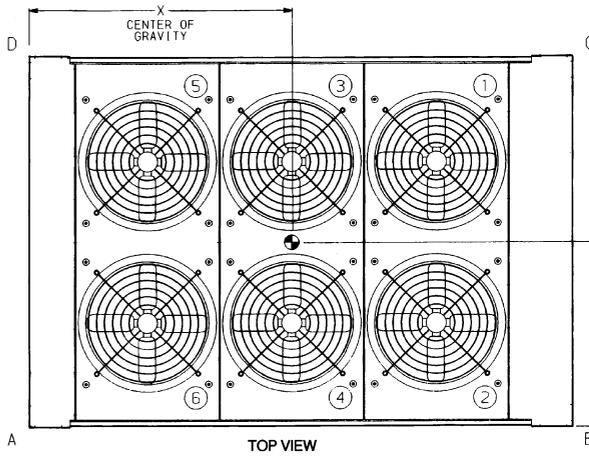
CHART 1, FIELD POWER SUPPLY CONNECTIONS

UNIT 38AH	VOLT-AGE	DIAMETER in. [mm]	QUANTITY
104	346 380/415	3/8 [92]	1



RELIEF VALVES LOCATED ON COMPRESSORS A2 AND B2 ARE EQUIPPED WITH A 3/8" SAE FLARE FOR FIELD CONNECTION
SCALE 1:8

CONTROL BOX END

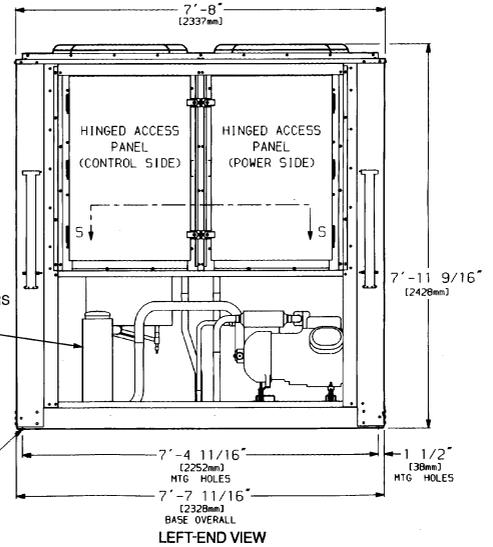


HEADER END

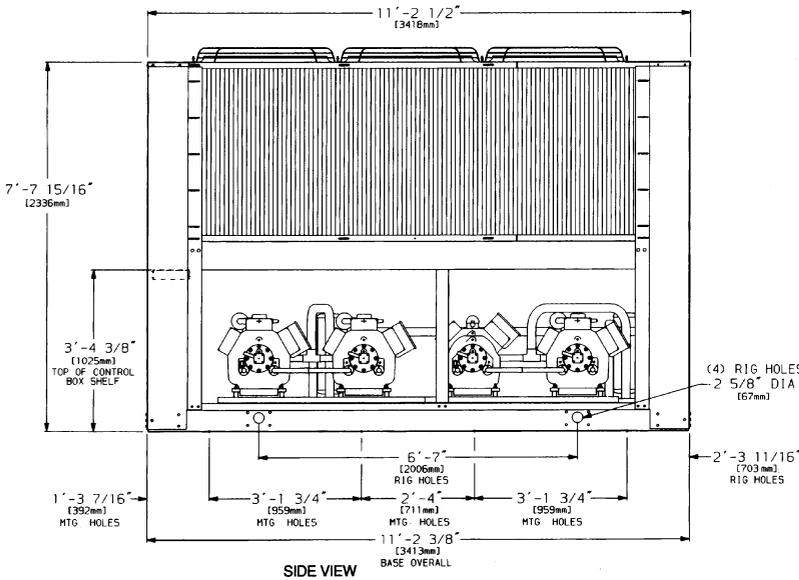
ACCUMULATORS ON SINGLE CIRCUIT UNITS ONLY

CENTER OF GRAVITY

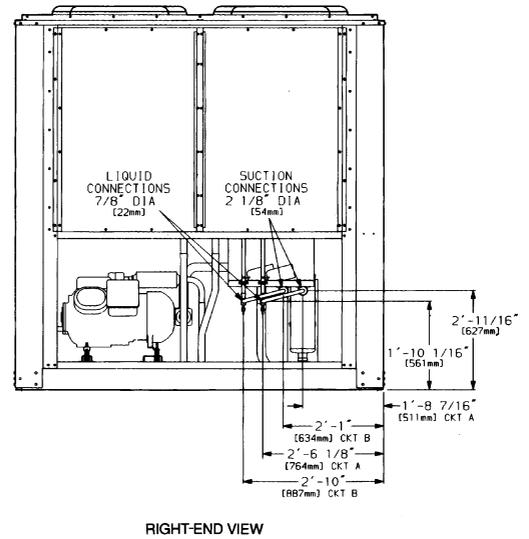
(8) MTG HOLES 17/32" DIA. [13mm]



LEFT-END VIEW



SIDE VIEW



RIGHT-END VIEW

- LEGEND**
- C** — Copper Fin Coils
 - MTG** — Mounting
 - SAE** — Society of Automotive Engineers

- NOTES:**
1. The approximate operating weight of the unit is:
38AH104 — 5435 lb [2465 Kg]
38AH104C — 6160 lb [2794 Kg]
 2. Unit must have clearances for airflow as follows:
Top — Do not restrict in any way.
Ends — 5 ft [153 cm]
Sides — 6 ft [183 cm]

3. Mounting holes may be used to mount unit to concrete pad. They are not recommended for mounting unit to spring isolators.
4. Circled numerals in Top View refer to condenser fans; refer to Electrical Data section, Fans table, page 88 and Wiring Diagram book.
5. If spring isolators are used, a perimeter support channel between the unit and the isolators is recommended.

Dimensions — 38AH044-134 (cont)

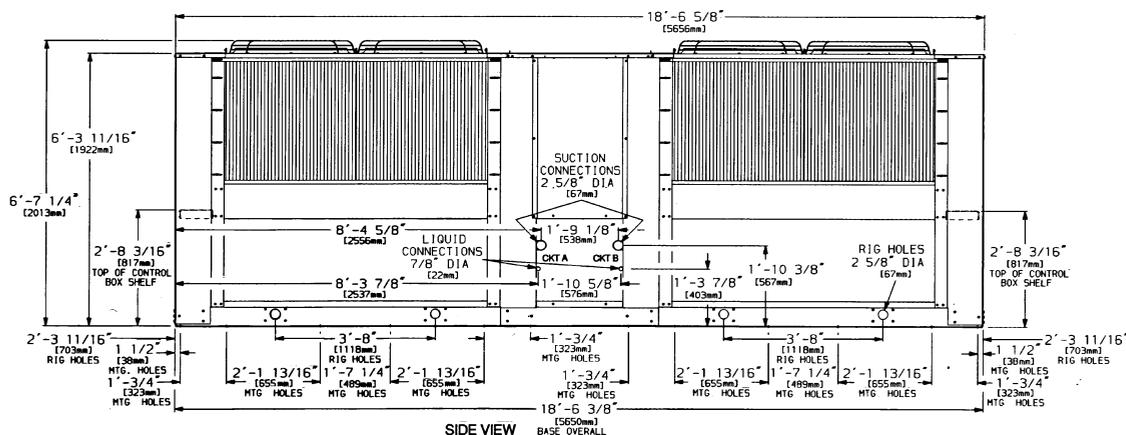
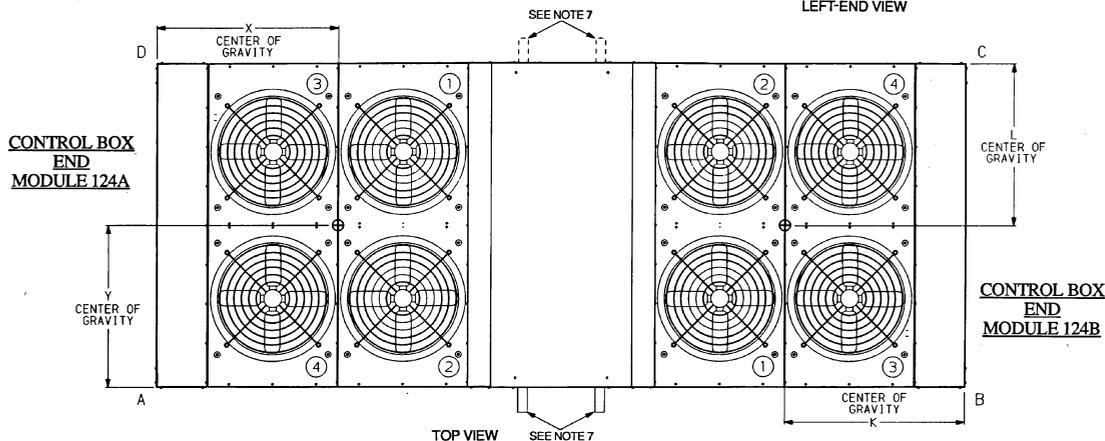
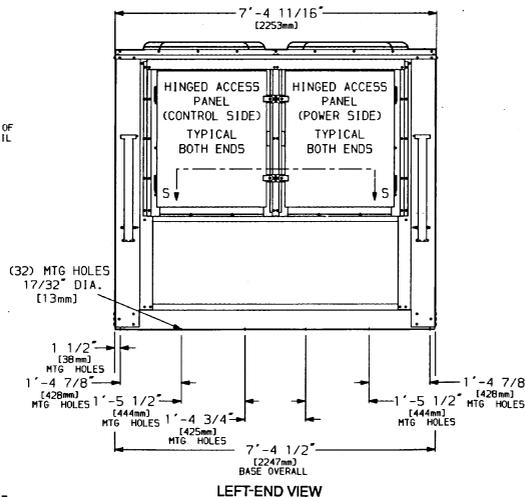
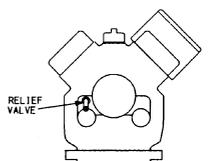
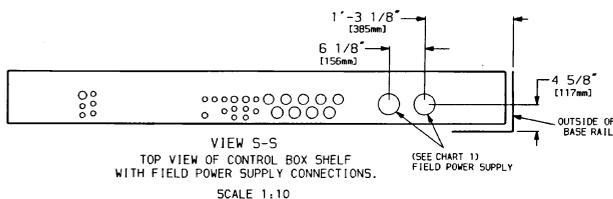


UNIT 38AH124

UNIT 38AH MODULE	DIMENSIONS ft-in. [mm]				OPERATIONAL CORNER WEIGHTS — lb [kg]			
	X	Y	K	L	A	B	C	D
124A	4-1 $\frac{5}{8}$ [1260]	3-2 $\frac{1}{8}$ [968]	—	—	1037 [470]	1030 [467]	779 [353]	785 [356]
124B	—	—	4-1 $\frac{1}{2}$ [1260]	3-2 $\frac{1}{8}$ [968]	—	—	—	—
124A-C	4-1 $\frac{5}{8}$ [1260]	3-2 $\frac{1}{8}$ [987]	—	—	1144 [519]	1137 [516]	889 [403]	894 [406]
124B-C	—	—	4-1 $\frac{1}{2}$ [1260]	3-2 $\frac{1}{8}$ [987]	—	—	—	—

CHART 1, FIELD POWER SUPPLY CONNECTIONS

UNIT 38AH MODULE	VOLTAGE	DIAMETER in. [mm]	QUANTITY
124A 124B	346, 380/415	3 $\frac{5}{8}$ [92]	1



- LEGEND**
- C — Copper Fin Coils
 - MTG — Mounting
 - SAE — Society of Automotive Engineers

- NOTES:**
1. The approximate operating weight of the unit is:
38AH124 — 7260 lb [3293 Kg]
38AH124C — 8126 lb [3686 Kg]
 2. Unit must have clearances for airflow as follows:
Top — Do not restrict in any way.
Ends — 5 ft [153 cm]
Sides — 6 ft [183 cm]
 3. Mounting holes may be used to mount unit to concrete pad. They are not recommended for mounting unit to spring isolators.

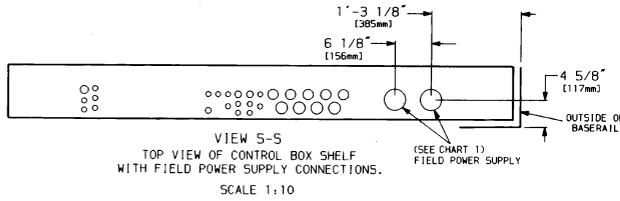
4. Circled numerals in Top View refer to condenser fans; refer to Electrical Data section, Fans table, page 88 and Wiring Diagram book.
5. If spring isolators are used, a perimeter support channel between the assembled unit and the isolators is required. Do not support each module separately.
6. Each module must be rigged into position separately. The unit must not be rigged after modules have been connected.
7. Suction and liquid connections can exit on either side of the unit.
8. Field power supply connections are required for each module.

UNIT 38AH134

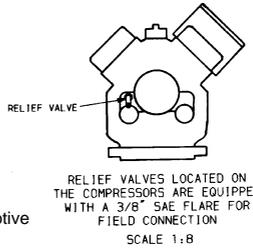
UNIT 38AH MODULE	DIMENSIONS ft-in. [mm]				OPERATIONAL CORNER WEIGHTS — lb [kg]			
	X	Y	K	L	A	B	C	D
134A	4-1 $\frac{1}{8}$ [1260]	3-2 $\frac{7}{8}$ [968]	—	—	1037 [470]	1030 [467]	779 [353]	785 [356]
134B	—	—	4-8 $\frac{7}{8}$ [1445]	3-3 $\frac{1}{2}$ [994]	1167 [529]	997 [452]	789 [358]	924 [419]
134A-C	4-1 $\frac{1}{8}$ [1260]	3-2 $\frac{7}{8}$ [987]	—	—	1144 [519]	1137 [516]	889 [403]	894 [406]
134B-C	—	—	4-8 $\frac{1}{2}$ [1426]	3-3 $\frac{3}{4}$ [1010]	1293 [587]	1080 [490]	874 [396]	1047 [475]

CHART 1, FIELD POWER SUPPLY CONNECTIONS

UNIT 38AH MODULE	VOLTAGE	DIAMETER in. [mm]	QUANTITY
134A	346	3 $\frac{5}{8}$	1
134B	380/415	$\frac{9}{2}$ [92]	1

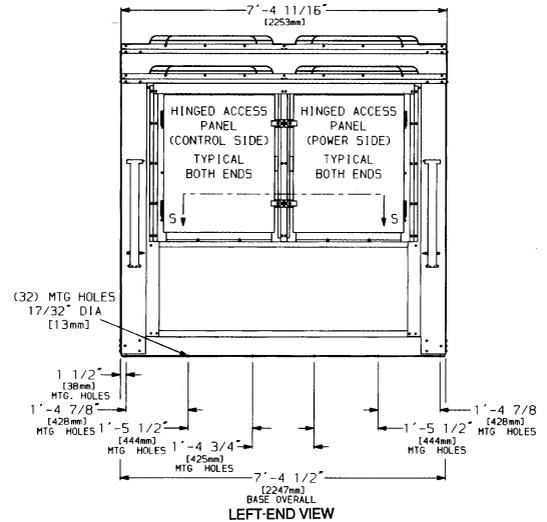


VIEW S-S
TOP VIEW OF CONTROL BOX SHELF
WITH FIELD POWER SUPPLY CONNECTIONS.
SCALE 1:10

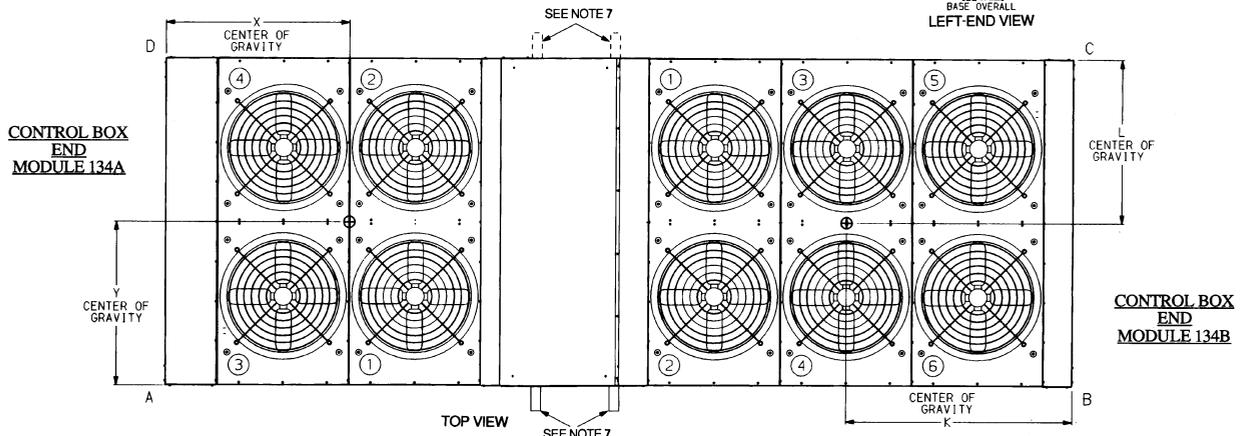


LEGEND

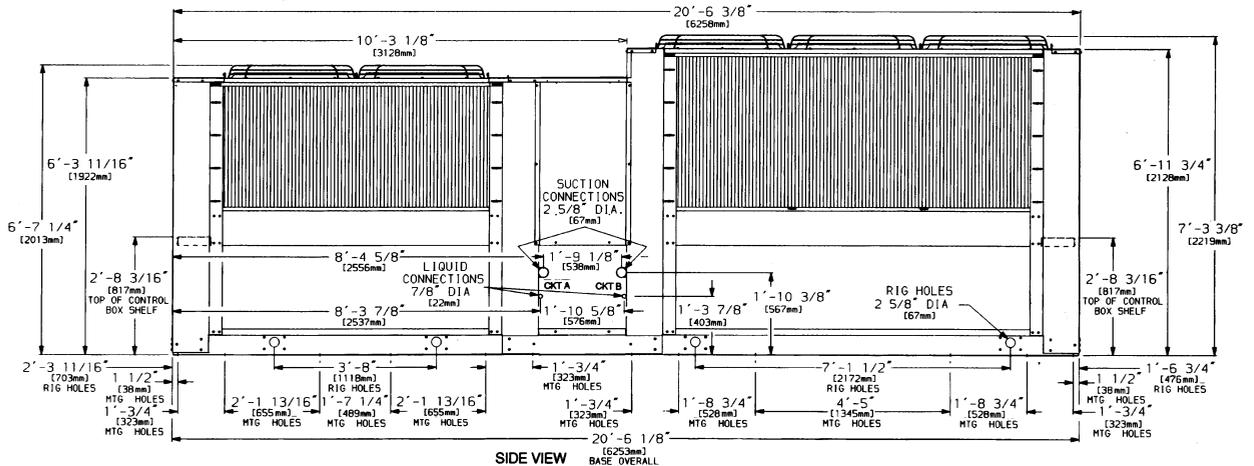
- C — Copper Fin Coils
- MTG — Mounting
- SAE — Society of Automotive Engineers



LEFT-END VIEW



TOP VIEW



SIDE VIEW

NOTES:

- The approximate operating weight of the unit is:
38AH134 — 7507 lb [3405 Kg]
38AH134C — 8357 lb [3791 Kg]
- Unit must have clearances for airflow as follows:
Top — Do not restrict in any way.
Ends — 5 ft [153 cm]
Sides — 6 ft [183 cm]
- Mounting holes may be used to mount unit to concrete pad. They are not recommended for mounting unit to spring isolators.
- Circled numerals in Top View refer to condenser fans; refer to Electrical Data section, Fans table, page 88 and Wiring Diagram book.
- If spring isolators are used, a perimeter support channel between the assembled unit and the isolators is required. Do not support each module separately.
- Each module must be rigged into position separately. The unit must not be rigged after modules have been connected.
- Suction and liquid connections can exit on either side of the unit.
- Field power supply connections are required for each module.

Selection procedure, 2-circuit units — 38AH044-134



SI

I Determine required cooling capacity of each circuit, saturated suction temperature (SST) for each circuit, and the temperature of the air entering the condensing unit.

Given:

	<u>Circuit A</u>	<u>Circuit B</u>
Cooling Load	78 kW	86 kW
Saturated suction temperature	6 C	6 C
Entering-air temperature	35 C	35 C

II Enter the Condensing Unit Circuit and Module Ratings tables for each circuit at the given suction temperatures and entering-air temperatures; select a unit that satisfies the requirements of each circuit.

The 38AH064 unit has a cooling capacity of 79.5 kW at 6 C SST for circuit A, and a cooling capacity of 88.6 kW at 6 C SST for circuit B, both at an entering-air temperature of 35 C. The unit meets requirements according to the given conditions.

ENGLISH

I Determine required cooling capacity of each circuit, saturated suction temperature (SST) for each circuit, and the temperature of the air entering the condensing unit.

Given:

	<u>Circuit A</u>	<u>Circuit B</u>
Cooling Load	252,000 Btuh	281,000 Btuh
Saturated suction temperature	40 F	40 F
Entering-air temperature ...	95 F	95 F

II Enter the Condensing Unit Circuit and Module Ratings tables for each circuit at the given suction temperatures and entering-air temperatures; select a unit that satisfies the requirements of each circuit.

The 38AH064 unit has a cooling capacity of 256,000 Btuh at 40 F SST for circuit A, and a cooling capacity of 286,000 Btuh at 40 F SST for circuit B, both at an entering-air temperature of 95 F. The unit meets requirements according to the given conditions.

Selection procedure, single-circuit units — 38AH044-084 only

SI

I Determine required capacity, saturated suction temperature (SST) at the compressors, and the temperature of the air entering the condensing unit.

Given:

Cooling Load	156 kW
Saturated suction temperature	4.0 C
Entering-air temperature	35 C

II Enter the Condensing Unit Ratings table at the given suction temperature and entering-air temperature for the required cooling capacity.

The 38AH064 unit has a cooling capacity of 156.1 kW at 4 C SST and 35 C entering-air temperature; the unit meets requirements according to the given conditions.

ENGLISH

I Determine required capacity, saturated suction temperature (SST) at the compressors, and the temperature of the air entering the condensing unit.

Given:

Cooling Load	535,000 Btuh
Saturated suction temperature	40 F
Entering-air temperature	95 F

II Enter the Condensing Unit Ratings table at the given suction temperature and entering-air temperature for the required cooling capacity.

The 38AH064 unit has a cooling capacity of 542,000 Btuh at 40 F SST and 95 F entering-air temperature; the unit meets requirements according to the given conditions.

Performance data — 38AH044-134



CONDENSING UNIT RATINGS — SI

38AH044												
SST (C)		Air Temperature Entering Condenser (C)										
		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	105.5	96.9	92.6	89.6	85.1	80.6	76.1	73.1	68.4	63.8	59.2
	CMP	24.2	26.3	27.3	27.9	28.8	29.4	30.1	30.4	30.9	31.2	31.3
	SDT	33.3	39.2	42.1	44.0	46.9	49.9	52.8	54.8	57.7	60.7	63.6
0	TCG	114.2	105.4	100.8	97.8	93.2	88.6	83.9	80.7	75.9	71.1	66.4
	CMP	24.7	27.0	28.2	28.8	29.8	30.6	31.4	31.8	32.4	32.9	33.1
	SDT	33.7	39.5	42.4	44.3	47.2	50.2	53.0	55.0	57.9	60.9	63.7
2	TCG	123.6	114.3	109.6	106.5	101.7	96.9	92.1	88.8	83.9	78.9	73.9
	CMP	25.1	27.7	28.9	29.7	30.8	31.8	32.6	33.1	33.8	34.4	34.9
	SDT	34.2	39.9	42.8	44.8	47.7	50.5	53.4	55.3	58.3	61.1	64.0
4	TCG	133.1	123.6	118.7	115.4	110.4	105.5	100.4	97.1	92.0	86.8	81.7
	CMP	25.6	28.4	29.7	30.5	31.7	32.8	33.8	34.4	35.3	36.0	36.6
	SDT	34.7	40.5	43.3	45.2	48.1	51.0	53.8	55.7	58.6	61.5	64.4
6	TCG	143.1	133.1	128.0	124.7	119.5	114.4	109.1	105.6	100.4	95.1	89.7
	CMP	26.1	29.0	30.5	31.4	32.7	33.9	35.0	35.7	36.7	37.5	38.3
	SDT	35.3	41.0	43.9	45.7	48.6	51.4	54.3	56.2	59.0	61.9	64.8
8	TCG	153.5	143.1	137.9	134.3	128.9	123.6	118.2	114.5	109.1	103.5	98.0*
	CMP	26.6	29.7	31.2	32.2	33.6	34.9	36.1	36.9	38.0	39.0	39.9*
	SDT	35.9	41.6	44.5	46.4	49.2	52.0	54.8	56.7	59.6	62.4	65.3*
10	TCG	164.1	153.3	147.9	144.2	138.6	133.0	127.3	123.6	117.9	112.2	106.5*
	CMP	27.0	30.4	31.9	32.9	34.5	36.0	37.2	38.1	39.3	40.5	41.5*
	SDT	36.6	42.3	45.1	47.0	49.8	52.6	55.4	57.3	60.1	62.9	65.8*

38AH054												
SST (C)		Air Temperature Entering Condenser (C)										
		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	123.0	113.2	108.1	104.9	100.0	95.1	90.2	87.0	82.2	77.4	72.6*
	CMP	29.5	32.0	33.0	33.7	34.6	35.5	36.2	36.7	37.3	37.6	38.0*
	SDT	35.7	41.6	44.5	46.5	49.5	52.4	55.4	57.4	60.3	63.3	66.3*
0	TCG	133.3	123.0	117.8	114.3	109.1	104.0	98.9	95.6	90.4	85.4	80.4*
	CMP	30.2	32.9	34.2	34.9	36.0	37.0	37.8	38.3	39.1	39.6	40.1*
	SDT	36.0	41.8	44.8	46.7	49.6	52.6	55.5	57.5	60.5	63.5	66.4*
2	TCG	144.2	133.4	128.0	124.4	119.0	113.6	108.3	104.8	99.4	94.1	88.8*
	CMP	30.9	33.8	35.1	36.0	37.2	38.3	39.3	39.9	40.7	41.5	42.2*
	SDT	36.5	42.2	45.2	47.1	50.0	52.9	55.8	57.8	60.7	63.6	66.6*
4	TCG	155.4	144.2	138.5	134.7	129.1	123.5	117.9	114.1	108.5	103.0	97.4*
	CMP	31.6	34.7	36.2	37.1	38.5	39.6	40.8	41.5	42.4	43.4	44.1*
	SDT	36.5	42.7	45.5	47.5	50.3	53.3	56.1	58.1	61.0	63.9	66.9*
6	TCG	167.0	155.3	149.4	145.5	139.6	133.8	127.9	124.0	118.1	112.3	106.5*
	CMP	32.5	35.7	37.2	38.3	39.7	41.0	42.3	43.0	44.2	45.1	46.1*
	SDT	37.6	43.3	46.1	48.0	50.8	53.7	56.5	58.5	61.3	64.2	67.2*
8	TCG	178.9	166.8	160.7	156.6	150.5	144.4	138.3	134.2	128.2	122.0	116.0*
	CMP	33.2	36.6	38.3	39.4	41.0	42.4	43.7	44.6	45.9	47.0	48.0*
	SDT	38.4	44.0	46.7	48.6	51.4	54.2	57.0	59.0	61.8	64.7	67.5*
10	TCG	191.2	179.0	172.2	168.0	161.6	155.2	148.8	144.6	138.3	132.0*	125.5*
	CMP	33.9	37.6	39.3	40.5	42.2	43.7	45.2	46.1	47.5	48.8*	50.0*
	SDT	39.2	44.7	47.4	49.3	52.0	54.8	57.6	59.5	62.3	65.2*	68.0*

38AH064												
SST (C)		Air Temperature Entering Condenser (C)										
		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	148.5	137.2	131.7	127.9	122.4	116.9	111.4	107.8	102.3	97.0	91.6
	CMP	35.7	38.6	40.0	40.8	42.0	43.1	44.0	44.6	45.4	46.0	46.5
	SDT	34.7	40.5	43.5	45.5	48.3	51.3	54.2	56.2	59.2	62.1	65.1
0	TCG	160.3	148.6	142.8	138.9	133.1	127.3	121.6	117.8	112.1	106.4	100.7
	CMP	36.6	39.8	41.3	42.3	43.5	44.8	45.8	46.4	47.4	48.2	48.9
	SDT	35.1	40.9	43.8	45.7	48.6	51.6	54.5	56.4	59.3	62.3	65.2
2	TCG	172.9	160.7	154.6	150.5	144.4	138.4	132.4	128.4	122.4	116.4	110.5
	CMP	37.5	41.0	42.6	43.6	45.0	46.4	47.6	48.3	49.5	50.4	51.2
	SDT	35.7	41.5	44.3	46.3	49.1	52.0	54.9	56.9	59.8	62.7	65.6
4	TCG	185.8	173.1	166.6	162.4	156.1	149.8	143.4	139.2	133.0	126.7	120.5
	CMP	38.4	42.2	43.9	45.0	46.6	48.1	49.4	50.2	51.5	52.6	53.5
	SDT	36.4	42.1	44.9	46.8	49.7	52.6	55.4	57.3	60.2	63.1	66.0
6	TCG	199.4	185.9	179.2	174.7	168.1	161.4	154.8	150.5	143.8	137.3	130.8*
	CMP	39.3	43.4	45.3	46.4	48.2	49.7	51.2	52.2	53.5	54.7	55.9*
	SDT	37.2	42.8	45.6	47.5	50.3	53.2	56.0	57.9	60.7	63.6	66.4*
8	TCG	213.0	198.9	192.4	187.5	180.6	173.7	166.7	162.2	155.2	148.4	141.6*
	CMP	40.2	44.5	46.5	47.8	49.7	51.4	53.1	54.1	55.6	57.0	58.2*
	SDT	38.0	43.6	46.4	48.2	51.1	53.9	56.7	58.5	61.4	64.2	67.0*
10	TCG	227.0	213.0	205.8	200.3	193.7	186.0	178.9	174.0	166.8	159.6	152.5*
	CMP	41.1	45.7	47.9	49.3	51.3	53.2	54.9	56.0	57.6	59.1	60.5*
	SDT	38.9	44.4	47.2	49.1	51.8	54.6	57.4	59.3	62.0	64.8	67.6*

LEGEND

- CMP — Compressor Power, kW
- SDT — Saturated Discharge Temperature (leaving compressor) (C)
- SST — Saturated Suction Temperature (entering condensing unit)
- TCG — Total Cooling Capacity, Gross (kW)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 8.3 C superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.

Performance data — 38AH044-134 (cont)



CONDENSING UNIT RATINGS — SI (cont)

38AH074												
SST (C)		Air Temperature Entering Condenser (C)										
		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	181.6	169.2	163.2	159.1	153.1	147.1	141.0	137.0	131.0	125.0	118.9
	CMP	45.2	48.7	50.2	51.1	52.4	53.8	54.9	55.6	56.6	57.4	58.1
	SDT	34.1	39.8	42.8	44.7	47.6	50.5	53.5	55.4	58.4	61.3	64.3
0	TCG	194.7	182.1	176.1	171.9	165.6	159.3	153.0	148.8	142.5	136.2	129.8
	CMP	46.5	50.2	51.9	53.0	54.5	55.9	57.2	57.9	59.1	60.1	61.0
	SDT	34.6	40.3	43.2	45.0	47.9	50.8	53.7	55.6	58.5	61.4	64.4
2	TCG	209.1	196.3	189.3	185.3	178.4	172.1	165.5	161.2	154.6	148.1	141.4
	CMP	47.8	51.8	53.7	54.8	56.5	58.1	59.5	60.4	61.6	62.8	63.8
	SDT	35.3	41.0	43.8	45.7	48.5	51.3	54.1	56.1	58.9	61.8	64.7
4	TCG	224.6	210.5	203.5	199.4	192.4	185.2	178.1	173.8	166.9	160.1	153.2
	CMP	49.1	53.4	55.4	56.7	58.4	60.2	61.7	62.7	64.2	65.4	66.6
	SDT	36.0	41.6	44.4	46.3	49.1	51.9	54.7	56.6	59.4	62.2	65.1
6	TCG	239.0	225.1	217.9	212.8	205.6	198.3	192.1	186.9	179.6	172.5	165.3
	CMP	50.4	55.0	57.2	58.5	60.5	62.4	64.0	65.1	66.7	68.1	69.5
	SDT	36.8	42.4	45.2	47.0	49.8	52.6	55.4	57.3	60.0	62.8	65.6
8	TCG	257.0	241.0	234.0	228.4	221.0	212.6	205.2	200.0	192.5	185.1	177.6*
	CMP	51.6	56.6	59.0	60.4	62.6	64.5	66.5	67.6	69.4	71.0	72.4*
	SDT	37.6	43.2	45.9	47.8	50.6	53.3	56.1	57.9	60.7	63.5	66.2*
10	TCG	273.0	257.0	248.0	243.0	236.0	227.1	219.5	214.1	206.6	198.0	190.4*
	CMP	52.8	58.3	60.7	62.3	64.6	66.8	68.8	70.1	71.9	73.7	75.3*
	SDT	38.5	44.0	46.8	48.6	51.4	54.1	56.9	58.7	61.5	64.2	66.9*

38AH084												
SST (C)		Air Temperature Entering Condenser (C)										
		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	204.0	190.6	183.9	179.3	172.7	166.1	159.6	155.3	148.9	142.5	136.2*
	CMP	54.1	57.9	59.5	60.6	62.1	63.4	64.8	65.5	66.6	67.7	68.6*
	SDT	36.2	42.2	45.2	47.2	50.2	53.1	56.2	58.2	61.2	64.2	67.2*
0	TCG	221.0	206.0	198.9	194.2	187.1	180.1	173.2	168.6	161.7	154.9	148.2*
	CMP	55.6	59.7	61.5	62.7	64.4	65.9	67.3	68.2	69.6	70.8	71.8*
	SDT	36.3	42.3	45.3	47.3	50.3	53.2	56.2	58.2	61.2	64.2	67.2*
2	TCG	238.0	223.0	215.0	210.0	203.0	195.3	187.9	183.1	175.7	168.5	161.3*
	CMP	57.0	61.5	63.5	64.9	66.7	68.3	69.9	70.9	72.4	73.8	75.0*
	SDT	36.7	42.6	45.5	47.5	50.4	53.4	56.4	58.4	61.4	64.3	67.3*
4	TCG	256.0	240.0	232.0	226.0	219.0	211.0	203.0	197.9	190.1	182.5	174.9*
	CMP	58.5	63.3	65.5	66.9	68.9	70.9	72.7	73.7	75.3	76.9	78.2*
	SDT	37.1	42.9	45.8	47.8	50.7	53.6	56.6	58.6	61.5	63.5	67.4*
6	TCG	274.0	258.0	250.0	244.0	236.0	227.0	219.0	214.0	205.0	197.0	189.0*
	CMP	60.0	65.1	67.5	69.1	71.3	73.3	75.3	76.5	78.3	79.9	81.5*
	SDT	37.7	43.4	46.3	48.2	51.1	54.1	57.0	58.9	61.9	64.8	67.7*
8	TCG	294.0	276.0	268.0	262.0	252.0	244.0	236.0	230.0	221.0	212.0	204.0*
	CMP	61.6	67.1	69.7	71.3	73.7	75.9	78.0	79.3	81.3	83.1	84.8*
	SDT	38.4	44.1	46.9	48.8	51.7	54.5	57.4	59.4	62.3	65.2	68.1*
10	TCG	314.0	294.0	286.0	280.0	270.0	261.0	252.0	246.0	236.0	228.0	219.0*
	CMP	63.2	69.1	71.7	73.5	76.1	78.5	80.7	82.1	84.3	86.3	88.1*
	SDT	39.2	44.8	47.6	49.5	52.3	55.2	58.0	59.9	62.7	65.6	68.5*

LEGEND

- CMP — Compressor Power, kW
- SDT — Saturated Discharge Temperature (leaving compressor) (C)
- SST — Saturated Suction Temperature (entering condensing unit)
- TCG — Total Cooling Capacity, Gross (kW)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 8.3 C superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.



CONDENSING UNIT RATINGS — SI (cont)

38AH094		Air Temperature Entering Condenser (C)										
SST (C)		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	233.0	216.5	209.1	202.9	195.6	187.3	178.7	173.1	164.8	156.5	148.2
	CMP	58.1	62.3	64.3	65.6	67.4	68.9	70.3	71.1	72.2	73.2	73.9
	SDT(A)	35.5	41.2	44.0	45.9	48.8	51.6	54.5	56.5	59.4	62.3	65.3
	SDT(B)	33.8	39.6	42.5	44.5	47.4	50.4	53.4	55.4	58.3	61.3	64.3
	SCT(A)	33.6	39.7	42.8	44.8	47.8	50.8	53.9	55.9	58.9	61.9	64.9
	SCT(B)	32.3	38.5	41.5	43.6	46.7	49.7	52.8	54.8	57.9	60.9	63.9
0	TCG	251.0	234.0	226.0	220.2	211.7	203.3	194.8	188.5	180.0	171.4	162.7
	CMP	59.7	64.3	66.6	67.9	69.9	71.7	73.3	74.2	75.6	76.7	77.7
	SDT(A)	36.2	41.8	44.5	46.4	49.2	52.0	54.9	56.8	59.6	62.5	65.4
	SDT(B)	34.2	39.9	42.8	44.8	47.7	50.6	53.5	55.5	58.4	61.4	64.4
	SCT(A)	34.0	40.1	43.1	45.1	48.1	51.1	54.1	56.0	59.0	62.0	64.9
	SCT(B)	32.4	38.6	41.7	43.7	46.8	49.8	52.8	54.8	57.9	60.9	63.9
2	TCG	269.0	252.0	243.0	237.0	228.0	219.6	211.0	204.6	196.0	186.4	177.9
	CMP	61.5	66.5	68.9	70.4	72.5	74.4	76.2	77.4	78.9	80.2	81.5
	SDT(A)	37.1	42.6	45.3	47.2	49.9	52.7	55.5	57.4	60.2	63.0	65.8
	SDT(B)	34.9	40.5	43.4	45.3	48.2	51.0	53.9	55.9	58.8	61.7	64.6
	SCT(A)	34.6	40.6	43.7	45.7	48.6	51.6	54.5	56.5	59.4	62.3	65.3
	SCT(B)	32.8	39.0	42.0	44.0	47.1	50.1	53.1	55.1	58.1	61.1	64.1
4	TCG	289.0	270.0	261.0	255.0	246.0	237.0	227.0	221.7	211.9	202.2	193.4
	CMP	63.3	68.6	71.3	72.9	75.2	77.2	79.3	80.5	82.3	83.8	85.2
	SDT(A)	38.0	43.5	46.2	48.0	50.7	53.4	56.2	58.0	60.8	63.5	66.3
	SDT(B)	35.6	41.2	44.0	45.9	48.7	51.5	54.4	56.3	59.2	62.1	65.0
	SCT(A)	35.2	41.2	44.3	46.3	49.2	52.1	55.0	57.0	59.9	62.7	65.6
	SCT(B)	33.3	39.4	42.4	44.4	47.4	50.4	53.4	55.4	58.4	61.3	64.3
6	TCG	309.0	290.0	279.0	274.0	264.0	254.0	245.0	238.0	228.0	219.2	209.3
	CMP	65.1	70.8	73.6	75.4	77.9	80.2	82.4	83.7	85.6	87.5	89.1
	SDT(A)	39.0	44.4	47.1	48.9	51.6	54.3	57.0	58.8	61.5	64.2	66.9
	SDT(B)	36.4	41.9	44.7	46.5	49.3	52.1	55.0	56.9	59.7	62.5	65.4
	SCT(A)	35.8	41.9	44.9	46.9	49.9	52.8	55.7	57.6	60.5	63.3	66.2
	SCT(B)	33.8	39.9	42.9	44.9	47.9	50.9	53.8	55.8	58.8	61.7	64.7
8	TCG	329.0	309.0	299.0	292.0	282.0	273.0	263.0	256.0	246.0	235.0	225.0
	CMP	66.9	73.0	76.0	77.9	80.6	83.1	85.5	87.0	89.1	91.0	92.9
	SDT(A)	40.1	45.4	48.0	49.8	52.5	55.2	57.9	59.6	62.3	65.0	67.7*
	SDT(B)	37.3	42.7	45.5	47.3	50.1	52.9	55.7	57.5	60.3	63.1	66.0
	SCT(A)	36.5	42.6	45.6	47.6	50.6	53.5	56.4	58.3	61.1	64.0	66.8
	SCT(B)	34.3	40.4	43.5	45.5	48.4	51.4	54.4	56.3	59.3	62.2	65.1
10	TCG	350.0	329.0	319.0	312.0	301.0	291.0	281.0	274.0	263.0	253.0	242.0
	CMP	68.7	75.2	78.4	80.5	83.3	86.0	88.7	90.3	92.5	94.7	96.8
	SDT(A)	41.1	46.4	49.1	50.8	53.5	56.2	58.8	60.5	63.2	65.9	68.5*
	SDT(B)	38.2	43.6	46.3	48.2	50.9	53.7	56.4	58.3	61.0	63.8	66.6
	SCT(A)	37.2	43.3	46.4	48.4	51.3	54.2	57.1	59.0	61.8	64.7	67.5*
	SCT(B)	34.9	41.0	44.1	46.1	49.0	52.0	54.9	56.9	59.8	62.7	65.6

LEGEND

- CMP** — Compressor Power (kW)
- SCT(A)** — Saturated Condensing Temperature (C) for Circuit A (38AH094,104), or Module 38AH124A or 134A
- SCT(B)** — Saturated Condensing Temperature (C) for Circuit B (38AH094,104), or Module 38AH124B or 134B
- SDT(A)** — Saturated Discharge Temperature (C) for Circuit A (38AH094,104), or Module 38AH124A or 134A
- SDT(B)** — Saturated Discharge Temperature (C) for Circuit B (38AH094,104), or Module 38AH124B or 134B
- SST** — Saturated Suction Temperature Entering Condensing Unit
- TCG** — Gross Cooling Capacity (kW)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 8.3 C superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.

Performance data — 38AH044-134 (cont)



CONDENSING UNIT RATINGS — SI (cont)

38AH104		Air Temperature Entering Condenser (C)										
SST (C)		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	265.0	245.0	235.0	229.0	219.0	209.3	199.6	192.4	183.1	173.6	164.2
	CMP	62.8	67.7	70.1	71.6	73.6	75.5	77.2	78.3	79.7	81.0	82.1
	SDT(A)	34.4	40.0	42.8	44.7	47.5	50.4	53.3	55.2	58.1	61.1	64.0
	SDT(B)	35.7	41.2	43.9	45.8	48.6	51.4	54.3	56.2	59.1	61.9	64.9
	SCT(A)	32.6	38.6	41.7	43.7	46.7	49.7	52.7	54.6	57.7	60.7	63.7
	SCT(B)	33.5	39.5	42.6	44.5	47.5	50.5	53.5	55.5	58.5	61.4	64.4
0	TCG	285.0	264.0	254.0	247.0	237.0	227.0	217.0	209.8	199.8	190.0	180.1
	CMP	64.9	70.1	72.6	74.3	76.5	78.6	80.5	81.8	83.4	84.9	86.2
	SDT(A)	35.1	40.6	43.4	45.2	48.0	50.8	53.6	55.5	58.4	61.3	64.1
	SDT(B)	36.5	41.9	44.7	46.5	49.2	52.0	54.8	56.7	59.5	62.3	65.2
	SCT(A)	33.1	39.1	42.1	44.0	47.0	49.9	52.9	54.9	57.8	60.8	63.7
	SCT(B)	34.0	40.0	43.1	45.0	48.0	50.9	53.9	55.8	58.8	61.7	64.6
2	TCG	307.0	285.0	273.0	267.0	256.0	246.0	235.0	228.0	217.0	207.3	197.2
	CMP	66.9	72.6	75.3	77.0	79.5	81.7	84.0	85.3	87.1	88.8	90.4
	SDT(A)	36.0	41.4	44.1	46.0	48.7	51.5	54.3	56.1	58.9	61.7	64.6
	SDT(B)	37.5	42.9	45.5	47.3	50.0	52.8	55.5	57.4	60.1	62.9	65.7
	SCT(A)	33.6	39.6	42.6	44.6	47.5	50.4	53.3	55.3	58.2	61.1	64.0
	SCT(B)	34.7	40.7	43.7	45.7	48.6	51.5	54.4	56.4	59.3	62.2	65.1
4	TCG	328.0	306.0	294.0	287.0	275.0	265.0	254.0	246.0	235.0	225.0	213.4
	CMP	68.9	75.0	78.0	79.8	82.5	85.0	87.3	88.8	90.9	92.8	94.5
	SDT(A)	36.9	42.3	44.9	46.7	49.5	52.2	54.9	56.7	59.5	62.3	65.1
	SDT(B)	38.5	43.8	46.4	48.2	50.9	53.6	56.3	58.1	60.8	63.6	66.3
	SCT(A)	34.2	40.2	43.2	45.1	48.1	51.0	53.9	55.8	58.7	61.5	64.4
	SCT(B)	35.3	41.4	44.4	46.3	49.3	52.2	55.1	57.0	59.8	62.7	65.6
6	TCG	351.0	328.0	316.0	308.0	296.0	285.0	273.0	265.0	254.0	242.0	231.0
	CMP	71.0	77.5	80.7	82.7	85.6	88.3	90.8	92.4	94.7	96.8	98.8
	SDT(A)	37.9	43.2	45.8	47.6	50.3	53.0	55.7	57.5	60.2	63.0	65.7
	SDT(B)	39.6	44.8	47.4	49.2	51.8	54.5	57.2	59.0	61.7	64.4	67.1*
	SCT(A)	34.8	40.8	43.8	45.8	48.7	51.6	54.5	56.4	59.2	62.1	64.9
	SCT(B)	36.0	42.1	45.1	47.1	50.0	52.9	55.7	57.7	60.5	63.4	66.2
8	TCG	375.0	351.0	338.0	330.0	317.0	305.0	294.0	285.0	273.0	261.0	250.0
	CMP	73.1	80.0	83.5	85.6	88.6	91.5	94.3	96.1	98.6	100.8	103.0
	SDT(A)	38.9	44.1	46.8	48.6	51.2	53.9	56.6	58.4	61.0	63.7	66.4
	SDT(B)	40.7	45.9	48.5	50.2	52.8	55.5	58.1	59.9	62.6	65.2	67.9*
	SCT(A)	35.5	41.5	44.5	46.5	49.4	52.3	55.1	57.1	59.9	62.7	65.5
	SCT(B)	36.7	42.8	45.8	47.8	50.7	53.6	56.5	58.4	61.2	64.1	66.9
10	TCG	400.0	374.0	361.0	353.0	340.0	327.0	313.0	305.0	292.0	281.0	268.0
	CMP	75.4	82.6	86.3	88.5	91.7	94.9	97.8	99.7	102.4	105.0	107.4
	SDT(A)	39.9	45.2	47.8	49.5	52.2	54.8	57.4	59.2	61.9	64.5	67.2
	SDT(B)	41.9	47.0	49.5	51.3	53.9	56.5	59.1	60.8	63.5	66.1	68.7*
	SCT(A)	36.2	42.2	45.2	47.2	50.1	53.0	55.8	57.8	60.6	63.4	66.2
	SCT(B)	37.5	43.6	46.6	48.6	51.5	54.4	57.3	59.2	62.0	64.8	67.6*

LEGEND

- CMP** — Compressor Power (kW)
- SCT(A)** — Saturated Condensing Temperature (C) for Circuit A (38AH094,104), or Module 38AH124A or 134A
- SCT(B)** — Saturated Condensing Temperature (C) for Circuit B (38AH094,104), or Module 38AH124B or 134B
- SDT(A)** — Saturated Discharge Temperature (C) for Circuit A (38AH094,104), or Module 38AH124A or 134A
- SDT(B)** — Saturated Discharge Temperature (C) for Circuit B (38AH094,104), or Module 38AH124B or 134B
- SST** — Saturated Suction Temperature Entering Condensing Unit
- TCG** — Gross Cooling Capacity (kW)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 8.3 C superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.



CONDENSING UNIT RATINGS — SI (cont)

38AH124		Air Temperature Entering Condenser (C)										
SST (C)		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	298.0	276.0	264.0	258.0	246.0	236.0	224.0	218.0	206.0	195.6	185.0
	CMP	71.4	77.2	80.0	81.6	84.0	86.2	88.0	89.0	90.8	92.0	93.2
	SDT(A) OR (B)	34.7	40.5	43.4	45.4	48.3	51.3	54.2	56.2	59.1	62.1	65.1
	SCT(A) OR (B)	33.9	39.9	42.9	44.9	47.9	50.9	53.8	55.9	58.9	61.9	64.8
0	TCG	322.0	298.0	286.0	280.0	268.0	256.0	244.0	238.0	226.0	214.0	204.0
	CMP	73.4	79.6	82.6	84.4	87.2	89.4	91.6	92.8	94.8	96.4	97.8
	SDT(A) OR (B)	35.2	40.9	43.8	45.8	48.7	51.6	54.4	56.4	59.4	62.3	65.2
	SCT(A) OR (B)	34.3	40.2	43.2	45.2	48.1	51.1	54.0	56.0	59.0	62.0	65.0
2	TCG	346.0	322.0	310.0	302.0	290.0	278.0	266.0	258.0	246.0	234.0	222.0
	CMP	75.2	82.0	85.2	87.4	90.2	92.8	95.2	96.8	99.0	100.8	102.4
	SDT(A) OR (B)	35.8	41.5	44.4	46.3	49.2	52.0	54.9	56.8	59.7	62.7	65.6
	SCT(A) OR (B)	34.7	40.7	43.6	45.6	48.5	51.5	54.4	56.4	59.3	62.3	65.2
4	TCG	372.0	348.0	334.0	326.0	314.0	300.0	288.0	280.0	268.0	254.0	242.0
	CMP	77.0	84.2	88.0	90.2	93.2	96.2	99.0	100.6	103.0	105.2	107.2
	SDT(A) OR (B)	36.5	42.1	45.0	46.9	49.7	52.6	55.4	57.3	60.2	63.1	65.9
	SCT(A) OR (B)	35.3	41.2	44.1	46.1	49.0	51.9	54.8	56.8	59.7	62.6	65.5
6	TCG	400.0	372.0	360.0	350.0	338.0	324.0	310.0	302.0	290.0	276.0	264.0
	CMP	78.8	86.6	90.6	93.0	96.4	99.6	102.6	104.4	107.2	109.6	111.8
	SDT(A) OR (B)	37.2	42.9	45.7	47.6	50.4	53.2	56.0	57.9	60.7	63.6	66.4
	SCT(A) OR (B)	35.9	41.8	44.7	46.6	49.5	52.5	55.4	57.3	60.2	63.1	66.0
8	TCG	428.0	400.0	386.0	376.0	362.0	348.0	334.0	326.0	312.0	298.0	284.0
	CMP	80.6	89.2	93.2	95.8	99.6	103.0	106.2	108.2	111.2	114.0	116.4
	SDT(A) OR (B)	38.1	43.7	46.5	48.3	51.1	53.9	56.7	58.6	61.4	64.2	67.0
	SCT(A) OR (B)	36.6	42.4	45.3	47.3	50.2	53.1	55.9	57.9	60.7	63.6	66.5
10	TCG	456.0	426.0	412.0	402.0	388.0	374.0	358.0	350.0	334.0	320.0	306.0
	CMP	82.6	91.6	96.0	98.8	102.6	106.4	110.0	112.2	115.4	118.4	121.2
	SDT(A) OR (B)	39.0	44.5	47.3	49.1	51.9	54.7	57.4	59.3	62.1	64.8	67.6
	SCT(A) OR (B)	37.3	43.1	46.0	48.0	50.8	53.7	56.6	58.5	61.3	64.2	67.0

LEGEND

- CMP** — Compressor Power (kW)
- SCT(A)** — Saturated Condensing Temperature (C) for Circuit A (38AH094,104), or Module 38AH124A or 134A
- SCT(B)** — Saturated Condensing Temperature (C) for Circuit B (38AH094,104), or Module 38AH124B or 134B
- SDT(A)** — Saturated Discharge Temperature (C) for Circuit A (38AH094,104), or Module 38AH124A or 134A
- SDT(B)** — Saturated Discharge Temperature (C) for Circuit B (38AH094,104), or Module 38AH124B or 134B
- SST** — Saturated Suction Temperature Entering Condensing Unit
- TCG** — Gross Cooling Capacity (kW)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 8.3 C superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.

Performance data — 38AH044-134 (cont)



CONDENSING UNIT RATINGS — SI (cont)

38AH134		Air Temperature Entering Condenser (C)										
SST (C)		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	330.0	307.0	295.0	288.0	276.0	265.0	253.0	246.0	234.0	222.8	211.5
	CMP	80.9	87.2	90.1	91.9	94.5	96.9	98.9	100.1	102.0	103.4	104.8
	SDT(A)	34.7	40.5	43.4	45.4	48.3	51.3	54.2	56.2	59.1	62.1	65.1
	SDT(B)	34.0	39.8	42.7	44.6	47.5	50.4	53.4	55.4	58.3	61.3	64.3
	SCT(A)	33.9	39.9	42.9	44.9	47.9	50.9	53.8	55.9	58.9	61.9	64.8
	SCT(B)	31.9	37.7	40.7	42.6	45.5	48.5	51.4	53.4	56.3	59.3	62.2
0	TCG	356.0	331.0	319.0	312.0	300.0	287.0	275.0	268.0	256.0	243.0	232.0
	CMP	83.2	90.0	93.1	95.1	98.0	100.5	102.9	104.3	106.5	108.3	109.9
	SDT(A)	35.2	40.9	43.8	45.8	48.7	51.6	54.4	56.4	59.4	62.3	65.2
	SDT(B)	34.5	40.2	43.1	45.0	47.8	50.7	53.6	55.5	58.4	61.4	64.3
	SCT(A)	34.3	40.2	43.2	45.2	48.1	51.1	54.0	56.0	59.0	62.0	65.0
	SCT(B)	32.4	38.2	41.2	43.1	46.0	48.9	51.7	53.6	56.5	59.4	62.4
2	TCG	383.0	357.0	345.0	336.0	324.0	311.0	299.0	290.0	278.0	265.0	253.0
	CMP	85.4	92.8	96.2	98.5	101.5	104.4	107.0	108.7	111.1	113.1	114.9
	SDT(A)	35.8	41.5	44.4	46.3	49.2	52.0	54.9	56.8	59.7	62.7	65.6
	SDT(B)	35.2	40.9	43.7	45.6	48.4	51.3	54.1	56.0	58.9	61.8	64.6
	SCT(A)	34.7	40.7	43.6	45.6	48.5	51.5	54.4	56.4	59.3	62.3	65.2
	SCT(B)	33.0	38.8	41.7	43.7	46.5	49.4	52.3	54.2	57.0	59.9	62.7
4	TCG	410.0	385.0	371.0	362.0	349.0	335.0	323.0	314.0	301.0	287.0	274.0
	CMP	87.5	95.5	99.4	101.7	105.1	108.2	111.2	113.0	115.6	118.0	120.1
	SDT(A)	36.5	42.1	45.0	46.9	49.7	52.6	55.4	57.3	60.2	63.1	65.9
	SDT(B)	36.0	41.6	44.4	46.3	49.1	51.9	54.7	56.5	59.3	62.2	65.0
	SCT(A)	35.3	41.2	44.1	46.1	49.0	51.9	54.8	56.8	59.7	62.6	65.5
	SCT(B)	33.6	39.5	42.3	44.3	47.1	50.0	52.8	54.7	57.5	60.3	63.1
6	TCG	440.0	412.0	398.0	388.0	375.0	361.0	347.0	338.0	325.0	311.0	297.0
	CMP	89.7	98.3	102.4	105.0	108.7	112.1	115.4	117.3	120.3	122.9	125.3
	SDT(A)	37.2	42.9	45.7	47.6	50.4	53.2	56.0	57.9	60.7	63.6	66.4
	SDT(B)	36.7	42.3	45.1	47.0	49.8	52.6	55.3	57.2	60.0	62.8	65.5
	SCT(A)	35.9	41.8	44.7	46.6	49.5	52.5	55.4	57.3	60.2	63.1	66.0
	SCT(B)	34.3	40.1	43.0	44.9	47.7	50.6	53.4	55.3	58.1	60.9	63.7
8	TCG	470.0	441.0	426.0	416.0	402.0	387.0	373.0	364.0	349.0	335.0	320.0
	CMP	91.8	101.2	105.5	108.3	112.3	116.0	119.5	121.7	124.9	127.9	130.6
	SDT(A)	38.1	43.7	46.5	48.3	51.1	53.9	56.7	58.6	61.4	64.2	67.0
	SDT(B)	37.6	43.1	45.9	47.8	50.5	53.3	56.1	57.9	60.7	63.4	66.2
	SCT(A)	36.6	42.4	45.3	47.3	50.2	53.1	55.9	57.9	60.7	63.6	66.5
	SCT(B)	34.9	40.7	43.6	45.5	48.4	51.2	54.0	55.9	58.7	61.5	64.2
10	TCG	501.0	470.0	455.0	445.0	430.0	415.0	399.0	390.0	374.0	359.0	344.0
	CMP	94.1	104.0	108.7	111.6	115.9	119.9	123.8	126.1	129.6	132.9	135.9
	SDT(A)	39.0	44.5	47.3	49.1	51.9	54.7	57.4	59.3	62.1	64.8	67.6*
	SDT(B)	38.4	44.0	46.7	48.6	51.3	54.1	56.8	58.7	61.4	64.2	66.9
	SCT(A)	37.3	43.1	46.0	48.0	50.8	53.7	56.6	58.5	61.3	64.2	67.0
	SCT(B)	35.6	41.4	44.3	46.2	49.0	51.8	54.7	56.5	59.3	62.1	64.8

LEGEND

- CMP** — Compressor Power (kW)
- SCT(A)** — Saturated Condensing Temperature (C) for Circuit A (38AH094,104), or Module 38AH124A or 134A
- SCT(B)** — Saturated Condensing Temperature (C) for Circuit B (38AH094,104), or Module 38AH124B or 134B
- SDT(A)** — Saturated Discharge Temperature (C) for Circuit A (38AH094,104), or Module 38AH124A or 134A
- SDT(B)** — Saturated Discharge Temperature (C) for Circuit B (38AH094,104), or Module 38AH124B or 134B
- SST** — Saturated Suction Temperature Entering Condensing Unit
- TCG** — Gross Cooling Capacity (kW)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 8.3 C superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.



CONDENSING UNIT CIRCUIT AND MODULE RATINGS — SI

38AH044 CIRCUIT A												
SST (C)		Air Temperature Entering Condenser (C)										
		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	52.7	48.5	46.4	44.9	42.7	40.5	38.3	36.8	34.5	32.2	29.9
	CMP	12.0	13.0	13.5	13.8	14.3	14.6	15.0	15.1	15.4	15.6	15.6
	SDT	32.8	38.5	41.3	43.2	46.1	49.0	51.9	53.8	56.7	59.7	62.6
0	TCG	56.9	52.6	50.4	48.9	46.7	44.4	42.1	40.5	38.2	35.8	33.5
	CMP	12.3	13.4	14.0	14.3	14.8	15.2	15.6	15.8	16.1	16.4	16.5
	SDT	33.4	39.0	41.8	43.7	46.5	49.4	52.2	54.2	57.0	59.9	62.7
2	TCG	61.4	56.9	54.6	53.1	50.8	48.4	46.1	44.5	42.1	39.6	37.2
	CMP	12.5	13.8	14.4	14.8	15.3	15.8	16.2	16.5	16.8	17.1	17.4
	SDT	34.0	39.6	42.4	44.3	47.1	49.9	52.7	54.6	57.5	60.3	63.1
4	TCG	66.0	61.4	59.0	57.4	55.0	52.6	50.1	48.5	46.0	43.5	41.0
	CMP	12.8	14.2	14.8	15.2	15.8	16.3	16.8	17.1	17.6	17.9	18.2
	SDT	34.7	40.3	43.0	44.9	47.7	50.5	53.3	55.1	57.9	60.8	63.6
6	SCG	70.8	66.0	63.5	61.9	59.4	56.9	54.3	52.6	50.1	47.5	44.9
	CMP	13.1	14.5	15.2	15.7	16.3	16.9	17.4	17.8	18.3	18.7	19.1
	SDT	35.5	41.0	43.8	45.6	48.4	51.1	53.9	55.8	58.5	61.3	64.1
8	TCG	75.8	70.8	68.3	66.5	63.9	61.3	58.7	56.9	54.3	51.6	48.9*
	CMP	13.4	14.9	15.6	16.1	16.8	17.4	18.0	18.4	18.9	19.4	19.9*
	SDT	36.3	41.8	44.5	46.4	49.1	51.8	54.6	56.4	59.2	61.9	64.7*
10	TCG	80.9	75.7	73.1	71.3	68.6	65.9	63.1	61.3	58.5	55.8	53.0*
	CMP	13.7	15.3	16.0	16.5	17.3	18.0	18.6	19.0	19.6	20.2	20.7*
	SDT	37.1	42.6	45.3	47.1	49.9	52.6	55.3	57.1	59.9	62.6	65.3*

38AH054 CIRCUIT A												
SST (C)		Air Temperature Entering Condenser (C)										
		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	53.0	48.7	46.4	44.9	42.7	40.4	38.1	36.5	34.2	31.9	29.5*
	CMP	12.4	13.5	13.9	14.2	14.6	15.0	15.2	15.4	15.6	15.6	15.6*
	SDT	35.0	41.0	44.0	46.0	49.0	52.0	55.0	57.0	60.0	63.0	66.0*
0	TCG	57.6	53.1	50.8	49.2	46.8	44.5	42.1	40.5	38.0	35.6	33.2*
	CMP	12.6	13.8	14.4	14.7	15.2	15.6	15.9	16.1	16.4	16.5	16.6*
	SDT	35.1	41.0	44.1	46.0	49.0	52.0	55.0	57.0	60.0	63.0	66.0*
2	TCG	62.5	57.8	55.4	53.8	51.4	48.9	46.4	44.8	42.2	39.7	37.2*
	CMP	12.8	14.1	14.7	15.1	15.6	16.1	16.5	16.8	17.1	17.4	17.6*
	SDT	35.3	41.2	44.2	46.1	49.1	52.1	55.1	57.1	60.0	63.0	66.0*
4	TCG	67.5	62.7	60.2	58.5	56.0	53.5	50.9	49.1	46.5	43.9	41.2*
	CMP	13.0	14.4	15.1	15.5	16.1	16.6	17.1	17.4	17.8	18.2	18.4*
	SDT	35.6	41.4	44.3	46.3	49.2	52.2	55.1	57.1	60.1	63.1	66.1*
6	TDG	72.6	67.7	65.1	63.4	60.8	58.2	55.5	53.7	51.0	48.3	45.5*
	CMP	13.3	14.7	15.4	15.9	16.5	17.1	17.7	18.0	18.5	18.9	19.3*
	SDT	36.0	41.8	44.7	46.6	49.5	52.4	55.3	57.3	60.2	63.2	66.2*
8	TCG	77.9	72.8	70.2	68.4	65.7	63.0	60.3	58.4	55.7	52.8	50.0*
	CMP	13.5	15.0	15.8	16.3	17.0	17.6	18.2	18.6	19.2	19.7	20.1*
	SDT	36.6	42.3	45.1	47.0	49.9	52.7	55.6	57.6	60.5	63.4	66.3*
10	TCG	83.2	78.0	75.3	73.5	70.8	68.0	65.1	63.2	60.4	57.5*	54.5*
	CMP	13.7	15.3	16.1	16.6	17.4	18.1	18.8	19.2	19.8	20.4*	20.9*
	SDT	37.3	42.8	45.6	47.5	50.3	53.2	56.0	57.9	60.8	63.7*	66.5*

38AH064 CIRCUIT A												
SST (C)		Air Temperature Entering Condenser (C)										
		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	70.7	65.0	62.3	60.4	57.7	55.1	52.5	50.8	48.2	45.8	43.3
	CMP	16.7	18.1	18.8	19.2	19.8	20.3	20.8	21.1	21.5	21.9	22.2
	SDT	34.9	40.7	43.6	45.5	48.4	51.4	54.3	56.3	59.2	62.2	65.1
0	TCG	76.4	70.5	67.5	65.7	62.8	60.0	57.3	55.5	52.8	50.1	47.5
	CMP	17.2	18.7	19.4	19.9	20.5	21.1	21.6	21.9	22.4	22.9	23.3
	SDT	35.4	41.1	44.0	45.9	48.8	51.7	54.6	56.5	59.4	62.5	65.3
2	TCG	82.5	76.3	73.2	71.2	68.2	65.3	62.4	60.5	57.6	54.8	52.1
	CMP	17.7	19.3	20.1	20.5	21.2	21.9	22.5	22.8	23.4	23.9	24.3
	SDT	36.1	41.7	44.6	46.5	49.3	52.2	55.1	57.0	59.9	62.8	65.7
4	TCG	88.8	82.3	79.0	76.9	73.8	70.7	67.6	65.6	62.6	59.6	56.7
	CMP	18.1	19.9	20.7	21.2	22.0	22.7	23.3	23.7	24.4	24.9	25.4
	SDT	36.8	42.4	45.2	47.1	49.9	52.8	55.6	57.5	60.3	63.2	66.1
6	TCG	95.4	88.5	85.1	82.8	79.5	76.2	73.0	70.9	67.7	64.6	61.5*
	CMP	18.6	20.5	21.4	21.9	22.8	23.5	24.2	24.7	25.3	25.9	26.5*
	SDT	37.7	43.2	46.0	47.8	50.6	53.4	56.2	58.1	60.9	63.8	66.6*
8	TCG	102.0	94.9	91.4	89.0	85.5	82.1	78.7	76.5	73.1	69.8	66.6*
	CMP	19.1	21.1	22.0	22.6	23.5	24.3	25.1	25.6	26.3	27.0	27.6*
	SDT	38.6	44.1	46.8	48.6	51.4	54.2	57.0	58.8	61.6	64.4	67.2*
10	TCG	109.0	102.0	97.8	95.3	91.7	88.0	84.5	82.1	78.6	75.1	71.7*
	CMP	19.6	21.7	22.7	23.4	24.3	25.2	26.0	26.5	27.3	28.0	28.7*
	SDT	39.5	44.9	47.7	49.5	52.2	55.0	57.7	59.6	62.3	65.1	67.9*

LEGEND

- CMP** — Compressor Power, kW
- SDT** — Saturated Discharge Temperature (leaving compressor) (C)
- SST** — Saturated Suction Temperature (entering condensing unit)
- TCG** — Total Cooling Capacity, Gross (kW)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 8.3 C superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.

Performance data — 38AH044-134 (cont)



CONDENSING UNIT CIRCUIT AND MODULE RATINGS — SI (cont)

38AH044 CIRCUIT B												
SST (C)		Air Temperature Entering Condenser (C)										
		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	52.8	48.4	46.2	44.7	42.4	40.1	37.8	36.3	33.9	31.6	29.3
	CMP	12.2	13.3	13.8	14.1	14.5	14.8	15.1	15.3	15.5	15.6	15.7
	SDT	33.8	39.8	42.8	44.8	47.7	50.7	53.7	55.7	58.7	61.6	64.6
0	TCG	57.3	52.8	50.4	48.9	46.5	44.2	41.8	40.2	37.7	35.3	32.9
	CMP	12.4	13.6	14.2	14.5	15.0	15.4	15.8	16.0	16.3	16.5	16.6
	SDT	34.0	40.0	42.9	44.9	47.9	50.9	53.8	55.8	58.8	61.8	64.7
2	TCG	62.2	57.4	55.0	53.4	50.9	48.5	46.0	44.3	41.8	39.3	36.7
	CMP	12.6	13.9	14.5	14.9	15.5	16.0	16.4	16.6	17.0	17.3	17.5
	SDT	34.3	40.2	43.2	45.2	48.2	51.1	54.0	56.0	59.0	61.9	64.9
4	TCG	67.1	62.2	59.7	58.0	55.4	52.9	50.3	48.6	46.0	43.3	40.7
	CMP	12.8	14.2	14.9	15.3	15.9	16.5	17.0	17.3	17.7	18.1	18.4
	SDT	34.7	40.6	43.5	45.5	48.4	51.4	54.3	56.3	59.2	62.2	65.1
6	TCG	72.3	67.1	64.5	62.8	60.1	57.5	54.8	53.0	50.3	47.6	44.8
	CMP	13.0	14.5	15.3	15.7	16.4	17.0	17.6	17.9	18.4	18.8	19.2
	SDT	35.1	41.0	43.9	45.8	48.8	51.7	54.6	56.6	59.5	62.5	65.4
8	TCG	77.7	72.3	69.6	67.8	65.0	62.3	59.5	57.6	54.8	51.9	49.1*
	CMP	13.2	14.8	15.6	16.1	16.8	17.5	18.1	18.5	19.1	19.6	20.0*
	SDT	35.5	41.4	44.4	46.3	49.2	52.1	55.0	57.0	59.9	62.8	65.8*
10	TCG	83.2	77.6	74.8	72.9	70.0	67.1	64.2	62.3	59.4	56.4	53.5*
	CMP	13.3	15.1	15.9	16.4	17.2	18.0	18.6	19.1	19.7	20.3	20.8*
	SDT	36.0	41.9	44.8	46.8	49.7	52.6	55.5	57.4	60.3	63.2	66.1*

38AH054 CIRCUIT B												
SST (C)		Air Temperature Entering Condenser (C)										
		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	70.0	64.5	61.7	60.0	57.3	54.7	52.1	50.5	48.0	45.5	43.1*
	CMP	17.1	18.5	19.1	19.5	20.0	20.5	21.0	21.3	21.7	22.0	22.4*
	SDT	36.4	42.1	45.0	47.0	49.9	52.8	55.7	57.7	60.6	63.6	66.5*
0	TCG	75.7	69.9	67.0	65.1	62.3	59.5	56.8	55.1	52.4	49.8	47.2*
	CMP	17.6	19.1	19.8	20.2	20.8	21.4	21.9	22.2	22.7	23.1	23.5*
	SDT	36.9	42.6	45.5	47.4	50.2	53.1	56.0	58.0	60.9	63.9	66.8*
2	TCG	81.7	75.6	72.6	70.6	67.6	64.7	61.9	60.0	57.2	54.4	51.6*
	CMP	18.1	19.7	20.4	20.9	21.6	22.2	22.8	23.1	23.6	24.1	24.6*
	SDT	37.6	43.2	46.1	48.0	50.8	53.7	56.5	58.5	61.3	64.2	67.2*
4	TCG	87.9	81.5	78.3	76.2	73.1	70.0	67.0	65.0	62.0	59.1	56.2*
	CMP	18.6	20.3	21.1	21.6	22.4	23.0	23.7	24.1	24.6	25.2	25.7*
	SDT	38.4	43.9	46.7	48.6	51.4	54.3	57.1	59.0	61.8	64.7	67.6*
6	TCG	94.4	87.6	84.3	82.1	78.8	75.6	72.4	70.3	67.1	64.0	61.0*
	CMP	19.2	21.0	21.8	22.4	23.2	23.9	24.6	25.0	25.7	26.2	26.8*
	SDT	39.2	44.7	47.5	49.3	52.1	54.9	57.7	59.6	62.4	65.2	68.1*
8	TCG	101.0	94.0	90.5	88.2	84.8	81.4	78.0	75.8	72.5	69.2	66.0*
	CMP	19.7	21.6	22.5	23.1	24.0	24.8	25.5	26.0	26.7	27.3	27.9*
	SDT	40.2	45.6	48.3	50.1	52.9	55.7	58.4	60.3	63.1	65.9	68.7*
10	TCG	108.0	101.0	96.9	94.5	90.8	87.2	83.7	81.4	77.9	74.5*	71.0*
	CMP	20.2	22.3	23.2	23.9	24.8	25.6	26.4	26.9	27.7	28.4*	29.1*
	SDT	41.1	46.5	49.2	51.0	53.7	56.4	59.2	61.0	63.8	66.6*	69.4*

38AH064 CIRCUIT B												
SST (C)		Air Temperature Entering Condenser (C)										
		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	77.8	72.2	69.4	67.5	64.7	61.8	58.9	57.0	54.1	51.2	48.3
	CMP	19.0	20.5	21.2	21.6	22.2	22.8	23.2	23.5	23.9	24.1	24.3
	SDT	34.5	40.3	43.3	45.3	48.2	51.2	54.1	56.1	59.1	62.0	65.0
0	TCG	83.9	78.1	75.2	73.2	70.3	67.3	64.3	62.3	59.3	56.3	53.2
	CMP	19.4	21.1	21.9	22.4	23.0	23.7	24.2	24.5	25.0	25.3	25.6
	SDT	34.8	40.7	43.6	45.5	48.4	51.4	54.3	56.3	59.2	62.2	65.1
2	TCG	90.4	84.4	81.4	79.3	76.2	73.1	70.0	67.9	64.8	61.6	58.4
	CMP	19.8	21.7	22.5	23.1	23.8	24.5	25.1	25.5	26.1	26.5	26.9
	SDT	35.3	41.2	44.0	46.0	48.9	51.8	54.7	56.7	59.6	62.5	65.4
4	TCG	97.0	90.8	87.6	85.5	82.3	79.1	75.8	73.6	70.4	67.1	63.8
	CMP	20.3	22.3	23.2	23.8	24.6	25.4	26.1	26.5	27.1	27.7	28.1
	SDT	35.9	41.7	44.6	46.5	49.4	52.3	55.2	57.1	60.0	62.9	65.8
6	TCG	104.0	97.4	94.1	91.9	88.6	85.2	81.8	79.6	76.1	72.7	69.3*
	CMP	20.7	22.9	23.9	24.5	25.4	26.2	27.0	27.5	28.2	28.8	29.4*
	SDT	36.6	42.4	45.2	47.1	50.0	52.9	55.7	57.6	60.4	63.3	66.2*
8	TCG	111.0	104.0	101.0	98.5	95.1	91.6	88.0	85.7	82.1	78.6	75.0*
	CMP	21.1	23.4	24.5	25.2	26.2	27.1	28.0	28.5	29.3	30.0	30.6*
	SDT	37.4	43.1	45.9	47.8	50.7	53.5	56.3	58.2	61.1	63.9	66.7*
10	TCG	118.0	111.0	108.0	105.0	102.0	98.0	94.4	91.9	88.2	84.5	80.8*
	CMP	21.5	24.0	25.2	25.9	27.0	28.0	28.9	29.5	30.3	31.1	31.8*
	SDT	38.2	43.9	46.7	48.6	51.4	54.2	57.0	58.9	61.7	64.5	67.3*

LEGEND

- CMP** — Compressor Power, kW
- SDT** — Saturated Discharge Temperature (leaving compressor) (C)
- SST** — Saturated Suction Temperature (entering condensing unit)
- TCG** — Total Cooling Capacity, Gross (kW)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 8.3 C superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.



CONDENSING UNIT CIRCUIT AND MODULE RATINGS — SI (cont)

38AH074 CIRCUIT A												
SST (C)		Air Temperature Entering Condenser (C)										
		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	78.6	73.2	70.5	68.6	65.8	63.0	60.1	58.2	55.3	52.4	49.5
	CMP	18.8	20.4	21.1	21.5	22.1	22.7	23.1	23.4	23.8	24.1	24.3
	SDT	33.9	39.7	42.7	44.6	47.6	50.5	53.5	55.5	58.5	61.4	64.4
0	TCG	84.7	79.1	76.3	74.4	71.5	68.6	65.6	63.6	60.6	57.6	54.5
	CMP	19.3	20.9	21.7	22.2	22.9	23.5	24.1	24.4	24.9	25.3	25.6
	SDT	34.4	40.1	43.0	44.8	47.7	50.7	53.6	55.5	58.5	61.4	64.4
2	TCG	91.1	85.3	82.3	80.3	77.4	74.3	71.3	69.3	66.2	63.1	59.9
	CMP	19.7	21.5	22.4	22.9	23.7	24.4	25.0	25.4	25.9	26.4	26.8
	SDT	35.0	40.7	43.5	45.4	48.2	51.1	53.9	55.9	58.7	61.6	64.6
4	TCG	97.6	91.5	88.5	86.4	83.4	80.2	77.1	75.0	71.8	68.6	65.4
	CMP	20.2	22.1	23.0	23.6	24.4	25.2	25.9	26.3	27.0	27.5	28.0
	SDT	35.7	41.3	44.1	46.0	48.8	51.6	54.4	56.3	59.1	61.9	64.8
6	TCG	104.0	98.1	94.9	92.8	89.6	86.3	83.1	80.9	77.6	74.3	70.9
	CMP	20.6	22.7	23.7	24.3	25.2	26.1	26.8	27.3	28.0	28.6	29.2
	SDT	36.4	42.0	44.8	46.6	49.4	52.2	55.0	56.9	59.6	62.4	65.3
8	TCG	112.0	105.0	102.0	99.4	96.0	92.6	89.2	87.0	83.5	80.1	76.6*
	CMP	21.0	23.3	24.4	25.0	26.0	26.9	27.8	28.3	29.1	29.8	30.4*
	SDT	37.2	42.7	45.5	47.4	50.2	52.9	55.7	57.5	60.3	63.0	65.8*
10	TCG	119.0	112.0	108.0	106.0	103.0	99.1	95.5	93.1	89.6	86.0	82.4*
	CMP	21.4	23.9	25.0	25.7	26.8	27.8	28.7	29.3	30.1	30.9	31.6*
	SDT	38.0	43.5	46.3	48.1	50.9	53.6	56.4	58.2	61.0	63.7	66.4*

38AH084 CIRCUIT A												
SST (C)		Air Temperature Entering Condenser (C)										
		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	102.0	95.0	91.7	89.4	86.1	82.8	79.5	77.4	74.2	71.0	67.8*
	CMP	27.2	29.1	29.9	30.4	31.2	31.8	32.5	32.9	33.4	33.9	34.4*
	SDT	36.7	42.7	45.7	47.7	50.7	53.6	56.7	58.7	61.7	64.7	67.7*
0	TCG	110.0	103.0	99.2	96.8	93.3	89.8	86.3	84.0	80.6	77.2	73.8*
	CMP	28.0	30.0	30.9	31.5	32.3	33.1	33.8	34.2	34.9	35.5	36.0*
	SDT	36.8	42.8	45.8	47.8	50.8	53.7	56.7	58.7	61.7	64.7	67.7*
2	TCG	119.0	111.0	107.0	105.0	101.0	97.4	93.7	91.3	87.6	84.0	80.4*
	CMP	28.7	30.9	31.9	32.6	33.5	34.3	35.1	35.6	36.3	37.0	37.6*
	SDT	37.1	43.0	46.0	48.0	50.9	53.9	56.9	58.9	61.9	64.8	67.8*
4	TCG	128.0	120.0	116.0	113.0	109.0	105.0	101.0	98.7	94.8	91.0	87.2*
	CMP	29.4	31.8	32.9	33.6	34.6	35.6	36.5	37.0	37.8	38.6	39.2*
	SDT	37.5	43.3	46.2	48.2	51.2	54.1	57.1	59.1	62.0	65.0	67.9*
6	TCG	137.0	129.0	125.0	122.0	118.0	113.0	109.0	107.0	102.0	98.3	94.3*
	CMP	30.2	32.7	33.9	34.7	35.8	36.8	37.8	38.4	39.3	40.1	40.9*
	SDT	38.0	43.8	46.7	48.6	51.5	54.5	57.4	59.4	62.3	65.2	68.2*
8	TCG	147.0	138.0	134.0	131.0	126.0	122.0	118.0	115.0	110.0	106.0	102.0*
	CMP	31.0	33.7	35.0	35.8	37.0	38.1	39.1	39.8	40.8	41.7	42.5*
	SDT	38.7	44.4	47.3	49.2	52.0	54.9	57.8	59.8	62.7	65.6	68.5*
10	TCG	157.0	147.0	143.0	140.0	135.0	130.0	126.0	123.0	118.0	114.0*	109.0*
	CMP	31.8	34.7	36.0	36.9	38.2	39.4	40.5	41.2	42.3	43.3*	44.2*
	SDT	39.5	45.1	47.9	49.8	52.6	55.5	58.3	60.3	63.1	66.0*	68.9*

LEGEND

- CMP** — Compressor Power, kW
- SDT** — Saturated Discharge Temperature (leaving compressor) (C)
- SST** — Saturated Suction Temperature (entering condensing unit)
- TCG** — Total Cooling Capacity, Gross (kW)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 8.3 C superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.

Performance data — 38AH044-134 (cont)



CONDENSING UNIT CIRCUIT AND MODULE RATINGS — SI (cont)

38AH074 CIRCUIT B												
SST (C)		Air Temperature Entering Condenser (C)										
		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	103.0	96.0	92.7	90.5	87.3	84.1	80.9	78.8	75.7	72.6	69.4
	CMP	26.4	28.3	29.1	29.6	30.4	31.1	31.8	32.2	32.8	33.3	33.8
	SDT	34.2	39.9	42.8	44.7	47.6	50.5	53.4	55.3	58.2	61.2	64.1
0	TCG	110.0	103.0	99.8	97.5	94.1	90.7	87.4	85.2	81.9	78.6	75.3
	CMP	27.2	29.3	30.2	30.8	31.6	32.4	33.1	33.5	34.2	34.8	35.4
	SDT	34.8	40.5	43.3	45.2	48.0	50.9	53.7	55.7	58.5	61.4	64.3
2	TCG	118.0	111.0	107.0	105.0	101.0	97.8	94.2	91.9	88.4	85.0	81.5
	CMP	28.1	30.3	31.3	31.9	32.8	33.7	34.5	35.0	35.7	36.4	37.0
	SDT	35.6	41.2	44.0	45.9	48.7	51.5	54.3	56.2	59.1	61.9	64.8
4	TCG	127.0	119.0	115.0	113.0	109.0	105.0	101.0	98.8	95.1	91.5	87.8
	CMP	28.9	31.3	32.4	33.1	34.0	35.0	35.8	36.4	37.2	37.9	38.6
	SDT	36.3	41.9	44.7	46.6	49.4	52.2	55.0	56.9	59.7	62.5	65.3
6	TCG	135.0	127.0	123.0	120.0	116.0	112.0	109.0	106.0	102.0	98.2	94.4
	CMP	29.8	32.3	33.5	34.2	35.3	36.3	37.2	37.8	38.7	39.5	40.3
	SDT	37.1	42.7	45.5	47.4	50.2	52.9	55.7	57.6	60.4	63.1	65.9
8	TCG	145.0	136.0	132.0	129.0	125.0	120.0	116.0	113.0	109.0	105.0	101.0*
	CMP	30.6	33.3	34.6	35.4	36.6	37.6	38.7	39.3	40.3	41.2	42.0*
	SDT	38.0	43.6	46.3	48.2	51.0	53.7	56.5	58.3	61.1	63.9	66.6*
10	TCG	154.0	145.0	140.0	137.0	133.0	128.0	124.0	121.0	117.0	112.0	108.0*
	CMP	31.4	34.4	35.7	36.6	37.8	39.0	40.1	40.8	41.8	42.8	43.7*
	SDT	38.9	44.4	47.2	49.0	51.8	54.5	57.3	59.1	61.9	64.6	67.4*

38AH084 CIRCUIT B												
SST (C)		Air Temperature Entering Condenser (C)										
		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	102.0	95.6	92.2	89.9	86.6	83.3	80.1	77.9	74.7	71.5	68.4*
	CMP	26.9	28.8	29.6	30.2	30.9	31.6	32.3	32.6	33.2	33.8	34.2*
	SDT	35.7	41.6	44.6	46.6	49.6	52.6	55.6	57.6	60.6	63.6	66.6*
0	TCG	111.0	103.0	99.7	97.4	93.8	90.3	86.9	84.6	81.1	77.7	74.4*
	CMP	27.6	29.7	30.6	31.2	32.1	32.8	33.5	34.0	34.7	35.3	35.8*
	SDT	35.8	41.8	44.7	46.7	49.7	52.7	55.6	57.6	60.6	63.6	66.6*
2	TCG	119.0	112.0	108.0	105.0	102.0	97.9	94.2	91.8	88.1	84.5	80.8*
	CMP	28.3	30.6	31.6	32.3	33.2	34.0	34.8	35.3	36.1	36.8	37.4*
	SDT	36.2	42.1	45.0	47.0	49.9	52.9	55.8	57.8	60.8	63.7	66.7*
4	TCG	128.0	120.0	116.0	113.0	110.0	106.0	102.0	99.2	95.3	91.5	87.7*
	CMP	29.1	31.5	32.6	33.3	34.3	35.3	36.2	36.7	37.5	38.3	39.0*
	SDT	36.7	42.5	45.4	47.3	50.2	53.1	56.1	58.1	61.0	63.9	66.9*
6	TCG	137.0	129.0	125.0	122.0	118.0	114.0	110.0	107.0	103.0	98.7	94.7*
	CMP	29.8	32.4	33.6	34.4	35.5	36.5	37.5	38.1	39.0	39.8	40.6*
	SDT	37.3	43.0	45.9	47.8	50.7	53.6	56.5	58.4	61.4	64.3	67.2*
8	TCG	147.0	138.0	134.0	131.0	126.0	122.0	118.0	115.0	111.0	106.0	102.0*
	CMP	30.6	33.4	34.7	35.5	36.7	37.8	38.9	39.5	40.5	41.4	42.3*
	SDT	38.1	43.7	46.5	48.4	51.3	54.1	57.0	58.9	61.8	64.7	67.6*
10	TCG	157.0	147.0	143.0	140.0	135.0	131.0	126.0	123.0	118.0	114.0	110.0*
	CMP	31.4	34.4	35.7	36.6	37.9	39.1	40.2	40.9	42.0	43.0	43.9*
	SDT	38.9	44.5	47.3	49.1	51.9	54.8	57.6	59.5	62.3	65.2	68.1*

LEGEND

- CMP — Compressor Power, kW
- SDT — Saturated Discharge Temperature (leaving compressor) (C)
- SST — Saturated Suction Temperature (entering condensing unit)
- TCG — Total Cooling Capacity, Gross (kW)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 8.3 C superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.



CONDENSING UNIT CIRCUIT AND MODULE RATINGS — SI (cont)

38AH094 CIRCUIT A												
SST (C)		Air Temperature Entering Condenser (C)										
		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	130.0	120.0	116.0	112.0	108.0	103.0	97.6	94.2	89.1	84.0	78.8
	CMP	31.8	34.2	35.3	36.0	37.0	37.8	38.5	38.9	39.4	39.8	40.0
	SDT	35.5	41.2	44.0	45.9	48.8	51.6	54.5	56.5	59.4	62.3	65.3
	SCT	33.6	39.7	42.8	44.8	47.8	50.8	53.9	55.9	58.9	61.9	64.9
0	TCG	140.0	130.0	125.0	122.0	117.0	112.0	107.0	103.0	97.9	92.6	87.3
	CMP	32.7	35.3	36.6	37.3	38.4	39.4	40.2	40.7	41.4	41.9	42.3
	SDT	36.2	41.8	44.5	46.4	49.2	52.0	54.9	56.8	59.6	62.5	65.4
	SCT	34.0	40.1	43.1	45.1	48.1	51.1	54.1	56.0	59.0	62.0	64.9
2	TCG	150.0	140.0	135.0	131.0	126.0	121.0	116.0	112.0	107.0	101.0	96.0
	CMP	33.7	36.5	37.9	38.7	39.9	40.9	41.9	42.5	43.3	43.9	44.5
	SDT	37.1	42.6	45.3	47.2	49.9	52.7	55.5	57.4	60.2	63.0	65.8
	SCT	34.6	40.6	43.7	45.7	48.6	51.6	54.5	56.5	59.4	62.3	65.3
4	TCG	161.0	150.0	145.0	141.0	136.0	131.0	125.0	122.0	116.0	110.0	105.0
	CMP	34.7	37.7	39.2	40.1	41.4	42.5	43.6	44.3	45.2	46.0	46.7
	SDT	38.0	43.5	46.2	48.0	50.7	53.4	56.2	58.0	60.8	63.5	66.3
	SCT	35.2	41.2	44.3	46.3	49.2	52.1	55.0	57.0	59.9	62.7	65.6
6	TCG	172.0	161.0	155.0	152.0	146.0	140.0	135.0	131.0	125.0	120.0	114.0
	CMP	35.7	38.9	40.5	41.5	42.9	44.2	45.4	46.1	47.1	48.1	48.9
	SDT	39.0	44.4	47.1	48.9	51.6	54.3	57.0	58.8	61.5	64.2	66.9
	SCT	35.8	41.9	44.9	46.9	49.9	52.8	55.7	57.6	60.5	63.3	66.2
8	TCG	183.0	172.0	166.0	162.0	156.0	151.0	145.0	141.0	135.0	129.0	123.0
	CMP	36.7	40.1	41.8	42.9	44.4	45.8	47.1	47.9	49.1	50.1	51.1
	SDT	40.1	45.4	48.0	49.8	52.5	55.2	57.9	59.6	62.3	65.0	67.7
	SCT	36.5	42.6	45.6	47.6	50.6	53.5	56.4	58.3	61.1	64.0	66.8
10	TCG	195.0	183.0	177.0	173.0	167.0	161.0	155.0	151.0	145.0	139.0	132.0
	CMP	37.7	41.3	43.1	44.3	45.9	47.4	48.9	49.8	51.0	52.2	53.3
	SDT	41.1	46.4	49.1	50.8	53.5	56.2	58.8	60.5	63.2	65.9	68.5*
	SCT	37.2	43.3	46.4	48.4	51.3	54.2	57.1	59.0	61.8	64.7	67.5

38AH104 CIRCUIT A												
SST (C)		Air Temperature Entering Condenser (C)										
		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	124.0	115.0	110.0	107.0	102.0	97.3	92.6	89.4	84.7	80.0	75.3
	CMP	28.9	31.2	32.4	33.1	34.0	34.9	35.7	36.2	36.8	37.3	37.7
	SDT	34.4	40.0	42.8	44.7	47.5	50.4	53.3	55.2	58.1	61.1	64.0
	SCT	32.6	38.6	41.7	43.7	46.7	49.7	52.7	54.6	57.7	60.7	63.7
0	TCG	134.0	124.0	119.0	116.0	111.0	106.0	101.0	97.8	92.8	88.0	83.1
	CMP	29.8	32.3	33.5	34.3	35.3	36.3	37.2	37.8	38.5	39.2	39.7
	SDT	35.1	40.6	43.4	45.2	48.0	50.8	53.6	55.5	58.4	61.3	64.1
	SCT	33.1	39.1	42.1	44.0	47.0	49.9	52.9	54.9	57.8	60.8	63.7
2	TCG	144.0	134.0	128.0	125.0	120.0	115.0	110.0	106.0	101.0	96.3	91.2
	CMP	30.7	33.4	34.7	35.5	36.7	37.7	38.8	39.4	40.2	41.0	41.7
	SDT	36.0	41.4	44.1	46.0	48.7	51.5	54.3	56.1	58.9	61.7	64.6
	SCT	33.6	39.6	42.6	44.6	47.5	50.4	53.3	55.3	58.2	61.1	64.0
4	TCG	154.0	144.0	138.0	135.0	129.0	124.0	119.0	115.0	110.0	105.0	99.4
	CMP	31.5	34.4	35.9	36.7	38.0	39.2	40.3	41.0	42.0	42.8	43.6
	SDT	36.9	42.3	44.9	46.7	49.5	52.2	54.9	56.7	59.5	62.3	65.1
	SCT	34.2	40.2	43.2	45.1	48.1	51.0	53.9	55.8	58.7	61.5	64.4
6	TCG	165.0	154.0	148.0	145.0	139.0	134.0	128.0	124.0	119.0	113.0	108.0
	CMP	32.4	35.5	37.1	38.0	39.4	40.7	41.9	42.6	43.7	44.7	45.6
	SDT	37.9	43.2	45.8	47.6	50.3	53.0	55.7	57.5	60.2	63.0	65.7
	SCT	34.8	40.8	43.8	45.8	48.7	51.6	54.5	56.4	59.2	62.1	64.9
8	TCG	176.0	165.0	159.0	155.0	149.0	143.0	138.0	134.0	128.0	122.0	117.0
	CMP	33.3	36.6	38.3	39.3	40.7	42.1	43.4	44.3	45.5	46.5	47.5
	SDT	38.9	44.1	46.8	48.6	51.2	53.9	56.6	58.4	61.0	63.7	66.4
	SCT	35.5	41.5	44.5	46.5	49.4	52.3	55.1	57.1	59.9	62.7	65.5
10	TCG	188.0	176.0	170.0	166.0	160.0	154.0	147.0	143.0	137.0	132.0	126.0
	CMP	34.3	37.7	39.5	40.6	42.1	43.6	45.0	45.9	47.2	48.4	49.5
	SDT	39.9	45.2	47.8	49.5	52.2	54.8	57.4	59.2	61.9	64.5	67.2
	SCT	36.2	42.2	45.2	47.2	50.1	53.0	55.8	57.8	60.6	63.4	66.2

LEGEND

- CMP** — Compressor Power, kW
- SCT** — Saturated Condensing Temperature (C)
- SDT** — Saturated Discharge Temperature (leaving compressor) (C)
- SST** — Saturated Suction Temperature (entering condensing unit)
- TCG** — Total Cooling Capacity, Gross (kW)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 8.3 C superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.

Performance data — 38AH044-134 (cont)



CONDENSING UNIT CIRCUIT AND MODULE RATINGS — SI (cont)

38AH094 CIRCUIT B												
SST (C)		Air Temperature Entering Condenser (C)										
		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	103.0	96.5	93.1	90.9	87.6	84.3	81.1	78.9	75.7	72.5	69.4
	CMP	26.3	28.1	29.0	29.6	30.4	31.1	31.8	32.2	32.8	33.4	33.9
	SDT	33.8	39.6	42.5	44.5	47.4	50.4	53.4	55.4	58.3	61.3	64.3
	SCT	32.3	38.5	41.5	43.6	46.7	49.7	52.8	54.8	57.9	60.9	63.9
0	TCG	111.0	104.0	101.0	98.2	94.7	91.3	87.8	85.5	82.1	78.8	75.4
	CMP	27.0	29.0	30.0	30.6	31.5	32.3	33.1	33.5	34.2	34.8	35.4
	SDT	34.2	39.9	42.8	44.8	47.7	50.6	53.5	55.5	58.4	61.4	64.4
	SCT	32.4	38.6	41.7	43.7	46.8	49.8	52.8	54.8	57.9	60.9	63.9
2	TCG	119.0	112.0	108.0	106.0	102.0	98.6	95.0	92.6	89.0	85.4	81.9
	CMP	27.8	30.0	31.0	31.7	32.6	33.5	34.3	34.9	35.6	36.3	37.0
	SDT	34.9	40.5	43.4	45.3	48.2	51.0	53.9	55.9	58.8	61.7	64.6
	SCT	32.8	39.0	42.0	44.0	47.1	50.1	53.1	55.1	58.1	61.1	64.1
4	TCG	128.0	120.0	116.0	114.0	110.0	106.0	102.0	99.7	95.9	92.2	88.4
	CMP	28.6	30.9	32.1	32.8	33.8	34.7	35.7	36.2	37.1	37.8	38.5
	SDT	35.6	41.2	44.0	45.9	48.7	51.5	54.4	56.3	59.2	62.1	65.0
	SCT	33.3	39.4	42.4	44.4	47.4	50.4	53.4	55.4	58.4	61.3	64.3
6	TCG	137.0	129.0	124.0	122.0	118.0	114.0	110.0	107.0	103.0	99.2	95.3
	CMP	29.4	31.9	33.1	33.9	35.0	36.0	37.0	37.6	38.5	39.4	40.2
	SDT	36.4	41.9	44.7	46.5	49.3	52.1	55.0	56.9	59.7	62.5	65.4
	SCT	33.8	39.9	42.9	44.9	47.9	50.9	53.8	55.8	58.8	61.7	64.7
8	TCG	146.0	137.0	133.0	130.0	126.0	122.0	118.0	115.0	111.0	106.0	102.0
	CMP	30.2	32.9	34.2	35.0	36.2	37.3	38.4	39.1	40.0	40.9	41.8
	SDT	37.3	42.7	45.5	47.3	50.1	52.9	55.7	57.5	60.3	63.1	66.0
	SCT	34.3	40.4	43.5	45.5	48.4	51.4	54.4	56.3	59.3	62.2	65.1
10	TCG	155.0	146.0	142.0	139.0	134.0	130.0	126.0	123.0	118.0	114.0	110.0
	CMP	31.0	33.9	35.3	36.2	37.4	38.6	39.8	40.5	41.5	42.5	43.5
	SDT	38.2	43.6	46.3	48.2	50.9	53.7	56.4	58.3	61.0	63.8	66.6
	SCT	34.9	41.0	44.1	46.1	49.0	52.0	54.9	56.9	59.8	62.7	65.6

38AH104 CIRCUIT B												
SST (C)		Air Temperature Entering Condenser (C)										
		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	141.0	130.0	125.0	122.0	117.0	112.0	107.0	103.0	98.4	93.6	88.9
	CMP	33.9	36.5	37.7	38.5	39.6	40.6	41.5	42.1	42.9	43.7	44.4
	SDT	35.7	41.2	43.9	45.8	48.6	51.4	54.3	56.2	59.1	61.9	64.9
	SCT	33.5	39.5	42.6	44.5	47.5	50.5	53.5	55.5	58.5	61.4	64.4
0	TCG	151.0	140.0	135.0	131.0	126.0	121.0	116.0	112.0	107.0	102.0	97.0
	CMP	35.1	37.8	39.1	40.0	41.2	42.3	43.3	44.0	44.9	45.7	46.5
	SDT	36.5	41.9	44.7	46.5	49.2	52.0	54.8	56.7	59.5	62.3	65.2
	SCT	34.0	40.0	43.1	45.0	48.0	50.9	53.9	55.8	58.8	61.7	64.6
2	TCG	163.0	151.0	145.0	142.0	136.0	131.0	125.0	122.0	116.0	111.0	106.0
	CMP	36.2	39.2	40.6	41.5	42.8	44.0	45.2	45.9	46.9	47.8	48.7
	SDT	37.5	42.9	45.5	47.3	50.0	52.8	55.5	57.4	60.1	62.9	65.7
	SCT	34.7	40.7	43.7	45.7	48.6	51.5	54.4	56.4	59.3	62.2	65.1
4	TCG	174.0	162.0	156.0	152.0	146.0	141.0	135.0	131.0	125.0	120.0	114.0
	CMP	37.4	40.6	42.1	43.1	44.5	45.8	47.0	47.8	48.9	50.0	50.9
	SDT	38.5	43.8	46.4	48.2	50.9	53.6	56.3	58.1	60.8	63.6	66.3
	SCT	35.3	41.4	44.4	46.3	49.3	52.2	55.1	57.0	59.8	62.7	65.6
6	TCG	186.0	174.0	168.0	163.0	157.0	151.0	145.0	141.0	135.0	129.0	123.0
	CMP	38.6	42.0	43.6	44.7	46.2	47.6	48.9	49.8	51.0	52.1	53.2
	SDT	39.6	44.8	47.4	49.2	51.8	54.5	57.2	59.0	61.7	64.4	67.1
	SCT	36.0	42.1	45.1	47.1	50.0	52.9	55.7	57.7	60.5	63.4	66.2
8	TCG	199.0	186.0	179.0	175.0	168.0	162.0	156.0	151.0	145.0	139.0	133.0
	CMP	39.8	43.4	45.2	46.3	47.9	49.4	50.9	51.8	53.1	54.3	55.5
	SDT	40.7	45.9	48.5	50.2	52.8	55.5	58.1	59.9	62.6	65.2	67.9
	SCT	36.7	42.8	45.8	47.8	50.7	53.6	56.5	58.4	61.2	64.1	66.9
10	TCG	212.0	198.0	191.0	187.0	180.0	173.0	166.0	162.0	155.0	149.0	142.0
	CMP	41.1	44.9	46.8	47.9	49.6	51.3	52.8	53.8	55.2	56.6	57.9
	SDT	41.9	47.0	49.5	51.3	53.9	56.5	59.1	60.8	63.5	66.1	68.7*
	SCT	37.5	43.6	46.6	48.6	51.5	54.4	57.3	59.2	62.0	64.8	67.6

LEGEND

- CMP — Compressor Power, kW
- SCT — Saturated Condensing Temperature (C)
- SDT — Saturated Discharge Temperature (leaving compressor) (C)
- SST — Saturated Suction Temperature (entering condensing unit)
- TCG — Total Cooling Capacity, Gross (kW)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 8.3 C superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.



CONDENSING UNIT CIRCUIT AND MODULE RATINGS — SI (cont)

38AH124 MODULE 124A OR 124B; 38AH134 MODULE 134A												
SST (C)		Air Temperature Entering Condenser (C)										
		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	149.0	138.0	132.0	129.0	123.0	118.0	112.0	109.0	103.0	97.8	92.5
	CMP	35.7	38.6	40.0	40.8	42.0	43.1	44.0	44.5	45.4	46.0	46.6
	SDT	34.7	40.5	43.4	45.4	48.3	51.3	54.2	56.2	59.1	62.1	65.1
	SCT	33.9	39.9	42.9	44.9	47.9	50.9	53.8	55.9	58.9	61.9	64.8
0	TCG	161.0	149.0	143.0	140.0	134.0	128.0	122.0	119.0	113.0	107.0	102.0
	CMP	36.7	39.8	41.3	42.2	43.6	44.7	45.8	46.4	47.4	48.2	48.9
	SDT	35.2	40.9	43.8	45.8	48.7	51.6	54.4	56.4	59.4	62.3	65.2
	SCT	34.3	40.2	43.2	45.2	48.1	51.1	54.0	56.0	59.0	62.0	65.0
2	TCG	173.0	161.0	155.0	151.0	145.0	139.0	133.0	129.0	123.0	117.0	111.0
	CMP	37.6	41.0	42.6	43.7	45.1	46.4	47.6	48.4	49.5	50.4	51.2
	SDT	35.8	41.5	44.4	46.3	49.2	52.0	54.9	56.8	59.7	62.7	65.6
	SCT	34.7	40.7	43.6	45.6	48.5	51.5	54.4	56.4	59.3	62.3	65.2
4	TCG	186.0	174.0	167.0	163.0	157.0	150.0	144.0	140.0	134.0	127.0	121.0
	CMP	38.5	42.1	44.0	45.1	46.6	48.1	49.5	50.3	51.5	52.6	53.5
	SDT	36.5	42.1	45.0	46.9	49.7	52.6	55.4	57.3	60.2	63.1	65.9
	SCT	35.3	41.2	44.1	46.1	49.0	51.9	54.8	56.8	59.7	62.6	65.5
6	TCG	200.0	186.0	180.0	175.0	169.0	162.0	155.0	151.0	145.0	138.0	132.0
	CMP	39.4	43.3	45.3	46.5	48.2	49.8	51.3	52.2	53.6	54.8	55.9
	SDT	37.2	42.9	45.7	47.6	50.4	53.2	56.0	57.9	60.7	63.6	66.4
	SCT	35.9	41.8	44.7	46.6	49.5	52.5	55.4	57.3	60.2	63.1	66.0
8	TCG	214.0	200.0	193.0	188.0	181.0	174.0	167.0	163.0	156.0	149.0	142.0
	CMP	40.3	44.6	46.6	47.9	49.8	51.5	53.1	54.1	55.6	57.0	58.2
	SDT	38.1	43.7	46.5	48.3	51.1	53.9	56.7	58.6	61.4	64.2	67.0
	SCT	36.6	42.4	45.3	47.3	50.2	53.1	55.9	57.9	60.7	63.6	66.5
10	TCG	228.0	213.0	206.0	201.0	194.0	187.0	179.0	175.0	167.0	160.0	153.0
	CMP	41.3	45.8	48.0	49.4	51.3	53.2	55.0	56.1	57.7	59.2	60.6
	SDT	39.0	44.5	47.3	49.1	51.9	54.7	57.4	59.3	62.1	64.8	67.6*
	SCT	37.3	43.1	46.0	48.0	50.8	53.7	56.6	58.5	61.3	64.2	67.0

38AH134 MODULE 134B												
SST (C)		Air Temperature Entering Condenser (C)										
		21	27	30	32	35	38	41	43	46	49	52
-2	TCG	181.0	169.0	163.0	159.0	153.0	147.0	141.0	137.0	131.0	125.0	119.0
	CMP	45.2	48.6	50.1	51.1	52.5	53.8	54.9	55.6	56.6	57.4	58.2
	SDT	34.0	39.8	42.7	44.6	47.5	50.4	53.4	55.4	58.3	61.3	64.3
	SCT	31.9	37.7	40.7	42.6	45.5	48.5	51.4	53.4	56.3	59.3	62.2
0	TCG	195.0	182.0	176.0	172.0	166.0	159.0	153.0	149.0	143.0	136.0	130.0
	CMP	46.5	50.2	51.8	52.9	54.4	55.8	57.1	57.9	59.1	60.1	61.0
	SDT	34.5	40.2	43.1	45.0	47.8	50.7	53.6	55.5	58.4	61.4	64.3
	SCT	32.4	38.2	41.2	43.1	46.0	48.9	51.7	53.6	56.5	59.4	62.4
2	TCG	210.0	196.0	190.0	185.0	179.0	172.0	166.0	161.0	155.0	148.0	142.0
	CMP	47.8	51.8	53.6	54.8	56.4	58.0	59.4	60.3	61.6	62.7	63.7
	SDT	35.2	40.9	43.7	45.6	48.4	51.3	54.1	56.0	58.9	61.8	64.6
	SCT	33.0	38.8	41.7	43.7	46.5	49.4	52.3	54.2	57.0	59.9	62.7
4	TCG	224.0	211.0	204.0	199.0	192.0	185.0	179.0	174.0	167.0	160.0	153.0
	CMP	49.0	53.4	55.4	56.6	58.5	60.1	61.7	62.7	64.1	65.4	66.6
	SDT	36.0	41.6	44.4	46.3	49.1	51.9	54.7	56.5	59.3	62.2	65.0
	SCT	33.6	39.5	42.3	44.3	47.1	50.0	52.8	54.7	57.5	60.3	63.1
6	TCG	240.0	226.0	218.0	213.0	206.0	199.0	192.0	187.0	180.0	173.0	165.0
	CMP	50.3	55.0	57.1	58.5	60.5	62.3	64.1	65.1	66.7	68.1	69.4
	SDT	36.7	42.3	45.1	47.0	49.8	52.6	55.3	57.2	60.0	62.8	65.5
	SCT	34.3	40.1	43.0	44.9	47.7	50.6	53.4	55.3	58.1	60.9	63.7
8	TCG	256.0	241.0	233.0	228.0	221.0	213.0	206.0	201.0	193.0	186.0	178.0
	CMP	51.5	56.6	58.9	60.4	62.5	64.5	66.4	67.6	69.3	70.9	72.4
	SDT	37.6	43.1	45.9	47.8	50.5	53.3	56.1	57.9	60.7	63.4	66.2
	SCT	34.9	40.7	43.6	45.5	48.4	51.2	54.0	55.9	58.7	61.5	64.2
10	TCG	273.0	257.0	249.0	244.0	236.0	228.0	220.0	215.0	207.0	199.0	191.0
	CMP	52.8	58.2	60.7	62.2	64.6	66.7	68.8	70.0	71.9	73.7	75.3
	SDT	38.4	44.0	46.7	48.6	51.3	54.1	56.8	58.7	61.4	64.2	66.9
	SCT	35.6	41.4	44.3	46.2	49.0	51.8	54.7	56.5	59.3	62.1	64.8

LEGEND

- CMP** — Compressor Power, kW
- SCT** — Saturated Condensing Temperature (C)
- SDT** — Saturated Discharge Temperature (leaving compressor) (C)
- SST** — Saturated Suction Temperature (entering condensing unit)
- TCG** — Total Cooling Capacity, Gross (kW)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 8.3 C superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.

Performance data — 38AH044-134 (cont)



CONDENSING UNIT RATINGS — ENGLISH

38AH044		Air Temperature Entering Condenser (F)										
SST (F)		70	80	85	90	95	100	105	110	115	120	125
20	TCG	293.0	268.0	255.0	242.0	230.0	216.0	202.0	189.3	175.9	162.6	149.1
	CMP	22.9	24.4	25.1	25.8	26.2	26.6	26.9	27.0	27.1	27.0	26.7
	SDT	91.0	102.0	106.0	111.0	116.0	121.0	125.5	131.0	135.5	140.5	145.5
25	TCG	332.0	305.0	292.0	279.0	265.0	251.0	238.0	224.0	210.0	195.1	180.8
	CMP	23.7	25.5	26.3	27.1	27.8	28.4	28.8	29.1	29.4	29.6	29.5
	SDT	91.6	101.5	106.5	111.5	116.0	121.0	126.0	131.0	136.0	141.0	146.0
30	TCG	373.0	345.0	331.0	317.0	303.0	289.0	274.0	259.0	244.0	230.0	214.0
	CMP	24.4	26.5	27.5	28.4	29.2	30.0	30.6	31.1	31.6	31.9	32.1
	SDT	92.4	102.0	107.0	112.0	116.5	121.5	126.5	131.5	136.5	141.0	146.0
35	TCG	416.0	387.0	372.0	357.0	342.0	328.0	312.0	297.0	281.0	265.0	250.0
	CMP	25.1	27.5	28.6	29.6	30.6	31.4	32.3	33.0	33.6	34.1	34.5
	SDT	93.6	103.5	108.0	113.0	118.0	122.5	127.0	132.5	136.5	141.5	146.5
40	TCG	462.0	431.0	415.0	400.0	384.0	368.0	351.0	336.0	320.0	303.0	287.0
	CMP	25.8	28.4	29.7	30.9	31.9	33.0	34.0	34.8	35.6	36.3	36.9
	SDT	94.9	104.5	109.5	113.5	118.5	123.5	128.0	133.0	138.0	142.5	147.5
45	TCG	509.0	477.0	460.0	444.0	427.0	411.0	394.0	376.0	359.0	343.0	325.0
	CMP	26.4	29.3	30.6	32.0	33.2	34.4	35.5	36.5	37.5	38.4	39.2
	SDT	96.4	106.0	111.0	115.0	120.0	124.5	129.5	134.5	139.0	144.0	148.5
50	TCG	560.0	525.0	508.0	491.0	473.0	455.0	438.0	419.0	401.0	384.0	366.0
	CMP	27.0	30.2	31.7	33.1	34.5	35.8	37.1	38.2	39.3	40.4	41.3
	SDT	98.0	107.5	112.5	117.0	121.5	126.0	131.0	135.5	140.5	145.5	149.5

38AH054		Air Temperature Entering Condenser (F)										
SST (F)		70	80	85	90	95	100	105	110	115	120	125
20	TCG	341.0	313.0	299.0	286.0	272.0	259.0	245.0	231.2	217.6	204.9	191.2*
	CMP	27.8	29.5	30.2	30.9	31.5	32.0	32.4	32.6	32.9	33.0	33.0*
	SDT	95.5	105.5	110.5	115.5	120.5	125.5	130.5	135.5	140.5	145.5	150.5*
25	TCG	387.0	357.0	342.0	327.0	312.0	297.0	282.0	268.0	253.0	239.2	225.1*
	CMP	28.9	30.9	31.8	32.6	33.4	34.1	34.7	35.1	35.6	35.9	36.0*
	SDT	96.0	105.5	110.5	115.5	120.5	125.5	130.5	135.5	140.5	145.5	150.5*
30	TCG	435.0	403.0	386.0	371.0	355.0	340.0	323.0	308.0	292.0	277.0	261.0*
	CMP	29.9	32.3	33.3	34.3	35.3	36.1	36.8	37.4	38.0	38.5	38.9*
	SDT	96.7	106.5	111.0	116.0	121.0	126.0	131.0	136.0	141.0	145.5	150.5*
35	TCG	485.0	451.0	434.0	417.0	401.0	384.0	367.0	350.0	333.0	316.0	300.0*
	CMP	30.9	33.5	34.8	35.9	37.0	38.0	38.9	39.7	40.5	41.1	41.7*
	SDT	97.7	107.0	112.0	117.0	121.5	126.5	131.5	136.5	141.0	146.0	151.0*
40	TCG	538.0	503.0	485.0	467.0	449.0	431.0	412.0	395.0	377.0	359.0	341.0*
	CMP	31.9	34.8	36.1	37.5	38.7	39.9	41.0	41.9	42.9	43.7	44.5*
	SDT	99.2	108.5	113.0	118.0	123.0	128.0	132.5	137.0	142.0	146.5	151.5*
45	TCG	593.0	555.0	537.0	518.0	499.0	480.0	461.0	442.0	423.0	403.0	385.0*
	CMP	32.9	36.1	37.6	39.1	40.4	41.8	43.0	44.1	45.2	46.3	47.1*
	SDT	100.9	110.0	114.5	119.5	124.0	128.5	133.5	138.5	143.0	148.0	153.0*
50	TCG	652.0	611.0	592.0	571.0	551.0	532.0	511.0	491.0	471.0	450.0*	431.0*
	CMP	34.0	37.4	39.1	40.6	42.2	43.7	45.0	46.3	47.5	48.8*	49.8*
	SDT	102.7	112.0	116.5	121.0	126.0	130.0	135.0	139.5	144.5	149.0*	153.5*

38AH064		Air Temperature Entering Condenser (F)										
SST (F)		70	80	85	90	95	100	105	110	115	120	125
20	TCG	415.0	383.0	368.0	352.0	337.0	321.0	306.0	290.0	275.0	261.0	246.0
	CMP	33.6	35.7	36.7	37.5	38.3	39.0	39.6	40.1	40.5	40.8	41.0
	SDT	93.4	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
25	TCG	468.0	434.0	417.0	401.0	384.0	367.0	350.0	335.0	318.0	302.0	285.0
	CMP	34.9	37.4	38.6	39.6	40.6	41.4	42.2	42.8	43.4	43.9	44.3
	SDT	94.0	104.0	109.0	113.5	118.5	123.5	128.5	133.5	138.0	143.0	148.0
30	TCG	523.0	487.0	469.0	451.0	434.0	416.0	399.0	380.0	363.0	346.0	328.0
	CMP	36.2	39.0	40.3	41.5	42.7	43.7	44.7	45.5	46.3	47.0	47.5
	SDT	95.0	104.5	109.5	114.5	119.0	124.0	129.0	134.0	139.0	144.0	149.0
35	TCG	582.0	544.0	525.0	505.0	487.0	467.0	448.0	429.0	410.0	393.0	374.0
	CMP	37.4	40.6	42.1	43.5	44.8	46.0	47.2	48.2	49.2	50.0	50.7
	SDT	96.3	105.5	110.5	115.5	120.5	125.0	130.0	134.5	139.5	144.5	149.5
40	TCG	644.0	603.0	582.0	562.0	542.0	521.0	501.0	481.0	461.0	442.0	421.0*
	CMP	38.7	42.2	43.9	45.5	47.0	48.3	49.6	50.8	52.0	53.0	54.0*
	SDT	98.0	107.5	112.5	116.5	121.5	126.5	131.5	136.0	140.5	145.5	150.5*
45	TCG	708.0	664.0	642.0	620.0	600.0	578.0	556.0	535.0	514.0	493.0	471.0*
	CMP	40.0	43.9	45.7	47.4	49.1	50.7	52.2	53.5	54.9	56.1	57.1*
	SDT	100.0	109.0	114.0	118.5	123.5	128.0	132.5	137.5	142.5	146.6	151.5*
50	TCG	776.0	729.0	706.0	682.0	660.0	636.0	614.0	591.0	569.0	546.0	523.0*
	CMP	41.2	45.5	47.5	49.4	51.3	53.0	54.7	56.2	57.7	59.1	60.3*
	SDT	102.0	111.0	116.0	120.5	125.0	130.0	134.5	139.5	143.5	148.5	153.5*

LEGEND

- CMP — Compressor Power, kW
- SDT — Saturated Discharge Temperature (leaving compressor) (F)
- SST — Saturated Suction Temperature (entering condensing unit)
- TCG — Total Cooling Capacity, Gross (1000 Btuh)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 15 F superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.



CONDENSING UNIT RATINGS ENGLISH (cont)

38AH074												
SST (F)		Air Temperature Entering Condenser (F)										
		70	80	85	90	95	100	105	110	115	120	125
20	TCG	513.0	478.0	461.0	444.0	427.0	410.0	393.0	376.0	360.0	342.0	326.0
	CMP	42.4	44.9	46.0	47.1	48.1	48.9	49.6	50.2	50.8	51.2	51.6
	SDT	92.1	102.0	107.0	112.0	117.0	122.0	126.5	131.5	136.5	142.0	147.0
25	TCG	574.0	538.0	520.0	501.0	482.0	465.0	446.0	428.0	410.0	392.0	373.0
	CMP	44.1	47.0	48.3	49.6	50.7	51.7	52.7	53.5	54.3	54.9	55.4
	SDT	92.7	102.5	107.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	147.0
30	TCG	638.0	600.0	580.0	561.0	541.0	522.0	503.0	483.0	463.0	444.0	425.0
	CMP	45.8	49.1	50.6	52.1	53.4	54.6	55.8	56.8	57.8	58.6	59.3
	SDT	93.9	103.5	108.0	113.0	118.0	123.0	128.0	132.5	137.0	142.0	147.0
35	TCG	706.0	664.0	643.0	623.0	603.0	581.0	561.0	540.0	520.0	499.0	479.0
	CMP	47.7	51.3	53.0	54.6	56.1	57.6	58.8	60.1	61.3	62.3	63.2
	SDT	95.5	104.5	109.5	114.5	119.0	123.5	128.5	133.5	138.0	143.0	148.0
40	TCG	776.0	731.0	710.0	688.0	666.0	644.0	622.0	600.0	578.0	557.0	534.0
	CMP	49.5	53.6	55.4	57.2	58.9	60.5	62.0	63.4	64.8	66.0	67.1
	SDT	97.3	106.5	111.5	116.0	120.5	125.5	130.0	134.5	139.5	144.0	148.5
45	TCG	850.0	803.0	780.0	756.0	733.0	709.0	686.0	662.0	640.0	616.0	593.0*
	CMP	51.2	55.8	57.8	59.8	61.8	63.5	65.3	66.8	68.4	69.8	71.1*
	SDT	99.3	108.5	113.0	118.0	122.5	127.0	131.5	136.5	141.0	145.5	150.0*
50	TCG	930.0	879.0	853.0	828.0	803.0	778.0	753.0	727.0	703.0	678.0	653.0*
	CMP	53.0	57.9	60.3	62.5	64.6	66.6	68.6	70.3	72.1	73.7	75.1*
	SDT	101.5	110.5	115.0	120.0	124.5	129.0	133.5	138.0	143.0	147.0	152.0*

38AH084												
SST (F)		Air Temperature Entering Condenser (F)										
		70	80	85	90	95	100	105	110	115	120	125
20	TCG	574.0	536.0	518.0	500.0	482.0	464.0	446.0	429.0	412.0	395.0	378.0*
	CMP	50.7	53.3	54.5	55.6	56.6	57.6	58.4	59.2	59.9	60.6	61.1*
	SDT	97.1	107.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	147.0	152.0*
25	TCG	644.0	604.0	584.0	564.0	544.0	524.0	505.0	486.0	467.0	448.0	430.0*
	CMP	52.9	55.9	57.3	58.7	59.9	61.0	62.1	63.0	64.0	64.8	65.5*
	SDT	97.2	107.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	147.0	152.0*
30	TCG	721.0	676.0	654.0	632.0	611.0	590.0	568.0	548.0	526.0	506.0	486.0*
	CMP	54.9	58.5	60.1	61.7	63.1	64.5	65.7	66.8	68.0	69.0	69.9*
	SDT	97.4	107.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	147.0	152.0*
35	TCG	802.0	754.0	730.0	706.0	683.0	660.0	636.0	614.0	590.0	568.0	546.0*
	CMP	56.9	60.9	62.9	64.7	66.3	67.9	69.3	70.7	72.0	73.2	74.4*
	SDT	98.1	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	147.0	152.0*
40	TCG	887.0	835.0	809.0	785.0	759.0	734.0	709.0	684.0	659.0	634.0	610.0*
	CMP	58.9	63.5	65.5	67.5	69.5	71.3	72.9	74.5	76.1	77.5	78.8*
	SDT	99.2	109.0	113.5	118.5	123.5	128.0	133.0	138.0	143.0	148.0	153.0*
45	TCG	976.0	920.0	893.0	866.0	839.0	811.0	785.0	758.0	731.0	705.0	679.0*
	CMP	61.1	66.1	68.3	70.6	72.7	74.7	76.7	78.5	80.2	81.8	83.3*
	SDT	100.5	110.5	115.0	119.5	124.5	129.5	134.0	139.0	144.0	149.0	154.0*
50	TCG	1067.0	1009.0	980.0	950.0	922.0	892.0	864.0	836.0	807.0	779.0	750.0*
	CMP	63.3	68.7	71.3	73.7	76.1	78.3	80.5	82.4	84.4	86.2	87.9*
	SDT	102.5	112.0	116.5	121.5	126.0	130.5	135.5	140.5	145.0	150.0	154.5*

LEGEND

- CMP** — Compressor Power, kW
- SDT** — Saturated Discharge Temperature (leaving compressor) (F)
- SST** — Saturated Suction Temperature (entering condensing unit)
- TCG** — Total Cooling Capacity, Gross (1000 Btuh)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 15 F superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.

Performance data — 38AH044-134 (cont)



CONDENSING UNIT RATINGS — ENGLISH (cont)

38AH094		Air Temperature Entering Condenser (F)										
SST (F)		70	80	85	90	95	100	105	110	115	120	125
20	TCG	657.0	611.0	588.0	564.0	540.0	517.0	494.0	470.0	446.0	423.0	400.0
	CMP	54.3	57.4	59.0	60.2	61.4	62.4	63.2	63.9	64.4	64.7	64.8
	SDT(A)	93.9	104.0	109.0	114.0	119.0	124.0	129.0	134.0	139.0	144.0	149.0
	SDT(B)	92.1	102.0	107.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	147.0
	SCT(A)	91.7	102.0	107.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
	SCT(B)	90.4	101.0	106.0	111.0	116.0	121.0	126.0	131.0	136.0	142.0	147.0
25	TCG	738.0	689.0	663.0	638.0	614.0	589.0	564.0	538.0	514.0	488.0	463.0
	CMP	56.5	60.2	62.0	63.5	64.9	66.2	67.3	68.3	69.1	69.8	70.2
	SDT(A)	95.0	105.0	109.0	114.0	119.0	124.0	129.0	134.0	139.0	144.0	149.0
	SDT(B)	92.4	102.0	107.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	147.0
	SCT(A)	92.1	102.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
	SCT(B)	90.2	100.0	106.0	111.0	116.0	121.0	126.0	131.0	136.0	141.0	146.0
30	TCG	821.0	769.0	743.0	716.0	691.0	664.0	638.0	611.0	585.0	557.0	531.0
	CMP	58.8	62.9	65.0	66.8	68.5	70.0	71.5	72.7	73.8	74.7	75.5
	SDT(A)	96.7	106.0	111.0	115.0	120.0	125.0	130.0	134.0	139.0	144.0	149.0
	SDT(B)	93.3	103.0	108.0	113.0	118.0	123.0	127.0	132.0	137.0	142.0	147.0
	SCT(A)	93.0	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
	SCT(B)	90.5	101.0	106.0	111.0	116.0	121.0	126.0	131.0	136.0	141.0	146.0
35	TCG	907.0	853.0	825.0	798.0	771.0	742.0	714.0	686.0	658.0	630.0	602.0
	CMP	61.3	65.8	68.1	70.2	72.0	73.8	75.5	77.0	78.4	79.6	80.7
	SDT(A)	98.7	108.0	112.0	117.0	122.0	126.0	131.0	136.0	140.0	145.0	150.0
	SDT(B)	94.7	104.0	109.0	114.0	119.0	123.0	128.0	133.0	138.0	143.0	148.0
	SCT(A)	94.3	104.0	109.0	114.0	119.0	124.0	129.0	134.0	139.0	144.0	149.0
	SCT(B)	91.2	101.0	107.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	147.0
40	TCG	999.0	940.0	911.0	882.0	853.0	824.0	793.0	764.0	734.0	704.0	675.0
	CMP	63.8	68.8	71.3	73.6	75.8	77.8	79.7	81.4	83.1	84.5	85.9
	SDT(A)	101.0	110.0	115.0	119.0	124.0	128.0	133.0	137.0	142.0	146.0	151.0
	SDT(B)	96.5	106.0	111.0	115.0	120.0	125.0	129.0	134.0	139.0	144.0	149.0
	SCT(A)	95.7	106.0	111.0	116.0	121.0	126.0	131.0	135.0	140.0	145.0	150.0
	SCT(B)	92.3	102.0	108.0	113.0	118.0	122.0	127.0	132.0	137.0	142.0	147.0
45	TCG	1093.0	1031.0	1001.0	970.0	939.0	908.0	877.0	845.0	814.0	782.0	751.0
	CMP	66.3	71.8	74.6	77.1	79.5	81.8	83.9	86.0	87.9	89.6	91.2
	SDT(A)	104.0	112.0	117.0	121.0	126.0	130.0	135.0	139.0	144.0	148.0	153.0
	SDT(B)	98.6	108.0	112.0	117.0	122.0	126.0	131.0	136.0	140.0	145.0	150.0
	SCT(A)	97.4	108.0	113.0	118.0	123.0	127.0	132.0	137.0	142.0	146.0	151.0
	SCT(B)	93.6	104.0	109.0	114.0	119.0	124.0	129.0	134.0	138.0	143.0	148.0
50	TCG	1193.0	1127.0	1095.0	1062.0	1029.0	996.0	963.0	929.0	896.0	862.0	829.0
	CMP	68.9	74.8	77.8	80.7	83.3	85.8	88.3	90.5	92.7	94.7	96.6
	SDT(A)	106.0	115.0	119.0	124.0	128.0	133.0	137.0	142.0	146.0	150.0	155.0*
	SDT(B)	101.0	110.0	114.0	119.0	124.0	128.0	133.0	137.0	142.0	147.0	151.0
	SCT(A)	99.1	109.0	114.0	119.0	124.0	129.0	134.0	139.0	143.0	148.0	153.0
	SCT(B)	95.1	105.0	110.0	115.0	120.0	125.0	130.0	135.0	140.0	145.0	149.0

LEGEND

- CMP** — Compressor Power (kW)
- SCT(A)** — Saturated Condensing Temperature (F) for Circuit A (38AH094,104), or Module 38AH124A or 134A
- SCT(B)** — Saturated Condensing Temperature (F) for Circuit B (38AH094,104), or Module 38AH124B or 134B
- SDT(A)** — Saturated Discharge Temperature (F) for Circuit A (38AH094,104), or Module 38AH124A or 134A
- SDT(B)** — Saturated Discharge Temperature (F) for Circuit B (38AH094,104), or Module 38AH124B or 134B
- SST** — Saturated Suction Temperature Entering Condensing Unit
- TCG** — Gross Cooling Capacity (1000 Btuh)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 15 F superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.



CONDENSING UNIT RATINGS — ENGLISH (cont)

38AH104		Air Temperature Entering Condenser (F)										
SST (F)		70	80	85	90	95	100	105	110	115	120	125
20	TCG	747.0	689.0	661.0	633.0	604.0	577.0	549.0	523.0	495.0	469.0	443.0
	CMP	58.4	62.2	63.9	65.6	67.0	68.3	69.5	70.5	71.3	71.9	72.4
	SDT(A)	91.9	102.0	107.0	112.0	116.0	121.0	126.0	131.0	136.0	141.0	146.0
	SDT(B)	93.5	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	142.0	147.0
	SCT(A)	89.8	100.0	105.0	110.0	116.0	121.0	126.0	131.0	136.0	141.0	146.0
	SCT(B)	90.9	101.0	106.0	111.0	116.0	122.0	127.0	132.0	137.0	142.0	147.0
25	TCG	837.0	777.0	747.0	718.0	687.0	658.0	628.0	599.0	571.0	541.0	513.0
	CMP	61.0	65.2	67.3	69.2	70.9	72.6	74.0	75.2	76.4	77.4	78.1
	SDT(A)	93.0	102.0	107.0	112.0	117.0	122.0	127.0	132.0	137.0	141.0	146.0
	SDT(B)	95.1	104.0	109.0	114.0	119.0	123.0	128.0	133.0	138.0	143.0	148.0
	SCT(A)	90.2	100.0	105.0	111.0	116.0	121.0	126.0	131.0	136.0	141.0	146.0
	SCT(B)	91.7	102.0	107.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	147.0
30	TCG	932.0	869.0	837.0	805.0	773.0	742.0	711.0	680.0	649.0	619.0	588.0
	CMP	63.8	68.5	70.8	72.9	74.9	76.8	78.5	80.0	81.4	82.7	83.8
	SDT(A)	94.7	104.0	109.0	113.0	118.0	123.0	127.0	132.0	137.0	142.0	147.0
	SDT(B)	97.1	106.0	111.0	115.0	120.0	125.0	129.0	134.0	139.0	144.0	148.0
	SCT(A)	91.2	101.0	106.0	111.0	116.0	121.0	126.0	131.0	136.0	141.0	146.0
	SCT(B)	92.9	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
35	TCG	1032.0	964.0	930.0	896.0	863.0	829.0	796.0	763.0	731.0	698.0	665.0
	CMP	66.7	71.8	74.4	76.8	78.9	81.0	83.1	84.9	86.6	88.1	89.5
	SDT(A)	96.7	106.0	110.0	115.0	119.0	124.0	129.0	133.0	138.0	143.0	148.0
	SDT(B)	99.4	108.0	113.0	117.0	122.0	126.0	131.0	136.0	140.0	145.0	150.0
	SCT(A)	92.5	103.0	108.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	147.0
	SCT(B)	94.4	104.0	109.0	114.0	119.0	124.0	129.0	134.0	139.0	144.0	148.0
40	TCG	1137.0	1065.0	1029.0	993.0	957.0	921.0	886.0	851.0	816.0	781.0	747.0
	CMP	69.5	75.2	78.1	80.7	83.2	85.5	87.8	89.9	91.8	93.6	95.3
	SDT(A)	98.9	108.0	112.0	117.0	121.0	126.0	130.0	135.0	140.0	144.0	149.0
	SDT(B)	102.0	111.0	115.0	120.0	124.0	128.0	133.0	137.0	142.0	147.0	151.0
	SCT(A)	94.0	104.0	109.0	114.0	119.0	124.0	128.0	133.0	138.0	143.0	148.0
	SCT(B)	96.0	106.0	111.0	116.0	121.0	126.0	131.0	135.0	140.0	145.0	150.0
45	TCG	1247.0	1170.0	1132.0	1094.0	1054.0	1017.0	980.0	942.0	905.0	868.0	831.0
	CMP	72.4	78.7	81.8	84.7	87.4	90.1	92.5	94.9	97.1	99.2	101.2
	SDT(A)	101.0	110.0	115.0	119.0	124.0	128.0	132.0	137.0	141.0	146.0	150.0
	SDT(B)	105.0	113.0	118.0	122.0	126.0	131.0	135.0	140.0	144.0	149.0	153.0
	SCT(A)	95.6	106.0	111.0	116.0	120.0	125.0	130.0	135.0	140.0	144.0	149.0
	SCT(B)	97.8	108.0	113.0	118.0	123.0	128.0	132.0	137.0	142.0	147.0	151.0
50	TCG	1363.0	1281.0	1240.0	1199.0	1158.0	1117.0	1077.0	1037.0	998.0	958.0	919.0
	CMP	75.5	82.2	85.6	88.8	91.7	94.7	97.4	100.1	102.6	104.9	107.1
	SDT(A)	104.0	113.0	117.0	122.0	126.0	130.0	135.0	139.0	144.0	148.0	152.0
	SDT(B)	108.0	116.0	120.0	125.0	129.0	133.0	138.0	142.0	146.0	151.0	155.0*
	SCT(A)	97.3	107.0	112.0	117.0	122.0	127.0	132.0	137.0	141.0	146.0	151.0
	SCT(B)	99.6	110.0	115.0	120.0	125.0	130.0	134.0	139.0	144.0	148.0	153.0

LEGEND

- CMP** — Compressor Power (kW)
- SCT(A)** — Saturated Condensing Temperature (F) for Circuit A (38AH094,104), or Module 38AH124A or 134A
- SCT(B)** — Saturated Condensing Temperature (F) for Circuit B (38AH094,104), or Module 38AH124B or 134B
- SDT(A)** — Saturated Discharge Temperature (F) for Circuit A (38AH094,104), or Module 38AH124A or 134A
- SDT(B)** — Saturated Discharge Temperature (F) for Circuit B (38AH094,104), or Module 38AH124B or 134B
- SST** — Saturated Suction Temperature Entering Condensing Unit
- TCG** — Gross Cooling Capacity (1000 Btuh)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 15 F superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.

Performance data — 38AH044-134 (cont)



CONDENSING UNIT RATINGS — ENGLISH (cont)

38AH124		Air Temperature Entering Condenser (F)										
SST (F)		70	80	85	90	95	100	105	110	115	120	125
20	TCG	834.0	772.0	740.0	710.0	678.0	648.0	618.0	588.0	558.0	528.0	498.0
	CMP	67.2	71.4	73.4	75.2	76.8	78.0	79.2	80.2	81.0	81.6	82.0
	SDT(A) OR (B)	93.3	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
	SCT(A) OR (B)	92.4	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
25	TCG	940.0	872.0	840.0	806.0	772.0	740.0	708.0	674.0	642.0	610.0	578.0
	CMP	69.8	74.6	77.0	79.2	81.0	82.8	84.4	85.6	86.8	87.8	88.6
	SDT(A) OR (B)	94.0	104.0	109.0	114.0	119.0	123.0	128.0	133.0	138.0	143.0	148.0
	SCT(A) OR (B)	92.8	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
30	TCG	1050.0	980.0	944.0	908.0	872.0	838.0	802.0	768.0	732.0	698.0	662.0
	CMP	72.4	78.0	80.6	83.2	85.4	87.4	89.4	91.0	92.6	94.0	95.0
	SDT(A) OR (B)	95.0	105.0	110.0	114.0	119.0	124.0	129.0	134.0	139.0	144.0	149.0
	SCT(A) OR (B)	93.5	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
35	TCG	1168.0	1092.0	1052.0	1014.0	978.0	940.0	902.0	864.0	828.0	790.0	752.0
	CMP	75.0	81.2	84.2	87.0	89.6	92.0	94.4	96.4	98.4	100.0	101.4
	SDT(A) OR (B)	96.4	106.0	111.0	116.0	120.0	125.0	130.0	135.0	140.0	144.0	149.0
	SCT(A) OR (B)	94.6	104.0	109.0	114.0	119.0	124.0	129.0	134.0	139.0	144.0	149.0
40	TCG	1290.0	1208.0	1168.0	1126.0	1086.0	1046.0	1006.0	966.0	926.0	888.0	848.0
	CMP	77.6	84.4	87.8	91.0	94.0	96.8	99.4	101.6	104.0	106.0	108.0
	SDT(A) OR (B)	98.1	108.0	112.0	117.0	122.0	126.0	131.0	136.0	141.0	146.0	150.0
	SCT(A) OR (B)	95.9	106.0	111.0	116.0	120.0	125.0	130.0	135.0	140.0	145.0	150.0
45	TCG	1418.0	1332.0	1288.0	1244.0	1202.0	1158.0	1116.0	1074.0	1032.0	988.0	946.0
	CMP	80.0	87.8	91.6	95.0	98.2	101.4	104.4	107.0	109.8	112.2	114.4
	SDT(A) OR (B)	100.0	109.0	114.0	119.0	123.0	128.0	133.0	138.0	142.0	147.0	152.0
	SCT(A) OR (B)	97.5	107.0	112.0	117.0	122.0	127.0	131.0	136.0	141.0	146.0	151.0
50	TCG	1552.0	1460.0	1414.0	1368.0	1322.0	1276.0	1232.0	1186.0	1140.0	1096.0	1050.0
	CMP	82.6	91.0	95.2	99.0	102.6	106.2	109.4	112.4	115.6	118.2	120.8
	SDT(A) OR (B)	102.0	112.0	116.0	121.0	125.0	130.0	135.0	139.0	144.0	149.0	153.0
	SCT(A) OR (B)	99.3	109.0	114.0	119.0	123.0	128.0	133.0	138.0	143.0	147.0	152.0

LEGEND

- CMP** — Compressor Power (kW)
- SCT(A)** — Saturated Condensing Temperature (F) for Circuit A (38AH094,104), or Module 38AH124A or 134A
- SCT(B)** — Saturated Condensing Temperature (F) for Circuit B (38AH094,104), or Module 38AH124B or 134B
- SDT(A)** — Saturated Discharge Temperature (F) for Circuit A (38AH094,104), or Module 38AH124A or 134A
- SDT(B)** — Saturated Discharge Temperature (F) for Circuit B (38AH094,104), or Module 38AH124B or 134B
- SST** — Saturated Suction Temperature Entering Condensing Unit
- TCG** — Gross Cooling Capacity (1000 Btuh)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 15 F superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.



CONDENSING UNIT RATINGS — ENGLISH (cont)

38AH134		Air Temperature Entering Condenser (F)										
SST (F)		70	80	85	90	95	100	105	110	115	120	125
20	TCG	930.0	864.0	831.0	799.0	766.0	734.0	702.0	670.0	638.0	606.0	575.0
	CMP	76.0	80.6	82.8	84.7	86.4	87.9	89.2	90.3	91.3	92.1	92.6
	SDT(A)	93.3	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
	SDT(B)	92.0	102.0	107.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	147.0
	SCT(A)	92.4	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
	SCT(B)	87.6	97.7	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0
25	TCG	1045.0	974.0	940.0	905.0	869.0	835.0	801.0	765.0	731.0	697.0	663.0
	CMP	79.0	84.3	86.8	89.1	91.2	93.1	94.9	96.3	97.7	98.8	99.8
	SDT(A)	94.0	104.0	109.0	114.0	119.0	123.0	128.0	133.0	138.0	143.0	148.0
	SDT(B)	92.7	102.0	107.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	147.0
	SCT(A)	92.8	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
	SCT(B)	88.6	98.5	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0
30	TCG	1164.0	1090.0	1052.0	1015.0	978.0	941.0	904.0	868.0	830.0	794.0	756.0
	CMP	82.0	88.1	90.9	93.6	96.1	98.3	100.4	102.2	104.0	105.6	106.8
	SDT(A)	95.0	105.0	110.0	114.0	119.0	124.0	129.0	134.0	139.0	144.0	149.0
	SDT(B)	93.8	103.0	108.0	113.0	118.0	123.0	127.0	132.0	137.0	142.0	147.0
	SCT(A)	93.5	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
	SCT(B)	90.0	99.7	105.0	109.0	114.0	119.0	124.0	129.0	134.0	139.0	144.0
35	TCG	1290.0	1211.0	1170.0	1130.0	1092.0	1052.0	1013.0	973.0	934.0	895.0	855.0
	CMP	85.1	91.9	95.1	98.1	100.9	103.5	106.0	108.2	110.4	112.2	113.9
	SDT(A)	96.4	106.0	111.0	116.0	120.0	125.0	130.0	135.0	140.0	144.0	149.0
	SDT(B)	95.4	105.0	110.0	114.0	119.0	124.0	128.0	133.0	138.0	143.0	148.0
	SCT(A)	94.6	104.0	109.0	114.0	119.0	124.0	129.0	134.0	139.0	144.0	149.0
	SCT(B)	91.5	101.0	106.0	111.0	116.0	120.0	125.0	130.0	135.0	139.0	144.0
40	TCG	1422.0	1337.0	1294.0	1252.0	1210.0	1168.0	1126.0	1084.0	1042.0	1001.0	959.0
	CMP	88.2	95.7	99.3	102.7	105.9	108.9	111.7	114.2	116.7	119.0	121.1
	SDT(A)	98.1	108.0	112.0	117.0	122.0	126.0	131.0	136.0	141.0	146.0	150.0
	SDT(B)	97.2	107.0	111.0	116.0	121.0	125.0	130.0	135.0	139.0	144.0	149.0
	SCT(A)	95.9	106.0	111.0	116.0	120.0	125.0	130.0	135.0	140.0	145.0	150.0
	SCT(B)	93.0	103.0	107.0	112.0	117.0	122.0	127.0	131.0	136.0	141.0	145.0
45	TCG	1561.0	1470.0	1425.0	1379.0	1335.0	1289.0	1245.0	1200.0	1156.0	1111.0	1066.0
	CMP	91.2	99.6	103.6	107.3	110.8	114.2	117.4	120.3	123.2	125.8	128.3
	SDT(A)	100.0	109.0	114.0	119.0	123.0	128.0	133.0	138.0	142.0	147.0	152.0
	SDT(B)	99.2	109.0	113.0	118.0	122.0	127.0	132.0	136.0	141.0	145.0	150.0
	SCT(A)	97.5	107.0	112.0	117.0	122.0	127.0	131.0	136.0	141.0	145.0	150.0
	SCT(B)	94.6	104.0	109.0	114.0	119.0	123.0	128.0	133.0	137.0	142.0	147.0
50	TCG	1707.0	1610.0	1562.0	1513.0	1465.0	1417.0	1370.0	1322.0	1274.0	1227.0	1179.0
	CMP	94.2	103.4	107.8	111.9	115.9	119.7	123.2	126.5	129.8	132.7	135.5
	SDT(A)	102.0	112.0	116.0	121.0	125.0	130.0	135.0	139.0	144.0	149.0	153.0
	SDT(B)	101.0	111.0	115.0	120.0	124.0	129.0	134.0	138.0	143.0	147.0	152.0
	SCT(A)	99.3	109.0	114.0	119.0	123.0	128.0	133.0	138.0	143.0	147.0	152.0
	SCT(B)	96.3	106.0	111.0	116.0	120.0	125.0	130.0	134.0	139.0	144.0	148.0

LEGEND

- CMP** — Compressor Power (kW)
- SCT(A)** — Saturated Condensing Temperature (F) for Circuit A (38AH094,104), or Module 38AH124A or 134A
- SCT(B)** — Saturated Condensing Temperature (F) for Circuit B (38AH094,104), or Module 38AH124B or 134B
- SDT(A)** — Saturated Discharge Temperature (F) for Circuit A (38AH094,104), or Module 38AH124A or 134A
- SDT(B)** — Saturated Discharge Temperature (F) for Circuit B (38AH094,104), or Module 38AH124B or 134B
- SST** — Saturated Suction Temperature Entering Condensing Unit
- TCG** — Gross Cooling Capacity (1000 Btuh)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 15 F superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.

Performance data — 38AH044-134 (cont)



CONDENSING UNIT CIRCUIT AND MODULE RATINGS — ENGLISH

38AH044 CIRCUIT A		Air Temperature Entering Condenser (F)										
SST (F)		70	80	85	90	95	100	105	110	115	120	125
20	TCG	147.0	135.0	128.0	122.0	116.0	109.0	102.0	95.6	88.9	82.2	75.5
	CMP	11.3	12.1	12.4	12.8	13.0	13.2	13.4	13.5	13.6	13.5	13.4
	SDT	89.4	99.1	104.0	109.0	114.0	119.0	124.0	129.0	134.0	139.0	144.0
25	TCG	166.0	153.0	147.0	140.0	133.0	126.0	120.0	113.0	106.0	98.6	91.5
	CMP	11.7	12.6	13.0	13.4	13.8	14.1	14.3	14.5	14.7	14.8	14.8
	SDT	90.3	99.9	105.0	110.0	114.0	119.0	124.0	129.0	134.0	139.0	144.0
30	TCG	186.0	172.0	166.1	159.0	152.0	145.0	138.0	130.0	123.0	116.0	108.0
	CMP	12.1	13.1	13.6	14.1	14.4.5	14.9	15.2	15.5	15.7	15.9	16.0
	SDT	91.6	101.0	106.0	111.0	115.0	120.0	125.0	130.0	135.0	139.0	144.0
35	TCG	207.0	193.0	185.0	178.0	171.0	164.0	156.0	149.0	141.0	133.0	126.0
	CMP	12.5	13.7	14.2	14.7	15.2	15.6	16.1	16.4	16.7	17.0	17.2
	SDT	93.2	103.0	107.0	112.0	117.0	121.0	126.0	131.0	135.0	140.0	145.0
40	TCG	229.0	214.0	206.0	199.0	191.0	183.0	175.0	168.0	160.0	152.0	144.0
	CMP	12.9	14.2	14.8	15.4	15.9	16.4	16.9	17.3	17.7	18.1	18.4
	SDT	95.0	104.0	109.0	113.0	118.0	123.0	127.0	132.0	137.0	141.0	146.0
45	TCG	252.0	236.0	228.0	220.0	212.0	204.0	196.0	187.0	179.0	171.0	162.0
	CMP	13.3	14.7	15.3	16.0	16.6	17.2	17.7	18.2	18.7	19.1	19.5
	SDT	96.9	106.0	111.0	115.0	120.0	124.0	129.0	134.0	138.0	143.0	147.0
50	TCG	276.0	259.0	251.0	243.0	234.0	225.0	217.0	208.0	199.0	191.0	182.0
	CMP	13.7	15.2	15.9	16.6	17.3	17.9	18.5	19.1	19.6	20.1	20.6
	SDT	99.0	108.0	113.0	117.0	122.0	126.0	131.0	135.0	140.0	145.0	149.0

38AH054 CIRCUIT A		Air Temperature Entering Condenser (F)										
SST (F)		70	80	85	90	95	100	105	110	115	120	125
20	TCG	146.0	133.0	127.0	121.0	114.0	108.0	101.0	94.2	87.6	80.9	74.2*
	CMP	11.8	12.5	12.8	13.1	13.3	13.4	13.5	13.5	13.5	13.4	13.2*
	SDT	95.1	105.0	110.0	115.0	120.0	125.0	130.0	135.0	140.0	145.0	150.0*
25	TCG	166.0	153.0	146.0	139.0	132.0	125.0	118.0	111.0	104.0	97.2	90.1*
	CMP	12.2	13.1	13.5	13.8	14.1	14.4	14.6	14.7	14.8	14.8	14.7*
	SDT	95.1	105.0	110.0	115.0	120.0	125.0	130.0	135.0	140.0	145.0	150.0*
30	TCG	188.0	174.0	166.0	159.0	152.0	145.0	137.0	130.0	122.0	115.0	107.0*
	CMP	12.5	13.6	14.0	14.5	14.9	15.2	15.5	15.7	15.9	16.0	16.1*
	SDT	95.3	105.0	110.0	115.0	120.0	125.0	130.0	135.0	140.0	145.0	150.0*
35	TCG	210.0	195.0	188.0	180.0	173.0	165.0	157.0	149.0	141.0	133.0	125.0*
	CMP	12.8	14.0	14.6	15.1	15.6	16.0	16.4	16.7	17.0	17.2	17.4*
	SDT	95.7	105.0	110.0	115.0	120.0	125.0	130.0	135.0	140.0	145.0	150.0*
40	TCG	234.0	219.0	211.0	203.0	195.0	187.0	178.0	170.0	162.0	153.0	145.0*
	CMP	13.1	14.4	15.0	15.6	16.2	16.7	17.2	17.6	18.0	18.3	18.6*
	SDT	96.4	106.0	111.0	116.0	121.0	126.0	131.0	135.0	140.0	145.0	150.0*
45	TCG	258.0	242.0	234.0	226.0	218.0	209.0	201.0	192.0	183.0	174.0	166.0*
	CMP	13.4	14.8	15.5	16.2	16.8	17.4	17.9	18.4	18.9	19.4	19.7*
	SDT	97.7	107.0	112.0	117.0	121.0	126.0	131.0	136.0	141.0	146.0	151.0*
50	TCG	284.0	267.0	259.0	250.0	241.0	233.0	224.0	215.0	206.0	196.0*	187.0*
	CMP	13.7	15.2	16.0	16.7	17.4	18.1	18.7	19.3	19.8	20.4*	20.8*
	SDT	99.3	109.0	113.0	118.0	123.0	127.0	132.0	137.0	142.0	146.0*	151.0*

38AH064 CIRCUIT A		Air Temperature Entering Condenser (F)										
SST (F)		70	80	85	90	95	100	105	110	115	120	125
20	TCG	197.0	181.0	174.0	166.0	159.0	151.0	144.0	137.0	130.0	124.0	117.0
	CMP	15.7	16.7	17.2	17.6	18.0	18.4	18.7	19.0	19.3	19.5	19.7
	SDT	93.5	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
25	TCG	222.0	205.0	197.0	189.0	181.0	173.0	165.0	158.0	150.0	143.0	135.0
	CMP	16.3	17.5	18.1	18.6	19.1	19.5	19.9	20.3	20.6	20.9	21.2
	SDT	94.2	104.0	109.0	114.0	119.0	124.0	129.0	134.0	138.0	143.0	148.0
30	TCG	249.0	231.0	222.0	213.0	205.0	196.0	188.0	179.0	171.0	163.0	155.0
	CMP	17.0	18.3	18.9	19.5	20.1	20.6	21.1	21.6	21.9	22.3	22.6
	SDT	95.4	105.0	110.0	115.0	119.0	124.0	129.0	134.0	139.0	144.0	149.0
35	TCG	278.0	258.0	249.0	239.0	230.0	220.0	211.0	202.0	193.0	185.0	176.0
	CMP	17.6	19.1	19.8	20.5	21.1	21.7	22.3	22.8	23.3	23.7	24.1
	SDT	96.9	106.0	111.0	116.0	121.0	125.0	130.0	135.0	140.0	145.0	150.0
40	TCG	308.0	287.0	276.0	266.0	256.0	246.0	236.0	227.0	217.0	208.0	198.0*
	CMP	18.3	19.9	20.7	21.5	22.2	22.8	23.4	24.0	24.6	25.1	25.6*
	SDT	98.8	108.0	113.0	117.0	122.0	127.0	132.0	136.0	141.0	146.0	151.0*
45	TCG	339.0	316.0	305.0	294.0	284.0	273.0	262.0	252.0	242.0	232.0	221.0*
	CMP	19.0	20.8	21.6	22.4	23.2	24.0	24.7	25.3	26.0	26.6	27.1*
	SDT	101.0	110.0	115.0	119.0	124.0	129.0	133.0	138.0	143.0	147.0	152.0*
50	TCG	372.0	348.0	336.0	324.0	313.0	301.0	290.0	279.0	268.0	257.0	246.0*
	CMP	19.6	21.6	22.5	23.4	24.3	25.1	25.9	26.6	27.3	28.0	28.6*
	SDT	103.0	112.0	117.0	121.0	126.0	131.0	135.0	140.0	144.0	149.0	154.0*

LEGEND

- CMP — Compressor Power, kW
- SDT — Saturated Discharge Temperature (leaving compressor) (F)
- SST — Saturated Suction Temperature (entering condensing unit)
- TCG — Total Cooling Capacity, Gross (1000 Btuh)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 15 F superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.



CONDENSING UNIT CIRCUIT AND MODULE RATINGS — ENGLISH (cont)

38AH044 CIRCUIT B												
SST (F)		Air Temperature Entering Condenser (F)										
		70	80	85	90	95	100	105	110	115	120	125
20	TCG	146.0	133.0	127.0	120.0	114.0	107.0	100.0	93.7	87.0	80.4	73.6
	CMP	11.6	12.3	12.7	13.0	13.2	13.4	13.5	13.5	13.5	13.5	13.3
	SDT	92.6	103.0	108.0	113.0	118.0	123.0	127.0	132.0	137.0	142.0	147.0
25	TCG	166.0	152.0	145.0	139.0	132.0	125.0	118.0	111.0	104.0	96.5	89.3
	CMP	12.0	12.9	13.3	13.7	14.0	14.3	14.5	14.6	14.7	14.8	14.7
	SDT	92.9	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
30	TCG	187.0	173.0	165.0	158.0	151.0	144.0	136.0	129.0	121.0	114.0	106.0
	CMP	12.3	13.4	13.9	14.3	14.7	15.1	15.4	15.6	15.9	16.0	16.1
	SDT	93.2	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
35	TCG	209.0	194.0	187.0	179.0	171.0	164.0	156.0	148.0	140.0	132.0	124.0
	CMP	12.6	13.8	14.4	14.9	15.4	15.8	16.2	16.6	16.9	17.1	17.3
	SDT	93.9	104.0	109.0	114.0	119.0	124.0	128.0	133.0	138.0	143.0	148.0
40	TCG	233.0	217.0	209.0	201.0	193.0	185.0	176.0	168.0	160.0	151.0	143.0
	CMP	12.9	14.2	14.9	15.5	16.0	16.6	17.1	17.4	17.9	18.2	18.5
	SDT	94.7	105.0	110.0	114.0	119.0	124.0	129.0	134.0	139.0	144.0	149.0
45	TCG	257.0	241.0	232.0	224.0	215.0	207.0	198.0	189.0	180.0	172.0	163.0
	CMP	13.1	14.6	15.3	16.0	16.6	17.2	17.8	18.3	18.8	19.3	19.7
	SDT	95.8	106.0	111.0	115.0	120.0	125.0	130.0	135.0	140.0	145.0	150.0
50	TCG	284.0	266.0	257.0	248.0	239.0	230.0	221.0	211.0	202.0	193.0	184.0
	CMP	13.3	15.0	15.8	16.5	17.2	17.9	18.6	19.1	19.7	20.3	20.7
	SDT	97.0	107.0	112.0	117.0	121.0	126.0	131.0	136.0	141.0	146.0	150.0

38AH054 CIRCUIT B												
SST (F)		Air Temperature Entering Condenser (F)										
		70	80	85	90	95	100	105	110	115	120	125
20	TCG	195.0	180.0	172.0	165.0	158.0	151.0	144.0	137.0	130.0	124.0	117.0*
	CMP	16.0	17.0	17.4	17.8	18.2	18.6	18.9	19.1	19.4	19.6	19.8*
	SDT	96.0	106.0	111.0	116.0	121.0	126.0	131.0	136.0	141.0	146.0	151.0*
25	TCG	221.0	204.0	196.0	188.0	180.0	172.0	164.0	157.0	149.0	142.0	135.0*
	CMP	16.7	17.8	18.3	18.8	19.3	19.7	20.1	20.4	20.8	21.1	21.3*
	SDT	96.8	106.0	111.0	116.0	121.0	126.0	131.0	136.0	141.0	146.0	151.0*
30	TCG	247.0	229.0	220.0	212.0	203.0	195.0	186.0	178.0	170.0	162.0	154.0*
	CMP	17.4	18.7	19.3	19.8	20.4	20.9	21.3	21.7	22.1	22.5	22.8*
	SDT	98.1	108.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	146.0	151.0*
35	TCG	275.0	256.0	246.0	237.0	228.0	219.0	210.0	201.0	192.0	183.0	175.0*
	CMP	18.1	19.5	20.2	20.8	21.4	22.0	22.5	23.0	23.5	23.9	24.3*
	SDT	99.7	109.0	114.0	119.0	123.0	128.0	133.0	138.0	142.0	147.0	152.0*
40	TCG	304.0	284.0	274.0	264.0	254.0	244.0	234.0	225.0	215.0	206.0	196.0*
	CMP	18.8	20.4	21.1	21.9	22.5	23.2	23.8	24.3	24.9	25.4	25.9*
	SDT	102.0	111.0	115.0	120.0	125.0	130.0	134.0	139.0	144.0	148.0	153.0*
45	TCG	335.0	313.0	303.0	292.0	281.0	271.0	260.0	250.0	240.0	229.0	219.0*
	CMP	19.5	21.3	22.1	22.9	23.6	24.4	25.1	25.7	26.3	26.9	27.4*
	SDT	104.0	113.0	117.0	122.0	127.0	131.0	136.0	141.0	145.0	150.0	155.0*
50	TCG	368.0	344.0	333.0	321.0	310.0	299.0	287.0	276.0	265.0	254.0*	244.0*
	CMP	20.3	22.2	23.1	23.9	24.8	25.6	26.3	27.0	27.7	28.4*	29.0*
	SDT	106.0	115.0	120.0	124.0	129.0	133.0	138.0	142.0	147.0	152.0*	156.0*

38AH064 CIRCUIT B												
SST (F)		Air Temperature Entering Condenser (F)										
		70	80	85	90	95	100	105	110	115	120	125
20	TCG	218.0	202.0	194.0	186.0	178.0	170.0	162.0	153.0	145.0	137.0	129.0
	CMP	17.9	19.0	19.5	19.9	20.3	20.6	20.9	21.1	21.2	21.3	21.3
	SDT	93.2	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
25	TCG	246.0	229.0	220.0	212.0	203.0	194.0	185.0	177.0	168.0	159.0	150.0
	CMP	18.6	19.9	20.5	21.0	21.5	21.9	22.3	22.5	22.8	23.0	23.1
	SDT	93.7	104.0	109.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
30	TCG	274.0	256.0	247.0	238.0	229.0	220.0	211.0	201.0	192.0	183.0	173.0
	CMP	19.2	20.7	21.4	22.0	22.6	23.1	23.6	24.0	24.4	24.7	24.9
	SDT	94.5	104.0	109.0	114.0	119.0	124.0	129.0	134.0	139.0	144.0	149.0
35	TCG	304.0	286.0	276.0	266.0	257.0	247.0	237.0	227.0	217.0	208.0	198.0
	CMP	19.8	21.5	22.3	23.0	23.7	24.3	24.9	25.4	25.9	26.3	26.6
	SDT	95.7	105.0	110.0	115.0	120.0	125.0	130.0	134.0	139.0	144.0	149.0
40	TCG	336.0	316.0	306.0	296.0	286.0	275.0	265.0	254.0	244.0	234.0	223.0*
	CMP	20.4	22.3	23.2	24.0	24.8	25.5	26.2	26.8	27.4	27.9	28.4*
	SDT	97.1	107.0	112.0	116.0	121.0	126.0	131.0	136.0	140.0	145.0	150.0*
45	TCG	369.0	348.0	337.0	326.0	316.0	305.0	294.0	283.0	272.0	261.0	250.0*
	CMP	21.0	23.1	24.1	25.0	25.9	26.7	27.5	28.2	28.9	29.5	30.0*
	SDT	98.9	108.0	113.0	118.0	123.0	127.0	132.0	137.0	142.0	146.0	151.0*
50	TCG	404.0	381.0	370.0	358.0	347.0	335.0	324.0	312.0	301.0	289.0	277.0*
	CMP	21.6	23.9	25.0	26.0	27.0	27.9	28.8	29.6	30.4	31.1	31.7*
	SDT	101.0	110.0	115.0	120.0	124.0	129.0	134.0	139.0	143.0	148.0	153.0*

LEGEND

- CMP — Compressor Power, kW
- SDT — Saturated Discharge Temperature (leaving compressor) (F)
- SST — Saturated Suction Temperature (entering condensing unit)
- TCG — Total Cooling Capacity, Gross (1000 Btuh)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 15 F superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.

Performance data — 38AH044-134 (cont)



CONDENSING UNIT CIRCUIT AND MODULE RATINGS — ENGLISH (cont)

38AH074 CIRCUIT A												
SST (F)		Air Temperature Entering Condenser (F)										
		70	80	85	90	95	100	105	110	115	120	125
20	TCG	221.0	205.0	197.0	189.0	181.0	173.0	165.0	157.0	149.0	140.0	132.0
	CMP	17.8	18.9	19.4	19.9	20.3	20.6	20.9	21.0	21.2	21.3	21.3
	SDT	92.4	102.0	107.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	147.0
25	TCG	249.0	232.0	224.0	215.0	206.0	198.0	189.0	180.0	172.0	163.0	154.0
	CMP	18.4	19.7	20.3	20.9	21.4	21.8	22.2	22.5	22.8	23.0	23.1
	SDT	92.7	103.0	107.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	147.0
30	TCG	277.0	260.0	251.0	242.0	233.0	224.0	215.0	206.0	196.0	187.0	178.0
	CMP	19.0	20.5	21.2	21.9	22.5	23.0	23.5	23.9	24.3	24.6	24.8
	SDT	93.6	103.0	108.0	113.0	118.0	123.0	128.0	133.0	137.0	142.0	147.0
35	TCG	307.0	288.0	279.0	270.0	261.0	251.0	242.0	232.0	222.0	212.0	203.0
	CMP	19.7	21.3	22.1	22.8	23.5	24.2	24.7	25.3	25.8	26.2	26.5
	SDT	95.0	104.0	109.0	114.0	119.0	123.0	128.0	133.0	138.0	143.0	148.0
40	TCG	338.0	318.0	309.0	299.0	289.0	279.0	269.0	259.0	249.0	239.0	228.0
	CMP	20.3	22.2	23.0	23.8	24.6	25.3	26.0	26.6	27.2	27.7	28.2
	SDT	96.7	106.0	111.0	115.0	120.0	125.0	129.0	134.0	139.0	143.0	148.0
45	TCG	370.0	350.0	340.0	329.0	319.0	308.0	298.0	287.0	277.0	266.0	255.0*
	CMP	20.9	23.0	23.9	24.8	25.7	26.5	27.3	28.0	28.7	29.3	29.9*
	SDT	98.6	108.0	112.0	117.0	122.0	126.0	131.0	136.0	140.0	145.0	149.0*
50	TCG	405.0	383.0	372.0	361.0	350.0	339.0	328.0	316.0	305.0	294.0	282.0*
	CMP	21.5	23.7	24.8	25.8	26.8	27.7	28.6	29.4	30.2	30.9	31.5*
	SDT	101.0	110.0	114.0	119.0	124.0	128.0	133.0	137.0	142.0	146.0	151.0*

38AH084 CIRCUIT A												
SST (F)		Air Temperature Entering Condenser (F)										
		70	80	85	90	95	100	105	110	115	120	125
20	TCG	286.0	267.0	258.0	249.0	240.0	231.0	222.0	214.0	205.0	197.0	188.0*
	CMP	25.5	26.8	27.4	27.9	28.4	28.9	29.3	29.7	30.0	30.4	30.6*
	SDT	98.1	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0	153.0*
25	TCG	321.0	301.0	291.0	281.0	271.0	261.0	252.0	242.0	233.0	223.0	214.0*
	CMP	26.6	28.1	28.8	29.5	30.1	30.6	31.2	31.6	32.1	32.5	32.8*
	SDT	98.1	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0	153.0*
30	TCG	360.0	337.0	326.0	315.0	305.0	294.0	283.0	273.0	262.0	252.0	242.0*
	CMP	27.6	29.4	30.2	31.0	31.7	32.4	33.0	33.5	34.1	34.6	35.0*
	SDT	98.3	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0	153.0*
35	TCG	400.0	376.0	364.0	352.0	341.0	329.0	317.0	306.0	294.0	283.0	272.0*
	CMP	28.6	30.6	31.6	32.5	33.3	34.1	34.8	35.5	36.1	36.7	37.3*
	SDT	98.9	109.0	114.0	119.0	124.0	129.0	134.0	139.0	144.0	148.0	153.0*
40	TCG	443.0	417.0	404.0	392.0	379.0	366.0	354.0	341.0	329.0	316.0	304.0*
	CMP	29.6	31.9	32.9	33.9	34.9	35.8	36.6	37.4	38.2	38.9	39.5*
	SDT	99.9	110.0	114.0	119.0	124.0	129.0	134.0	139.0	144.0	149.0	154.0*
45	TCG	488.0	460.0	446.0	433.0	419.0	405.0	392.0	379.0	365.0	352.0	339.0*
	CMP	30.7	33.2	34.3	35.5	36.5	37.5	38.5	39.4	40.2	41.0	41.8*
	SDT	101.0	111.0	116.0	120.0	125.0	130.0	135.0	140.0	145.0	150.0	155.0*
50	TCG	534.0	505.0	490.0	475.0	461.0	446.0	432.0	418.0	403.0	389.0*	375.0*
	CMP	31.8	34.5	35.8	37.0	38.2	39.3	40.4	41.3	42.3	43.2	44.1*
	SDT	103.0	113.0	117.0	122.0	127.0	131.0	136.0	141.0	146.0	151.0*	155.0*

LEGEND

- CMP — Compressor Power, kW
- SDT — Saturated Discharge Temperature (leaving compressor) (F)
- SST — Saturated Suction Temperature (entering condensing unit)
- TCG — Total Cooling Capacity, Gross (1000 Btuh)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 15 F superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.



CONDENSING UNIT CIRCUIT AND MODULE RATINGS — ENGLISH (cont)

38AH074 CIRCUIT B												
SST (F)		Air Temperature Entering Condenser (F)										
		70	80	85	90	95	100	105	110	115	120	125
20	TCG	292.0	273.0	264.0	255.0	246.0	237.0	228.0	219.0	211.0	202.0	194.0
	CMP	24.6	26.0	26.6	27.2	27.8	28.3	28.7	29.2	29.6	29.9	30.3
	SDT	91.7	102.0	107.0	112.0	117.0	122.0	126.0	131.0	136.0	142.0	147.0
25	TCG	325.0	306.0	296.0	286.0	276.0	267.0	257.0	248.0	238.0	229.0	219.0
	CMP	25.7	27.3	28.0	28.7	29.3	29.9	30.5	31.0	31.5	31.9	32.3
	SDT	92.7	102.0	107.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	147.0
30	TCG	361.0	340.0	329.0	319.0	308.0	298.0	288.0	277.0	267.0	257.0	247.0
	CMP	26.8	28.6	29.4	30.2	30.9	31.6	32.3	32.9	33.5	34.0	34.5
	SDT	94.2	104.0	108.0	113.0	118.0	123.0	128.0	132.0	137.0	142.0	147.0
35	TCG	399.0	376.0	364.0	353.0	342.0	330.0	319.0	308.0	298.0	287.0	276.0
	CMP	28.0	30.0	30.9	31.8	32.6	33.4	34.1	34.8	35.5	36.1	36.7
	SDT	96.0	105.0	110.0	115.0	119.0	124.0	129.0	134.0	138.0	143.0	148.0
40	TCG	438.0	413.0	401.0	389.0	377.0	365.0	353.0	341.0	329.0	318.0	306.0
	CMP	29.2	31.4	32.4	33.4	34.3	35.2	36.0	36.8	37.6	38.3	38.9
	SDT	97.9	107.0	112.0	117.0	121.0	126.0	131.0	135.0	140.0	145.0	149.0
45	TCG	480.0	453.0	440.0	427.0	414.0	401.0	388.0	375.0	363.0	350.0	338.0*
	CMP	30.3	32.8	33.9	35.0	36.1	37.0	38.0	38.8	39.7	40.5	41.2*
	SDT	100.0	109.0	114.0	119.0	123.0	128.0	132.0	137.0	142.0	146.0	151.0*
50	TCG	525.0	496.0	481.0	467.0	453.0	439.0	425.0	411.0	398.0	384.0	371.0*
	CMP	31.5	34.2	35.5	36.7	37.8	38.9	40.0	40.9	41.9	42.8	43.6*
	SDT	102.0	111.0	116.0	121.0	125.0	130.0	134.0	139.0	144.0	148.0	153.0*

38AH084 CIRCUIT B												
SST (F)		Air Temperature Entering Condenser (F)										
		70	80	85	90	95	100	105	110	115	120	125
20	TCG	288.0	269.0	260.0	251.0	242.0	233.0	224.0	215.0	207.0	198.0	190.0*
	CMP	25.2	26.5	27.1	27.7	28.2	28.7	29.1	29.5	29.9	30.2	30.5*
	SDT	96.1	106.0	111.0	116.0	121.0	126.0	131.0	136.0	141.0	146.0	151.0*
25	TCG	323.0	303.0	293.0	283.0	273.0	263.0	253.0	244.0	234.0	225.0	216.0*
	CMP	26.3	27.8	28.5	29.2	29.8	30.4	30.9	31.4	31.9	32.3	32.7*
	SDT	96.2	106.0	111.0	116.0	121.0	126.0	131.0	136.0	141.0	146.0	151.0*
30	TCG	361.0	339.0	328.0	317.0	306.0	296.0	285.0	275.0	264.0	254.0	244.0*
	CMP	27.3	29.1	29.9	30.7	31.4	32.1	32.7	33.3	33.9	34.4	34.9*
	SDT	96.5	106.0	111.0	116.0	121.0	126.0	131.0	136.0	141.0	146.0	151.0*
35	TCG	402.0	378.0	366.0	354.0	342.0	331.0	319.0	308.0	296.0	285.0	274.0*
	CMP	28.3	30.3	31.3	32.2	33.0	33.8	34.5	35.2	35.9	36.5	37.1*
	SDT	97.3	107.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	146.0	151.0*
40	TCG	444.0	418.0	405.0	393.0	380.0	368.0	355.0	343.0	330.0	318.0	306.0*
	CMP	29.3	31.6	32.6	33.6	34.6	35.5	36.3	37.1	37.9	38.6	39.3*
	SDT	98.5	108.0	113.0	118.0	123.0	127.0	132.0	137.0	142.0	147.0	152.0*
45	TCG	488.0	460.0	447.0	433.0	420.0	406.0	393.0	379.0	366.0	353.0	340.0*
	CMP	30.4	32.9	34.0	35.1	36.2	37.2	38.2	39.1	40.0	40.8	41.5*
	SDT	100.0	110.0	114.0	119.0	124.0	129.0	133.0	138.0	143.0	148.0	153.0*
50	TCG	533.0	504.0	490.0	475.0	461.0	446.0	432.0	418.0	404.0	390.0	375.0*
	CMP	31.5	34.2	35.5	36.7	37.9	39.0	40.1	41.1	42.1	43.0	43.8*
	SDT	102.0	111.0	116.0	121.0	125.0	130.0	135.0	140.0	144.0	149.0	154.0*

LEGEND

- CMP** — Compressor Power, kW
- SDT** — Saturated Discharge Temperature (leaving compressor) (F)
- SST** — Saturated Suction Temperature (entering condensing unit)
- TCG** — Total Cooling Capacity, Gross (1000 Btuh)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 15 F superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.

Performance data — 38AH044-134 (cont)



CONDENSING UNIT CIRCUIT AND MODULE RATINGS — ENGLISH (cont)

38AH094 CIRCUIT A												
SST (F)		Air Temperature Entering Condenser (F)										
		70	80	85	90	95	100	105	110	115	120	125
20	TCG	366.0	338.0	324.0	310.0	295.0	281.0	266.0	251.0	236.0	221.0	207.0
	CMP	29.7	31.4	32.3	33.0	33.6	34.1	34.4	34.7	34.8	34.7	34.5
	SDT	93.9	104.0	109.0	114.0	119.0	124.0	129.0	134.0	139.0	144.0	149.0
	SCT	91.7	102.0	107.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
25	TCG	411.0	382.0	367.0	352.0	337.0	322.0	307.0	291.0	276.0	260.0	244.0
	CMP	30.9	33.0	34.0	34.8	35.6	36.3	36.8	37.3	37.6	37.8	37.8
	SDT	95.0	105.0	109.0	114.0	119.0	124.0	129.0	134.0	139.0	144.0	149.0
	SCT	92.1	102.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
30	TCG	457.0	427.0	412.0	396.0	381.0	365.0	349.0	333.0	317.0	300.0	284.0
	CMP	32.2	34.5	35.7	36.7	37.6	38.4	39.2	39.8	40.3	40.7	41.0
	SDT	96.7	106.0	111.0	115.0	120.0	125.0	130.0	134.0	139.0	144.0	149.0
	SCT	93.0	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
35	TCG	505.0	474.0	458.0	442.0	426.0	409.0	392.0	376.0	359.0	342.0	325.0
	CMP	33.6	36.1	37.4	38.6	39.6	40.6	41.5	42.3	43.0	43.6	44.1
	SDT	98.7	108.0	112.0	117.0	122.0	126.0	131.0	136.0	140.0	145.0	150.0
	SCT	94.3	104.0	109.0	114.0	119.0	124.0	129.0	134.0	139.0	144.0	149.0
40	TCG	556.0	522.0	506.0	489.0	472.0	455.0	437.0	420.0	402.0	384.0	367.0
	CMP	35.0	37.8	39.2	40.5	41.7	42.8	43.9	44.8	45.7	46.4	47.1
	SDT	101.0	110.0	115.0	119.0	124.0	128.0	133.0	137.0	142.0	146.0	151.0
	SCT	95.7	106.0	111.0	116.0	121.0	126.0	131.0	135.0	140.0	145.0	150.0
45	TCG	608.0	573.0	556.0	538.0	520.0	502.0	484.0	465.0	447.0	428.0	410.0
	CMP	36.4	39.4	41.0	42.4	43.8	45.1	46.2	47.4	48.4	49.3	50.1
	SDT	104.0	112.0	117.0	121.0	126.0	130.0	135.0	139.0	144.0	148.0	153.0
	SCT	97.4	108.0	113.0	118.0	123.0	127.0	132.0	137.0	142.0	146.0	151.0
50	TCG	663.0	626.0	608.0	589.0	570.0	551.0	532.0	512.0	493.0	473.0	454.0
	CMP	37.8	41.1	42.8	44.4	45.9	47.3	48.7	49.9	51.1	52.2	53.2
	SDT	106.0	115.0	119.0	124.0	128.0	133.0	137.0	142.0	146.0	150.0	155.0*
	SCT	99.1	109.0	114.0	119.0	124.0	129.0	134.0	139.0	143.0	148.0	153.0

38AH104 CIRCUIT A												
SST (F)		Air Temperature Entering Condenser (F)										
		70	80	85	90	95	100	105	110	115	120	125
20	TCG	349.0	321.0	308.0	294.0	280.0	267.0	253.0	240.0	226.0	213.0	200.0
	CMP	27.0	28.8	29.6	30.4	31.0	31.6	32.1	32.5	32.8	32.9	33.0
	SDT	91.9	102.0	107.0	112.0	116.0	121.0	126.0	131.0	136.0	141.0	146.0
	SCT	89.8	100.0	105.0	110.0	116.0	121.0	126.0	131.0	136.0	141.0	146.0
25	TCG	392.0	363.0	349.0	335.0	320.0	306.0	291.0	277.0	263.0	248.0	234.0
	CMP	28.1	30.1	31.1	32.0	32.8	33.6	34.2	34.7	35.2	35.6	35.8
	SDT	93.0	102.0	107.0	112.0	117.0	122.0	127.0	132.0	137.0	141.0	146.0
	SCT	90.2	100.0	105.0	111.0	116.0	121.0	126.0	131.0	136.0	141.0	146.0
30	TCG	437.0	407.0	392.0	377.0	361.0	346.0	331.0	316.0	301.0	286.0	271.0
	CMP	29.3	31.6	32.7	33.7	34.6	35.5	36.3	37.0	37.6	38.1	38.6
	SDT	94.7	104.0	109.0	113.0	118.0	123.0	127.0	132.0	137.0	142.0	147.0
	SCT	91.2	101.0	106.0	111.0	116.0	121.0	126.0	131.0	136.0	141.0	146.0
35	TCG	484.0	452.0	436.0	420.0	404.0	388.0	372.0	356.0	340.0	324.0	308.0
	CMP	30.6	33.0	34.3	35.4	36.4	37.4	38.4	39.2	40.0	40.7	41.3
	SDT	96.7	106.0	110.0	115.0	119.0	124.0	129.0	133.0	138.0	143.0	148.0
	SCT	92.5	103.0	108.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	147.0
40	TCG	534.0	500.0	483.0	466.0	449.0	432.0	415.0	398.0	381.0	364.0	348.0
	CMP	38.1	34.5	35.9	37.1	38.3	39.4	40.5	41.5	42.4	43.2	44.0
	SDT	98.9	108.0	112.0	117.0	121.0	126.0	130.0	135.0	140.0	144.0	149.0
	SCT	94.0	104.0	109.0	114.0	119.0	124.0	128.0	133.0	138.0	143.0	148.0
45	TCG	586.0	550.0	532.0	514.0	495.0	478.0	460.0	442.0	424.0	406.0	388.0
	CMP	33.0	36.0	37.5	38.9	40.2	41.5	42.6	43.8	44.8	45.8	46.7
	SDT	101.0	110.0	115.0	119.0	124.0	128.0	132.0	137.0	141.0	146.0	150.0
	SCT	95.6	106.0	111.0	116.0	120.0	125.0	130.0	135.0	140.0	144.0	149.0
50	TCG	640.0	602.0	583.0	564.0	544.0	525.0	506.0	487.0	468.0	449.0	431.0
	CMP	34.3	37.5	39.2	40.7	42.1	43.5	44.8	46.1	47.3	48.4	49.4
	SDT	104.0	113.0	117.0	122.0	126.0	130.0	135.0	139.0	144.0	148.0	152.0
	SCT	97.3	107.0	112.0	117.0	122.0	127.0	132.0	137.0	141.0	146.0	151.0

LEGEND

- CMP — Compressor Power, kW
- SCT — Saturated Condensing Temperature (F)
- SDT — Saturated Discharge Temperature (leaving compressor) (F)
- SST — Saturated Suction Temperature (entering condensing unit)
- TCG — Total Cooling Capacity, Gross (1000 Btuh)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 15 F superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.



CONDENSING UNIT CIRCUIT AND MODULE RATINGS — ENGLISH (cont)

38AH094 CIRCUIT B												
SST (F)		Air Temperature Entering Condenser (F)										
		70	80	85	90	95	100	105	110	115	120	125
20	TCG	291.0	273.0	264.0	254.0	245.0	236.0	228.0	219.0	210.0	202.0	193.0
	CMP	24.6	26.0	26.7	27.2	27.8	28.3	28.8	29.2	29.6	30.0	30.3
	SDT	92.1	102.0	107.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	147.0
	SCT	90.4	101.0	106.0	111.0	116.0	121.0	126.0	131.0	136.0	142.0	147.0
25	TCG	327.0	307.0	296.0	286.0	277.0	267.0	257.0	247.0	238.0	228.0	219.0
	CMP	25.6	27.2	28.0	28.7	29.3	29.9	30.5	31.0	31.5	32.0	32.4
	SDT	92.4	102.0	107.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	147.0
	SCT	90.2	100.0	106.0	111.0	116.0	121.0	126.0	131.0	136.0	141.0	146.0
30	TCG	364.0	342.0	331.0	320.0	310.0	299.0	289.0	278.0	268.0	257.0	247.0
	CMP	26.6	28.4	29.3	30.1	30.9	31.6	32.3	32.9	33.5	34.0	34.5
	SDT	93.3	103.0	108.0	113.0	118.0	123.0	127.0	132.0	137.0	142.0	147.0
	SCT	90.5	101.0	106.0	111.0	116.0	121.0	126.0	131.0	136.0	141.0	146.0
35	TCG	402.0	379.0	367.0	356.0	345.0	333.0	322.0	310.0	299.0	288.0	277.0
	CMP	27.7	29.7	30.7	31.6	32.4	33.2	34.0	34.7	35.4	36.0	36.6
	SDT	94.7	104.0	109.0	114.0	119.0	123.0	128.0	133.0	138.0	143.0	148.0
	SCT	91.2	101.0	107.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	147.0
40	TCG	443.0	418.0	405.0	393.0	381.0	369.0	356.0	344.0	332.0	320.0	308.0
	CMP	28.8	31.0	32.1	33.1	34.1	35.0	35.8	36.6	37.4	38.1	38.8
	SDT	96.5	106.0	111.0	115.0	120.0	125.0	129.0	134.0	139.0	144.0	149.0
	SCT	92.3	102.0	108.0	113.0	118.0	122.0	127.0	132.0	137.0	142.0	147.0
45	TCG	485.0	458.0	445.0	432.0	419.0	406.0	393.0	380.0	367.0	354.0	341.0
	CMP	29.9	32.4	33.6	34.7	35.7	36.7	37.7	38.6	39.5	40.3	41.1
	SDT	98.6	108.0	112.0	117.0	122.0	126.0	131.0	136.0	140.0	145.0	150.0
	SCT	93.6	104.0	109.0	114.0	119.0	124.0	129.0	134.0	138.0	143.0	148.0
50	TCG	530.0	501.0	487.0	473.0	459.0	445.0	431.0	417.0	403.0	389.0	375.0
	CMP	31.1	33.7	35.0	36.3	37.4	38.5	39.6	40.6	41.6	42.5	43.4
	SDT	101.0	110.0	114.0	119.0	124.0	128.0	133.0	137.0	142.0	147.0	151.0
	SCT	95.1	105.0	110.0	115.0	120.0	125.0	130.0	135.0	140.0	145.0	149.0

38AH104 CIRCUIT B												
SST (F)		Air Temperature Entering Condenser (F)										
		70	80	85	90	95	100	105	110	115	120	125
20	TCG	398.0	368.0	353.0	339.0	324.0	310.0	296.0	283.0	269.0	256.0	243.0
	CMP	31.4	33.4	34.3	35.2	36.0	36.7	37.4	38.0	38.5	39.0	39.4
	SDT	93.5	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	142.0	147.0
	SCT	90.9	101.0	106.0	111.0	116.0	122.0	127.0	132.0	137.0	142.0	147.0
25	TCG	445.0	414.0	398.0	383.0	367.0	352.0	337.0	322.0	308.0	293.0	279.0
	CMP	32.9	35.1	36.2	37.2	38.1	39.0	39.8	40.5	41.2	41.8	42.3
	SDT	95.1	104.0	109.0	114.0	119.0	123.0	128.0	133.0	138.0	143.0	148.0
	SCT	91.7	102.0	107.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	147.0
30	TCG	495.0	462.0	445.0	428.0	412.0	396.0	380.0	364.0	348.0	333.0	317.0
	CMP	34.5	36.9	38.1	39.2	40.3	41.3	42.2	43.0	43.8	44.6	45.2
	SDT	97.1	106.0	111.0	115.0	120.0	125.0	129.0	134.0	139.0	144.0	148.0
	SCT	92.9	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
35	TCG	548.0	512.0	494.0	476.0	459.0	441.0	424.0	407.0	391.0	374.0	357.0
	CMP	36.1	38.8	40.1	41.4	42.5	43.6	44.7	45.7	46.6	47.4	48.2
	SDT	99.4	108.0	113.0	117.0	122.0	126.0	131.0	136.0	140.0	145.0	150.0
	SCT	94.4	104.0	109.0	114.0	119.0	124.0	129.0	134.0	139.0	144.0	148.0
40	TCG	603.0	565.0	546.0	527.0	508.0	489.0	471.0	453.0	435.0	417.0	399.0
	CMP	37.7	40.7	42.2	43.6	44.9	46.1	47.3	48.4	49.4	50.4	51.3
	SDT	102.0	111.0	115.0	120.0	124.0	128.0	133.0	137.0	142.0	147.0	151.0
	SCT	96.0	106.0	111.0	116.0	121.0	126.0	131.0	135.0	140.0	145.0	150.0
45	TCG	661.0	620.0	600.0	580.0	559.0	539.0	520.0	500.0	481.0	462.0	443.0
	CMP	39.4	42.7	44.3	45.8	47.2	48.6	49.9	51.1	52.3	53.4	54.5
	SDT	105.0	113.0	118.0	122.0	126.0	131.0	135.0	140.0	144.0	149.0	153.0
	SCT	97.8	108.0	113.0	118.0	123.0	128.0	132.0	137.0	142.0	147.0	151.0
50	TCG	723.0	679.0	657.0	635.0	614.0	592.0	571.0	550.0	530.0	509.0	488.0
	CMP	41.2	44.7	46.4	48.1	49.6	51.2	52.6	54.0	55.3	56.5	57.7
	SDT	108.0	116.0	120.0	125.0	129.0	133.0	138.0	142.0	146.0	151.0	155.0*
	SCT	99.6	110.0	115.0	120.0	125.0	130.0	134.0	139.0	144.0	148.0	153.0

LEGEND

- CMP** — Compressor Power, kW
- SCT** — Saturated Condensing Temperature (F)
- SDT** — Saturated Discharge Temperature (leaving compressor) (F)
- SST** — Saturated Suction Temperature (entering condensing unit)
- TCG** — Total Cooling Capacity, Gross (1000 Btuh)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

NOTES:

1. Ratings are based on 15 F superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.

Performance data — 38AH044-134 (cont)



CONDENSING UNIT CIRCUIT AND MODULE RATINGS — ENGLISH (cont)

38AH124 MODULE 124A OR 124B; 38AH134 MODULE 134A												
SST (F)		Air Temperature Entering Condenser (F)										
		70	80	85	90	95	100	105	110	115	120	125
20	TCG	417.0	386.0	370.0	355.0	339.0	324.0	309.0	294.0	279.0	264.0	249.0
	CMP	33.6	35.7	36.7	37.6	38.4	39.0	39.6	40.1	40.5	40.8	41.0
	SDT	93.3	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
	SCT	92.4	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
25	TCG	470.0	436.0	420.0	403.0	386.0	370.0	354.0	337.0	321.0	305.0	289.0
	CMP	34.9	37.3	38.5	39.6	40.5	41.4	42.2	42.8	43.4	43.9	44.3
	SDT	94.0	104.0	109.0	114.0	119.0	123.0	128.0	133.0	138.0	143.0	148.0
	SCT	92.8	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
30	TCG	525.0	490.0	472.0	454.0	436.0	419.0	401.0	384.0	366.0	349.0	331.0
	CMP	36.2	39.0	40.3	41.6	42.7	43.7	44.7	45.5	46.3	47.0	47.5
	SDT	95.0	105.0	110.0	114.0	119.0	124.0	129.0	134.0	139.0	144.0	149.0
	SCT	93.5	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0	148.0
35	TCG	584.0	546.0	526.0	507.0	489.0	470.0	451.0	432.0	414.0	395.0	376.0
	CMP	37.5	40.6	42.1	43.5	44.8	46.0	47.2	48.2	49.2	50.0	50.7
	SDT	96.4	106.0	111.0	116.0	120.0	125.0	130.0	135.0	140.0	144.0	149.0
	SCT	94.6	104.0	109.0	114.0	119.0	124.0	129.0	134.0	139.0	144.0	149.0
40	TCG	645.0	604.0	584.0	563.0	543.0	523.0	503.0	483.0	463.0	444.0	424.0
	CMP	38.8	42.2	43.9	45.5	47.0	48.4	49.7	50.8	52.0	53.0	54.0
	SDT	98.1	108.0	112.0	117.0	122.0	126.0	131.0	136.0	141.0	146.0	150.0
	SCT	95.9	106.0	111.0	116.0	120.0	125.0	130.0	135.0	140.0	145.0	150.0
45	TCG	709.0	666.0	644.0	622.0	601.0	579.0	558.0	537.0	516.0	494.0	473.0
	CMP	40.0	43.9	45.8	47.5	49.1	50.7	52.2	53.5	54.9	56.1	57.2
	SDT	100.0	109.0	114.0	119.0	123.0	128.0	133.0	138.0	142.0	147.0	152.0
	SCT	97.5	107.0	112.0	117.0	122.0	127.0	131.0	136.0	141.0	146.0	151.0
50	TCG	776.0	730.0	707.0	684.0	661.0	638.0	616.0	593.0	570.0	548.0	525.0
	CMP	41.3	45.5	47.6	49.5	51.3	53.1	54.7	56.2	57.8	59.1	60.4
	SDT	102.0	112.0	116.0	121.0	125.0	130.0	135.0	139.0	144.0	149.0	153.0
	SCT	99.3	109.0	114.0	119.0	123.0	128.0	133.0	138.0	143.0	147.0	152.0

38AH134 MODULE 134B												
SST (F)		Air Temperature Entering Condenser (F)										
		70	80	85	90	95	100	105	110	115	120	125
20	TCG	513.0	478.0	461.0	444.0	427.0	410.0	393.0	376.0	359.0	342.0	326.0
	CMP	42.4	44.9	46.1	47.1	48.0	48.9	49.6	50.2	50.8	51.3	51.6
	SDT	92.0	102.0	107.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	147.0
	SCT	87.6	97.7	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0
25	TCG	575.0	538.0	520.0	502.0	483.0	465.0	447.0	428.0	410.0	392.0	374.0
	CMP	44.1	47.0	48.3	49.5	50.7	51.7	52.7	53.5	54.3	54.9	55.5
	SDT	92.7	102.0	107.0	112.0	117.0	122.0	127.0	132.0	137.0	142.0	147.0
	SCT	88.6	98.5	103.0	108.0	113.0	118.0	123.0	128.0	133.0	138.0	143.0
30	TCG	639.0	600.0	580.0	561.0	542.0	522.0	503.0	484.0	464.0	445.0	425.0
	CMP	45.8	49.1	50.6	52.0	53.4	54.6	55.7	56.7	57.7	58.6	59.3
	SDT	93.8	103.0	108.0	113.0	118.0	123.0	127.0	132.0	137.0	142.0	147.0
	SCT	90.0	99.7	105.0	109.0	114.0	119.0	124.0	129.0	134.0	139.0	144.0
35	TCG	706.0	665.0	644.0	623.0	603.0	582.0	562.0	541.0	520.0	500.0	479.0
	CMP	47.6	51.3	53.0	54.6	56.1	57.5	58.8	60.0	61.2	62.2	63.2
	SDT	95.4	105.0	110.0	114.0	119.0	124.0	128.0	133.0	138.0	143.0	148.0
	SCT	91.5	101.0	106.0	111.0	116.0	120.0	125.0	130.0	135.0	139.0	144.0
40	TCG	777.0	733.0	710.0	689.0	667.0	645.0	623.0	601.0	579.0	557.0	535.0
	CMP	49.4	53.5	55.4	57.2	58.9	60.5	62.0	63.4	64.7	66.0	67.1
	SDT	97.2	107.0	111.0	116.0	121.0	125.0	130.0	135.0	139.0	144.0	149.0
	SCT	93.0	103.0	107.0	112.0	117.0	122.0	127.0	131.0	136.0	141.0	145.0
45	TCG	852.0	804.0	781.0	757.0	734.0	710.0	687.0	663.0	640.0	617.0	593.0
	CMP	51.2	55.7	57.8	59.8	61.7	63.5	65.2	66.8	68.3	69.7	71.1
	SDT	99.2	109.0	113.0	118.0	122.0	127.0	132.0	136.0	141.0	145.0	150.0
	SCT	94.6	104.0	109.0	114.0	119.0	123.0	128.0	133.0	137.0	142.0	147.0
50	TCG	931.0	880.0	855.0	829.0	804.0	779.0	754.0	729.0	704.0	679.0	654.0
	CMP	52.9	57.9	60.2	62.4	64.6	66.6	68.5	70.3	72.0	73.6	75.1
	SDT	101.0	111.0	115.0	120.0	124.0	129.0	134.0	138.0	143.0	147.0	152.0
	SCT	96.3	106.0	111.0	116.0	120.0	125.0	130.0	134.0	139.0	144.0	148.0

LEGEND

- CMP — Compressor Power, kW
- SCT — Saturated Condensing Temperature (F)
- SDT — Saturated Discharge Temperature (leaving compressor) (F)
- SST — Saturated Suction Temperature (entering condensing unit)
- TCG — Total Cooling Capacity, Gross (1000 Btuh)

*May require replacement of the high-pressure cutout switches with switches of a higher setting.

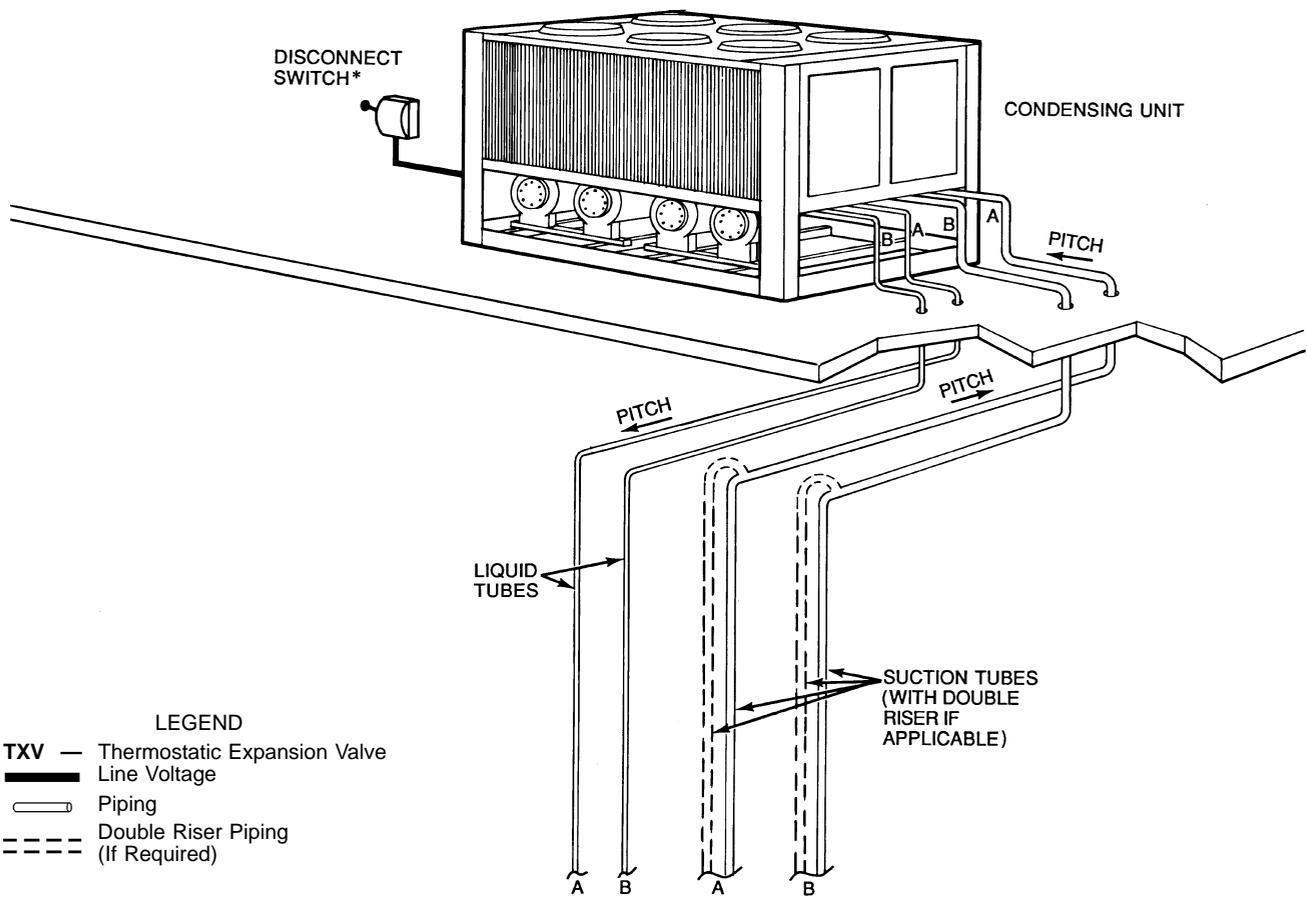
NOTES:

1. Ratings are based on 15 F superheat and use of R-22 refrigerant.
2. Ratings include suction line losses due to an accumulator.

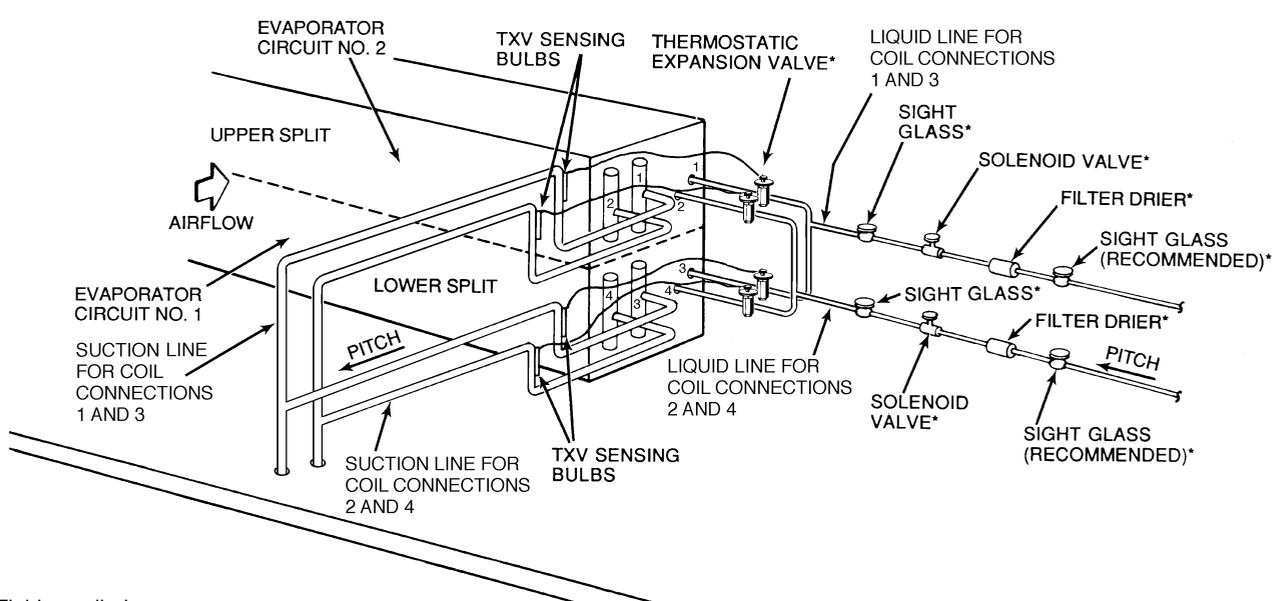
Typical piping and wiring — 38AH044-134



ROOFTOP INSTALLATION — UNIT 38AH104 WITH SINGLE AIR HANDLER SHOWN

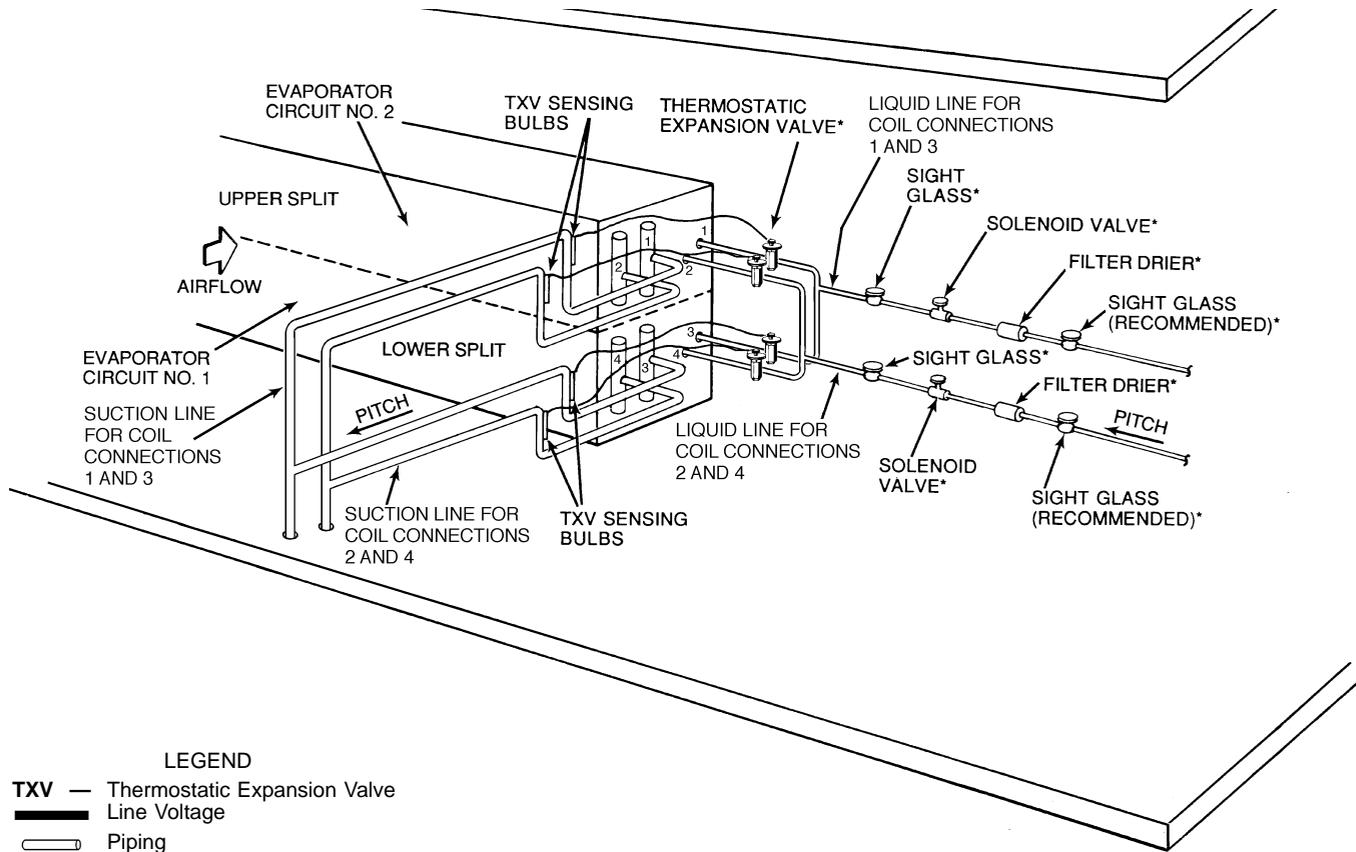


- LEGEND**
- TXV** — Thermostatic Expansion Valve
 - Line Voltage
 - Piping
 - Double Riser Piping (If Required)



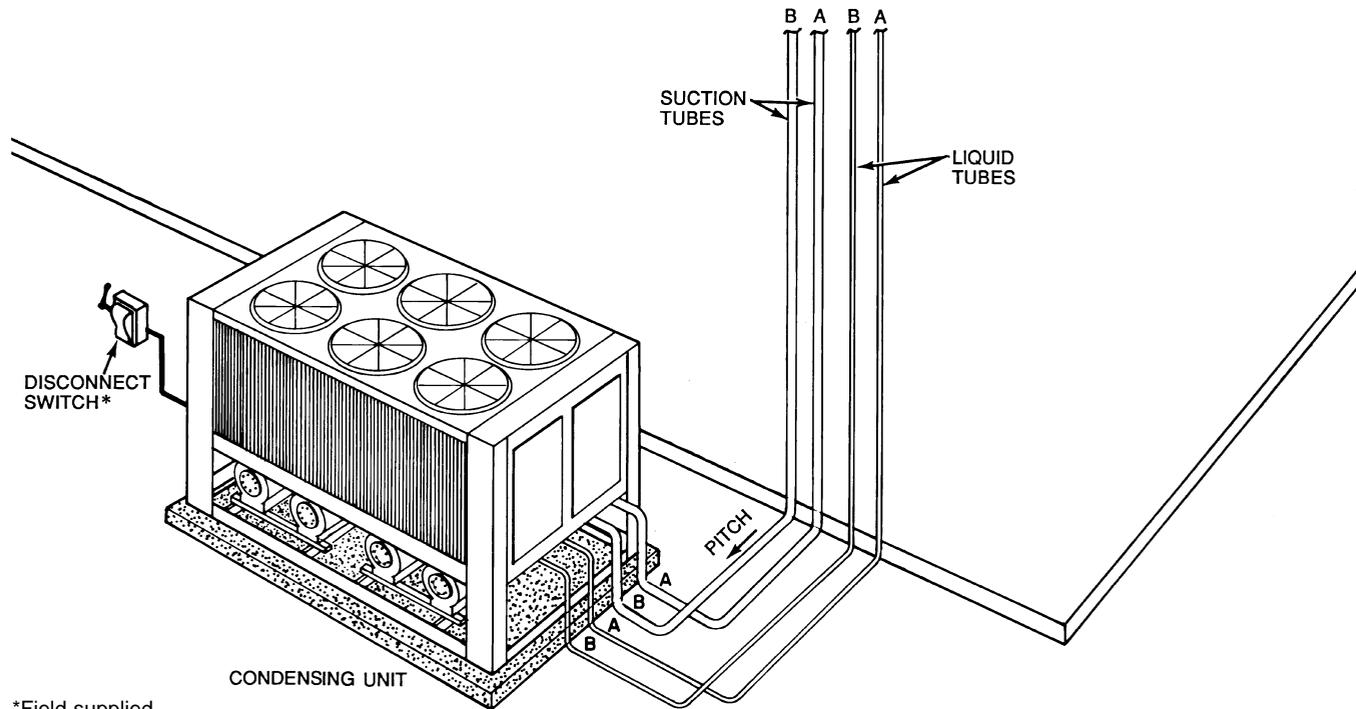
- *Field supplied.
- NOTES:**
1. All piping must follow standard refrigerant piping techniques. Refer to Carrier System Design Manual for details.
 2. All wiring must comply with the applicable local and national codes.
 3. Wiring and piping shown are general points-of-connection guides only and are not intended for, or to include all details for, a specific installation. Face-split connection shown; row-split connection also possible.
 4. Liquid line solenoid valve (solenoid drop control) is required to minimize refrigerant migration to the compressor.

GROUND-LEVEL INSTALLATION — UNIT 38AH104 WITH SINGLE AIR HANDLER SHOWN



LEGEND

- TXV** — Thermostatic Expansion Valve
-  Line Voltage
-  Piping



*Field supplied.

NOTES:

1. All piping must follow standard refrigerant piping techniques. Refer to Carrier System Design Manual for details.
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. Face-split connection shown; row-split connection also possible.
4. Liquid line solenoid valve (solenoid drop control) is required to minimize refrigerant migration to the compressor.

Electrical data — 38AH044-134



38AH044-084

UNIT 38AH	VOLTAGE DESIGNATION	COMPRESSOR MODEL (A/B DUAL-CIRCUIT) (A1/A2 SINGLE-CIRCUIT)	NAMEPLATE VOLTS-PH-Hz	SUPPLY VOLTAGE*		POWER SUPPLY			COMPRESSOR†			
				Min	Max	MCA	MOCP	ICF	A		B	
									RLA	LRA	RLA	LRA
044	800 (PW)	06E-250/250	230-3-50	198	254	174.6	225	296.7	67.9	207	67.9	207
	900		380/415-3-50	348	440	100.0	100	219.6	34.6	173	34.6	173
	300 (PW)		346-3-50	325	367	100.0	125	165.9	33.3	115	33.3	115
054	900	06E-250/265	380/415-3-50	342	440	101.1	125	269.6	34.6	173	43.6	223
	300 (PW)		346-3-50	325	367	107.0	150	198.9	33.3	115	44.9	148
064	900	06E-265/275	380/415-3-50	342	440	114.1	150	335.6	43.6	223	46.8	280
	300 (PW)		346-3-50	325	367	129.8	175	230.5	44.9	148	53.8	168
074	900	06E-275/299	380/415-3-50	342	440	140.6	200	403.8	46.8	280	65.4	345
	300 (PW)		346-3-50	325	367	170.8	250	300.4	53.8	168	79.5	229
084	900	06E-299/299	380/415-3-50	342	440	165.2	225	428.4	65.4	345	65.4	345
	300 (PW)		346-3-50	325	367	205.3	250	334.9	79.5	229	79.5	229

38AH094,104

UNIT 38AH	VOLTAGE DESIGNATION	COMPRESSOR A1/A2/B1/B2 MODEL NO.	NAMEPLATE VOLTS-PH-Hz	SUPPLY VOLTAGE*		POWER SUPPLY			COMPRESSOR†							
				Min	Max	MCA	MOCP	ICF	A1		A2		B1		B2	
									RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
094	300 (PW)	06E-275/250/ 299/—	346-3-50	325	380	212.9	250	343	53.8	168	33.3	115	79.5	229	—	—
	900		380/415-3-50	342	440	181.2	225	444	46.8	280	34.6	173	65.4	345	—	—
104	300 (PW)	06E-265/250/ 265/265	346-3-50	325	380	205.6	250	298	44.9	148	33.3	229	44.9	148	49.9	148
	900		380/415-3-50	342	440	194.3	225	363	43.6	223	34.6	173	43.6	223	43.6	223

38AH124,134

UNIT 38AH MODULE	VOLTAGE DESIGNATION	COMPRESSOR A1/A2 MODEL NO.	NAMEPLATE VOLTS-PH-Hz	SUPPLY VOLTAGE*		POWER SUPPLY**			COMPRESSOR†			
				Min	Max	MCA	MOCP	ICF	A1		A2	
									RLA	LRA	RLA	LRA
124A 124B 134A	300 (PW)	06E-275/265	346-3-50	325	367	129.8	175	231	53.8	168	44.9	148
	900		380/415-3-50	342	440	114.1	150	336	46.8	280	43.6	223
134B	300 (PW)	06E-299/275	346-3-50	325	367	170.8	250	300	79.5	229	53.8	168
	900		380/415-3-50	342	440	140.6	200	404	65.4	345	46.8	280

See Legend and Notes on page 88.



FANS

UNIT/MODULE 38AH	CONDENSER FAN MOTORS				
	Nameplate Volts-Ph-Hz	Qty	Hp	Total kW	(No.) FLA Each
044	230-3-50	4	1	6.2	(1,2) 5.5 (3,4) 5.4
	380/415-3-50				(1-4) 3.0
	346-3-50				(1-4) 4.4
054	380/415-3-50	4	1	6.2	(1-4) 3.0
	346-3-50				(1-4) 4.4
064	380/415-3-50	4	1	6.2	(1-4) 3.0
	346-3-50				(1-4) 4.4
074	380/415-3-50	6	1	9.3	(1-6) 3.0
	346-3-50				(1-6) 4.4
084	380/415-3-50	6	1	9.3	(1-6) 3.0
	346-3-50				(1-6) 4.4
094	380/415-3-50	6	1	9.4	(1-6) 4.4
	346-3-50				(1-6) 3.0
104	380/415-3-50	6	1	9.5	(1-6) 4.4
	346-3-50				(1-6) 3.0
124A 124B 134A	380/415-3-50	4	1	6.4	(1-4) 4.4
	346-3-50				(1-4) 3.0
134B	380/415-3-50	6	1	9.2	(1-6) 4.4
	346-3-50				(1-6) 3.0

CONTROL CIRCUIT

38AH 044-134	UNIT POWER	CONTROL POWER			AMPS
	V-Ph-Hz	V-Ph-Hz	Min	Max	
-800	230-3-50	230-1-50	207	253	2.0
-300	346-3-50	200-1-50	180	220	2.4
-900	380/415-3-50	230-1-50	207	253	2.0

LEGEND (for pages 87 and 88)

- AWG** — American Wire Gage
- 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 compressors, plus the total RLA for all running compressors plus the FLA for all running fan motors is maximum.)
- IFC** — Indoor-Fan Contactor
- kcmil** — Thousand Circular Mills
- LLS** — Liquid Line Solenoid
- LRA** — Locked Rotor Amps
- MCA** — Minimum Circuit Amps (used for sizing; complies with National Electrical Code [NEC] section 430-24, U.S.A.)
- MOCP** — Maximum Overcurrent Protection (used for sizing disconnect; complies with NEC Article 440-22, U.S.A.)
- PW** — Part Wind
- RLA** — Rated Load Amps

5. Field-supplied components (IFC, LLS-A, and LLS-B) must have a maximum sealed coil rating of 30 va each or less (0.13 amp at 230 vac). Thermostats must have a minimum pilot duty rating as follows:

38AH	VA (Each Stage)	AMPS	CONTROL CIRCUIT VOLTAGE
044-084	300	1.30	240
094	275	1.15	
104	325	1.35	
124	300	1.30	
134	300	1.30	

*Units are suitable for use on electrical systems where voltage supplied to unit terminals is within listed minimum to maximum limits.

†Compressors are across-the-line start unless voltage designation shows (PW).

**38AH124 and 134 units require a separate power supply for each unit module.

NOTES:

1. Maximum allowable phase imbalance:
Voltage — 2%
Amps — 10%
2. Maximum incoming wire size for terminal block is 500 kcmil.
3. Wiring for field power supply must be rated 75 C minimum. Use copper, copper-clad aluminum, or aluminum conductors. Maximum incoming wire size for each terminal block is 500 kcmil.
4. Terminal blocks TB3 and TB4 are for external field control connections. Control connections are to be class 1 wiring.

6. Units have the following va of power available for field-installed accessories:

- 38AH044-084 — 175 va
- 38AH094 — 140 va
- 38AH104 — 130 va
- 38AH124,134 — 175 va each module

7. To minimize voltage drop, the following wire sizes are recommended:

LENGTH (Ft)	INSULATED WIRE — AWG (35 C Minimum)
Up to 50	No. 18
50-75	No. 16
More Than 75	No. 14

8. Unit 38AH124 consists of Modules 124A and 124B. Unit 38AH134 consists of Modules 134A and 134B. Each module has a control box.
9. All fans are protected by a single circuit breaker.

Operating sequence

Circuits A1 and B1 are controlled by independent circuitry. It is therefore possible to maintain partial cooling capability even if one compressor is inoperable.

NOTE: Single-circuit units do not have independent control circuitry.

On a call for cooling, the first-stage cooling thermostat TC1 closes, energizing the first stage of the condenser fans and timer motor TM-A (TM for single-circuit units). After 12 seconds, the timer energizes lead compressor contactor C-A1 and the lead compressor starts. (Circuit A compressor is the lead on dual-circuit units, and compressor A1 is the lead on single-circuit units.) At the same time, solenoid drop relay SDR2 energizes and closes its contacts, which energizes and opens liquid line solenoid valve LLS-A (LLS-A1 for single-circuit units). Circuit A (compressor A1 for single-circuit units) is now operational.

A set of bypass contacts in timer TM-A allows the circuit A compressor (compressor A1 for single-circuit units) 40 seconds to build sufficient oil pressure. If the oil pressure is insufficient after 40 seconds, circuit A (compressor A1 for single-circuit units) shuts down and must be reset manually.

A second set of bypass contacts in timer TM-A (TM for single-circuit units) allows the refrigerant circuit 2½ minutes to build sufficient low-side pressure. This time delay is a start-up feature for low ambient conditions; no accessory is required. If refrigerant circuit pressure is insufficient to close the low-pressure switch after 2½ minutes, the circuit A compressor (compressor A1 for single-circuit units) shuts down for 5½ minutes and then automatically attempts to restart. No manual reset is required.

Dual-circuit units — If circuit A is insufficient for the cooling requirements, second-stage thermostat TC2 closes to bring circuit B on line. Circuit B follows the same sequence of operation as circuit A, except a relay delays circuit B compressor start-up for 40 seconds after a call for cooling. Because circuit A has a 12-second delay after TC1 closes, and circuit B has a 40-second delay after TC2 closes, the two compressors cannot start at the same time.

Optional single-circuit units — If compressor A1 is insufficient for the cooling requirements, second-stage thermostat TC2 closes, which opens liquid line solenoid valve LLS-A2. Compressor A2 starts only after the D-D2 contacts in timer TM close (approximately 2½ minutes after compressor A1 is energized) and the suction pressure is sufficient to close capacity control pressure switches CCPS1 and CCPS2.

All units — When the fan switch on the thermostat is set for automatic operation (AUTO), the field-supplied indoor-fan contactor (IFC) is cycled with the lead compressor. If the fan switch is set at the continuous position (CONT), the IFC is energized as long as the unit power is on.

NOTE: Liquid line solenoid valves must be field-supplied and installed at the evaporator for both dual- and optional single-circuit units.

Operating sequence

Units are controlled with electromechanical components. Each refrigeration circuit is operated by an independent timer motor which controls the operation sequence of each circuit. It is possible to maintain partial cooling capability even if one circuit is inoperable.

On a call for cooling, first stage cooling thermostat TC1 closes. Condenser fans and timer motor (TM) are energized. After approximately 7 seconds, timer contacts E-E1 close. Approximately 12 seconds after TC1 closes, normally open timer contacts B-B1 close for 1 second. This energizes compressor A1 contacts CA1 and starts the compressor. At the same time, solenoid drop relays (SDRs) and liquid line solenoid valve no. 1 (LLS-A1) open, and timer relay no. 1 (TR1) is energized. Normally open TR1 contacts close, completing a circuit around B-B1 and through compressor A1 contactors to maintain compressor operation when B-B1 contacts open. Contacts E-E1 remain closed for approximately 40 seconds to bypass the oil pressure switch. If oil pressure is insufficient when contacts E-E1 open, the compressor stops, the timer cycles off, and the control circuit locks out. At start-up, timer motor contacts D-D1 are closed, bypassing low-pressure relay contacts LPR-A for 2½ minutes. This provides a winter start-up feature.

Approximately 2½ minutes after TC1 closes, timer contacts D-D1 open and D-D2 close. If pressure is insufficient to close the low-pressure switch, the low-pressure switch relay remains open, the compressor shuts down, and the Time Guard® control is initiated. Time Guard control prevents compressor from restarting for 5 minutes after the demand for cooling is satisfied.

Units 38AH094 and 104 — If circuit A operation is insufficient for the cooling requirements, the thermostat second stage TC2 closes to bring circuit B on-line for cooling. This circuit follows the same sequence of operation as the lead circuit, except a 60-second time-delay relay (TDR) delays compressor start-up for 60 seconds after the call for cooling.

Modules 124A, 124B, 134A, and 134B — If compressor A1 is insufficient for the cooling requirements, the thermostat second stage closes, which opens the liquid line solenoid valve LLS-A2. Compressor A2 starts only after D-D2 contacts in the timer close and the suction pressure is sufficient to close the capacity control switches.

All units — When the fan switch is set for automatic (AUTO) operation, the indoor-fan contactor (IFC) is cycled with the lead compressor. If the fan switch is set for continuous (CONT), the IFC is energized as long as the unit power is on.

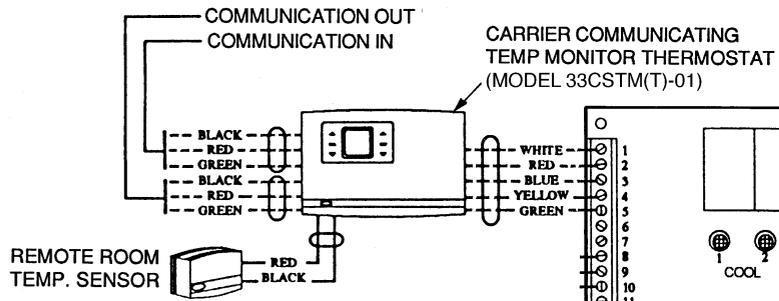
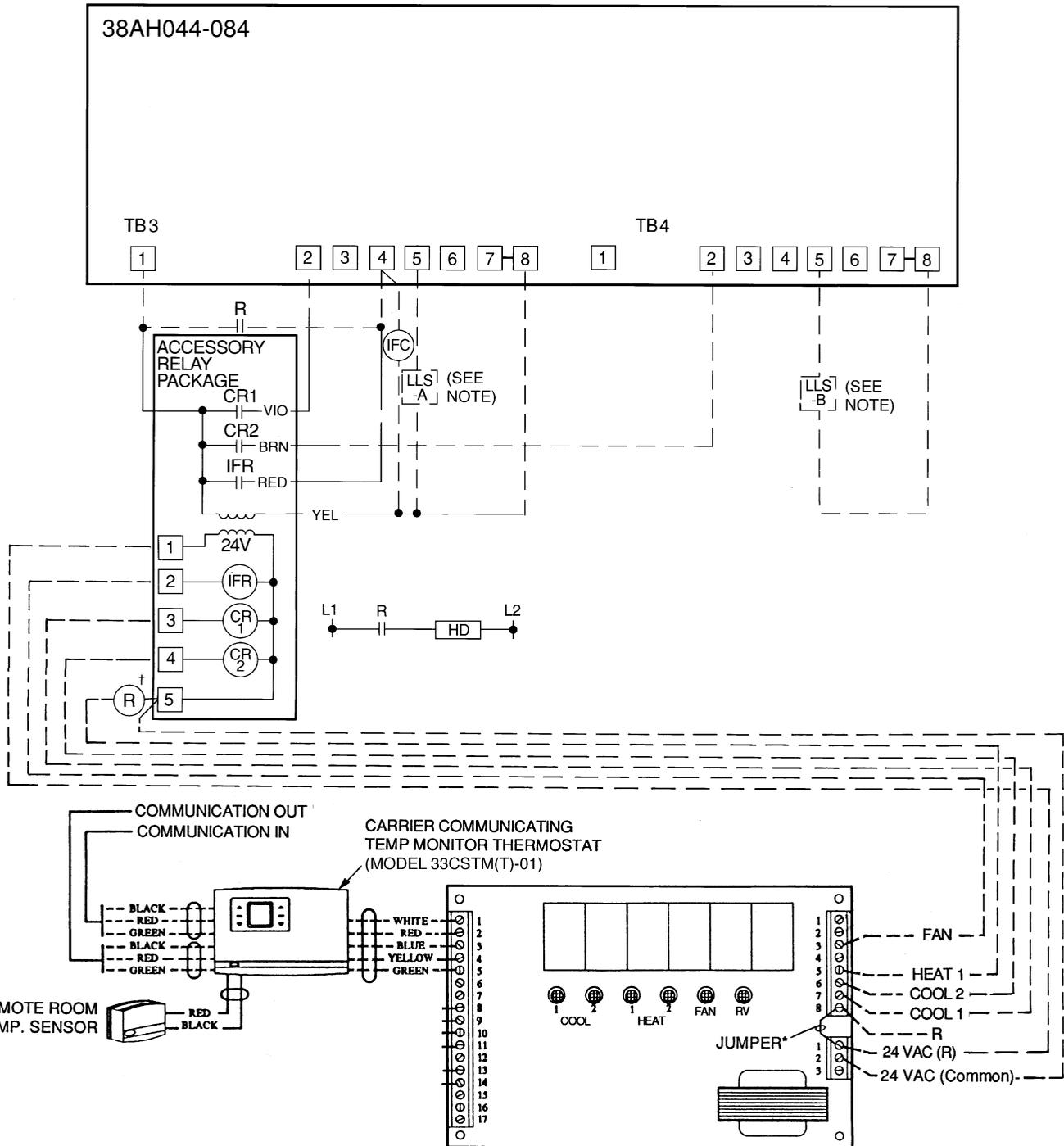
Restart after stoppage by safety control — The high-pressure switch, compressor discharge gas thermostats, and the oil pressure switch must be reset manually by breaking the control power supply at any of the following points: Control circuit fuse, fan motor circuit breaker, or thermostat. Restart follows the Time Guard® control 5-minute delay. Stoppage by low-pressure switch results in Time Guard control 5-minute delay, then unit attempts to restart.

The compressor motor overcurrent protectors are manual-reset circuit breakers. Reset of control circuit may also be necessary.

Typical control wiring schematic — 38AH044-134



24-V THERMOSTAT CONTROL WIRING — DUAL-CIRCUIT UNITS 38AH044-084



- LEGEND**
- CR — Control Relay
 - HD — Heating Device
 - IFC — Indoor Fan Contactor
 - IFR — Indoor-Fan Relay
 - kcmil — Thousand Circular Mils
 - LLS — Liquid Line Solenoid
 - R — Heating Relay (field-supplied 24-v sealed coil, 10 va maximum rating)
 - RV — Reversing Valve
 - TB — Terminal Block
 - Factory Wiring
 - - - - - Field Wiring

*Jumper removed only when separate 24-v transformer power source is used to power the 33CSUCE-06 relay pack.
 †To control heating device and provide automatic indoor-fan operation on heating.

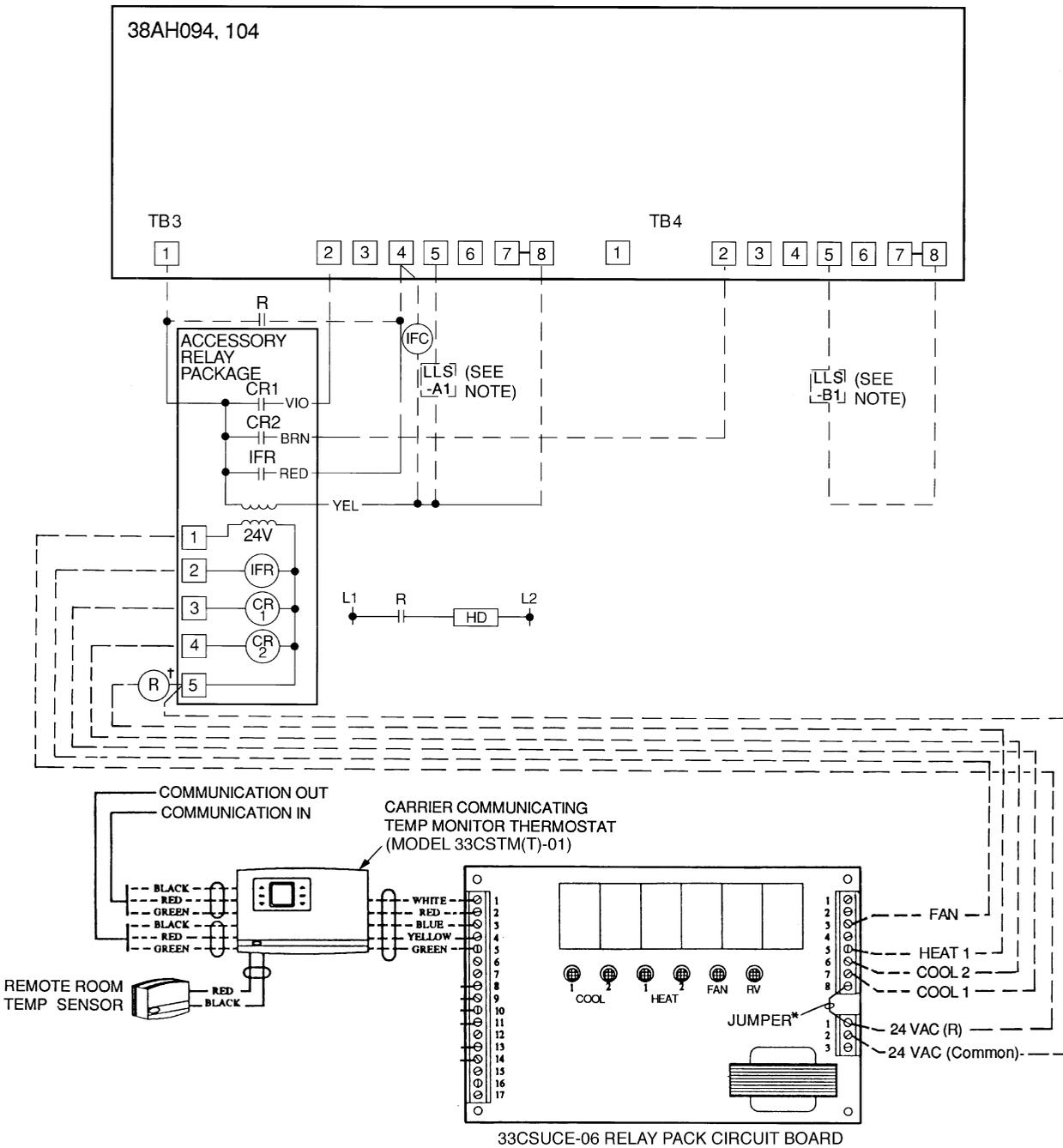
NOTE: Field-supplied liquid line solenoid valves installed at the evaporator are required on all units.

⚠ CAUTION
 Internal 33CSUCE-06 relay contacts are rated for 1 amp/24 vac.

Typical control wiring schematic — 38AH044-134 (cont)



24-V THERMOSTAT CONTROL WIRING — UNITS 38AH094 AND 104



LEGEND

- CR — Control Relay
- HD — Heating Device
- IFC — Indoor Fan Contactor
- IFR — Indoor-Fan Relay
- LLS — Liquid Line Solenoid
- R — Heating Relay (field-supplied 24-v sealed coil, 10 va maximum rating)
- RV — Reversing Valve
- TB — Terminal Block
- Factory Wiring
- Field Wiring

*Jumper removed only when separate 24-v transformer power source is used to power the 33CSUCE-06 relay pack.

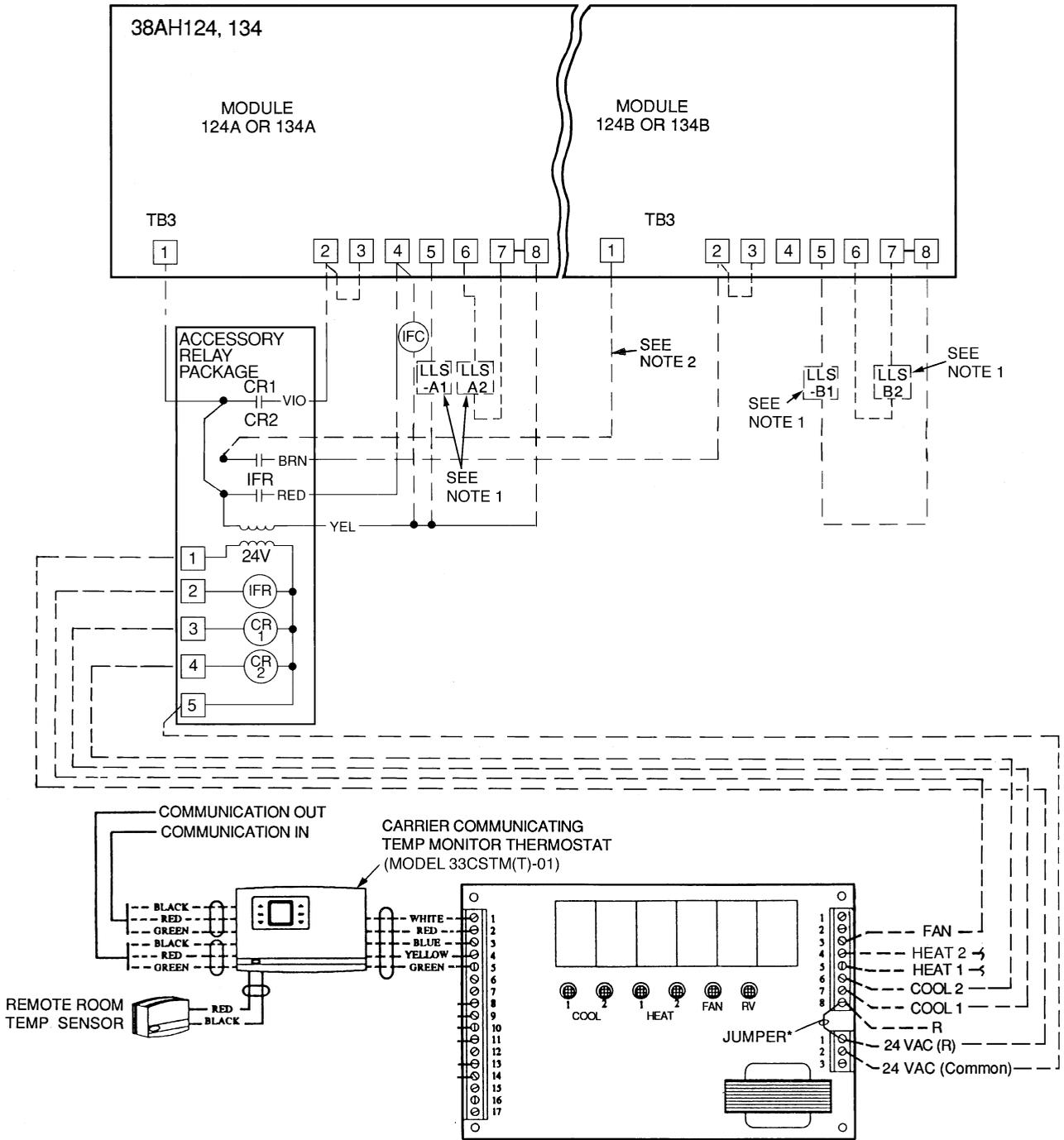
†To control heating device and provide automatic indoor-fan operation on heating.

NOTE: Field-supplied liquid line solenoid valves installed at the evaporator are required on all units.

CAUTION

Internal 33CSUCE-06 relay contacts are rated for 1 amp/24 vac.

24-V THERMOSTAT CONTROL WIRING — UNITS 38AH124 AND 134



- LEGEND**
- CR — Control Relay
 - HD — Heating Device
 - IFC — Indoor Fan Contactor
 - IFR — Indoor-Fan Relay
 - LLS — Liquid Line Solenoid
 - R — Heating Relay (field-supplied 24-v sealed coil, 10 va maximum rating)
 - RV — Reversing Valve
 - TB — Terminal Block
 - Factory Wiring
 - - - - - Field Wiring

- *Jumper removed only when separate 24-v transformer power source is used to power the 33CSUCE-06 relay pack.
 †To control heating device and provide automatic indoor-fan operation on heating.
- NOTES:**
1. Field-supplied liquid line solenoid valves installed at the evaporator are required on all units.
 2. Disconnect black wire from CR2 terminal 6; cap loose end and secure. Connect new field-supplied wire from CR2 terminal 6 to TB3 terminal 1 on module 124B or 134B.

⚠ CAUTION
 Internal 33CSUCE-06 relay contacts are rated for 1 amp/24 vac.

Application data — 38AH044-134



Operating limits

Maximum cooling load	51.7 C (125 F)
Minimum return-air temperature	12.8 C (55 F)
Maximum return-air temperature	35.0 C (95 F)
Range of acceptable saturation suction temperature	-6.7 to 10.0 C (20 to 50 F)
Maximum discharge temperature	135.0 C (275 F)
Minimum discharge superheat	15.6 C (60 F)

NOTES:

- Select indoor equipment at no less than 40 L/s/kW (300 cfm/ton) nominal condensing unit capacity.
- Total combined draw of the 2 field-supplied liquid line solenoid valves and one air handler fan contactor must not exceed 90 volt-amperes (va). If the specified volt-amperes must be exceeded, use a remote relay to control the load.
- Select equipment to match or to be slightly less than peak load.
- Evaluate oil return when selecting vapor line sizes, especially for partial load conditions.
- Indoor fan must operate when outdoor unit is operating.

- For VAV systems, the total building load is NOT the sum of the individual peak loads. Equipment selected for the sum of the individual peak loads will be oversized.
- For VAV systems with supply- to return-air recycling, use the equipment room as a return-air plenum.
- To minimize air recirculation, do not use concentric supply and return grilles.

LIQUID LINE DATA

UNIT 38AH	MAXIMUM ALLOWABLE LIQUID LIFT		LIQUID LINE			
			Max Allowable Pressure Drop		Max Allowable Temp Loss	
	m	ft	kPa	Psi	C	F
044	17.5	57.5	48.3	7	1.1	2
054	23.0	75.0				
064	19.8	65.0				
074	11.4	37.5				
084	23.0	75.0				
094	14.0	46.0				
104	12.8	42.0				
124	19.8	65.0				
134	11.4	37.5				

NOTE: Values shown are for units operating at 7.2 C (45 F) saturated suction at condensing unit and 35 C (95 F) entering outdoor air.

UNLOADING SEQUENCES — STANDARD CONSTANT VOLUME (CV) UNITS*

UNIT 38AH	CAPACITY/STAGE (%)	
	Standard Dual-Circuit Units	Optional Single-Circuit Units
044	100, 75, 50, 25	100, 75, 50, 25
054	100, 79, 42, 21	100, 80, 56, 37
064	100, 84, 48, 32	100, 82, 55, 36
074	100, 86, 43, 29	100, 81, 57, 38
084	100, 83, 50, 33	100, 83, 50, 33
094	100, 85, 55, 44, 33, 22	—
104	100, 91, 74, 65, 47, 38, 26, 17	—
124	100, 91, 77, 68, 50, 41, 27, 18	—
134	100, 90, 76, 66, 45, 37, 25, 16	—

*Additional unloading available with field-installed accessory unloader.

NOTES:

- Capacities are based on 7.2 C (45 F) saturated suction temperature and 35 C (95 F) outdoor-air temperature.
- Single-circuit option available for sizes 044-084 only.

UNLOADING SEQUENCES — OPTIONAL VARIABLE AIR VOLUME (VAV) UNITS

UNIT 38AH	CAPACITY/STAGE (%)	
	Standard Dual-Circuit Units	Optional Single-Circuit Units
044	100, 75, 50, 25	100, 75, 50, 25
054	100, 79, 58, 42, 21	100, 80, 61, 56, 37
064	100, 84, 69, 48, 32, 16	100, 82, 64, 55, 36, 18
074	100, 86, 71, 43, 29, 14	100, 81, 62, 57, 38, 19
084	100, 83, 67, 50, 33, 17	100, 83, 67, 50, 33, 17
094	100, 85, 70, 55, 44, 33, 22	—
104	100, 91, 74, 65, 47, 38, 26, 17	—
124	100, 91, 82, 77, 68, 50, 41, 32, 27, 18, 9	—
134	100, 90, 79, 76, 66, 45, 37, 28, 25, 16, 8	—

NOTES:

- Capacities are based on 7.2 C (45 F) saturated suction temperature and 35 C (95 F) outdoor-air temperature.
- Single-circuit option available for sizes 044-084 only.



**MINIMUM OUTDOOR-AIR OPERATING TEMPERATURE AND UNLOADING SEQUENCES —
38AH044-084 DUAL-CIRCUIT UNITS**

UNIT 38AH	QUANTITY OF LOADED COMPRESSOR CYLINDERS			SYSTEM CAPACITY (%)	MINIMUM OUTDOOR OPERATING TEMP			
					w/Std Fans		w/Motormaster® III Control	
	Ckt A	Ckt B	Total		C	F	C	F
044	4	4	8	100	10.0	50	-28.9	-20
	2	4	6	75				
	4	0	4	50				
	2	0	2	25				
054	4	6	10	100	8.9	48	-28.9	-20
	2	6	8	79				
	2	4	6*	58*				
	4	0	4	42				
	2	0	2	21				
064	6	6	12	100	3.9	39	-28.9	-20
	4	6	10	84				
	2	6	8*	69*				
	6	0	6	48				
	4	0	4	32				
	2	0	2*	16*				
074	6	6	12	100	-0.6	31	-28.9	-20
	4	6	10	86				
	2	6	8*	71*				
	6	0	6	43				
	4	0	4	29				
	2	0	2*	14*				
084	6	6	12	100	-6.7	20	-28.9	-20
	4	6	10	83				
	2	6	8*	67*				
	6	0	6	50				
	4	0	4	33				
	2	0	2*	17*				

*Requires units with VAV (variable air volume) factory-supplied option.

NOTES:

1. Units have 2 independent refrigeration circuits. Circuit A is lead circuit.

2. Minimum operating temperature is the higher outdoor temperature of the 2 circuits.

3. Minimum outdoor-air operating temperature is based on 32 C (90 F) saturated condensing temperature and 100% capacity.

**MINIMUM OUTDOOR-AIR OPERATING TEMPERATURE AND UNLOADING SEQUENCES —
38AH044-084 SINGLE-CIRCUIT UNITS**

UNIT 38AH	QUANTITY OF LOADED CYLINDERS	SYSTEM CAPACITY (%)	MINIMUM OUTDOOR OPERATING TEMP			
			w/Std Fans		w/Motormaster III Control	
			C	F	C	F
044	8	100	8.3	47	-28.9	-20
	6	75				
	4	50				
	2	25				
054	10	100	5.0	41	-28.9	-20
	8	80				
	6*	61*				
	6	56				
064	4	37	3.3	38	-28.9	-20
	12	100				
	10	82				
	8*	64*				
	6	55				
	4	36				
2*	18*					
074	12	100	-5.6	22	-28.9	-20
	10	81				
	8*	62*				
	6	57				
	4	38				
	2*	19*				
084	12	100	-6.7	20	-28.9	-20
	10	83				
	8*	67*				
	6	50				
	4	33				
	2*	17*				

*Requires VAV (variable air volume) factory-supplied option or accessory unloader.

NOTE: Minimum outdoor-air operating temperature is based on 32 C (90 F) saturated condensing temperature and 100% capacity.

Application data — 38AH044-134 (cont)



MINIMUM OUTDOOR-AIR OPERATING TEMPERATURE AND UNLOADING SEQUENCES — 38AH094-134 DUAL CIRCUIT UNITS

UNIT 38AH	QUANTITY OF LOADED COMPRESSOR CYLINDERS			SYSTEM CAPACITY (%)	MINIMUM OUTDOOR OPERATING TEMP					
					W/Std Fans				w/Motormaster® III Control	
	Ckt A	Ckt B	Total		Ckt A		Ckt B		C	F
					C	F	C	F		
094	10	6	16	100	-13.9	7	-3.9	25	-28.9	-20
	10	4	14	85						
	10	2*	12	70*						
	10	0	10	55						
	8	0	8	44						
	6	0	6	33						
	4	0	4	22						
104	10	12	22	100	-10.0	14	-15.0	5	-28.9	-20
	10	10	20	91						
	10	8†	18	82†						
	10	6	16	74						
	10	4	14	65						
	10	2†	12	56†						
	10	0	10	47						
	8	0	8	38						
	6	0	6	26						
	4	0	4	17						
	2†	0	2	9†						
124	12	12	24	100	3.3	38	3.3	38	-28.9	-20
	12	10	22	91						
	12	8†	20	82*						
	12	6	18	77						
	12	4	16	68						
	12	2†	14	59†						
	12	0	12	50						
	10	0	10	41						
	8	0	8	32*						
	6	0	6	27						
	4	0	4	18						
2*	0	2	9*							
134	12	12	24	100	3.3	38	-5.6	22	-28.9	-20
	12	10	22	90						
	12	8	20	79*						
	12	6	18	76						
	12	4	16	66						
	12	2†	14	56†						
	12	0	12	45						
	10	0	10	37						
	8	0	8	28*						
	6	0	6	25						
	4	0	4	16						
2*	0	2	8*							

*Requires VAV (variable air volume) unit or accessory unloader(s) field installed on circuit lead compressor. Lead compressor is identified in Physical Data section, pages 47-50.

†Requires field-installed accessory unloader on circuit lead compressor. Lead compressor is identified in Physical Data section, pages 47-50.

NOTES:

1. Temperatures calculated with the minimum number of fans operating per circuit.
2. For 38AH124 and 134 units, circuit A is Module 38AH124A or 134A. Circuit B is Module 38AH124B or 134B.
3. Minimum outdoor-air operating temperature is based on 32 C (90 F) saturated condensing temperature and 100% capacity.



REFRIGERANT PIPING REQUIREMENTS 38AH044-084 DUAL-CIRCUIT UNITS

UNIT 38AH		TOTAL LINEAR LENGTH OF INTERCONNECTING PIPE — FT (M)											
		15-25 (4.6-7.6)		25-50 (7.6-15.2)		50-75 (15.2-22.9)		75-100 (22.9-30.5)		100-150 (30.5-45.7)		150-200 (45.7-61.0)	
		L	S	L	S	L	S	L	S	L	S	L	S
044	Ckt A	5/8	1 3/8	7/8	1 5/8	7/8	1 5/8	7/8	2 1/8	7/8	2 1/8	7/8	2 1/8
	Ckt B	5/8	1 3/8	7/8	1 5/8	7/8	1 5/8	7/8	2 1/8	7/8	2 1/8	7/8	2 1/8
054	Ckt A	5/8	1 3/8	7/8	1 5/8	7/8	1 5/8	7/8	2 1/8	7/8	2 1/8	7/8	2 1/8
	Ckt B	7/8	1 5/8	7/8	1 5/8	7/8	2 1/8	7/8	2 1/8	1 1/8	2 1/8	1 1/8	2 5/8*†
064	Ckt A	7/8	1 5/8	7/8	1 5/8	7/8	2 1/8†	7/8	2 1/8†	1 1/8	2 1/8†	1 1/8	2 5/8**
	Ckt B	7/8	1 5/8	7/8	2 1/8	7/8	2 1/8	7/8	2 1/8	1 1/8	2 5/8*	1 1/8	2 5/8*
074	Ckt A	7/8	1 5/8	7/8	2 1/8	7/8	2 1/8	7/8	2 1/8	1 1/8	2 5/8†	1 1/8	2 5/8†
	Ckt B	7/8	2 1/8	7/8	2 1/8	1 1/8	2 1/8	1 1/8	2 5/8	1 1/8	2 5/8	1 1/8	2 5/8
084	Ckt A	7/8	2 1/8	7/8	2 1/8	1 1/8	2 1/8	1 1/8	2 5/8†	1 1/8	2 5/8†	1 1/8	2 5/8†
	Ckt B	7/8	2 1/8	7/8	2 1/8	1 1/8	2 1/8	1 1/8	2 5/8	1 1/8	2 5/8	1 1/8	2 5/8

LEGEND

L — Liquid Line
S — Suction Line

*Double suction riser required on units with field installed unloader on circuit B compressor if condensing unit is elevated above evaporator.
†Double suction riser required on units with field installed unloader on circuit B compressor if condensing unit is elevated above evaporator.
**Double suction riser required on all unit configurations if condensing unit is elevated above evaporator.

NOTES:

- Addition of 2 unloaders to circuit B compressor is not recommended.
- 38AH094 and 38AH104 piping sizes apply only to factory supplied unit configurations. They do NOT take into account any field installed unloaders.
- Piping sizes are based on unit operation above 40 F (4.4 C) saturated suction temperature (SST). When operating below 40 F (4.4 C), refer to Carrier System Design Manual, E20-II® piping design program, or ASHRAE Handbook to select proper line sizes.
- Pipe sizes are based on the total linear length shown for each column, plus a 50% allowance for fittings.

- Suction and liquid line sizing is based on pressure drop equivalent to 2 F (1.1 C) at nominal rating conditions. Higher pressure drop design criteria may allow selection of smaller pipe sizes, but at a penalty of decreased system capacity and efficiency.
- Double suction risers may be required if condensing unit is elevated above the evaporator. See footnotes and double suction riser table below.
- Refer to Carrier System Design Manual or to E20-II design programs for further information on selecting pipe sizes for split systems.
- All pipe sizes are OD inches. Equivalent sizes in millimeters follow:

in.	mm
5/8	15.9
7/8	22.2
1 1/8	28.6
1 3/8	34.9
1 5/8	41.3
2 1/8	54.0
2 5/8	66.7
3 1/8	79.4

REFRIGERANT PIPING REQUIREMENTS FOR DOUBLE SUCTION RISERS, 38AH054-104 DUAL-CIRCUIT UNITS

UNIT 38AH		TOTAL LINEAR LENGTH OF INTERCONNECTING PIPE — FT (M)											
		50-75 (15.2-22.9)			75-100 (22.9-30.5)			100-150 (30.5-45.7)			150-200 (45.7-61.0)		
		A	B	C	A	B	C	A	B	C	A	B	C
054	Ckt A	—	—	—	—	—	—	—	—	—	—	—	—
	Ckt B	—	—	—	—	—	—	—	—	—	1 5/8	2 1/8	2 5/8
064	Ckt A	1 3/8	1 5/8	2 1/8	1 3/8	1 5/8	2 1/8	1 5/8	1 5/8	2 1/8	1 5/8	2 1/8	2 5/8
	Ckt B	—	—	—	—	—	—	1 5/8	2 1/8	2 5/8	1 5/8	2 1/8	2 5/8
074	Ckt A	—	—	—	—	—	—	1 5/8	2 1/8	2 5/8	1 5/8	2 1/8	2 5/8
	Ckt B	—	—	—	—	—	—	—	—	—	—	—	—
084	Ckt A	—	—	—	1 5/8	2 1/8	2 5/8	1 5/8	2 1/8	2 5/8	1 5/8	2 1/8	2 5/8
	Ckt B	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

— — Not Required
Pipe A — Suction Riser Without Trap
Pipe B — Suction Riser With Trap
Pipe C — Suction Line to Condensing Unit

NOTES:

- See Refrigerant Piping Requirements table at top of page to determine need for double suction risers.
- Pipe sizes are based on the total linear length, shown for each column, plus a 50% allowance for fittings.
- Suction and liquid line sizing is based on pressure drop equivalent to 2 F (1.1 C) at nominal rating conditions. Higher design pressure drop criteria may allow selection of smaller pipe sizes but at a penalty of decreased system capacity and efficiency.

- Refer to Carrier System Design Manual or to E20-II design programs for further information on selecting pipe sizes for split systems.
- All pipe sizes are OD inches. Equivalent sizes in millimeters follows:

in.	mm
5/8	15.9
7/8	22.2
1 1/8	28.6
1 3/8	34.9
1 5/8	41.3
2 1/8	54.0
2 5/8	66.7
3 1/8	79.4

Application data — 38AH044-134 (cont)



38AH044-084 OPTIONAL SINGLE-CIRCUIT UNITS; 38AH124,134 MODULAR UNITS (DUAL-CIRCUIT)

UNIT 38AH	TOTAL LINEAR LENGTH OF INTERCONNECTING PIPE — FT (M)											
	15-20 (4.6-6.1)		20-50 (6.1-15.2)		50-75 (15.2-22.9)		75-100 (22.9-30.5)		100-150 (30.5-45.7)		150-200 (45.7-61.0)	
	L	S	L	S	L	S	L	S	L	S	L	S
044	7/8	2 1/8	7/8	2 1/8	1 1/8	2 1/8	1 1/8	2 5/8*	1 1/8	2 5/8*	1 3/8	2 5/8*
054	7/8	2 1/8	1 1/8	2 1/8	1 1/8	2 5/8*	1 1/8	2 5/8*	1 1/8	2 5/8*	1 3/8	3 1/8*
064; Modules 124A, 124B, 134A	7/8	2 1/8	1 1/8	2 5/8†	1 1/8	2 5/8†	1 1/8	2 5/8†	1 3/8	3 1/8*	1 3/8	3 1/8*
074; Module 134B	7/8	2 1/8	1 1/8	2 5/8†	1 1/8	2 5/8†	1 3/8	3 1/8*	1 3/8	3 1/8*	1 3/8	3 1/8*
084	1 1/8	2 1/8	1 1/8	2 5/8†	1 3/8	3 1/8*	1 3/8	3 1/8*	1 3/8	3 1/8*	1 5/8	3 5/8*

LEGEND

- CV — Constant Volume
- L — Liquid Line
- S — Suction Line
- VAV — Variable Air Volume

*Double suction riser required on all units configurations if condensing unit is elevated above evaporator.

†Double suction riser required on units with factory installed VAV option or CV units with additional field installed unloader on circuit A1 (lead) compressor if condensing unit is elevated above evaporator.

NOTES:

- Double risers are required if condensing unit is elevated above evaporator. See footnotes and double suction riser table below.
- Pipe sizes are based on the total linear length, shown for each column, plus a 50% allowance for fittings.
- Suction line sizing is based on 1.1 C (2 F) pressure drop at nominal rating conditions. Liquid line sizing is based on 1.1 C (2 F) pressure drop. Higher design pressure drop criteria may allow selection of smaller pipe sizes but at a penalty of decreased system capacity and efficiency.

- Suction line sizing is based on using the same diameter tube from the evaporator riser outlet to the condensing unit.
- Suction line riser selections are based on using maximum possible unloaders.
- Refer to Carrier System Design Manual or to E20-II® design programs for further information on selecting pipe sizes for split systems.
- All pipe sizes are OD inches; equivalent sizes in millimeters follow:

in.	mm
5/8	15.9
7/8	22.2
1 1/8	28.6
1 3/8	34.9
1 5/8	41.3
2 1/8	54.0
2 5/8	66.7
3 1/8	79.4
3 5/8	92.1

38AH044-084 OPTIONAL SINGLE-CIRCUIT UNITS; 38AH124,134 MODULAR UNITS (DUAL-CIRCUIT) — DOUBLE SUCTION RISER

UNIT 38AH	TOTAL LINEAR LENGTH OF INTERCONNECTING PIPE — FT (M)																	
	15-20 (4.6-6.1)			20-50 (6.1-15.2)			50-75 (15.2-22.9)			75-100 (22.9-30.5)			100-150 (30.5-45.7)			150-200 (45.7-61.0)		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
044	—	—	—	—	—	—	—	—	—	1 5/8	2 1/8	2 5/8	1 5/8	2 5/8	2 5/8	1 5/8	2 5/8	2 5/8
054	—	—	—	—	—	—	1 5/8	2 1/8	2 5/8	1 5/8	2 1/8	2 5/8	1 5/8	2 1/8	2 5/8	1 5/8	2 5/8	3 1/8
064; Modules 124A, 124B, 134A	—	—	—	1 5/8	2 1/8	2 5/8	1 5/8	2 1/8	2 5/8	1 5/8	2 1/8	2 5/8	1 5/8	2 5/8	3 1/8	1 5/8	2 5/8	3 1/8
074; Module 134B	—	—	—	1 5/8	2 1/8	2 5/8	1 5/8	2 1/8	2 5/8	1 5/8	2 5/8	3 1/8	1 5/8	2 5/8	3 1/8	1 5/8	3 1/8	3 5/8
084	—	—	—	1 5/8	2 1/8	2 5/8	1 5/8	2 5/8	3 1/8	1 5/8	2 5/8	3 1/8	1 5/8	2 5/8	3 1/8	1 5/8	3 1/8	3 5/8

LEGEND

- — Not Required
- Pipe A — Suction Riser Without Trap
- Pipe B — Suction Riser With Trap
- Pipe C — Suction Line to Condensing Unit

NOTES:

- See Refrigerant Piping Requirements table at top of page to determine need for double suction risers.
- Pipe sizes are based on the total linear length, shown for each column, plus a 50% allowance for fittings.
- Suction line sizing is based on 1.1 C (2 F) pressure drop at nominal rating conditions. Liquid line sizing is based on 1.1 C (2 F) pressure drop. Higher design pressure drop criteria may allow selection of smaller pipe sizes but at a penalty of decreased system capacity and efficiency.
- Suction line sizing is based on using the same diameter tube from the evaporator riser outlet to the condensing unit.

- Suction line riser selections are based on using maximum possible unloaders.
- Refer to Carrier System Design Manual or to E20-II design programs for further information on selecting pipe sizes for split systems.
- All pipe sizes are OD inches; equivalent sizes in millimeters follow:

in.	mm
5/8	15.9
7/8	22.2
1 1/8	28.6
1 3/8	34.9
1 5/8	41.3
2 1/8	54.0
2 5/8	66.7
3 1/8	79.4
3 5/8	92.1



**REFRIGERANT PIPING REQUIREMENTS 38AH094,104
DUAL-CIRCUIT UNITS**

UNIT 38AH		TOTAL LINEAR LENGTH OF INTERCONNECTING PIPE - FT (M)											
		15-25 (4.6-7.6)		25-50 (7.6-15.2)		50-75 (15.2-22.9)		75-100 (22.9-30.5)		100-150 (30.5-45.7)		150-200 (45.7-61.0)	
		L	S	L	S	L	S	L	S	L	S	L	S
094	Ckt A	7/8	2 1/8	1 1/8	2 1/8	1 1/8	2 5/8**	1 1/8	2 5/8**	1 1/8	2 5/8**	1 3/8	3 1/8**
	Ckt B	7/8	2 1/8	7/8	2 1/8	1 1/8	2 1/8	1 1/8	2 5/8*†	1 1/8	2 5/8*†	1 1/8	2 5/8*†
104	Ckt A	7/8	2 1/8	7/8	2 1/8	1 1/8	2 1/8	1 1/8	2 5/8**	1 1/8	2 5/8**	1 3/8	3 1/8**
	Ckt B	7/8	2 1/8	1 1/8	2 1/8	1 1/8	2 5/8	1 1/8	2 5/8	1 3/8	2 5/8	1 3/8	3 1/8**

LEGEND

L — Liquid Line
S — Suction Line

*Double suction riser required on units with field installed unloader on circuit B compressor if condensing unit is elevated above evaporator.

†Double suction riser required on units with field installed unloader on circuit B compressor if condensing unit is elevated above evaporator.

**Double suction riser required on all unit configurations if condensing unit is elevated above evaporator.

NOTES:

- Double risers are required if condensing unit is elevated above evaporator. See footnotes and double suction riser table below.
- Pipe sizes are based on the total linear length, shown for each column, plus a 50% allowance for fittings.
- Suction line sizing is based on 1.1 C (2 F) pressure drop at nominal rating conditions. Liquid line sizing is based on 1.1 C (2 F) pressure drop. Higher design pressure drop criteria may allow selection of smaller pipe sizes but at a penalty of decreased system capacity and efficiency.

- Suction line sizing is based on using the same diameter tube from the evaporator riser outlet to the condensing unit.
- Suction line riser selections are based on using maximum possible unloaders.
- Refer to Carrier System Design Manual or to E20-II design programs for further information on selecting pipe sizes for split systems.
- All pipe sizes are OD inches; equivalent sizes in millimeters follow:

in.	mm
5/8	15.9
7/8	22.2
1 1/8	28.6
1 3/8	34.9
1 5/8	41.3
2 1/8	54.0
2 5/8	66.7
3 1/8	79.4
3 5/8	92.1

38AH094,104 DUAL-CIRCUIT UNITS, DOUBLE SUCTION RISER

UNIT 38AH		TOTAL LINEAR LENGTH OF INTERCONNECTING PIPE — FT (M)											
		50-75 (15.2-22.9)			75-100 (22.9-30.5)			100-150 (30.5-45.7)			150-200 (45.7-61.0)		
		A	B	C	A	B	C	A	B	C	A	B	C
094	Ckt A	1 3/8	2 1/8	2 5/8	1 3/8	2 1/8	2 5/8	1 5/8	2 1/8	2 5/8	1 5/8	2 5/8	3 1/8
	Ckt B	—	—	—	1 3/8	2 1/8	2 5/8	1 5/8	2 1/8	2 5/8	1 5/8	2 1/8	2 5/8
104	Ckt A	—	—	—	1 3/8	2 1/8	2 5/8	1 5/8	2 1/8	2 5/8	1 5/8	2 5/8	3 1/8
	Ckt B	—	—	—	—	—	—	—	—	—	1 5/8	2 5/8	3 1/8

LEGEND

— — Not Required
Pipe A — Suction Riser Without Trap
Pipe B — Suction Riser With Trap
Pipe C — Suction Line to Condensing Unit

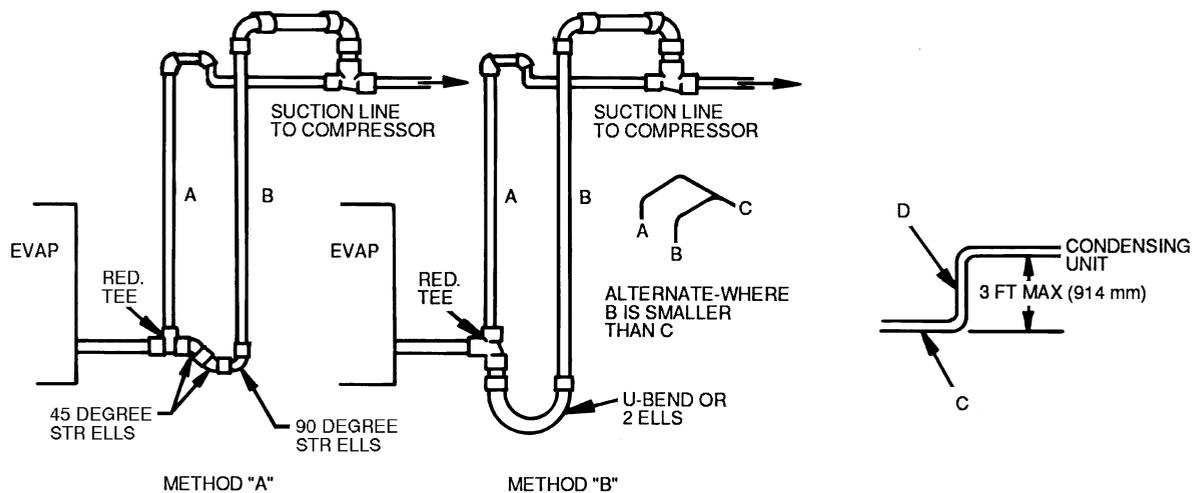
NOTES:

- See Refrigerant Piping Requirements table at top of page to determine need for double suction risers.
- Pipe sizes are based on the total linear length, shown for each column, plus a 50% allowance for fittings.
- Suction line sizing is based on 1.1 C (2 F) pressure drop at nominal rating conditions. Liquid line sizing is based on 1.1 C (2 F) pressure drop. Higher design pressure drop criteria may allow selection of smaller pipe sizes but at a penalty of decreased system capacity and efficiency.
- Suction line sizing is based on using the same diameter tube from the evaporator riser outlet to the condensing unit.

- Suction line riser selections are based on using maximum possible unloaders.
- Refer to Carrier System Design Manual or to E20-II design programs for further information on selecting pipe sizes for split systems.
- All pipe sizes are OD inches; equivalent sizes in millimeters follow:

in.	mm
5/8	15.9
7/8	22.2
1 1/8	28.6
1 3/8	34.9
1 5/8	41.3
2 1/8	54.0
2 5/8	66.7
3 1/8	79.4
3 5/8	92.1

REFRIGERANT PIPING REQUIREMENTS DOUBLE SUCTION RISER CONSTRUCTION



- LEGEND**
- A** — Pipe A, Suction Riser, Lower Trap
 - B** — Pipe B, Suction Riser with Trap
 - C** — Suction Line to Condensing Unit
 - D** — Pipe D, Suction Riser Short Lift
 - RED.** — Reducer
 - STR** — Street

NOTE: Short riser, pipe D, is used when routing suction line to condensing unit connection. See table below:

UNIT 38AH	PIPE D DIAMETER*		
	Dual Circuit		Single Circuit
	A	B	
044	1 ⁵ / ₈	1 ⁵ / ₈	2 ¹ / ₈
054	1 ⁵ / ₈	1 ⁵ / ₈	2 ¹ / ₈
064	1 ⁵ / ₈	2 ¹ / ₈	2 ¹ / ₈
074	2 ¹ / ₈	2 ¹ / ₈	2 ¹ / ₈
084	2 ¹ / ₈	2 ¹ / ₈	2 ⁵ / ₈
094	2 ¹ / ₈	2 ¹ / ₈	—
104	2 ¹ / ₈	2 ¹ / ₈	—
124A,B	2 ¹ / ₈	2 ¹ / ₈	—
134A,B	2 ¹ / ₈	2 ¹ / ₈	—

*Maximum length of riser is 3 ft (914 mm).

Commercial Air-Cooled Condensing Units

HVAC Guide Specifications

Size Range: **63 to 87 kW (18 to 25 Tons), Nominal**
Carrier Model Number: **38AH**

Part 1 — General

1.01 SYSTEM DESCRIPTION

Outdoor-mounted, air-cooled condensing unit suitable for on-the-ground or rooftop installation. Unit shall have 2 independent refrigeration circuits and shall consist of dual semi-hermetic reciprocating compressors, air-cooled coils, propeller-type condenser fans, and a control box. Unit shall discharge supply air upward as shown on contract drawings. Unit shall be used in refrigeration circuit matched with a packaged fan-coil unit or direct-expansion cooler.

1.02 QUALITY ASSURANCE

- A. Unit shall be rated in accordance with ARI Standard 365, latest edition (U.S.A. standard).
- B. Unit construction shall comply with latest edition of ANSI/ASHRAE and with NEC (U.S.A. standard).
- C. Unit shall be manufactured in a facility registered to ISO (International Standards Organization) 9002 manufacturing quality standard.
- D. Unit shall be constructed in accordance with UL standards (U.S.A.).
- E. Unit cabinet shall be capable of withstanding 500-hour salt-spray exposure per ASTM B117 (U.S.A) (scribed specimen).
- F. Air-cooled condenser coils shall be leak tested at 1034 kPa (150 psig) and pressure tested at 3310 kPa (480 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, 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-drive propeller type, discharging air vertically upward.
2. Condenser fan motors shall be 3-phase type with class B insulation and permanently lubricated bearings. Class F fan motors shall be available as a factory-installed option.
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 manufactured by the condensing unit manufacturer, and 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-sized crankcase heater to control oil dilution.
3. Compressors shall be mounted on spring vibration isolators with an isolation efficiency of no less than 95%.
4. Compressor speed shall not exceed 24.3 r/s (1460 rpm).
5. Lead compressor shall unload using suction cutoff unloading (electrical solenoid unloading shall be available as an accessory).

E. Condenser Coils:

1. Condenser coils 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. Copper fins and precoated aluminum fins shall be available as options.

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, and compressor oil.



G. Controls and Safeties:

1. Minimum control functions shall include:

- a. Power and control terminal blocks.
- b. Five-minute Time Guard® protection to prevent compressor short-cycling.
- c. Lockout on auto-reset safety until reset from thermostat.
- 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 for mild ambient temperature operation by fan cycling. One condenser fan shall be cycled by ambient temperature to maintain proper head pressure.

2. Minimum safety devices shall include:

Automatic reset (after resetting first at thermostat)

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

Manual reset at the unit

- a. 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.
- b. High discharge-pressure cutout.

H. Operating Characteristics:

1. The capacity of the condensing unit shall meet or exceed _____ at a suction temperature of _____. 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 _____ or greater at an airflow rate of _____, entering-air temperature at the evaporator at _____ wet bulb and _____ dry bulb, and air entering the condensing unit at _____.
3. The system shall have an EER of _____ or greater at standard ARI conditions.

I. Electrical Requirements:

1. Nominal unit electrical characteristics shall be _____ v, 3-ph, 50 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 be 230 v for 380/415 v and 230 v units, or 200 v for 346 v units.

J. Special Features:

Certain standard features are not applicable when the features designated * are specified. For assistance in amending the specifications, your local Carrier Sales Office should be contacted.

- * 1. Unloader Conversion Kit:
Unloader valve, piston, and hardware shall be supplied to convert any pressure-operated compressor unloader to electrical unloading. Accessory ModuPanel™ or field-supplied step controller shall be provided for electrical unloading.
- * 2. Gage Panel:
A gage panel package shall be provided which includes a suction and discharge pressure gage for each refrigerant circuit.
3. Thermostat Controls:
 - a. Debonair™ programmable multi-stage thermostat with 7-day clock, holiday scheduling, large Thermoglow™ display, remote sensor capability, and Title 24 compliance.
 - b. TEMP System programmable communicating multi-stage thermostat with fan switch, timeclock, LCD display, °F/°C capability, and CCN (Carrier Comfort Network) compatibility.
 - c. Commercial Electronic Thermostat with 7-day timeclock, auto-changeover, multi-stage capability, and large LCD temperature display.
 - d. Non-programmable thermostat with fan switch subbase.
4. Electric Unloader Package:
Electric unloader shall provide an additional step of electric unloading.
5. Pressure Unloader Package:
Pressure unloader shall provide an additional step of pressure unloading.

- * 6. ModuPanel™ Control:
Control shall provide 10-step microprocessor-based control for variable air volume applications.
- * 7. Motormaster® III Control:
Control shall maintain correct condensing pressure at low ambient temperatures.
- * 8. VAV (Variable Air Volume) Modification:
Unit shall be supplied from the factory with necessary wiring modifications for connection to a field-supplied ModuPanel discharge air controller. The VAV modification shall include 2 electric unloaders on the lead compressor.
- 9. 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. All copper construction shall provide protection in moderate coastal applications.
 - c. Post-Coated Aluminum-Fin Coils:
Shall have a durable organic coating uniformly applied over all coil surfaces. Coating shall be deep brown color applied by a dip and bake process to ensure complete encapsulation of all coil surfaces. Coated coil shall withstand 1,000-hour salt spray test in accordance with ASTM B117. Coil construction shall be aluminum fins mechanically bonded to copper tubes.
 - d. Post-Coated Copper-Fin Coils:
Shall have a durable organic coating uniformly applied over all coil surfaces. Coating shall be deep brown color applied by a dip and bake process to ensure complete encapsulation of all coil surfaces. Coated coil shall withstand 1,000-hour salt spray test in accordance with ASTM B117. Coil construction shall be copper fins mechanically bonded to copper tubes.
- 10. Class F Motors:
Shall provide additional motor insulation for high-ambient temperature environments.

Commercial Packaged Air-Handling Unit

HVAC Guide Specifications

Size Range: **2831 to 5663 L/s (6000 to 12,000 Cfm),
Nominal Airflow
52 to 105 kW (15 to 30 Tons),
Nominal Cooling**

Carrier Model Number: **40RM**

Part 1 — General

1.01 SYSTEM DESCRIPTION

- A. Indoor, packaged air-handling unit for use in commercial split systems. Unit shall have a multiposition design and shall be capable of horizontal or vertical (upflow) installation on a floor or in a ceiling, with or without ductwork. (Only vertical units are to be applied without ductwork).
- B. Unit 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 (U.S.A.), latest edition.
- B. Unit shall be constructed in accordance with ETL (U.S.A.) and ETL, Canada standards.
- C. Unit insulation and adhesive shall comply with NFPA 90A (U.S.A.) requirements for flame spread and smoke generation. Insulation shall contain a U.S.A. 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 (U.S.A.).
- D. Unit shall be manufactured in a facility registered to the ISO 9002/BS5750, Part 2 manufacturing quality standard.
- E. Direct-expansion coils shall be burst tested at 2999 kPag (435 psig) and leak tested at 1034 kPag (150 psig).

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 vertical (upflow) configuration. Unit shall consist of forward-curved belt-driven centrifugal fan(s), motor and drive assembly, prewired fan motor connector, factory-installed refrigerant metering devices, cooling coil, 51 mm (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 12.7-mm (1/2-in.) fire-retardant material. Insulation shall contain a U.S.A. 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 (U.S.A.).
3. Unit shall contain PVC 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 51-mm (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 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 or supply and discharge 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 _____ L/s (cfm) airflow at an external static pressure of _____ kPag (in. wg).

D. Motor:

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

E. Factory-Installed Options:

1. Alternate Motor and Drive:

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

2. Painted Cabinet:

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

F. Field-Installed Accessories:

1. Hot Water Coil:

Coil shall be 2-row, U-bend coil with copper tubes and aluminum plate fans 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 1034 kPag (150 psig).

2. Steam Distributing Coil:

Coil shall consist of 1 row of copper tubes with aluminum plate fins, and shall have inner steam distributing tubes. 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 1207 kPag at 204.4 C (175 psig at 400 F).

3. Electric Heaters:

Heaters for nominal 230 or 400-volt, 3-phase power supply shall be factory-supplied for field installation as shown on the equipment drawings. Electric heat assembly shall be ETL (U.S.A.) and ETL, Canada 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. Electric heaters shall not be used with discharge plenum.

4. Air Discharge Plenum:

Plenum shall be provided 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 shall be field-assembled and field-installed on the unit's fan deck for blow-thru air distribution. Plenum shall not be used with electric heaters.

5. Return-Air Grille:

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

6. 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.

7. 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 separate CO₂ sensor accessory; economizer dampers shall open when indoor CO₂ level rises above predetermined set point. Economizer shall include enthalpy control and damper actuator with controls.

8. Thermostat Controls:

- a. Debonair™ programmable multi-stage thermostat with 7-day clock, holiday scheduling, large Thermoglow™ display, remote sensor capability, and Title 24 compliance.
- b. TEMP System programmable communicating multi-stage thermostat with fan switch, timeclock, LCD display, °F/°C capability, and CCN (Carrier Comfort Network) compatibility.
- c. Commercial Electronic Thermostat with 7-day timeclock, auto-changeover, multi-stage capability, and large LCD temperature display.
- d. Non-programmable thermostat with fan switch subbase.

9. Overhead Suspension Brackets:

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

10. CO₂ Sensor:

Sensor shall provide the ability to signal the economizer to open when the space CO₂ level exceeds the predetermined set point. Sensor shall have the capability of being connected to comfort system relay pack or to economizer using field-supplied and installed Honeywell dc adapter no. Q769C1004.

11. Condensate Drain Trap:

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

Commercial Air-Cooled Condensing Units

HVAC Guide Specifications

Size Range: **123 to 390 kW (35 to 111 Tons),
Nominal**

Carrier Model Number: **38AH**

Part 1 — General

1.01 SYSTEM DESCRIPTION

Outdoor-mounted, air-cooled condensing unit suitable for on-the-ground or rooftop installation. Unit shall have 2 independent refrigeration circuits and shall consist of 2, 3, or 4 semi-hermetic reciprocating compressors, air-cooled coils, propeller-type condenser fans, and a control box. Unit shall discharge supply air upward as shown on contract drawings. Unit shall be used in refrigeration circuit matched with a packaged air-handling unit or direct-expansion coils.

1.02 QUALITY ASSURANCE

- A. Unit performance shall be rated in accordance with ARI Standard 365 (U.S.A.), latest edition.
- B. Unit construction shall comply with latest edition of ASHRAE and (U.S.A. Standards) NEC.
- C. Unit shall be manufactured in a facility registered to ISO 9002 manufacturing quality standard.
- D. Unit cabinet shall be capable of withstanding 500-hour salt-spray exposure per ASTM B117 (U.S.A.) (scribed specimen).
- E. Air-cooled condenser coils shall be leak tested at 1034 kPa (150 psig) and pressure tested at 3310 kPa (450 psig).

1.03 DELIVERY, STORAGE, AND HANDLING

Unit shall be shipped as single package or 2-container package, 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 or 2-piece, air-cooled condensing unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, compressors, 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. 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-drive propeller type, discharging air vertically upward.
2. Condenser fan motors shall be 3-phase type with class B insulation and permanently lubricated bearings. Motors shall be drip proof with sealed bearings. Class F fan motors shall be available as a factory-installed option.
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 manufactured by the condensing unit manufacturer, and 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-sized crankcase heater to control oil dilution.
3. Compressors shall be mounted on spring vibration isolators with an isolation efficiency of no less than 95%.
4. Compressor speed shall not exceed 24.3 r/s (1460 rpm).
5. Lead compressors on each circuit shall unload using suction cutoff unloading (electric solenoid unloading shall be available as an accessory).

E. Condenser Coils:

1. Condenser coils shall be air cooled and 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. Copper fins and precoated aluminum fins shall be available as options.

F. Refrigeration Components:

Refrigeration circuit components shall include hot gas muffler, suction line accumulator, hot gas bypass stub tubes, high-side pressure relief device, liquid line shut-off valve, suction and discharge shutoff valves, holding charge of refrigerant R-22, and compressor oil. 38AH094-134 and all 38AH044-084 single-circuit units shall have suction line accumulators. The VAV units shall also have suction line accumulators.

G. Controls and Safeties:

1. Minimum control functions shall include:

- a. Power and control terminal blocks.
- b. Five-minute time delay protection to prevent compressor short-cycling.
- c. Lockout on auto-reset safety until reset from thermostat.
- 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 for mild ambient temperature operation through fan cycling. Condenser fans (except fans 1 and 2) shall be cycled by discharge pressure to maintain proper head pressure.
- f. Winter start control to prevent nuisance trip-outs at low ambient temperatures.

2. Minimum safety devices shall include:

Automatic reset (after resetting first at thermostat)

- a. Low suction pressure cutout.
- b. Condenser-fan motors protected against overloads or single-phase condition by internal overloads.
- c. Low oil pressure cutout.

Manual reset at the unit

- a. 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.
- b. High discharge-pressure cutout.

H. Operating Characteristics:

1. The capacity of the condensing unit shall meet or exceed _____ at a suction temperature of _____. The power consumption at full load shall not exceed _____ kW.
2. The combination of the condensing unit and the evaporator or air handling unit shall have a total net cooling capacity of _____ or greater at conditions of _____ entering-air temperature at the evaporator at _____ wet bulb and _____ dry bulb, and air entering the condensing unit at _____.
3. The system shall have an Energy Efficiency Ratio (EER) of _____ or greater at standard ARI conditions.

I. Electrical Requirements:

1. Nominal unit electrical characteristics shall be _____ v, 3-ph, 50 Hz. The unit shall be capable of satisfactory operation within voltage limits of _____ v to _____ v.
2. Unit or module electrical power shall be single-point connection.
3. Unit control circuit shall be 230 v for 230 and 380/415 v units, and 200 v for 346 v units.

J. Special Features:

1. Unloader Conversion Kit:

Unloader valve, piston, and hardware shall be supplied to convert any pressure-operated compressor unloader to electrical unloading. Accessory ModuPanel™ control or field-supplied step controller shall be required for electrical unloading.

2. Gage Panel:

A gage panel package shall be provided which includes a suction and discharge pressure gage for each refrigerant circuit.

3. Accessory Transformer Relay Package:

Relay shall be provided for use with a remote-control 24-v thermostat.

4. Electric Unloader Package:

Electric unloader shall provide an additional step of electric unloading.

5. Pressure Unloader Package:

Pressure unloader shall provide an additional step of pressure unloading.

6. ModuPanel Control:

Indoor mounted control shall provide 10-step microprocessor-based control for variable air volume (VAV) applications.

7. Low-Ambient Motormaster® III Control:

Control shall maintain correct condensing pressure at low ambient temperatures.

8. 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. All copper construction shall provide protection in moderate coastal applications.



c. Post-Coated Aluminum-Fin Coils:

Shall have a durable organic coating uniformly applied over all coil surfaces. Coating shall be deep brown color applied by a dip and bake process to ensure complete encapsulation of all coil surfaces. Coated coil shall withstand 1,000-hour salt spray test in accordance with ASTM (U.S.A.) B117. Coil construction shall be aluminum fins mechanically bonded to copper tubes.

d. Post-Coated Copper-Fin Coils:

Shall have a durable organic coating uniformly applied over all coil surfaces. Coating shall be deep brown color applied by a dip and bake process to ensure complete encapsulation of all coil surfaces. Coated coil shall withstand 1,000-hour salt spray test in accordance with ASTM (U.S.A.) B117. Coil construction shall be copper fins mechanically bonded to copper tubes.

9. Thermostat Controls:

- a. Debonair™ programmable multi-stage thermostat with 7-day clock, holiday scheduling, large Thermoglow™ display, remote sensor capability, and Title 24 compliance.
- b. TEMP System programmable communicating multi-stage thermostat with fan switch, timeclock, LCD display, °F/°C capability, and CCN (Carrier Comfort Network) compatibility.
- c. Commercial Electronic Thermostat with 7-day timeclock, auto-changeover, multi-stage capability, and large LCD temperature display.
- d. Non-programmable thermostat with fan switch subbase.

10. Hail Guard:

Unit shall be equipped with louvered condenser coil hail guard protection and installation hardware.

11. Security Grilles:

A set of PVC-coated metal grilles complete with support retainers and fasteners shall be provided for the protection of the condensing coils, compressors, or both.

12. Sound Reduction Package Kit:

This field-installed accessory kit shall consist of a specially designed fan system containing fans and orifices for reducing system noise without compromising unit performance. No fan motor change shall be required for accessory installation.

13. VAV Control Box:

Modification shall include electric unloaders on compressors (1 for 38AH044; 2 for 38AH054-084 and 104; 3 for 38AH094; and 4 for 38AH124,134) to make condensing unit compatible with ModuPanel™ VAV controller. Unit shall include factory-installed accumulator.

14. Single-Circuit Modification (sizes 044-084 only)

Modification shall include all piping and wiring to make unit single circuit. Unit shall include factory-installed accumulator.

15. Single-Circuit Modification with VAV:

Modification shall include piping, wiring, and electric unloaders on compressors (one on 38AH044 and 2 on 38AH054-084) to make unit single circuit, VAV ready.

16. Class F Motors:

Shall provide additional motor insulation for high-ambient temperature environments.

