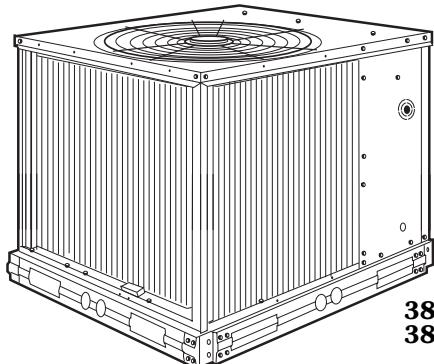




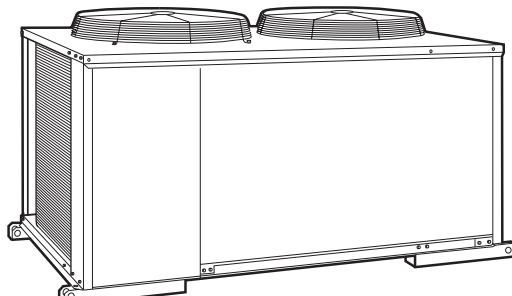
# Product Data

**38AK007-012  
38AKS008-044  
with 40RM007-034  
Commercial Air-Cooled  
Split Systems  
50 Hz**

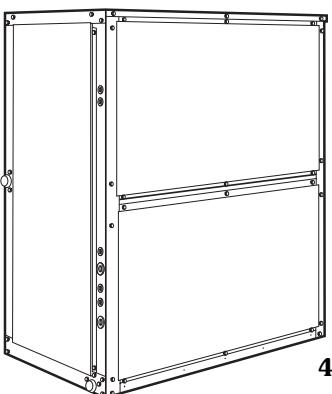
Nominal: 19.0 to 127.0 kW (5.3 to 35.8 Tons)



**38AK007,008,012  
38AKS008,009,012**



**38AKS013-024**



**40RM007-012**

## Features/Benefits

**These dependable split systems match Carrier's indoor-air handlers with outdoor condensing units for a wide selection of commercial cooling solutions.**

### **Constructed for long life**

Model 38AK (hermetic compressor units) and 38AKS (semi-hermetic compressor) units are designed and built to last. The copper tube-aluminum fin outdoor coil construction provides years of trouble-free operation. Where conditions require them, copper fin coils are also available. Cabinets are constructed of prepainted galvanized steel, delivering unparalleled protection from the environment. Inside and outside surfaces are protected to ensure long life, good looks, and reliable operation. Safety controls are used for enhanced system protection and reliability.

### **Efficient operation**

Building owners will appreciate the high unit EERs (Energy Efficiency Ratios) offered by the 38AK and 38AKS units. These units provide greater efficiency than similar units in the marketplace, which translates into year-round operating savings.

## Controls for performance dependability

The 38AK and 38AKS condensing units offer the building owner operating controls and components designed for performance dependability. The highly efficient hermetic and semi-hermetic compressors are engineered for long life and durability. The compressors include overload protection and vibration isolation for enhancement of quiet operation. The high-pressure switch protects the entire refrigeration system from abnormally high operating pressures. A low-pressure switch protects the system from low-pressure conditions, including loss of charge.

The 38AK007-012 and 38AKS008-012 units include Cycle-LOC™ anti-short-cycling protection which helps to protect the units against compressor failure. The 38AKS013-044 units include a compressor recycle delay timer to prevent short-cycling. The 24-v control circuit transformer permits quick, easy wiring of standard and programmable 24-v thermostats.

The 38AK012 and 38AKS008-044 units include a crankcase heater to eliminate liquid slugging at start-up. Units with semi-hermetic compressors are also equipped with an oil-level sight glass.

Latest safety standards for 38AK and 38AKS units are assured through UL (Underwriters' Laboratories) (U.S.A. standard) and CSA (Canadian Standards Association) listings.

## Innovative Carrier 40RM packaged air handlers are custom matched to 38AK and 38AKS 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 help to ensure 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. Unit sizes 012 and above feature dual-circuit coils for improved temperature control.

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.A. Environmental Protection Agency (EPA).

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

The 40RM accessory economizer can provide ventilation air to improve indoor air quality. When used in conjunction with CO<sub>2</sub> sensors, the economizer admits fresh outdoor air to replace stale, recirculated indoor air.

**Economy —** The 40RM Series packaged air handlers have low initial costs, and they continue to save money by providing reduced installation expense and energy-efficient performance.

Quick installation is ensured by the multipoise design. Units can be installed in either the horizontal or vertical (upflow) configuration without modifications. 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 operation 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 without energizing mechanical 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 fan deck.

Rugged pillow-block bearings (40RM014-034) are securely fastened to the solid steel fan shaft with split collets and clamp locking devices. Smaller unit sizes have spider-type bearings.

**Coil flexibility —** Model 40RM direct-expansion coils have galvanized steel casings; inlet and outlet connections are on the same end. The coils are designed for use with Refrigerant 22 and have copper tubes mechanically bonded to aluminum sine-wave fins. The coils include matched, factory-installed TXVs with matching distributor nozzles.

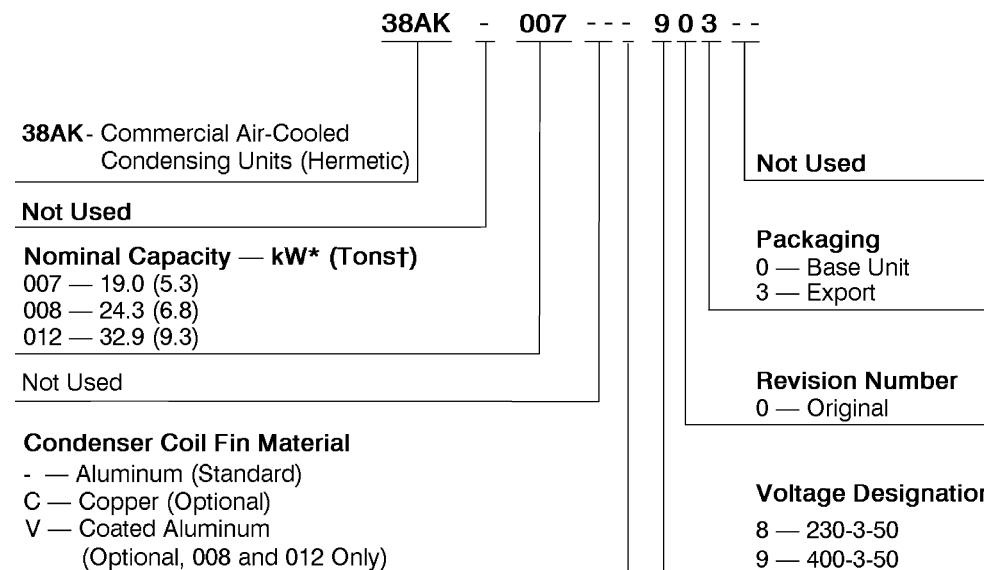
**Easier installation and service —** The multipoise design and component layout help you to get the unit installed and running quickly. Units can be converted from horizontal to vertical operation by simply repositioning the unit. Drain pan connections are duplicated on both sides of the unit. The filters, motor, drive, TXVs, and coil connections are all easily accessed by removing a single side panel.

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## Model number nomenclature — 38AK units



\*Gross capacity based on 36 C air temperature entering condenser and 8 C saturated suction temperature.

†Gross capacity based on 95 F air temperature entering condenser and 45 F saturated suction temperature.

# Model number nomenclature — 38AKS units



**38AKS** – Commercial Air-Cooled  
Condensing Units (Semi-Hermetic)

38AKS 008 -- - 9 0 3 --  
Not Used

Nominal Capacity – kW* (Ton†)	
008 – 24.3 (6.8)	016 – 45.7 (12.8)
009 – 29.9 (8.4)	024 – 64.3 (18.0)
012 – 29.5 (8.3)	028 – 82.8 (23.4)
013 – 30.4 (8.5)	034 – 94.5 (26.7)
014 – 36.6 (10.3)	044 – 127.0 (35.8)

Not Used

#### Condenser Coil Fin Material

- Aluminum (Standard)
- C** – Copper (Optional)
- K** – Pre-Coated Aluminum (Optional, 013-044 Only)
- V** – Pre-Coated Aluminum (Optional, 008-012 Only)
- SO** – Post-Coated Aluminum (Contact Factory)
- SO** – Post-Coated Copper (Contact Factory)

Packaging  
0 – Base Unit  
3 – Export

Revision Number  
0 – Original

Voltage Designation  
3 – 346-3-50\*\*  
8 – 230-3-50  
9 – 400-3-50

#### LEGEND

**SO** — Special Order

\*Gross capacity based on 36 C air temperature entering condenser and 8 C saturated suction temperature.

†Gross capacity based on 95 F air temperature entering condenser and 45 F saturated suction temperature.

\*\*024-044 only.

## Quality Assurance



Approvals:  
ISO 9001  
EN 29002  
BS5750 PART 2  
ANSI/ASQC Q92

Certificate No FM 22838

38AK, 38AKS008-012 UNITS

## Quality Assurance



Certificate No FM 21837

Approvals:  
ISO 9002  
EN 29002  
BS5750 PART 2  
ANSI/ASQC Q92

38AKS013-044 UNITS

# Model number nomenclature — 40RM units



**40RM** — Commercial Packaged Air Handler

## Cooling Coil

— Direct Expansion

## Nominal Capacity - kW (Tons)

007 — 21 (6)	016 — 52 (15)
008 — 26 (7 1/2)	024 — 70 (20)
012 — 35 (10)	028 — 87 (25)
014 — 43 (12 1/2)	034 — 105 (30)

## Not Used

## Expansion Device

B — Thermostatic Expansion Valves  
H — High-Capacity 4-Row Coil

## Voltage Designation (V-Ph-Hz)

8 — 230-3-50  
9 — 400-3-50

40RM — 016 -- B 9 0 3 GC

## Factory-Installed Options

**GC** — Unpainted, Standard Motor, and Standard Drive

**HC** — Unpainted, Standard Motor, and Medium-Static Drive  
(Not available for sizes 016-028)

**TC** — Unpainted, Alternate Motor, and Medium-Static Drive  
(sizes 016-028 only)

**YC** — Unpainted, Alternate Motor, and High-Static Drive\*

**ED** — Painted, Standard Motor, and Standard Drive

**FD** — Painted, Standard Motor, and Medium-Static Drive  
(Not available for sizes 016-028)

**RD** — Painted, Alternate Motor, and Medium-Static Drive  
(sizes 016-028 only)

**WD** — Painted, Alternate Motor, and High-Static Drive\*

## Packaging

3 — Export

## Revision Number

0 — Original Model

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

## Quality Assurance



Certificate No FM 21837

40RM UNITS

### Approvals:

ISO 9002

EN 29002

BS5750 PART 2

ANSI/ASQC Q92

# Capacity summary



CONDENSING UNIT	AIR- HANDLING UNIT	AIR-HANDLING UNIT AIRFLOW		SYSTEM GROSS CAPACITY (Standard 3-Row Coil)		SYSTEM GROSS CAPACITY (High-Capacity 4-Row Coil)		CONDENSING UNIT ONLY GROSS CAPACITY	
		L/s	Cfm	kW*	Btuh†	kW*	Btuh†	kW**	Btuh††
38AK007	40RM007	1150	2,400	17.8	60,800	19.7	67,100	19.0	64,000
	40RM008	1400	3,000	19.9	68,000	20.8	71,000		
38AK008	40RM007	1150	2,400	21.0	71,700	23.7	80,900	24.2	81,500
	40RM008	1400	3,000	22.7	77,500	25.2	86,100		
	40RM012	1900	4,000	25.2	86,000	27.0	92,000		
38AKS008	40RM007	1150	2,400	22.6	77,000	23.2	79,000	24.3	81,700
	40RM008	1400	3,000	24.2	82,000	24.7	84,300		
	40RM012	1900	4,000	26.3	89,000	26.5	90,500		
38AKS009	40RM008	1400	3,000	28.0	95,000	28.8	98,100	29.9	101,000
	40RM012	1900	4,000	30.6	104,000	31.1	106,200		
38AK012	40RM008	1400	3,000	28.7	98,000	30.4	103,600	31.9	108,000
	40RM012	1900	4,000	30.5	104,000	33.1	112,900		
	40RM014	2350	5,000	31.6	108,000	34.8	118,700		
38AKS012	40RM008	1400	3,000	27.7	94,000	28.8	98,100	29.5	99,200
	40RM012	1900	4,000	30.3	103,000	31.1	106,200		
	40RM014	2350	5,000	31.5	107,000	32.9	112,400		
38AKS013	40RM008	1400	3,000	28.3	96,000	30.0	102,400	30.4	102,000
	40RM012	1900	4,000	31.0	105,000	32.4	110,600		
	40RM014	2350	5,000	32.2	109,000	34.3	117,000		
38AKS014	40RM012	1900	4,000	35.2	120,000	37.0	126,100	36.6	123,000
	40RM014	2350	5,000	36.8	125,000	39.0	133,000		
	40RM016	2800	6,000	39.1	133,000	41.9	143,000		
38AKS016	40RM014	2350	5,000	43.1	146,000	48.4	165,000	45.7	154,000
	40RM016	2800	6,000	46.2	157,000	51.2	174,600		
	40RM024	3800	8,000	49.6	167,000	54.7	186,500		
38AKS024	40RM016	2800	6,000	58.0	197,000	59.5	203,100	64.3	216,000
	40RM024	3800	8,000	63.3	215,000	65.7	224,100		
	40RM028	4700	10,000	67.0	226,000	69.3	236,300		
38AKS028	40RM024	3800	8,000	75.6	256,000	83.8	285,800	82.8	281,000
	40RM028	4700	10,000	80.4	273,000	84.3	287,700		
	40RM034	5650	12,000	84.6	288,000	88.7	302,800		
38AKS034	40RM028	4700	10,000	88.2	298,000	89.9	306,800	94.5	320,000
	40RM034	5650	12,000	93.1	316,000	94.8	323,500		
38AKS044	40RM034	5650	12,000	113.8	385,000	111.8	381,600	127.0	429,000

## LEGEND

db — Dry Bulb

wb — Wet Bulb

SST — Saturated Suction Temperature

\*System gross capacities are rated according to indoor unit airflow, 35 C air temperature entering condenser, and 20 C wb air temperature entering evaporator.

†System gross capacities are rated according to indoor unit airflow, 95 F air temperature entering condenser, and 67 F wb air temperature entering evaporator.

\*\*Condensing unit gross capacity based on 36 C air temperature entering condenser and 8 C SST.

††Condensing unit gross capacity based on 95 F air temperature entering condenser and 45 F SST.

# Options and accessories



## 38AK, 38AKS options

**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.

## 38AK, 38AKS accessories

**Electric unloader package (38AKS012-044)** includes hardware and solenoid valve to convert a pressure-operated unloader to electric unloading.

**-20 F low-ambient temperature kit (Motormaster® I — 38AK007, 38AKS013-044; Motormaster III — 38AK008,012, 38AKS008-012)** 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 the refrigerant circuit.

**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.

**Winter start package (38AK007-012, 38AKS008-024)** bypasses the low-pressure switch to permit unit start-up at low ambient temperatures.

**Hail guard package (38AK007-012, 38AKS008-012)** protects coils against damage from flying debris and hail.

**ModuPanel™ control box** allows 38AKS028-044 systems to operate as VAV (variable air volume) systems. Includes microprocessor, satellite sequencer, 4 status lights, 5-hour bypass timer, and locked enclosure.

**Hot-gas bypass kit (38AKS028-044)** prevents the indoor coil from freezing up during low airflow or low return-air temperature applications by maintaining minimum suction pressure.

**Condenser coil grille package (38AK007-012, 38AKS008-024)** protects condensing unit coil from impact by large objects and vandalism.

**Part-winding-start timing relay (38AKS028-044)** reduces inrush current and locked rotor amps on start-up. The 220-v and 346-v units have part-winding start as a standard feature. All 400-v units require a special order to change circuit breakers, contactors, and compressor before timing relay can be added for part-winding start.

## 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. 811-217 for more information.

# Options and accessories (cont)



## 40RM factory-installed options

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

**High-capacity 4-row coils** are available to provide increased latent and sensible capacities (40RM only).

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

## 40RM field-installed accessories

**Two-row hot water coils** have copper tubes mechanically bonded to aluminum plate fins and non-ferrous headers.

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

**Electric resistance heat coils** have an open-wire design and are mounted in a rigid frame. Safety cutouts for high temperature conditions are standard. Terminal block for single-point power connection is included.

**Economizer (enthalpy controlled)** provides ventilation air and "free" cooling if outside ambient temperature and humidity are suitable. Can also be used with CO<sub>2</sub> sensors to help meet indoor air quality requirements.

**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.

**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 trap connection for vertical floor-mounted units. Accessory is available unpainted or painted.

**Overhead suspension package** includes necessary brackets to support units in horizontal ceiling installations.

**CO<sub>2</sub> sensors** can be used in conjunction with the economizer accessory to help meet indoor air quality requirements. The sensor signals the economizer to open when the CO<sub>2</sub> 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.

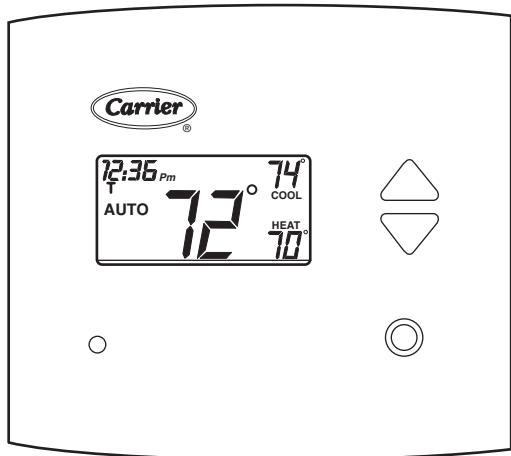
**Carrier's line of thermostats** provide both programmable and non-programmable capability with the new **Debonair®** line of commercial programmable thermostats, the TEMP System controls offer communication capability with staged heating and cooling, the **Commercial Electronic** thermostats provide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

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

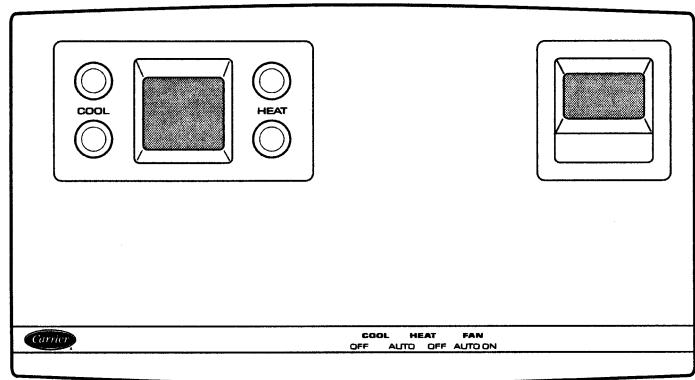
**UV-C germicidal lamps** kill mold and fungus, which may grow on evaporator coil and condensate pan surfaces. The use of UV-C germicidal lamps eliminates the foul odors that result from this growth of mold and fungus. It also provides a self-cleaning function for the evaporator coil and drain pan.

## CARRIER THERMOSTATS

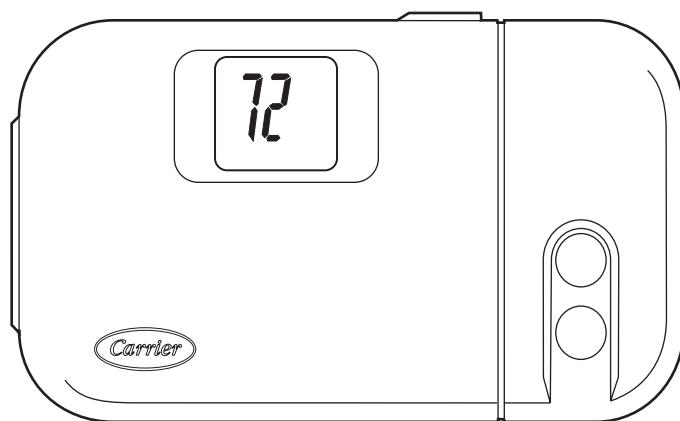
**DEBONAIR® COMMERCIAL PROGRAMMABLE THERMOSTAT**



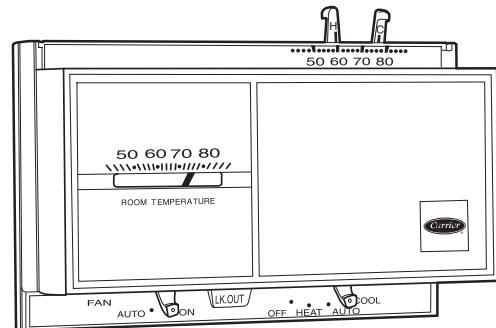
**TEMP SYSTEM THERMOSTAT WITH TIMECLOCK**



**COMMERCIAL ELECTRONIC THERMOSTAT**



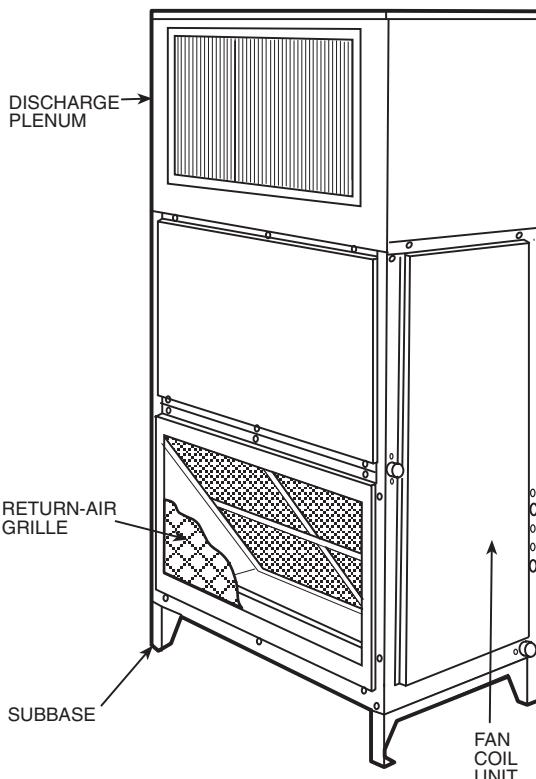
**NON-PROGRAMMABLE THERMOSTAT**



# Options and accessories (cont)



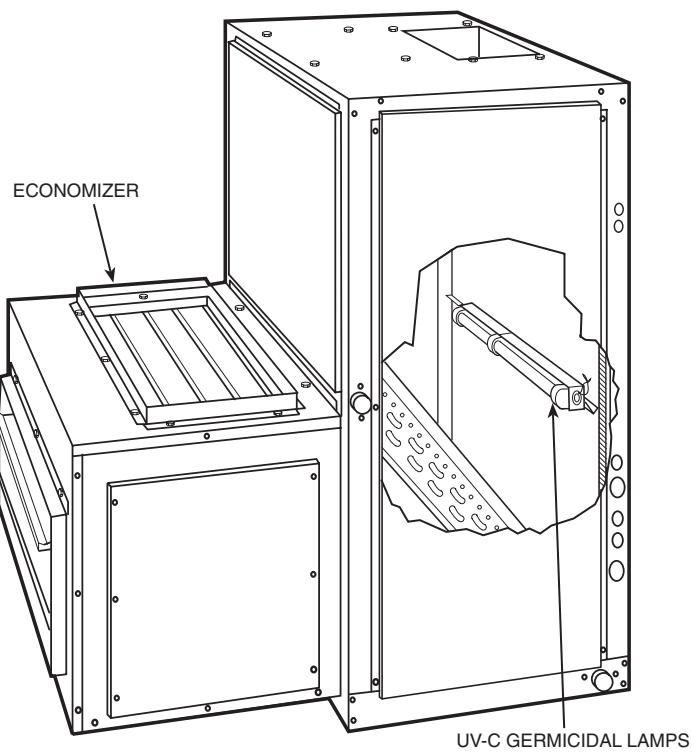
**40RM WITH DISCHARGE PLENUM, RETURN GRILLE, AND SUBBASE**



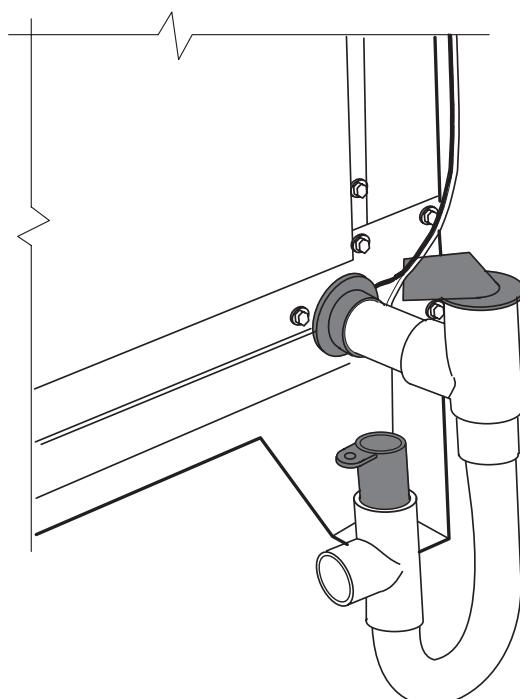
**40RM WITH HOT WATER OR STEAM COIL**



**40RM WITH ECONOMIZER AND UV-C GERMICIDAL LAMPS**



**40RM WITH CONDENSATE TRAP**



# Physical data — SI



38AK007-012, 38AKS008-012

UNIT 38	AK007	AK008	AK012	AKS008	AKS009	AKS012
NOMINAL CAPACITY (kW)*	19.0	24.3	32.9	24.3	29.9	29.5
OPERATING WEIGHT (kg) Aluminum-Fin Coils (Standard) Copper-Fin Coils (Optional)	154 175	178 208	193 228	231 262	256 287	256 287
RIGGING WEIGHT (kg) Aluminum-Fin Coils (Standard) Copper-Fin Coils (Optional)	176 198	200 228	215 250	254 285	279 309	279 309
REFRIGERANT† Operating Charge, Typical (kg)** Shipping Charge (kg)	R-22 5.17 0.91	6.17 0.91	7.48 0.91	6.49 0.91	7.44 0.91	7.44 0.91
COMPRESSOR	Reciprocating, Hermetic H26A72Q	Scroll Hermetic ZR94KC	ZR125KC	06DA818	06DA824	06DH824 (See Note)
Model				4	6	6
No. Cylinders (ea)	2	—	—	24.2	24.2	24.2
Speed (r/s)	48.4	48.4	48.4	2.60	3.78	3.78
Oil Charge (L) (ea)	1.92	2.51	3.25			
CONDENSER FAN				Propeller; Direct Drive 1...16.0 660 0.25		
Qty...r/s				2...670		
Diameter (mm)						
Motor kW (NEMA)						
Nominal Airflow (L/s)	1490	2550	2750	2550	2550	2550
CONDENSER COIL				Enhanced Copper Tubes, Aluminum Lanced Fins		
Rows...Fins/m						
Face Area (m <sup>2</sup> )	1.14	1.67	1.90	1.67	1.67	1.67
Storage Capacity (kg)	5.1	7.5	8.6	7.5	7.5	7.5
CONTROLS						
Pressurestat Settings (kPa)						
High Cutout				2937 ± 48		
Cut-in				2206 ± 138		
Low Cutout				48 ± 20		
Cut-in				151 ± 34		
PIPING CONNECTIONS (Sweat)						
Suction (in.)	1 1/8 1/2	1 1/8 1/2	1 1/8 5/8	1 1/8 1/2	1 1/8 5/8	1 1/8 5/8
Liquid (in.)						

## LEGEND

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

\*Based on operation at 8°C saturated suction temperature and 36°C outdoor ambient temperature.

†Unit is factory supplied with holding charge only.

\*\*Typical operating charge with 7.6 m of interconnecting piping.

NOTE: Unit 38AKS012 has one step of unloading. Full load is 100% of capacity, and one step of unloading is 67% capacity. Unit 38AKS012 has the following unloader settings:  
Load is 483 kPa ± 6.9 kPa and unload is 414 kPa ± 13.8 kPa.

# Physical data — SI (cont)



38AKS013-024

UNIT 38AKS	013	014	016	024
<b>NOMINAL CAPACITY (kW)*</b>	30.4	36.6	45.7	64.3
<b>OPERATING WEIGHT (kg)</b>				
With Aluminum-Fin Coil	332	353	358	408
With Copper-Fin Coil	374	417	421	472
<b>REFRIGERANT†</b>	R-22			
Operating Charge, Typical (kg)**	10.0	10.4	10.4	12.7
Shipping Charge (kg)	0.95	1.40	1.40	1.40
<b>COMPRESSOR</b>		Reciprocating, Semi-Hermetic		
Model	06DD824	06DD328	06DD537	06E4250
No. Cylinders	6	6	6	4
Speed (r/s)	24.2			
Oil Charge (L)	4.73	4.73	4.73	7.33
Capacity Steps (%)				
Accessory	33††, 66, 100	33††, 66, 100	33††, 66, 100	—
Standard	66, 100	66, 100	66, 100	50, 100
Unloader Settings (kPa)				
Load		483 ± 6.9		
Unload		414 ± 13.8		
Crankcase Heater Watts		125		
<b>CONDENSER FANS</b>		Axial Flow, Direct Drive		
Qty...r/s		2...15.0		
Diameter (mm)		660		
Nominal kW		0.37		
Nominal Airflow (L/s Total)		4660		
Watts (total)		1050		
<b>CONDENSER COIL</b>		Copper Tubes, Aluminum Fins		
Rows...Fins/m	2...590	3...590	3...590	3...590
Face Area (sq m)	2.71	2.71	2.71	2.71
Storage Capacity (kg)II	12.3	18.3	18.1	18.1
<b>CONTROLS</b>				
Pressurestat (kPa)				
High Pressure				
Cutout		2724 ± 69		
Cut-in		2034 ± 138		
Low-Pressure				
Cutout		186 ± 28		
Cut-in		462 ± 48		
<b>FAN CYCLING CONTROLS</b>				
Operating Pressure (kPa)				
No. 2 Fan, Close		1758 ± 69		
Open		1103 ± 69		
<b>PRESSURE RELIEF</b>		Fusible Plug		
Location	Compressor	Compressor	Compressor	Liquid Line
Temperature (C)	93.3	93.3	93.3	98.9
<b>PIPING CONNECTIONS (in. ODM)</b>				
Suction	1 <sup>1</sup> / <sub>8</sub>		1 <sup>3</sup> / <sub>8</sub>	
Liquid			5/ <sub>8</sub>	1 <sup>3</sup> / <sub>8</sub>
Hot Gas Stub			3/ <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub>

\*Based on operation at 8 C saturated suction temperature and 36 C outdoor ambient temperature.

†Unit is factory-supplied with holding charge only.

\*\*With 7.6 m of interconnecting piping. Operating charge is approximate for maximum system capacity.

††Indicates capacity step (%) with electric unloader accessory.

IIStorage capacity is measured at liquid saturated temperatures of 51.7 C for 38AKS013, 50.6 C for 38AKS014, and 54.4 C for 38AKS016 and 024.



## 38AKS028-044

UNIT 38AKS	028	034	044
NOMINAL CAPACITY (kW)*	82.8	94.5	127.0
OPERATING WEIGHTS (kg)			
With Aluminum-Fin Coils	748	818	1106
With Copper-Fin Coils	818	911	1246
REFRIGERANT	R-22		
Operating Charge, Typical (kg)	13.8	19.7	29.5
COMPRESSOR		Reciprocating, Semi-hermetic	
Model	06E9265	06E9275	06E9299
No. Cylinders (ea)	6	6	6
Speed (r/s)		24.2	
Oil (L)	8.99	8.99	9.46
Capacity Steps		100%, 66%, 33%	
Unloader Settings (kPag)			
No. 1 Load		524	
Unload		400	
No. 2 Load		538	
Unload		414	
Crankcase Heater Watts		180	
CONDENSER FANS		Propeller Type — Direct Drive	
Qty...r/s	2...15.8		3...15.8
Diameter (mm)		762	
Nominal kW		0.75	
Nominal Airflow (L/s)	7400		11,180
Watts (Total)	1490	1750	1520
CONDENSER COIL		Enhanced Copper Tubes, Lanced Aluminum Fins	
Rows...Fins/m	2...748	3...670	3...670
Face Area (sq m)	3.64	3.64	5.43
Storage Capacity (kg) — 80% Full at 51.7 C	17.1	25.7	38.3
CONTROLS			
High-Pressure Switch (kPag)			
Cutout		2937 ± 48	
Cut-in		2206 ± 138	
Low-Pressure Switch (kPag)			
Cutout		186 ± 21	
Cut-in		303 ± 34	
Oil Pressure Switch (kPag)			
Close on Rise		62	
Open on Fall		43	
FAN CYCLING CONTROLS			
Operating Pressure (kPag)			
No. 2 Fan, Close		1758 ± 69	
Open		1103 ± 69	
PRESSURE RELIEF		Fusible Plug	
Location		Liquid and Suction Line	
Temperature (C)		98.9	
PIPING CONNECTIONS (in. OD)			
Suction	1 5/8		2 1/8
Liquid		7/8	
Hot Gas Stub		5/8	

\*Based on operation at 8 C saturated suction temperature and 36 C outdoor ambient temperature.

## Physical data — SI (cont)



40RM

UNIT 40RM	007	008	012	014	016	024	028	034
NOMINAL CAPACITY (kW)	21	26	35	43	52	70	87	105
<b>OPERATING WEIGHT (kg)</b> Base Unit with TXV (3-Row/4-Row) Plenum	173/181 80	175/183 80	184/193 80	304/315 102	311/323 102	313/331 102	463/470 148	467/482 148
<b>FANS</b> Qty...Diam. (mm) Nominal Airflow (L/s) Airflow Range (L/s) Nominal Motor kW (Standard Motor) 230-3-50, 400-3-50 Motor Speed (r/s) 230-3-50, 400-3-50	1...381 1133 850-1416	1...381 1604 1203-2006	1...381 1888 1416-2360	2...381 2360 1770-2949	2...381 2831 2124-3539	2...381 3775 2831-4719	2...457 4719 3539-5899	2...457 5663 4247-7079
<b>REFRIGERANT</b> Operating charge (kg) (approx per circuit)*	1.36	1.36	0.68/0.68	0.90/0.90	1.13/1.13	1.59/1.59	2.04/2.04	2.27/2.27
<b>DIRECT-EXPANSION COIL</b> Max Working Pressure (kPag) Face Area (sq m) No. of Splits No. of Circuits per Split (3-Row/4-Row) Split Type...Percentage Fins/m	0.62 1 12/12 — 591	0.77 1 15/15 — 591	0.93 2 9/9	0.93 2 9/16	1.64 2 12/16	1.85 2 13/18	2.30 2 Face...50/50 15/20	2.77 2 18/24
<b>STEAM COIL</b> Max Working Pressure (kPag at 204.4 C) Total Face Area (sq m) Rows...Fins/m	0.62 1...355	0.62 1...355	0.62 1...355	1.24 1...394	1.24 1...394	1.24 1...394	1.39 1...394	1.39 1...394
<b>HOT WATER COIL</b> Max Working Pressure (kPag) Total Face Area (sq m) Rows...Fins/m Water Volume (L) (m <sup>3</sup> )	0.62 2...335	0.62 2...335	0.62 2...335	1.24 2...335	1.24 2...335	1.24 2...335	1.39 2...493	1.39 2...493
<b>PIPING CONNECTIONS,</b> Quantity...Size (in.) DX Coil — Suction (ODF) DX Coil — Liquid Refrigerant (ODF) Steam Coil, In (MPT) Steam Coil, Out (MPT) Hot Water Coil, In (MPT) Hot Water Coil, Out (MPT) Condensate (Male PVC)	1...1 <sup>1</sup> / <sub>8</sub> 1...5 <sup>1</sup> / <sub>8</sub> 1...2 <sup>1</sup> / <sub>2</sub> 1...11 <sup>1</sup> / <sub>2</sub> 1...1 <sup>1</sup> / <sub>2</sub> 1...11 <sup>1</sup> / <sub>2</sub> 1...11 <sup>1</sup> / <sub>2</sub>	1...1 <sup>1</sup> / <sub>8</sub> 1...5 <sup>1</sup> / <sub>8</sub> 1...2 <sup>1</sup> / <sub>2</sub> 1...11 <sup>1</sup> / <sub>2</sub> 1...1 <sup>1</sup> / <sub>2</sub> 1...11 <sup>1</sup> / <sub>2</sub> 1...11 <sup>1</sup> / <sub>2</sub>	2...1 <sup>1</sup> / <sub>8</sub> 2...5 <sup>1</sup> / <sub>8</sub> 1...2 <sup>1</sup> / <sub>2</sub> 1...2 <sup>1</sup> / <sub>2</sub> 1...1 <sup>1</sup> / <sub>2</sub> 1...1 <sup>1</sup> / <sub>2</sub> 1...1 <sup>1</sup> / <sub>2</sub>	2...1 <sup>1</sup> / <sub>8</sub> 2...5 <sup>1</sup> / <sub>8</sub> 1...2 <sup>1</sup> / <sub>2</sub> 1...2 <sup>1</sup> / <sub>2</sub> 1...2 1...2 1...2	2...1 <sup>1</sup> / <sub>8</sub> 2...5 <sup>1</sup> / <sub>8</sub> 1...2 <sup>1</sup> / <sub>2</sub> 1...2 <sup>1</sup> / <sub>2</sub> 1...2 1...2 1...2	2...1 <sup>3</sup> / <sub>8</sub> 2...5 <sup>1</sup> / <sub>8</sub> 1...2 <sup>1</sup> / <sub>2</sub> 1...2 <sup>1</sup> / <sub>2</sub> 1...2 1...2 1...2	2...1 <sup>3</sup> / <sub>8</sub> 2...5 <sup>1</sup> / <sub>8</sub> 1...2 <sup>1</sup> / <sub>2</sub> 1...2 <sup>1</sup> / <sub>2</sub> 1...2 1...2 1...2	2...1 <sup>3</sup> / <sub>8</sub> 2...5 <sup>1</sup> / <sub>8</sub> 1...2 <sup>1</sup> / <sub>2</sub> 1...2 <sup>1</sup> / <sub>2</sub> 1...2 1...2 1...2
<b>FILTERS</b> Quantity...Size (mm) Access Location	4...406 x 610 x 51				Throwaway — Factory Supplied 4...406 x 508 x 51 4...406 x 610 x 51			
					Right or Left Side 4...508 x 635 x 51			

| FGFND

**DX** — Direct Expansion

**TXV** — Thermostatic Expansion Valve

\*Units are shipped without refrigerant charge.

# Physical data — English



38AK007-012, 38AKS008-012

UNIT 38	AK007	AK008	AK012	AKS008	AKS009	AKS012
NOMINAL CAPACITY (tons)*	5.3	6.8	9.3	6.8	8.4	8.3
OPERATING WEIGHT (lb)				R-22		
Aluminum Coils (Standard)	340	392	426	510	564	564
Copper Coils (Optional)	386	460	503	578	632	632
RIGGING WEIGHT (lb)						
Aluminum Fin Coils (Standard)	390	442	476	560	614	614
Copper Fin Coils (Optional)	436	510	553	628	682	682
REFRIGERANT†						
Operating Charge, Typical (lb)**	11.4	13.6	16.5	14.3	16.4	16.4
Shipping Charge (lb)	2.0	2.0	2.0	2.0	2.0	2.0
COMPRESSOR	Reciprocating, Hermetic	Scroll Hermetic		Reciprocating, Semi-Hermetic		
Model	H26A72Q	ZR94KC	ZR125KC	06DA818	06DA824	06DH824 (See Note)
No. Cylinders (ea)	2	—	—	4	6	6
Speed (rpm)	3500	3500	3500	1460	1460	1460
Oil Charge (oz) (ea)	65	85	110	88	128	128
CONDENSER FAN				Propeller; Direct Drive		
Qty...Rpm				1...960		
Diameter (in.)				26		
Motor Hp (NEMA)				1/3		
Nominal Airflow (Cfm)	3800	6500	7000	6500	6500	6500
CONDENSER COIL				Enhanced Copper Tubes, Aluminum Lanced Fins		
Rows...Fins/in.				2...17		
Face Area (sq ft)	12.24	18.0	20.50	18.0	18.0	18.0
Storage Capacity (lb)	11.26	16.56	18.87	16.56	16.56	16.56
CONTROLS						
Pressurestat Settings (psig)						
High Cutout				426 ± 7		
Cut-in				320 ± 20		
Low Cutout				7 ± 3		
Cut-in				22 ± 5		
PIPING CONNECTIONS (Sweat)						
Suction (in.)	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8
Liquid (in.)	1/2	1/2	5/8	1/2	5/8	5/8

## LEGEND

NEMA — National Electrical Manufacturers Association

\*Based on operation at 45 F saturated suction temperature and 95 F outdoor ambient.

†Unit is factory supplied with holding charge only.

\*\*Typical operating charge with 25 ft of interconnecting piping.

NOTE: Unit 38AKS012 has one step of unloading. Full load is 100% of capacity, and one step of unloading is 67% capacity. Unit 38AKS012 has the following unloader settings: Load is  $70 \pm 1$  psig and unload is  $60 \pm 2$  psig.

# Physical data — English (cont)



38AKS013-024

UNIT 38AKS	013	014	016	024
NOMINAL CAPACITY (tons)*	8.5	10.3	12.8	18.0
OPERATING WEIGHTS (lb)				
With Aluminum-Fin Coil	732	779	789	900
With Copper-Fin Coil	825	919	929	1040
REFRIGERANT†		R-22		
Operating Charge, Typical (lb)**	22	23	23	28
Shipping Charge (lb)	2.1	3.1	3.1	3.1
COMPRESSOR				
Model	06DD824	06DD328	06DDD537	06E4250
No. Cylinders	6	6	6	4
Speed (rpm)	1450			
Oil Charge (pt)	10	10	10	15.5
Capacity Steps				
Accessory	33††, 66, 100	33††, 66, 100	33††, 66, 100	
Standard	66, 100	66, 100	66, 100	50, 100
Unloader Setting (psig)				
Load		70 ± 1		
Unload		60 ± 2		
Crankcase Heater Watts			125	
CONDENSER FANS		Axial Flow, Direct Drive		
Qty...Rpm		2.900		
Diameter (in.)		26		
Nominal Hp		1/2		
Nominal Airflow (cfm, total)		9210		
Watts (total)		1050		
CONDENSER COIL		Copper Tubes, Aluminum Fins		
Rows...Fins/in.	2...15	3...15	3...15	3...15
Face Area (sq ft)	29.2	29.2	29.2	29.2
Storage Capacity (lb)	27.2	40.0	39.8	39.8
CONTROLS				
Pressurestat (psig)				
High Pressure				
Cutout		395 ± 10		
Cut-in		295 ± 20		
Low Pressure				
Cutout		27 ± 4		
Cut-in		67 ± 7		
FAN CYCLING CONTROLS				
Operating Pressure (psig)				
No. 2 Fan, Close (psig)		255 ± 10		
Open (psig)		160 ± 10		
PRESSURE RELIEF		Fusible Plug		
Location	Compressor	Compressor	Compressor	Liquid Line
Temperature (F)	200	200	200	210
PIPING CONNECTIONS (in. ODM)				
Suction	1 1/8	1 3/8	1 3/8	1 5/8
Liquid		5/8		
Hot Gas Stub		3/8		

\*Based on operation at 45 F saturated suction temperature and 95 F outdoor ambient.

†Unit is factory-supplied with holding charge only.

\*\*With 25 ft of interconnecting piping. Operating charge is approximate for maximum system capacity.

††Indicates capacity step (%) with electric unloader accessory.

||Storage capacity is measured at liquid saturated temperatures of 125 F for 38AKS013, 123 F for 38AKS014, and 130 F for 38AKS016 and 024.



## 38AKS028-044

UNIT 38AKS	028	034	044
NOMINAL CAPACITY (tons)*	23.4	26.7	35.8
OPERATING WEIGHTS (lb)			
With Aluminum-Fin Coils	1650	1803	2437
With Copper-Fin Coils	1804	2009	2745
REFRIGERANT	R-22		
Operating Charge, Typical (lb)	30.5	43.5	65.0
COMPRESSOR	Reciprocating, Semi-Hermetic		
Model	06E9265	06E9275	06E9299
No. Cylinders (ea)	6	6	6
Speed (rpm)		1450	
Oil (pt)	20.0	20.0	19.0
Capacity Steps		100%, 66%, 33%	
Unloader Setting (psig)			
No. 1 Load		76	
Unload		58	
No. 2 Load		78	
Unload		60	
Crankcase Heater Watts		180	
CONDENSER FANS	Propeller Type — Direct Drive		
Qty...Rpm	2...950		3...950
Diameter (in.)		30	
Nominal Hp		1.0	
Nominal Airflow (cfm)	15,700		23,700
Watts (Total)	1490	1750	1520
CONDENSER COIL	Enhanced Copper Tubes, Lanced Aluminum Fins		
Rows...Fins/in.	2...19	3...17	3...17
Face Area (sq ft)	39.2	39.2	58.4
Storage Capacity (lb) — 80% Full at 125 F	37.7	56.6	84.4
CONTROLS			
High-Pressure Switch (psig)			
Cutout		426 ± 7	
Cut-in		320 ± 20	
Low-Pressure Switch (psig)			
Cutout		27 ± 3	
Cut-in		44 ± 5	
Oil Pressure Switch (psig)			
Close on Rise		9.0	
Open on Fall		6.2	
FAN CYCLING CONTROLS			
Operating Pressure (psig)			
No. 2 Fan, Close		255 ± 10	
Open		160 ± 10	
PRESSURE RELIEF	Fusible Plug		
Location	Liquid and Suction Line		
Temperature (F)	210		
PIPING CONNECTIONS (in. OD)			
Suction	1 5/8		2 1/8
Liquid		7/8	
Hot Gas Stub		5/8	

\*Based on operation at 45 F saturated suction temperature and 95 F outdoor ambient.

# Physical data — English (cont)



## 40RM

UNIT 40RM	007	008	012	014	016	024	028	034
<b>NOMINAL CAPACITY (Tons)</b>	6	7 <sup>1</sup> / <sub>2</sub>	10	12 <sup>1</sup> / <sub>2</sub>	15	20	25	30
<b>OPERATING WEIGHT (lb)</b>								
Base Unit with TXV (3-Row/4-Row) Plenum	381/399 175	385/404 175	405/425 175	670/695 225	685/713 225	690/730 225	1020/1050 325	1030/1062 325
<b>FANS</b>								
Qty...Diam. (in.) Nominal Airflow (cfm) Airflow Range (cfm) Nominal Motor Hp (Standard Motor) 230-3-50, 400-3-50 Motor Speed (rpm) 230-3-50, 400-3-50	1...15 2400 1800-3000	1...15 3000 2250-3750	1...15 4000 3000-5000	2...15 5000 3750-6250	2...15 6000 4500-7500	2...15 8000 6000-10,000	2...18 10,000 7500-12,500	2...18 12,000 9000-15,000
<b>REFRIGERANT</b>								
Operating charge (lb) (approx per circuit)*	3.0	3.0	1.5/1.5	2.0/2.0	2.5/2.5	3.5/3.5	4.5/4.5	5.0/5.0
<b>DIRECT-EXPANSION COIL</b>								
Max Working Pressure (psig) Face Area (sq ft) No. of Splits Split Type...Percentage No. of Circuits per Split (3-Row/4-Row) Fins/in.	6.67 1 — 12/12 15	8.33 1 — 15/15 15	10.0 2 9/9 17	13.25 2 9/12 15	17.67 2 12/16 15	19.88 2 13/18 17	24.86 2 15/20 15	29.83 2 18/24 15
<b>STEAM COIL</b>								
Max Working Pressure (psig at 400 F) Total Face Area (sq ft) Rows...Fins/in.	6.67 1...9	6.67 1...9	6.67 1...9	13.33 1...10	175 13.33 1...10	13.33 1...10	15.0 1...10	15.0 1...10
<b>HOT WATER COIL</b>								
Max Working Pressure (psig) Total Face Area (sq ft) Rows...Fins/in. Water Volume (gal) (ft <sup>3</sup> )	6.67 2...8.5	6.67 2...8.5	6.67 2...8.5	13.33 2...8.5	150 13.33 2...8.5	13.33 2...8.5	15.0 2...12.5	15.0 2...12.5
<b>PIPING CONNECTIONS,</b> Quantity...Size (in.)	1...11/8 1...5/8 1...21/2 1...11/2 1...11/2 1...11/2	1...11/8 1...21/2 1...21/2 1...11/2 1...11/2	2...11/8 1...21/2 1...21/2 1...11/2 1...11/2	2...11/8 1...21/2 1...21/2 1...11/2 1...11/2	2...11/8 1...5/8 1...21/2 1...21/2 1...11/4	2...11/8 1...21/2 1...21/2 1...2 1...2	2...13/8 1...21/2 1...21/2 1...2 1...2	2...13/8 1...21/2 1...21/2 1...2 1...2
<b>FILTERS</b>								
Quantity...Size (in.)	4...16 x 24 x 2				Throwaway — Factory Supplied 4...16 x 20 x 2 4...16 x 24 x 2			4...20 x 24 x 2 4...20 x 25 x 2
Access Location					Right or Left Side			

### LEGEND

**TXV** — Thermostatic Expansion Valve

\*Units are shipped without refrigerant charge.

# Dimensions



38AK007-012, 38AKS008-012

## DIMENSION CHART

UNIT 38AK	UNIT W/ ALUMINUM COIL		UNIT W/ COPPER COIL		DIM. C	DIM. D	DIM. E	DIM. F
	DIM. A	DIM. B	DIM. A	DIM. B				
007	1'-6 <sup>1</sup> / <sub>2</sub> " [470]	1'-2 <sup>3</sup> / <sub>4</sub> " [375]	1'-8" [508]	1'-3" [381]	—	1'-2 <sup>1</sup> / <sub>4</sub> " [362]	1'-4 <sup>5</sup> / <sub>16</sub> " [415]	2'-9 <sup>5</sup> / <sub>16</sub> " [847]
008	1'-8" [508]	1'-6 <sup>1</sup> / <sub>2</sub> " [470]	1'-9 <sup>1</sup> / <sub>2</sub> " [546]	1'-6" [457]	2'-9 <sup>13</sup> / <sub>16</sub> " [859]	1'-3" [381]	2'-5 <sup>1</sup> / <sub>16</sub> " [613]	3'-5 <sup>7</sup> / <sub>16</sub> " [1053]
012	1'-9" [533]	1'-8" [508]	1'-10" [559]	1'-7" [482]	2'-0" [610]	1'-3" [381]	2'-5 <sup>1</sup> / <sub>16</sub> " [613]	3'-5 <sup>7</sup> / <sub>16</sub> " [1053]
S008	1'-6" [457]	1'-4 <sup>3</sup> / <sub>4</sub> " [426]	1'-7 <sup>1</sup> / <sub>2</sub> " [495]	1'-4 <sup>1</sup> / <sub>2</sub> " [419]	2'-9 <sup>13</sup> / <sub>16</sub> " [859]	1'-3" [381]	2'-5 <sup>1</sup> / <sub>16</sub> " [613]	3'-5 <sup>7</sup> / <sub>16</sub> " [1053]
S009,S012	1'-7" [483]	1'-5" [432]	1'-7 <sup>1</sup> / <sub>2</sub> " [495]	1'-4" [406]	2'-9 <sup>13</sup> / <sub>16</sub> " [859]	1'-3" [381]	2'-5 <sup>1</sup> / <sub>16</sub> " [613]	3'-5 <sup>7</sup> / <sub>16</sub> " [1053]

## ELECTRICAL CONNECTIONS

CONNECTION SIZES	
AA	1 <sup>3</sup> / <sub>8</sub> " Dia [35] Field Power Supply Hole
BB	2" Dia [51] Power Supply Knockout
CC	2 <sup>1</sup> / <sub>2</sub> " Dia [64] Power Supply Knockout
DD	7 <sup>1</sup> / <sub>8</sub> " Dia [22] Field Control Wiring Hole

## SERVICE VALVE CONNECTIONS

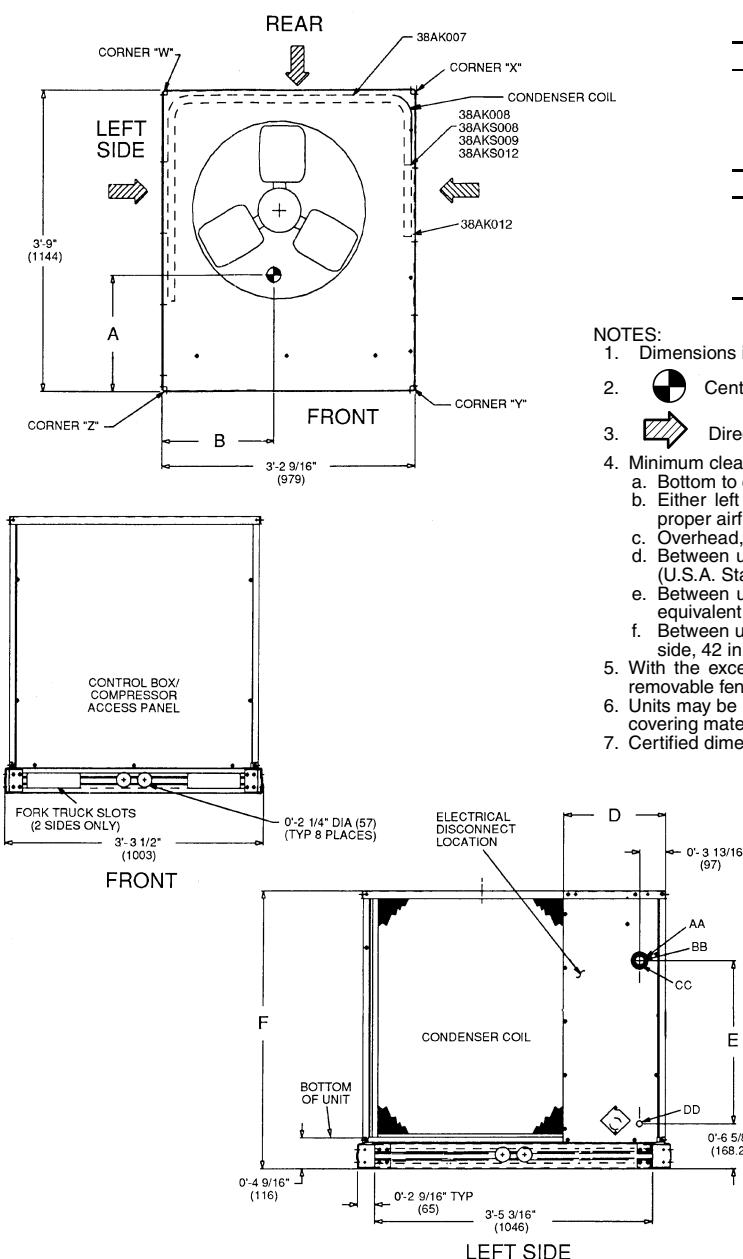
UNIT 38AK	SUCTION	LIQUID
007	1 <sup>1</sup> / <sub>8</sub> " [28.6]	1 <sup>1</sup> / <sub>2</sub> " [12.7]
008	1 <sup>1</sup> / <sub>8</sub> " [28.6]	1 <sup>1</sup> / <sub>2</sub> " [12.7]
012	1 <sup>1</sup> / <sub>8</sub> " [28.6]	5 <sup>5</sup> / <sub>8</sub> " [15.9]
S008	1 <sup>1</sup> / <sub>8</sub> " [28.6]	1 <sup>1</sup> / <sub>2</sub> " [12.7]
S009,012	1 <sup>1</sup> / <sub>8</sub> " [28.6]	5 <sup>5</sup> / <sub>8</sub> " [15.9]

## WEIGHT DISTRIBUTION

UNIT 38AK	STD UNIT		CORNER W		CORNER X		CORNER Y		CORNER Z	
	Kg	Lb								
<b>With Aluminum Coil</b>										
007	154	340	39	86	24	53	35	77	86	124
008	178	392	41	91	38	84	48	105	51	113
012	193	426	44	96	45	99	53	117	51	113
S008	231	510	52	114	40	89	60	133	78	173
S009,S012	256	564	60	133	44	97	64	141	88	193
<b>With Copper Coil</b>										
007	175	386	48	106	30	65	37	82	60	133
008	209	460	54	120	45	100	51	113	58	127
012	228	503	57	126	57	126	51	113	58	127
S008	262	578	65	143	48	106	78	173	85	187
S009,S012	287	632	73	161	52	114	88	193	94	207

### NOTES:

1. Dimensions in [ ] are in millimeters.
2. Center of Gravity. See chart for dimensions.
3. Direction of airflow.
4. Minimum clearance shall be as follows: (local codes or jurisdiction may prevail)
  - a. Bottom to combustible surfaces, 0 in. [0 mm].
  - b. Either left or rear side of condensing unit must have 36-in. [914] clearance for proper airflow; the remaining side(s) must have 12-in. [305] clearance each.
  - c. Overhead, 60 in. [1524], to assure proper condenser fan operation.
  - d. Between units, control box side, 42 in. [1067] per NEC (National Electrical Code) (U.S.A. Standard) or equivalent local electrical code.
  - e. Between unit and ungrounded surfaces, control box side, 36 in. [914] per NEC or equivalent local electrical code.
  - f. Between unit and block or concrete walls and other grounded surfaces: control box side, 42 in. [1067] per NEC or equivalent local electrical code.
5. With the exception of the clearance for the condenser coil as stated in note 4b, a removable fence or barricade requires no clearance.
6. Units may be installed on combustible floors made from wood or Class A, B, or C roof covering material.
7. Certified dimension drawings available on request.



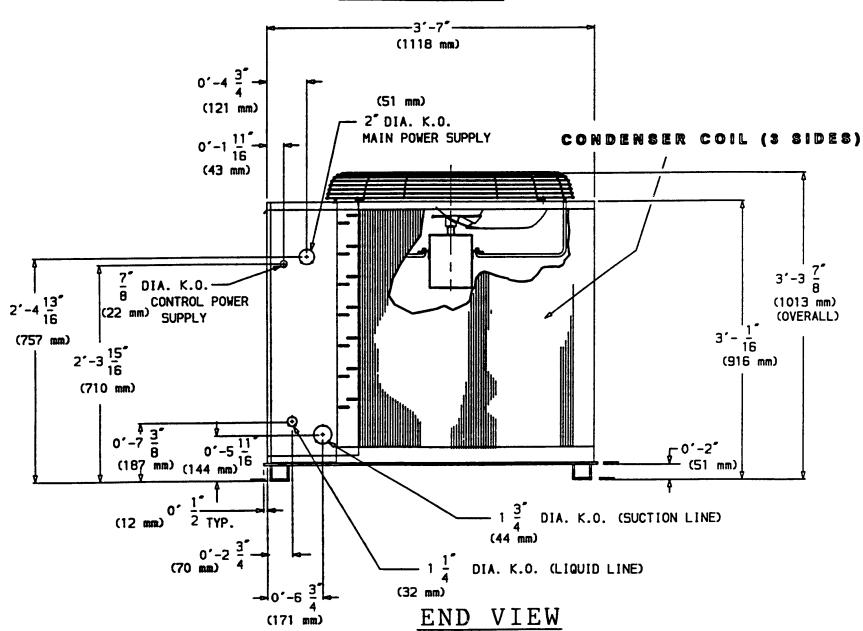
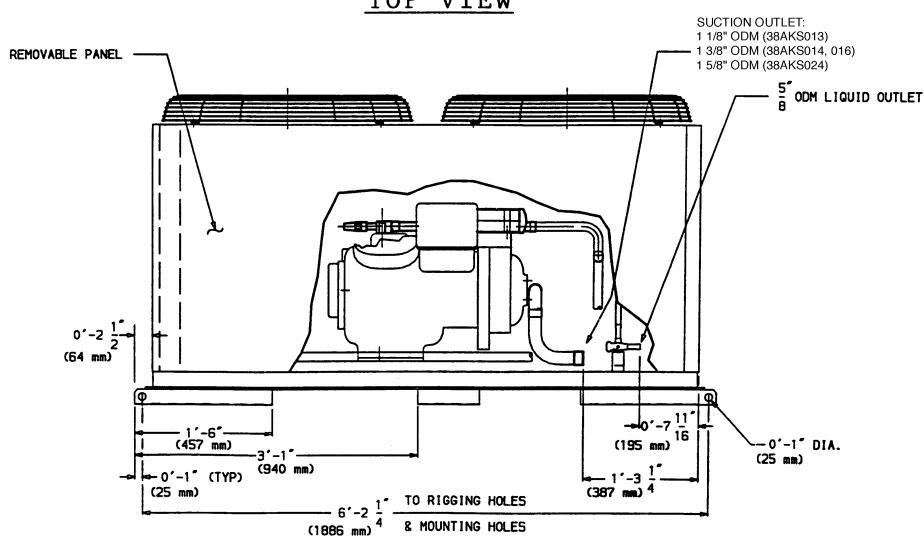
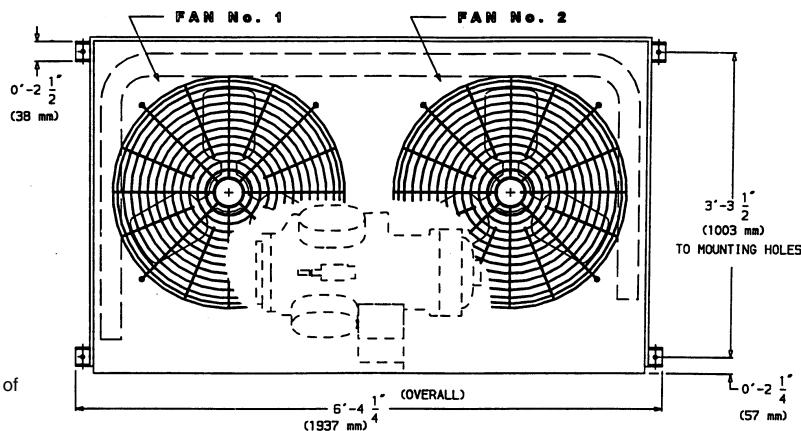
# Dimensions (cont)

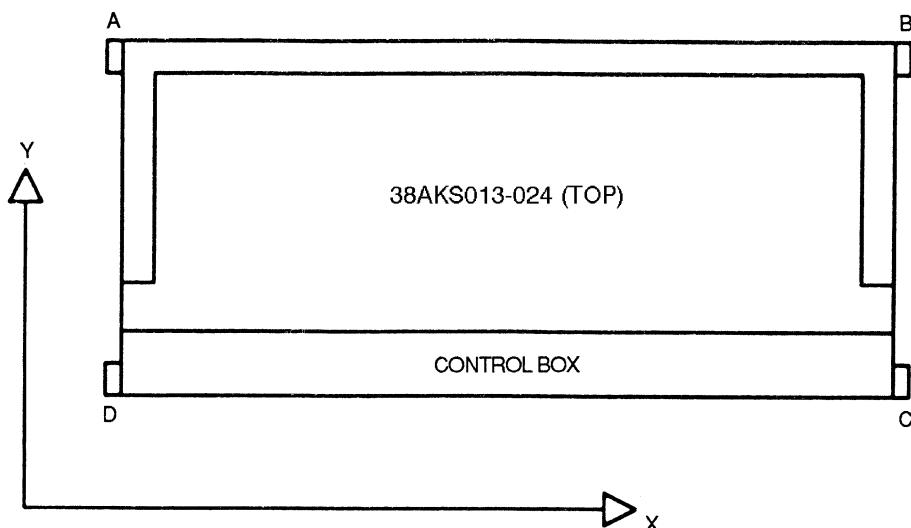
**Carrier**  
®

38AKS013-024

NOTES:

1. Service clearances are as follows:  
Side (compressor) — 3½ ft (1067 mm)  
Side (opposite compressor) — 3 ft (914 mm)  
Ends — 2 ft (610 mm)  
Top — 5 ft (1524 mm)
2. See page 21 for corner weights and unit center of gravity.



**38AKS013-024 (cont)**


UNIT 38AKS	CENTER OF GRAVITY (in.)			
	X		Y	
	in.	mm	in.	mm
013	38	965	17	432
013C	38	965	19	483
014	38	965	16	406
014C	38	965	18	457
016	38	965	16	406
016C	38	965	18	457
024	37	940	17	432
024C	37	940	19	483

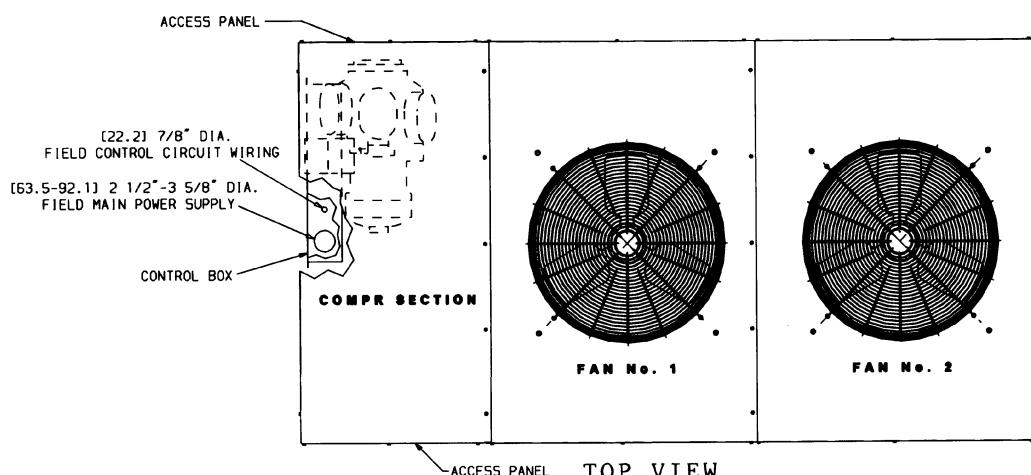
LEGEND  
**C** — Copper Fin Coils

UNIT 38AKS	TOTAL WEIGHT		OPERATIONAL CORNER WEIGHTS							
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
013	732	332	142	64	138	63	225	102	227	103
013C	825	374	178	81	172	78	236	107	239	108
014	779	353	143	65	140	64	247	112	249	113
014C	919	417	197	89	191	87	264	120	267	121
016	789	358	143	65	143	65	250	113	253	115
016C	929	421	197	89	194	88	267	121	271	123
024	900	409	178	81	168	76	269	122	285	129
024C	1040	472	232	105	219	99	286	130	303	137

# Dimensions (cont)

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## 38AKS028, 034



### NOTES:

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

UNIT 38AKS	WEIGHT (lb)	WEIGHT (kg)
028	1650	748
028C	1804	818
034	1803	818
034C	2009	911

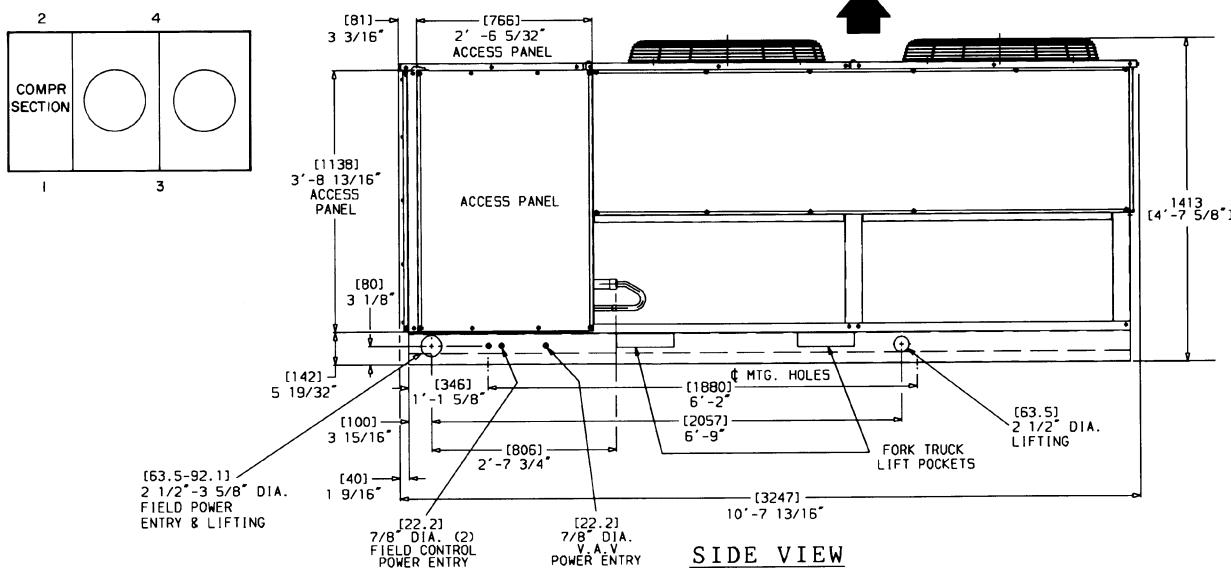
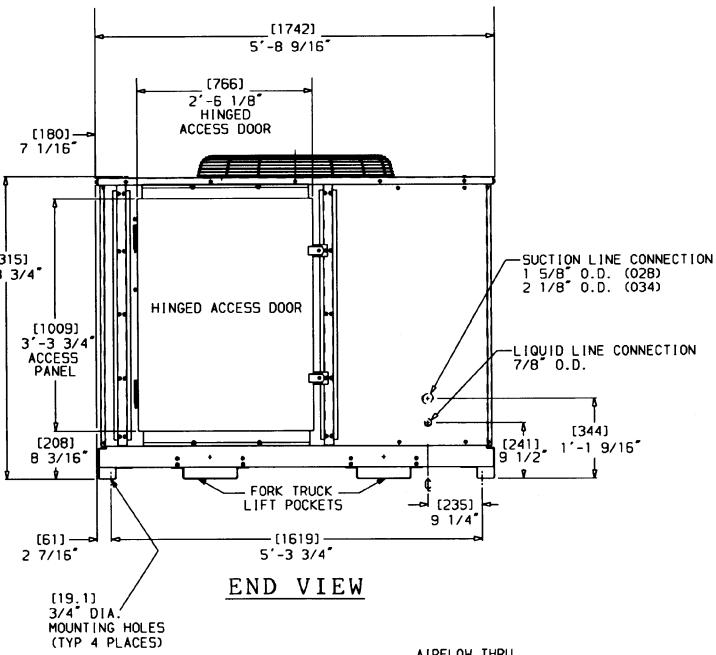
NOTE: A "C" in model number indicates unit has optional factory-installed copper-fin coil.

- Dimensions in [ ] are millimeters.

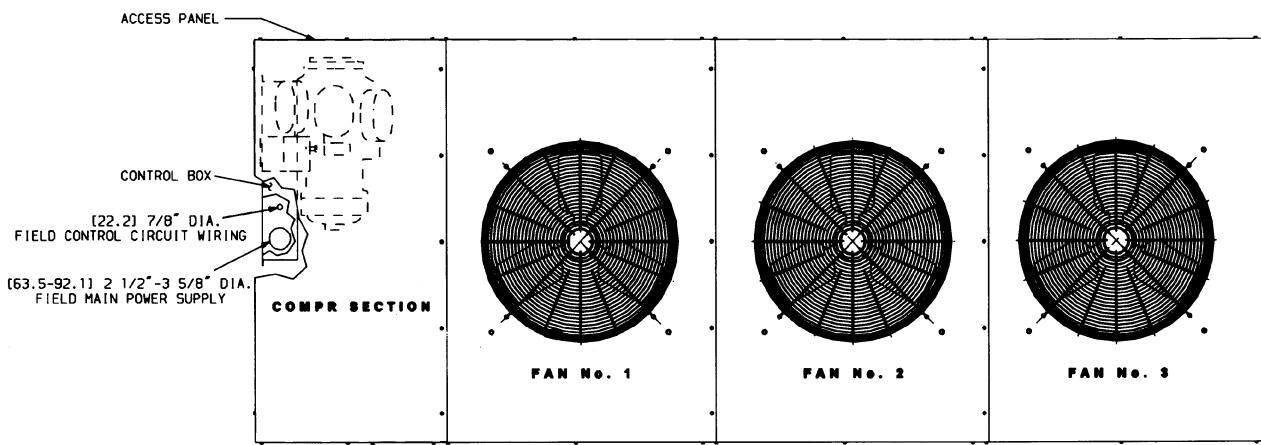
### APPROXIMATE OPERATING WEIGHT\* AT SUPPORT POINTS — LB (KG)\*

UNIT 38AKS	1	2	3	4	TOTAL
028	418 (189.6)	626 (284.0)	242 (109.8)	364 (165.1)	1650 (748.4)
034	459 (208.2)	673 (305.3)	272 (123.4)	399 (181.0)	1803 (817.8)

\*Standard copper tube aluminum-fin coil.



SIDE VIEW

**38AKS044**

**NOTES:**

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

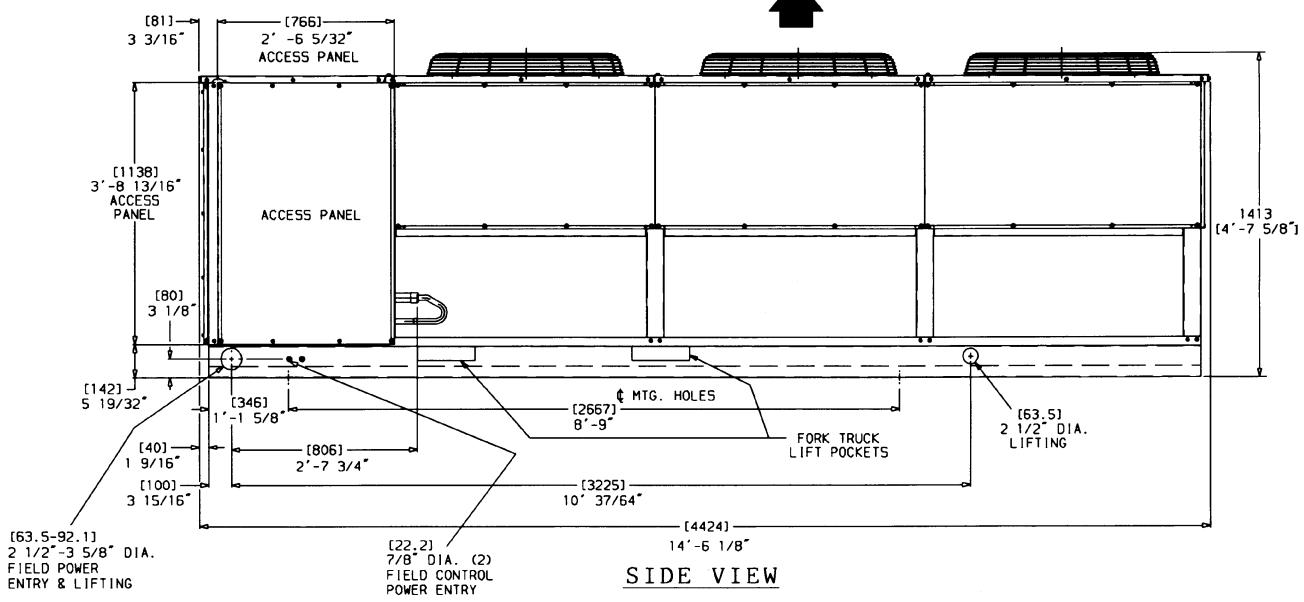
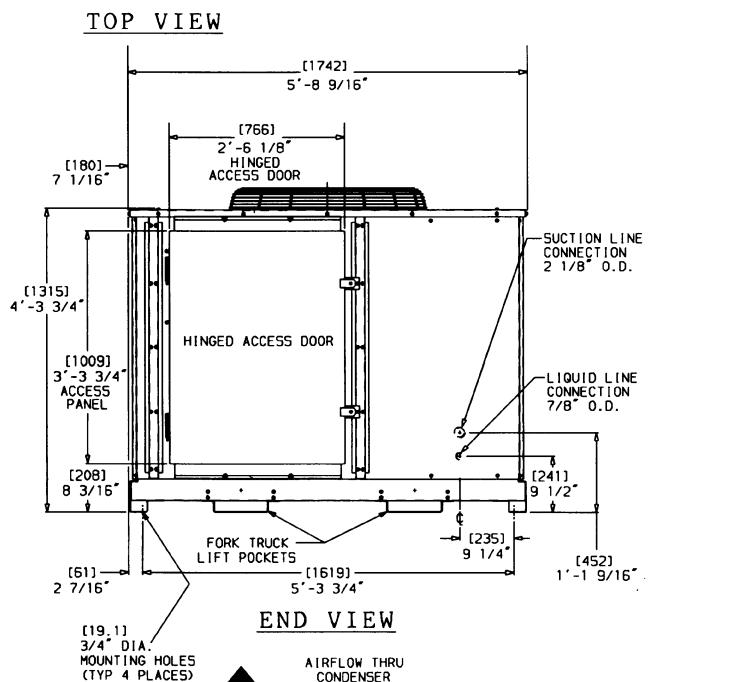
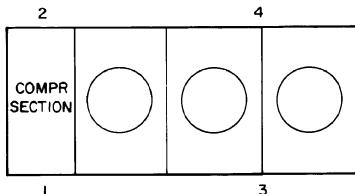
UNIT 38AKS	WEIGHT (lb)	WEIGHT (kg)
044	2437	1106
044C	2745	1246

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

**APPROX. OPER. WT\***  
**AT LIFTING HOLES — LB (KG)\***

UNIT 38AKS	1	2	3	4	TOTAL
044	864 (391.9)	1077 (488.5)	221 (100.2)	275 (124.7)	2437 (1106)

\*Standard copper tube aluminum-fin coil.

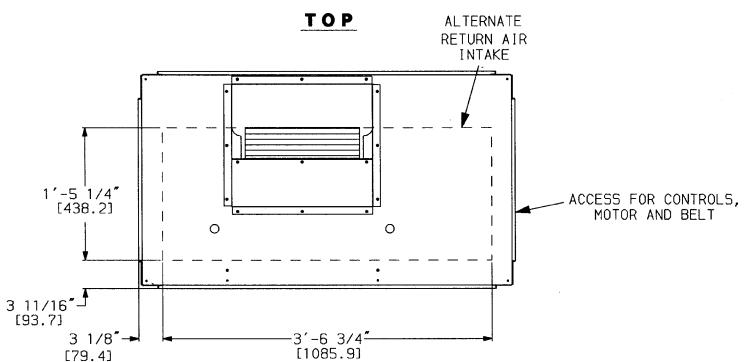


# Dimensions (cont)



40RM007-012

**TOP**

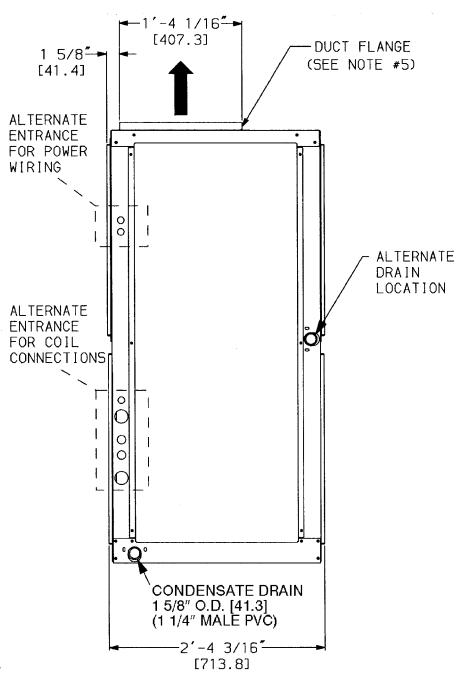


**LEGEND**

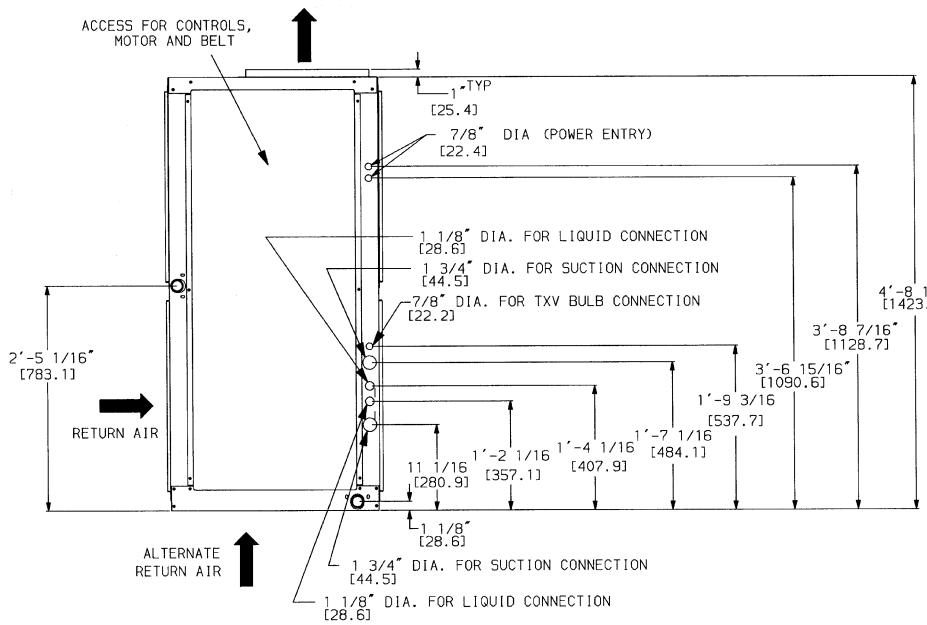
**TXV** — Thermostatic Expansion Valve

**NOTES:**

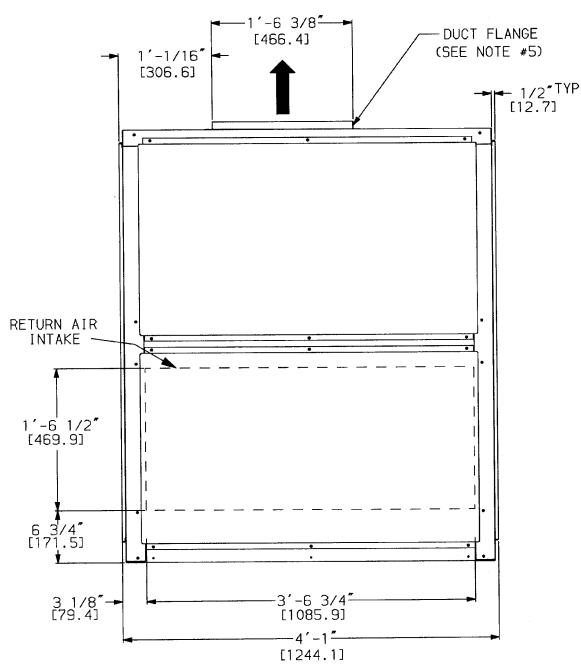
1. Dimensions in [ ] are in millimeters.
2. Direction of airflow.
3. Recommended clearance:
  - Rear: 76 mm (3 in.), 762 mm (2'-6") with electric heat accessory
  - Front: 762 mm (2'-6")
  - Right Side: 762 mm (2'-6")
  - Left Side: 762 mm (2'-6")
  - Local codes or jurisdiction may prevail.
4. Liquid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



**LEFT SIDE**

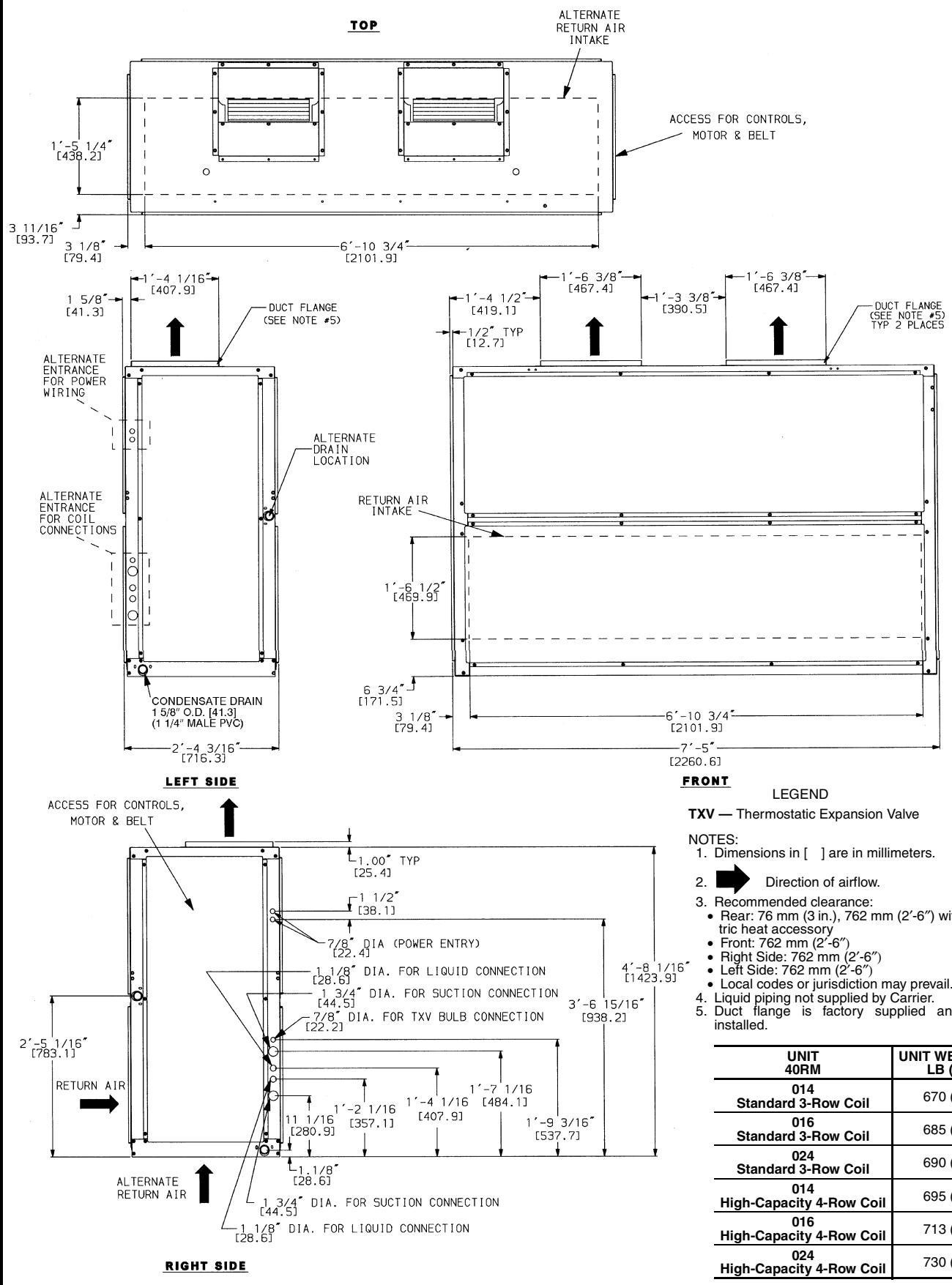


**RIGHT SIDE**



**FRONT**

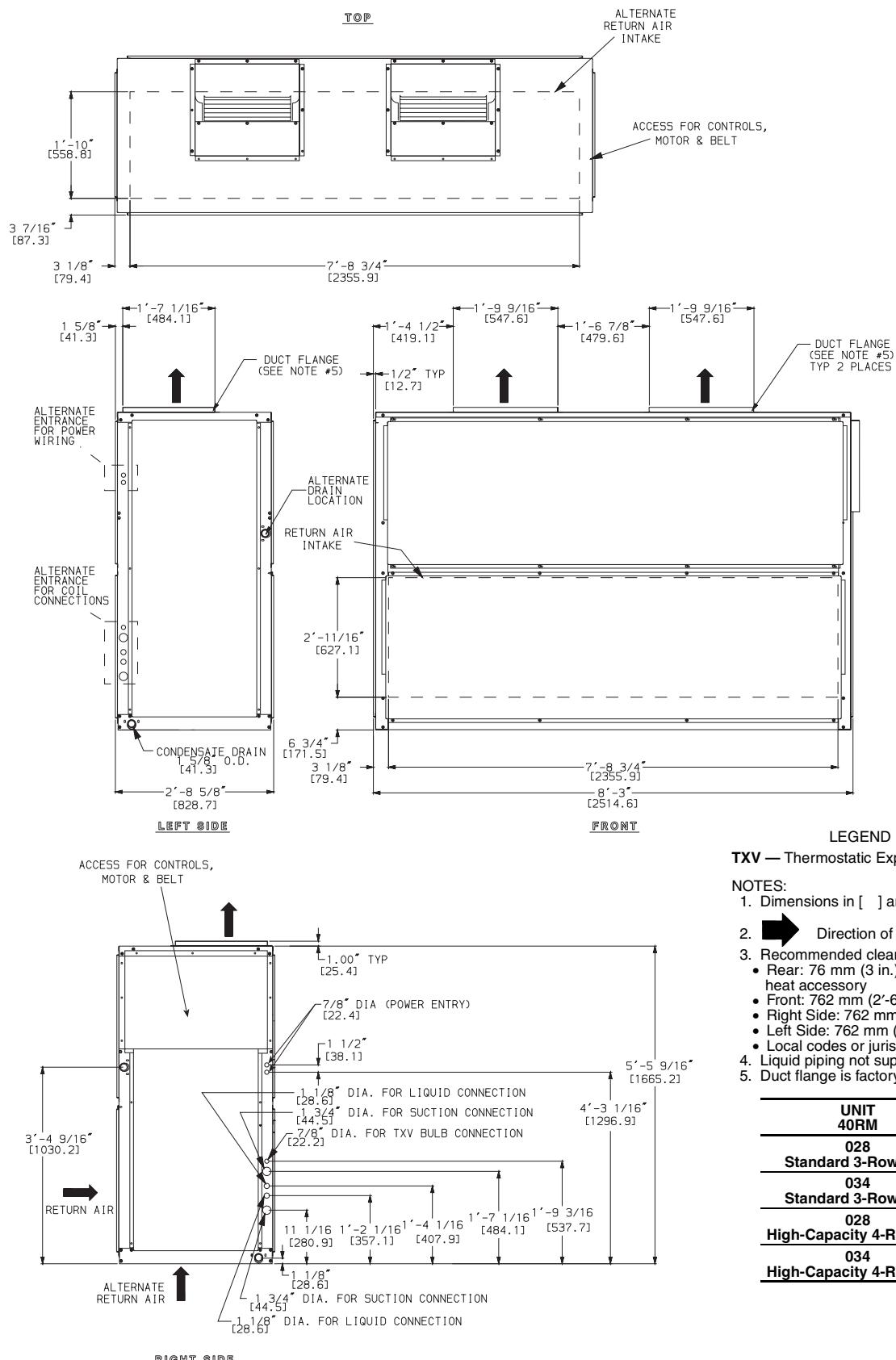
UNIT 40RM	UNIT WEIGHT — LB (KG)
007 Standard 3-Row Coil	381 (173)
008 Standard 3-Row Coil	385 (175)
012 Standard 3-Row Coil	405 (184)
007 High-Capacity 4-Row Coil	399 (181)
008 High-Capacity 4-Row Coil	404 (184)
012 High-Capacity 4-Row Coil	425 (193)

**40RM014-024**


# Dimensions (cont)



**40RM028, 034**



UNIT 40RM	UNIT WEIGHT — LB (KG)
028 Standard 3-Row Coil	1020 (463)
034 Standard 3-Row Coil	1030 (467)
028 High-Capacity 4-Row Coil	1050 (470)
034 High-Capacity 4-Row Coil	1062 (482)

# Selection procedure — SI



NOTE: Pages 35-43 and 52-57 contain combination ratings for the 38AK and 38AKS units matched with 40RM Series air handlers.

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

Given:

Total Cooling Capacity	
Required (TC)	..... 62 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	..... 100 Pa
Length of Interconnecting	
Refrigerant Piping	..... 8 m (Linear)

## II Select condensing unit air-handler combination.

For this example, select a 38AKS024 matched with a 40RM024. (See Combination Ratings table, page 41.) This 38AKS024/40RM024 condensing unit-air handler combination provides 62.7 kW of total cooling capacity and 49.3 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 Refrigerant Piping Sizes table (page 90). 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 line and  $1\frac{5}{8}$  in. for the suction line.

## IV Determine fan rpm and bhp (brake horsepower).

At the Air Handler Fan Performance table (page 64), enter the 40RM024 section at 3800 L/s and move to the 100 Pa External Static Pressure (ESP) column. Note that the conditions require 12.84 r/s at 2.52 kW.

## V Determine motor and drive.

For the 40RM024 units, find the type of drive that satisfies the 12.84 r/s requirement in the 40RM Drive Data tables on pages 95 and 96. The Standard Drive — SI table shows an r/s range of 11.9 to 14.6 for the 40RM024 unit, which satisfies the r/s requirement for the example described.

Next, enter the 40RM Fan Motor Data tables on page 94, and find that for the 40RM024 unit, an standard motor has a motor kW of 3.73 which satisfies the bhp requirement for the example described. Select the standard motor and standard drive combination (option code GC or ED).

# Selection procedure — English

NOTE: Pages 44-51 and 58-63 contain combination ratings for the 38AK and 38AKS units matched with 40RM Series air handlers.

## 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	..... 0.8 in. wg
Length of Interconnecting	
Refrigerant Piping	..... 40 ft (Linear)

## II Select condensing unit air-handler combination.

For this example, select a 38AKS024 matched with a 40RM024. (See Combination Ratings table, page 49.) This 38AKS024/40RM024 condensing unit-air handler combination provides 214,600 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 Refrigerant Piping Sizes table (page 90). 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 line and  $1\frac{5}{8}$  in. for the suction line.

## IV Determine fan rpm and bhp (brake horsepower).

At the Air Handler Fan Performance table (page 66), enter the 40RM024 section at 8000 cfm and move to the 0.80 in. wg External Static Pressure (ESP) column. Note that the conditions require 876 rpm at 4.21 bhp.

## V Determine motor and drive.

For the 40RM024 units, find the type of drive that satisfies the 876 rpm requirement in the 40RM Drive Data tables on pages 97 and 98. The Medium-Static Drive — English table shows an rpm range of 814 to 1018 for the 40RM024 unit, which satisfies the rpm requirement for the example described.

Next, enter the 40RM Fan Motor Data tables on page 95, and find that for the 40RM024 unit, an alternate motor has a motor hp of 7.5 which satisfies the bhp requirement for the example described. Select the alternate motor and medium-static drive combination (option code TC or RD).

# Performance data



## CONDENSING UNIT RATINGS — SI

**38AK007**

SST (C)	Air Temperature Entering Condenser (C)							
	28	32	36	40	44	48	52	
-4	TC kW CDT	13.4 4.33 39.6	12.5 4.45 43.4	11.7 4.56 47.3	10.9 4.67 51.2	10.0 4.78 55.0	9.20 4.89 58.9	8.36 5.00 62.8
	TC kW CDT	14.5 4.48 40.2	13.7 4.61 43.9	12.9 4.73 47.7	12.0 4.86 51.4	11.2 4.98 55.1	10.4 5.11 58.8	9.51 5.23 62.6
	TC kW CDT	15.7 4.63 40.9	14.9 4.77 44.5	14.1 4.91 48.2	13.2 5.05 51.8	12.3 5.19 55.5	11.5 5.32 59.1	10.6 5.46 62.7
2	TC kW CDT	17.0 4.78 41.7	16.1 4.93 45.3	15.2 5.09 48.9	14.4 5.24 52.5	13.5 5.39 56.1	12.6 5.55 59.7	11.8 5.70 63.3
	TC kW CDT	18.2 4.93 42.5	17.4 5.10 46.1	16.5 5.27 49.6	15.6 5.44 53.2	14.7 5.60 56.8	13.8 5.77 60.4	12.9 5.94 63.9
	TC kW CDT	19.5 5.08 43.4	18.7 5.27 46.9	17.7 5.45 50.5	16.8 5.63 54.0	15.9 5.82 57.6	15.0 6.00 61.1	14.1 6.18 64.7
8	TC kW CDT	20.9 5.23 44.3	20.0 5.44 47.8	19.0 5.63 51.3	18.1 5.83 54.9	17.2 6.03 58.4	16.3 6.23 61.9	15.3 6.42 65.4
	TC kW CDT	22.3 5.39 45.2	21.3 5.61 48.7	20.4 5.82 52.2	19.4 6.03 55.7	18.5 6.24 59.2	17.5 6.46 62.7	16.6 6.67 66.2

**38AK008**

SST (C)	Air Temperature Entering Condenser (C)							
	28	32	36	40	44	48	52	
-4	TC kW CDT	17.9 5.40 40.0	17.1 5.69 43.9	16.3 5.99 47.8	15.5 6.30 51.8	14.7 6.62 55.7	13.8 6.93 59.6	12.9 7.25 63.5
	TC kW CDT	19.1 5.48 40.5	18.3 5.76 44.3	17.5 6.06 48.2	16.7 6.37 52.1	15.8 6.69 56.0	14.9 7.01 59.9	14.0 7.33 63.8
	TC kW CDT	20.4 5.56 41.0	19.6 5.84 44.9	18.7 6.14 48.7	17.9 6.44 52.5	16.9 6.76 56.4	16.0 7.08 60.2	15.1 7.40 64.1
2	TC kW CDT	21.8 5.65 41.6	20.9 5.93 45.4	20.0 6.22 49.2	19.1 6.53 53.0	18.1 6.84 56.8	17.2 7.16 60.7	16.2 7.48 64.5
	TC kW CDT	23.2 5.75 42.2	22.3 6.03 46.0	21.4 6.33 49.8	20.4 6.63 53.6	19.4 6.94 57.4	18.4 7.26 61.1	17.3 7.57 64.9
	TC kW CDT	24.6 5.85 42.9	23.7 6.14 46.7	22.8 6.44 50.5	21.7 6.74 54.2	20.7 7.05 58.0	19.6 7.36 61.7	18.6 7.68 65.4
8	TC kW CDT	26.1 5.96 43.6	25.2 6.25 47.4	24.2 6.55 51.1	23.1 6.86 54.9	22.0 7.17 58.6	20.9 7.48 62.3	19.8 7.79 66.0
	TC kW CDT	27.7 6.07 44.4	26.7 6.37 48.1	25.7 6.67 51.9	24.6 6.98 55.6	23.4 7.29 59.3	22.3 7.61 62.9	21.1 7.92 66.6

### LEGEND

- Out of Range
- CDT** — Saturated Discharge Temperature at Compressor (C)
- kW** — Compressor Power
- SST** — Saturated Suction Temperature (C)
- TC** — Gross Cooling Capacity (kW)

**38AK012**

SST (C)	Air Temperature Entering Condenser (C)							
	28	32	36	40	44	48	52	
-4	TC kW CDT	23.9 7.96 39.7	23.0 8.40 43.5	22.1 8.87 47.4	21.2 9.37 51.3	20.2 9.90 55.3	19.3 10.4 59.2	18.3 11.0 63.2
	TC kW CDT	25.5 8.11 40.3	24.5 8.54 44.0	23.6 8.99 47.8	22.6 9.47 51.7	21.6 9.99 55.5	20.6 10.5 59.4	19.6 11.0 63.3
	TC kW CDT	27.1 8.27 40.9	26.1 8.69 44.6	25.1 9.12 48.3	24.1 9.59 52.1	23.1 10.1 55.9	22.0 10.6 59.7	20.9 11.1 63.5
2	TC kW CDT	28.8 8.45 41.6	27.8 8.86 45.2	26.7 9.29 48.9	25.6 9.74 52.6	24.5 10.2 56.4	23.4 10.7 60.1	22.3 11.2 63.8
	TC kW CDT	30.5 8.64 42.3	29.5 9.05 46.0	28.4 9.47 49.6	27.2 9.92 53.2	26.1 10.4 56.9	24.9 10.9 60.6	23.7 11.3 64.3
	TC kW CDT	32.3 8.84 43.1	31.2 9.26 46.7	30.1 9.68 50.3	28.9 10.1 53.9	27.7 10.6 57.6	26.4 11.0 61.2	25.2 11.5 64.9
8	TC kW CDT	34.2 9.06 43.9	33.1 9.47 47.5	31.9 9.89 51.1	30.7 10.3 54.6	29.4 10.8 58.2	28.1 11.2 61.9	26.8 11.7 65.5
	TC kW CDT	36.1 9.28 44.8	35.0 9.70 48.3	33.8 10.1 51.8	32.5 10.6 55.4	31.1 11.0 59.0	29.7 11.5 62.5	28.4 11.9 66.1

**38AKS008**

SST (C)	Air Temperature Entering Condenser (C)							
	28	32	36	40	44	48	52	
-4	TC kW CDT	16.5 4.79 39.3	15.6 5.01 43.0	14.7 5.22 46.7	13.8 5.40 50.5	12.9 5.55 54.2	11.9 5.70 58.0	11.0 5.84 61.8
	TC kW CDT	18.2 4.92 40.1	17.3 5.17 43.8	16.3 5.40 47.5	15.3 5.61 51.3	14.4 5.78 55.0	13.4 5.95 58.7	12.4 6.12 62.5
	TC kW CDT	19.9 5.05 41.0	18.9 5.32 44.7	17.9 5.58 48.4	16.9 5.81 52.1	15.8 6.01 55.8	14.8 6.21 59.5	13.8 6.40 63.2
2	TC kW CDT	21.6 5.18 41.8	20.5 5.48 45.5	19.5 5.76 49.2	18.4 6.02 52.9	17.3 6.24 56.5	16.3 6.46 60.2	15.2 6.68 63.9
	TC kW CDT	23.3 5.31 42.7	22.2 5.63 46.4	21.1 5.94 50.0	20.0 6.22 53.7	18.8 6.47 57.3	17.7 6.72 61.0	16.6 6.96 64.6
	TC kW CDT	25.0 5.44 43.6	23.8 5.79 47.2	22.7 6.12 50.8	21.5 6.43 54.5	20.3 6.70 58.1	19.1 6.97 61.7	18.0 7.24 65.3
8	TC kW CDT	26.7 5.58 44.5	25.5 5.94 48.1	24.3 6.30 51.7	23.1 6.63 55.3	21.8 6.93 58.9	20.6 7.23 62.5	19.4 7.52 66.1
	TC kW CDT	28.5 5.71 45.4	27.2 6.10 49.0	26.0 6.48 52.6	24.7 6.83 56.1	23.4 7.16 59.7	22.1 7.48 63.3	20.8 7.80 66.8



### CONDENSING UNIT RATINGS — SI (cont)

**38AKS009**

SST (C)	Air Temperature Entering Condenser (C)							
	28	32	36	40	44	48	52	
-4	TC kW CDT	20.7 6.30 41.5	19.5 6.56 45.1	18.3 6.80 48.7	17.1 7.02 52.3	15.9 7.19 55.9	14.7 7.36 59.5	13.5 7.52 63.0
-2	TC kW CDT	22.7 6.54 42.7	21.5 6.83 46.2	20.2 7.10 49.8	19.0 7.34 53.4	17.7 7.54 56.9	16.4 7.73 60.4	15.2 7.93 64.0
0	TC kW CDT	24.8 6.78 43.8	23.5 7.09 47.3	22.1 7.39 50.8	20.8 7.66 54.4	19.5 7.89 57.9	18.2 8.11 61.4	16.8 8.33 64.9
2	TC kW CDT	26.9 7.02 44.9	25.5 7.36 48.4	24.1 7.68 51.9	22.7 7.98 55.4	21.3 8.23 58.9	19.9 8.48 62.4	18.5 8.73 65.8
4	TC kW CDT	29.0 7.27 46.0	27.5 7.63 49.5	26.0 7.98 52.9	24.6 8.30 56.4	23.1 8.58 59.9	21.6 8.86 63.3	20.2 9.14 66.8
6	TC kW CDT	31.0 7.51 47.1	29.5 7.90 50.5	27.9 8.27 54.0	26.4 8.62 57.4	24.9 8.93 60.9	23.4 9.23 64.3	21.8 9.54 67.7
8	TC kW CDT	33.1 7.75 48.2	31.5 8.17 51.6	29.9 8.57 55.1	28.3 8.94 58.5	26.7 9.28 61.9	25.1 9.61 65.3	23.5 9.95 68.7
10	TC kW CDT	35.3 8.00 49.4	33.6 8.44 52.8	31.9 8.87 56.2	30.3 9.26 59.6	28.6 9.63 62.9	26.9 9.99 66.3	— — —

**38AKS012**

SST (C)	Air Temperature Entering Condenser (C)							
	28	32	36	40	44	48	52	
-4	TC kW CDT	20.3 6.28 41.3	19.2 6.55 44.9	18.0 6.80 48.6	16.8 7.01 52.1	15.6 7.19 55.7	14.4 7.33 59.3	13.3 7.46 62.9
-2	TC kW CDT	22.4 6.52 42.4	21.1 6.81 46.0	19.9 7.09 49.6	18.6 7.33 53.1	17.4 7.53 56.7	16.2 7.71 60.2	14.9 7.86 63.8
0	TC kW CDT	24.4 6.75 43.5	23.1 7.07 47.0	21.8 7.38 50.6	20.5 7.64 54.1	19.2 7.87 57.7	17.9 8.08 61.2	16.6 8.26 64.7
2	TC kW CDT	26.4 6.99 44.6	25.1 7.34 48.1	23.7 7.66 51.6	22.3 7.96 55.1	21.0 8.22 58.6	19.6 8.45 62.2	18.2 8.66 65.7
4	TC kW CDT	28.5 7.23 45.7	27.1 7.60 49.1	25.6 7.95 52.6	24.2 8.27 56.1	22.7 8.56 59.6	21.3 8.82 63.1	19.9 9.06 66.6
6	TC kW CDT	30.5 7.46 46.8	29.0 7.86 50.2	27.5 8.24 53.7	26.0 8.59 57.1	24.5 8.90 60.6	23.0 9.19 64.1	21.5 9.46 67.5
8	TC kW CDT	32.6 7.70 47.9	31.0 8.12 51.3	29.5 8.53 54.7	27.9 8.90 58.1	26.3 9.25 61.6	24.8 9.57 65.0	23.2 9.86 68.5
10	TC kW CDT	34.8 7.94 49.0	33.1 8.39 52.4	31.5 8.82 55.8	29.8 9.22 59.2	28.2 9.59 62.6	26.5 9.94 66.0	24.9 10.3 69.4

#### LEGEND

- Out of Range
- CDT** — Saturated Discharge Temperature at Compressor (C)
- kW** — Compressor Power
- SST** — Saturated Suction Temperature (C)
- TC** — Gross Cooling Capacity (kW)

**38AKS013**

SST (C)	Air Temperature Entering Condenser (C)						
	20	30	35	40	46	52	
-8	TC kW CDT	20.7 5.6 31.1	18.2 6.3 40.2	17.0 6.5 44.8	15.7 6.8 49.3	14.3 7.0 54.8	12.9 7.2 60.3
-4	TC kW CDT	24.1 5.9 32.7	21.3 6.7 41.8	20.0 7.1 46.2	18.6 7.4 50.8	17.0 7.7 56.3	15.4 8.0 61.7
0	TC kW CDT	27.9 6.3 34.4	24.8 7.2 43.4	23.2 7.6 47.9	21.7 8.0 52.4	19.9 8.4 57.8	18.2 8.7 63.2
4	TC kW CDT	32.1 6.6 36.3	28.6 7.7 45.2	26.8 8.2 49.7	25.2 8.6 54.1	23.2 9.1 59.5	21.2 9.5 64.8
8	TC kW CDT	36.6 6.9 38.3	32.7 8.2 47.2	30.8 8.7 51.6	28.9 9.3 56.0	27.7 9.8 61.3	24.5 10.3 66.5
12	TC kW CDT	41.4 7.3 40.6	37.1 8.7 49.3	35.0 9.3 53.6	33.0 9.9 58.0	30.5 10.6 63.2	28.1 11.1 68.4

**38AKS014**

SST (C)	Air Temperature Entering Condenser (C)						
	20	30	35	40	46	52	
-8	TC kW CDT	25.0 6.6 31.1	22.0 7.5 40.3	20.6 7.9 44.9	19.2 8.2 49.5	17.6 8.7 55.1	16.0 9.0 60.6
-4	TC kW CDT	29.1 7.0 32.7	25.8 8.0 41.8	24.2 8.5 46.4	22.6 8.9 50.9	20.7 9.4 56.4	19.0 9.9 61.9
0	TC kW CDT	33.6 7.5 34.5	29.9 8.6 43.5	28.1 9.1 48.0	26.3 9.6 52.5	24.2 10.2 58.0	22.2 10.8 63.4
4	TC kW CDT	38.6 7.9 36.4	34.4 9.2 45.3	32.4 9.8 49.8	30.4 10.4 54.2	28.0 11.0 60.0	25.8 11.7 65.0
8	TC kW CDT	44.0 8.4 38.4	39.3 9.8 47.3	37.0 10.5 51.7	34.8 11.1 56.1	32.2 11.9 61.4	29.7 12.6 66.7
12	TC kW CDT	49.7 8.9 40.7	44.6 10.5 49.4	42.1 11.2 53.7	39.6 11.9 58.1	36.7 12.7 63.3	— — —

# Performance data (cont)



## CONDENSING UNIT RATINGS — SI (cont)

**38AKS016**

SST (C)	Air Temperature Entering Condenser (C)						
	20	30	35	40	46	52	
-8	TC kW CDT	31.7 9.4 33.7	27.9 10.3 42.7	26.0 10.7 47.2	24.2 11.1 51.7	22.1 11.4 57.1	20.2 11.7 62.5
-4	TC kW CDT	36.8 10.1 35.7	32.5 11.2 44.6	30.5 11.7 49.0	28.4 12.2 53.5	26.1 12.6 58.8	23.8 13.0 64.1
0	TC kW CDT	42.5 10.9 37.8	37.6 12.2 46.6	35.3 12.8 51.0	33.0 13.3 55.4	30.4 13.9 60.7	— — —
4	TC kW CDT	48.6 11.7 40.2	43.2 13.2 48.8	40.6 13.9 53.1	38.0 14.5 57.5	35.1 15.1 62.7	— — —
8	TC kW CDT	55.1 12.6 42.7	49.2 14.3 51.2	46.3 15.0 55.4	43.5 15.7 59.7	40.1 16.5 64.8	— — —
12	TC kW CDT	62.2 13.4 45.3	55.6 15.3 53.7	52.4 16.2 57.9	49.3 17.0 62.1	— — —	— — —

**38AKS024**

SST (C)	Air Temperature Entering Condenser (C)						
	20	30	35	40	46	52	
-2	TC kW CDT	53.4 12.6 34.3	46.8 14.2 43.3	43.4 14.9 47.7	39.9 15.4 52.2	35.7 15.9 57.4	31.4 16.4 62.7
0	TC kW CDT	58.2 13.1 35.6	51.3 14.8 44.5	47.7 15.5 48.9	44.1 16.2 53.3	39.7 16.8 58.5	35.2 17.3 63.7
2	TC kW CDT	63.0 13.5 36.9	55.8 15.4 45.7	52.1 16.2 50.0	48.3 16.9 54.4	43.7 17.6 59.6	39.1 18.3 64.7
4	TC kW CDT	67.9 14.0 38.2	60.3 16.0 46.9	56.4 16.9 51.2	52.5 17.6 55.5	47.7 18.4 60.6	42.9 19.2 65.8
6	TC kW CDT	72.7 14.5 39.6	64.8 16.6 48.1	60.8 17.5 52.4	56.7 18.4 56.6	51.7 19.3 61.7	46.7 20.1 66.8
8	TC kW CDT	77.5 15.0 40.9	69.3 17.2 49.3	65.1 18.2 53.5	60.9 19.1 57.7	55.7 20.1 62.8	50.6 21.0 67.8
10	TC kW CDT	82.4 15.5 42.2	73.8 17.8 50.5	69.5 18.9 54.7	65.1 19.9 58.8	59.7 20.9 63.8	54.4 22.0 68.8

### LEGEND

- Out of Range
- CDT — Saturated Discharge Temperature at Compressor (C)
- kW — Compressor Power
- SST — Saturated Suction Temperature (C)
- TC — Gross Cooling Capacity (kW)

**38AKS028**

SST (C)	Air Temperature Entering Condenser (C)							
	28	32	36	40	44	48	52	
-6	TC kW CDT	55.3 17.4 41.2	52.4 18.0 44.8	49.5 18.6 48.5	46.6 19.1 52.1	43.8 19.6 55.8	41.0 20.0 59.6	38.3 20.4 63.3
-4	TC kW CDT	60.4 18.2 42.1	57.3 18.9 45.7	54.2 19.5 49.3	51.1 20.1 52.9	48.1 20.6 56.5	45.2 21.1 60.2	42.3 21.5 63.8
-2	TC kW CDT	64.4 18.8 42.9	61.1 19.5 46.4	57.8 20.3 50.0	54.7 20.9 53.6	51.5 21.5 57.1	48.5 22.0 60.7	45.4 22.4 64.4
0	TC kW CDT	69.9 19.6 43.9	66.4 20.4 47.4	62.9 21.2 50.9	59.6 21.9 54.5	56.3 22.6 58.0	53.0 23.1 61.6	49.7 23.7 65.1
2	TC kW CDT	75.6 20.5 45.0	71.9 21.3 48.5	68.3 22.2 52.0	64.7 23.0 55.4	61.2 23.7 59.0	57.7 24.3 62.5	54.3 24.9 66.0
4	TC kW CDT	80.2 21.1 45.9	76.3 22.0 49.3	72.5 22.9 52.8	68.7 23.8 56.2	65.0 24.5 59.7	61.4 25.2 63.2	57.8 25.9 66.7
6	TC kW CDT	86.4 22.0 47.1	82.3 23.0 50.5	78.3 23.9 53.9	74.3 24.8 57.3	70.3 25.7 60.8	66.5 26.5 64.2	62.7 27.2 67.7
8	TC kW CDT	91.2 22.6 48.0	87.0 23.7 51.4	82.8 24.7 54.8	78.6 25.7 58.2	74.5 26.6 61.6	70.5 27.4 65.0	66.5 28.2 68.4
10	TC kW CDT	97.9 23.5 49.3	93.5 24.6 52.7	89.0 25.7 56.0	84.6 26.8 59.4	80.3 27.8 62.8	76.0 28.7 66.1	71.7 29.5 69.5

**38AKS034**

SST (C)	Air Temperature Entering Condenser (C)							
	28	32	36	40	44	48	52	
-6	TC kW CDT	62.4 20.0 42.1	58.9 20.6 46.0	55.3 21.2 50.0	51.7 21.6 54.1	48.1 21.9 58.0	44.5 22.2 62.0	40.8 22.2 66.1
-4	TC kW CDT	68.7 20.7 42.2	65.0 21.4 46.1	61.3 22.2 50.1	57.6 22.7 54.1	53.7 23.2 58.1	49.9 23.5 62.1	46.1 23.7 66.1
-2	TC kW CDT	73.3 21.3 42.7	69.7 22.1 46.4	66.0 22.9 50.2	62.1 23.5 54.1	58.2 24.1 58.1	54.3 24.5 62.0	50.3 24.8 66.1
0	TC kW CDT	79.5 22.1 43.6	75.8 23.0 47.2	72.1 23.9 50.8	68.3 24.6 54.5	64.3 25.2 58.3	60.3 25.8 62.1	56.1 26.2 66.1
2	TC kW CDT	85.9 23.0 44.6	82.1 24.0 48.1	78.2 24.9 51.7	74.3 25.7 55.2	70.3 26.4 58.9	66.3 27.1 62.5	62.1 27.6 66.2
4	TC kW CDT	90.9 23.7 45.4	87.0 24.7 48.9	83.0 25.7 52.5	79.0 26.6 56.0	74.9 27.4 59.5	70.8 28.1 63.1	66.6 28.7 66.6
6	TC kW CDT	97.8 24.6 46.6	93.6 25.7 50.1	89.5 26.8 53.5	85.3 27.8 57.0	81.0 28.6 60.5	76.8 29.4 64.0	72.4 30.1 67.5
8	TC kW CDT	103.0 25.2 47.5	98.8 26.4 50.9	94.5 27.6 54.4	90.2 28.6 57.8	85.8 29.6 61.3	81.4 30.5 64.7	76.9 31.2 68.2
10	TC kW CDT	110.0 26.2 48.8	106.0 27.4 52.2	101.0 28.7 55.6	96.9 29.8 59.0	92.3 30.9 62.4	87.7 31.9 65.8	83.0 32.7 69.2

**CONDENSING UNIT RATINGS — SI (cont)**
**38AKS044**

SST (C)	Air Temperature Entering Condenser (C)							
	28	32	36	40	44	48	52	
-6	TC kW CDT	82.8 27.3 41.4	78.8 28.1 45.3	74.8 29.0 49.3	70.9 29.7 53.3	67.1 30.4 57.3	63.3 31.0 61.3	59.5 31.5 65.3
	TC kW CDT	90.9 28.3 41.3	86.5 29.3 45.3	82.3 30.3 49.3	78.0 31.1 53.3	73.9 31.9 57.3	69.8 32.6 61.3	65.7 33.2 65.3
	TC kW CDT	97.3 29.0 41.4	92.7 30.1 45.3	88.2 31.2 49.3	83.7 32.2 53.3	79.4 33.0 57.3	75.0 33.8 61.3	70.7 34.5 65.3
0	TC kW CDT	106.0 30.0 41.8	101.0 31.2 45.6	96.5 32.4 49.4	91.7 33.5 53.4	87.1 34.5 57.3	82.4 35.4 61.3	77.8 36.2 65.3
	TC kW CDT	115.0 31.2 42.5	110.0 32.5 46.2	105.0 33.7 50.0	99.9 34.9 53.7	95.1 36.0 57.5	90.2 37.0 61.4	85.3 37.9 65.4
	TC kW CDT	121.0 32.1 43.2	116.0 33.5 46.9	111.0 34.8 50.5	106.0 36.0 54.2	101.0 37.2 58.0	96.1 38.2 61.7	91.1 39.2 65.5
6	TC kW CDT	130.0 33.3 44.2	125.0 34.8 47.8	120.0 36.2 51.5	114.0 37.6 55.1	109.0 38.8 58.7	104.0 40.0 62.4	98.8 41.1 66.1
	TC kW CDT	138.0 34.2 45.0	132.0 35.8 48.6	127.0 37.3 52.2	121.0 38.8 55.8	116.0 40.1 59.4	110.0 41.3 63.0	105.0 42.5 66.7
	TC kW CDT	148.0 35.5 46.1	142.0 37.2 49.7	136.0 38.8 53.2	130.0 40.4 56.8	124.0 41.8 60.4	118.0 43.2 64.0	113.0 44.4 67.6

**LEGEND**

- Out of Range
- CDT — Saturated Discharge Temperature at Compressor (C)
- kW — Compressor Power
- SST — Saturated Suction Temperature (C)
- TC — Gross Cooling Capacity (kW)

**CONDENSING UNIT RATINGS — ENGLISH**
**38AK007**

SST (F)	Air Temperature Entering Condenser (F)								
	80	85	95	100	105	115	120	125	
25	TC kW CDT	46.8 4.30 101	44.9 4.39 106	40.9 4.54 115	38.9 4.62 120	36.9 4.70 125	32.9 4.85 135	31.0 4.93 140	29.0 5.01 144
	TC kW CDT	52.3 4.50 103	50.4 4.60 107	46.4 4.78 116	44.4 4.87 121	42.4 4.96 126	38.4 5.14 135	36.4 5.23 139	34.4 5.32 144
	TC kW CDT	58.1 4.69 105	56.2 4.81 109	52.1 5.02 118	50.0 5.12 123	48.0 5.23 127	43.8 5.44 136	41.8 5.54 141	39.7 5.65 145
35	TC kW CDT	64.1 4.90 107	62.1 5.03 111	57.9 5.26 120	55.8 5.38 125	53.7 5.50 129	49.5 5.74 132	47.4 5.86 142	45.2 5.98 147
	TC kW CDT	70.4 5.10 109	68.4 5.25 113	64.0 5.51 122	61.8 5.65 127	59.6 5.78 131	55.3 6.05 140	53.1 6.18 144	50.9 6.31 149
	TC kW CDT	77.0 5.32 111	74.9 5.47 116	70.4 5.77 124	68.1 5.91 129	65.8 6.06 133	61.3 6.36 142	59.0 6.50 146	56.7 6.65 151

**38AK008**

SST (F)	Air Temperature Entering Condenser (F)								
	80	85	95	100	105	115	120	125	
25	TC kW CDT	62.0 5.31 102	60.3 5.50 107	56.6 5.91 116	54.7 6.13 121	52.8 6.35 126	48.7 6.79 136	46.6 7.01 141	44.6 7.23 146
	TC kW CDT	68.1 5.42 103	66.2 5.61 108	62.3 6.01 117	60.3 6.22 122	58.2 6.44 127	54.0 6.89 137	51.9 7.11 142	49.7 7.34 146
	TC kW CDT	74.5 5.54 104	72.5 5.73 109	68.3 6.13 119	66.2 6.34 123	63.9 6.55 128	59.4 7.00 138	57.2 7.22 143	54.9 7.44 147
35	TC kW CDT	81.1 5.67 106	79.1 5.87 111	74.7 6.27 120	72.4 6.48 125	70.1 6.69 130	65.2 7.13 139	62.8 7.35 144	60.3 7.57 148
	TC kW CDT	88.1 5.82 108	86.1 6.02 112	81.5 6.43 122	79.1 6.64 127	76.5 6.85 131	71.3 7.28 141	68.7 7.50 145	66.1 7.72 150
	TC kW CDT	95.4 5.97 110	93.3 6.18 114	88.6 6.60 124	86.0 6.81 128	83.4 7.02 133	77.8 7.46 142	75.1 7.58 147	72.3 7.89 151

**LEGEND**

- Out of Range
- CDT — Saturated Discharge Temperature at Compressor (F)
- kW — Compressor Power
- SST — Saturated Suction Temperature (F)
- TC — Gross Cooling Capacity (1000 Btu/h)

# Performance data (cont)



## CONDENSING UNIT RATINGS — ENGLISH (cont)

**38AK012**

SST (F)	Air Temperature Entering Condenser (F)								
	80	85	95	100	105	115	120	125	
25	TC kW CDT	82.7 7.83 101	80.7 8.12 106	76.5 8.75 116	74.4 9.09 121	72.2 9.45 125	67.6 10.2 135	65.3 10.6 140	62.9 10.9 145
30	TC kW CDT	90.3 8.04 103	88.1 8.32 107	83.6 8.92 117	81.3 9.24 121	78.9 9.58 126	74.1 10.3 136	71.7 10.7 141	69.2 11.0 145
35	TC kW CDT	98.2 8.28 104	95.9 8.56 109	91.1 9.14 118	88.6 9.45 123	86.0 9.78 127	80.8 10.5 137	78.2 10.8 142	75.5 11.1 146
40	TC kW CDT	107 8.55 106	104 8.83 111	99.1 9.40 120	96.3 9.70 124	93.6 10.0 129	87.9 10.7 138	85.1 11.0 143	82.2 11.3 147
45	TC kW CDT	115 8.84 108	113 9.12 113	108 9.70 122	105 10.0 126	102 10.3 131	95.6 10.9 140	92.6 11.3 144	89.5 11.6 149
50	TC kW CDT	124 9.15 111	122 9.43 115	116 10.0 124	113 10.3 128	110 10.6 133	104 11.2 142	100 11.6 146	97.2 11.9 150

**38AKS009**

SST (F)	Air Temperature Entering Condenser (F)								
	80	85	95	100	105	115	120	125	
25	TC kW CDT	72.3 6.22 105	69.5 6.41 109	63.7 6.76 118	61.0 6.92 123	58.2 7.07 127	52.4 7.30 136	49.6 7.41 141	46.7 7.53 145
30	TC kW CDT	82.2 6.54 108	79.1 6.76 112	73.0 7.16 121	70.0 7.35 125	66.9 7.52 130	60.8 7.80 139	57.7 7.94 143	54.6 8.09 147
35	TC kW CDT	92.1 6.87 110	88.8 7.11 115	82.2 7.56 123	79.0 7.77 128	75.7 7.96 132	69.1 8.30 141	65.8 8.48 145	62.6 8.65 150
40	TC kW CDT	102 7.19 113	98.5 7.46 117	91.5 7.96 126	88.0 8.19 130	84.5 8.41 135	77.5 8.81 143	74.0 9.01 148	70.5 9.20 152
45	TC kW CDT	112 7.51 116	108 7.81 120	101 8.36 129	97.0 8.62 133	93.2 8.86 137	85.8 9.31 146	82.1 9.54 150	78.4 9.76 154
50	TC kW CDT	122 7.85 119	118 8.16 123	110 8.76 132	106 9.05 136	102 9.32 140	94.6 9.82 149	90.7 10.1 153	— — —

**38AKS008**

SST (F)	Air Temperature Entering Condenser (F)								
	80	85	95	100	105	115	120	125	
25	TC kW CDT	57.8 4.72 101	55.6 4.88 105	51.2 5.18 114	49.1 5.32 119	46.9 5.44 124	42.5 5.64 133	40.3 5.74 138	38.1 5.84 143
30	TC kW CDT	65.9 4.89 103	63.5 5.08 107	58.9 5.43 117	56.5 5.58 121	54.2 5.73 126	49.4 5.98 135	47.1 6.10 140	44.7 6.23 144
35	TC kW CDT	74.0 5.06 105	71.5 5.27 109	66.5 5.67 119	63.9 5.85 123	61.4 6.02 128	56.4 6.32 137	53.8 6.47 142	51.3 6.62 146
40	TC kW CDT	82.1 5.23 107	79.4 5.47 112	74.1 5.91 121	71.4 6.11 125	68.7 6.31 130	63.3 6.65 139	60.6 6.83 144	57.9 7.00 148
45	TC kW CDT	90.2 5.40 109	87.4 5.66 114	81.7 6.15 123	78.8 6.38 127	76.0 6.59 132	70.3 6.99 141	67.4 7.19 145	64.5 7.39 150
50	TC kW CDT	98.7 5.57 112	95.8 5.85 116	89.7 6.39 125	86.7 6.64 129	83.6 6.88 134	77.5 7.33 143	74.5 7.55 147	71.4 7.77 152

**38AKS012**

SST (F)	Air Temperature Entering Condenser (F)							
	80	85	95	100	105	115	120	125
25	TC kW CDT	71.0 6.20 104	68.2 6.40 109	62.8 6.76 118	60.0 6.91 122	57.1 7.06 127	51.5 7.30 136	45.9 7.47 145
30	TC kW CDT	80.8 6.51 107	77.8 6.74 111	71.9 7.15 120	68.8 7.33 125	65.8 7.50 129	59.8 7.79 138	53.8 8.02 147
35	TC kW CDT	90.6 6.83 110	87.4 7.08 114	81.0 7.54 123	77.7 7.75 127	74.5 7.94 132	68.0 8.29 141	61.7 8.58 149
40	TC kW CDT	100 7.15 113	97.0 7.42 117	90.1 7.93 126	86.6 8.16 130	83.1 8.38 134	76.3 8.79 143	69.5 9.13 152
45	TC kW CDT	110 7.47 115	107 7.76 120	99.2 8.32 128	95.5 8.58 132	91.8 8.83 137	84.6 9.28 145	77.4 9.68 154
50	TC kW CDT	121 7.79 118	117 8.11 122	109 8.72 131	105 9.00 135	101 9.28 139	93.2 9.79 148	85.5 10.2 156

### LEGEND

- Out of Range
- Saturated Discharge Temperature at Compressor (F)
- Compressor Power
- Saturated Suction Temperature (F)
- TC — Gross Cooling Capacity (1000 Btu/h)

**CONDENSING UNIT RATINGS — ENGLISH (cont)**
**38AKS013**

SST (F)	Air Temperature Entering Condenser (F)						
	70	85	95	100	115	125	
20	TC kW CDT	73 5.8 91	66 6.4 104	61 6.7 113	59 6.9 118	52 7.3 132	47 7.5 141
25	TC kW CDT	82 6.0 93	74 6.7 106	68 7.1 115	66 7.3 120	58 7.7 134	53 8.0 143
30	TC kW CDT	90 6.3 95	82 7.0 108	76 7.5 117	73 7.7 122	65 8.2 135	60 8.5 144
35	TC kW CDT	100 6.5 97	90 7.4 111	84 7.9 120	81 8.1 124	72 8.7 137	67 9.1 146
40	TC kW CDT	110 6.8 99	100 7.7 113	93 8.3 122	90 8.5 126	80 9.2 140	74 9.6 148
45	TC kW CDT	120 7.0 102	109 8.0 115	102 8.6 124	99 8.9 128	89 9.7 142	82 10.2 151
50	TC kW CDT	131 7.3 105	120 8.4 118	112 9.0 127	108 9.3 131	97 10.2 144	90 10.7 153

**38AKS016**

SST (F)	Air Temperature Entering Condenser (F)						
	70	85	95	100	115	125	
20	TC kW CDT	112 9.7 96	101 10.6 109	94 11.0 118	90 11.3 122	80 11.8 136	73 12.1 145
25	TC kW CDT	125 10.3 98	112 11.2 111	104 11.8 120	101 12.0 125	89 12.7 138	82 13.0 149
30	TC kW CDT	138 10.8 101	124 11.9 114	116 12.5 123	112 12.8 127	99 13.5 140	91 13.9 147
35	TC kW CDT	152 11.4 103	137 12.5 117	128 13.2 125	123 13.5 130	110 14.4 143	— — —
40	TC kW CDT	166 12.0 107	151 13.2 119	141 14.0 128	136 14.4 132	121 15.3 145	— — —
45	TC kW CDT	181 12.6 110	165 14.0 122	154 14.8 131	149 15.2 135	133 16.2 148	— — —
50	TC kW CDT	198 13.2 113	180 14.7 126	168 15.6 134	163 16.0 138	— — —	— — —

**38AKS014**

SST (F)	Air Temperature Entering Condenser (F)						
	70	85	95	100	115	125	
20	TC kW CDT	89 6.8 91	80 7.6 105	74 8.1 114	71 8.3 118	63 8.9 132	58 9.3 141
25	TC kW CDT	98 7.2 93	89 8.0 106	83 8.5 116	80 8.8 120	71 9.5 134	65 9.9 143
30	TC kW CDT	109 7.5 95	99 8.4 109	92 9.0 118	89 9.2 122	79 10.0 136	73 10.5 145
35	TC kW CDT	120 7.8 97	109 8.8 111	102 9.4 120	98 9.7 124	88 10.6 138	81 11.1 147
40	TC kW CDT	132 8.1 100	120 9.2 113	112 9.9 122	108 10.2 126	97 11.1 140	90 11.7 149
45	TC kW CDT	145 8.5 102	132 9.6 115	123 10.4 124	119 10.7 129	107 11.7 142	99 12.4 151
50	TC kW CDT	158 8.8 105	144 10.1 118	135 10.8 127	130 11.2 131	117 12.3 144	109 13.0 153

**38AKS024**

SST (F)	Air Temperature Entering Condenser (F)						
	80	85	95	100	115	125	
25	TC kW CDT	152 13.1 102	146 13.5 107	134 14.2 116	128 14.5 120	122 14.8 125	109 15.2 134
30	TC kW CDT	174 13.9 106	168 14.3 110	155 15.1 119	148 15.5 123	141 15.8 128	128 16.3 136
35	TC kW CDT	196 14.7 109	189 15.2 113	175 16.1 122	168 16.5 126	161 16.9 130	147 17.5 139
40	TC kW CDT	218 15.4 112	211 16.0 116	196 17.0 125	188 17.5 129	181 17.9 133	166 18.6 142
45	TC kW CDT	240 16.2 115	232 16.8 119	216 17.9 128	209 18.4 132	201 18.9 136	184 19.8 144
50	TC kW CDT	262 17.0 118	254 17.6 122	237 18.9 130	229 19.4 135	220 20.0 139	203 20.9 147

**LEGEND**

- Out of Range
- CDT Saturated Discharge Temperature at Compressor (F)
- kW Compressor Power
- SST Saturated Suction Temperature (F)
- TC Gross Cooling Capacity (1000 Btu/h)

# Performance data (cont)



## CONDENSING UNIT RATINGS (cont)

38AKS028

SST (F)	Air Temperature Entering Condenser (F)							
	85	95	100	105	115	120	125	
20	TC kW CDT	181.0 17.4 108.0	167.0 18.3 117.0	161.0 18.6 122.0	154.0 19.0 126.0	141.0 19.6 136.0	134.0 19.8 141.0	128.0 20.0 145.0
	TC kW CDT	202.0 18.5 110.0	187.0 19.4 119.0	180.0 19.8 124.0	173.0 20.2 128.0	159.0 20.9 137.0	152.0 21.2 142.0	145.0 21.5 146.0
	TC kW CDT	225.0 19.5 112.0	209.0 20.6 121.0	201.0 21.0 126.0	193.0 21.5 130.0	178.0 22.3 139.0	171.0 22.7 143.0	163.0 23.0 148.0
35	TC kW CDT	249.0 20.6 115.0	231.0 21.7 123.0	223.0 22.3 128.0	215.0 22.8 132.0	198.0 23.7 141.0	190.0 24.2 145.0	182.0 24.6 150.0
	TC kW CDT	274.0 21.6 117.0	256.0 23.0 126.0	246.0 23.6 130.0	237.0 24.1 135.0	220.0 25.2 143.0	211.0 25.7 148.0	202.0 26.2 152.0
	TC kW CDT	301.0 22.8 120.0	281.0 24.2 129.0	271.0 24.9 133.0	261.0 25.5 137.0	242.0 26.7 146.0	233.0 27.3 150.0	224.0 27.8 154.0
50	TC kW CDT	329.0 23.9 123.0	307.0 25.5 131.0	297.0 26.2 136.0	287.0 26.9 140.0	266.0 28.3 148.0	256.0 28.9 152.0	246.0 29.5 157.0

38AKS034

SST (F)	Air Temperature Entering Condenser (F)							
	85	95	100	105	115	120	125	
20	TC kW CDT	203.0 20.0 110.0	187.0 20.8 120.0	178.0 21.1 125.0	170.0 21.4 130.0	153.0 21.8 140.0	145.0 21.8 145.0	136.0 21.8 150.0
	TC kW CDT	230.0 21.0 110.0	212.0 22.0 120.0	204.0 22.4 125.0	195.0 22.8 130.0	176.0 23.4 140.0	167.0 23.6 145.0	158.0 23.7 150.0
	TC kW CDT	256.0 22.0 112.0	239.0 23.2 121.0	230.0 23.7 126.0	221.0 24.1 130.0	202.0 24.9 140.0	192.0 25.3 145.0	182.0 25.5 150.0
35	TC kW CDT	283.0 23.1 114.0	265.0 24.4 123.0	256.0 25.0 127.0	247.0 25.5 132.0	228.0 26.5 141.0	218.0 26.9 146.0	208.0 27.2 150.0
	TC kW CDT	311.0 24.3 117.0	292.0 25.7 125.0	282.0 26.4 130.0	273.0 27.0 134.0	253.0 28.1 143.0	243.0 28.6 147.0	233.0 29.0 152.0
	TC kW CDT	340.0 25.4 119.0	320.0 27.0 128.0	310.0 27.8 132.0	300.0 28.5 136.0	279.0 29.7 145.0	269.0 30.3 149.0	259.0 30.8 154.0
50	TC kW CDT	371.0 26.6 122.0	350.0 28.4 130.0	339.0 29.2 135.0	328.0 30.0 139.0	307.0 31.4 148.0	296.0 32.1 152.0	285.0 32.7 156.0

38AKS044

SST (F)	Air Temperature Entering Condenser (F)							
	85	95	100	105	115	120	125	
20	TC kW CDT	271.0 27.3 109.0	252.0 28.5 119.0	243.0 29.0 124.0	234.0 29.5 129.0	216.0 30.3 139.0	208.0 30.7 144.0	199.0 31.0 149.0
	TC kW CDT	305.0 28.6 109.0	284.0 30.0 119.0	274.0 30.7 124.0	264.0 31.3 129.0	245.0 32.3 139.0	235.0 32.8 144.0	225.0 33.2 149.0
	TC kW CDT	341.0 29.9 109.0	319.0 31.5 119.0	308.0 32.3 124.0	297.0 33.0 129.0	275.0 34.2 139.0	265.0 34.8 144.0	254.0 35.3 149.0
35	TC kW CDT	377.0 31.3 111.0	355.0 33.1 120.0	343.0 33.9 125.0	332.0 34.7 129.0	309.0 36.1 139.0	297.0 36.8 144.0	286.0 37.4 149.0
	TC kW CDT	415.0 32.9 113.0	391.0 34.8 122.0	379.0 35.7 126.0	367.0 36.6 131.0	343.0 38.2 140.0	331.0 38.9 145.0	319.0 39.6 150.0
	TC kW CDT	455.0 34.5 115.0	429.0 36.6 124.0	416.0 37.6 128.0	403.0 38.6 133.0	377.0 40.3 142.0	365.0 41.1 147.0	352.0 41.9 151.0
50	TC kW CDT	497.0 36.1 117.0	468.0 38.4 126.0	455.0 39.5 131.0	441.0 40.6 135.0	413.0 42.5 144.0	400.0 43.5 149.0	386.0 44.3 153.0

### LEGEND

- Out of Range
- CDT — Saturated Discharge Temperature at Compressor (F)
- kW — Compressor Power
- SST — Saturated Suction Temperature (F)
- TC — Gross Cooling Capacity (1000 Btu/h)

**COMBINATION RATINGS — SI**
**38AK007/40RM007 WITH STANDARD 3-ROW COIL**

Temp (C) Air Ent Cond (Edb)	Evaporator Air — L/s									
	850			1150			1450			
	Evaporator Air — Ewb (C)									
	22	20	16	22	20	16	22	20	16	
32	TC SHC kW	19.0 10.1 5.12	17.8 11.9 4.98	15.7 15.4 4.72	19.8 11.4 5.23	18.7 13.7 5.08	16.8 12.5 4.85	20.4 15.4 5.29	19.2 17.9 5.15	17.9 17.9 4.99
36	TC SHC kW	18.4 9.86 5.37	17.2 11.7 5.21	15.1 15.1 4.92	19.2 11.1 5.47	18.0 13.5 5.31	16.3 12.3 5.08	19.7 15.1 5.54	18.6 17.4 5.38	17.4 17.4 5.23
40	TC SHC kW	17.8 9.62 5.60	16.6 11.4 5.42	14.5 14.5 5.13	18.5 10.9 5.71	17.3 13.2 5.54	15.8 12.1 5.30	19.0 14.8 5.78	17.9 16.9 5.61	16.9 16.9 5.47
44	TC SHC kW	17.1 9.37 5.82	15.9 11.2 5.64	14.0 14.0 5.32	17.8 10.7 5.94	16.6 13.0 5.75	15.2 11.8 5.53	18.2 14.5 6.01	17.1 16.3 5.84	16.3 16.3 5.69
48	TC SHC kW	16.3 9.12 6.04	15.2 10.9 5.84	13.4 13.4 5.51	17.0 10.4 6.16	15.9 12.7 5.96	14.7 11.6 5.75	17.4 14.2 6.24	16.4 15.7 6.05	15.7 15.7 5.92
52	TC SHC kW	15.6 8.85 6.24	14.5 10.6 6.03	12.8 12.8 5.69	16.2 10.1 6.37	15.2 12.4 6.16	14.1 11.3 5.96	16.6 13.9 6.45	15.6 15.1 6.25	15.1 15.1 6.15

**38AK007/40RM008 WITH STANDARD 3-ROW COIL**

Temp (C) Air Ent Cond (Edb)	Evaporator Air — L/s									
	1000			1400			1800			
	Evaporator Air — Ewb (C)									
	22	20	16	22	20	16	22	20	16	
32	TC SHC kW	21.2 11.7 5.43	19.9 14.0 5.27	17.7 17.7 5.01	22.0 13.5 5.53	20.8 16.5 5.38	19.4 19.4 5.21	22.5 15.1 5.60	21.4 18.7 5.45	20.6 20.6 5.36
36	TC SHC kW	20.5 11.4 5.69	19.2 13.7 5.52	17.1 17.1 5.24	21.3 13.2 5.79	20.1 16.2 5.63	18.8 14.9 5.46	21.8 18.3 5.86	20.7 17.7 5.71	20.0 20.0 5.63
40	TC SHC kW	19.8 11.2 5.94	18.5 13.5 5.75	16.5 16.5 5.46	20.5 13.0 6.05	19.3 15.9 5.87	18.2 18.2 5.71	21.0 14.6 6.12	19.9 18.0 5.96	19.4 19.4 5.88
44	TC SHC kW	19.0 10.9 6.17	17.7 13.2 5.97	16.0 16.0 5.69	19.7 12.7 6.29	18.5 15.6 6.10	17.6 14.3 5.95	20.1 17.5 6.36	19.1 18.7 6.19	18.7 18.7 6.13
48	TC SHC kW	18.2 10.6 6.40	17.0 12.9 6.19	15.4 15.4 5.91	18.8 12.4 6.52	17.7 15.3 6.33	17.0 14.0 6.19	19.3 17.1 6.60	18.3 18.0 6.43	18.0 18.0 6.38
52	TC SHC kW	17.3 10.4 6.63	16.2 12.6 6.40	14.8 14.8 6.13	18.0 12.1 6.74	16.9 14.9 6.54	16.3 16.3 6.42	18.4 13.7 6.83	17.5 16.5 6.66	17.3 17.3 6.61

**LEGEND**

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

**NOTES:**

1. Direct interpolation is permissible. Do not extrapolate.
2. SHC is based on 26.7°C db air entering indoor coil.

**38AK008/40RM007 WITH STANDARD 3-ROW COIL**

Temp (C) Air Ent Cond (Edb)	Evaporator Air — L/s									
	850			1150			1450			
	Evaporator Air — Ewb (C)									
	22	20	16	22	20	16	22	20	16	
32	TC SHC kW	22.1 11.2 6.00	20.8 13.1 5.88	18.5 16.7 5.67	23.1 12.4 6.10	21.8 14.8 5.98	19.6 19.4 5.77	23.8 13.6 6.16	22.5 16.5 6.04	20.5 20.5 5.86
36	TC SHC kW	21.5 11.0 6.36	20.3 12.8 6.24	18.0 16.4 6.02	22.4 12.2 6.46	21.2 19.0 6.34	19.1 13.4 6.13	23.1 16.2 6.52	21.9 19.9 6.40	19.9 19.9 6.21
40	TC SHC kW	20.8 10.7 6.73	19.6 12.6 6.61	17.4 16.1 6.39	21.8 12.0 6.84	20.6 14.3 6.71	18.5 13.1 6.50	22.4 13.1 6.90	21.2 16.0 6.77	19.4 19.4 6.58
44	TC SHC kW	19.9 10.4 7.21	18.8 12.2 7.09	16.7 15.8 6.87	20.8 11.6 7.31	19.7 14.0 7.18	17.7 12.8 6.98	21.4 12.8 7.38	20.2 15.6 7.25	18.7 18.7 7.08
48	TC SHC kW	19.4 10.2 7.1	18.3 12.0 7.39	16.3 15.5 7.17	20.2 11.4 7.61	19.1 13.8 7.48	17.3 12.5 7.28	20.8 12.5 7.67	19.6 15.4 7.54	18.2 18.2 7.38
52	TC SHC kW	18.7 9.89 7.91	17.6 11.7 7.79	15.6 15.2 7.57	19.4 11.1 8.01	18.3 13.5 7.88	16.6 12.2 7.68	19.9 12.2 8.07	18.8 15.1 7.94	17.6 17.6 7.79

**38AK008/40RM008 WITH STANDARD 3-ROW COIL**

Temp (C) Air Ent Cond (Edb)	Evaporator Air — L/s									
	1000			1400			1800			
	Evaporator Air — Ewb (C)									
	22	20	16	22	20	16	22	20	16	
32	TC SHC kW	23.8 12.5 6.13	22.5 14.7 6.01	20.1 19.2 5.78	24.8 14.1 6.22	23.5 21.4 6.10	21.4 21.4 5.91	25.5 15.7 6.28	24.2 19.3 6.16	22.7 22.7 6.02
36	TC SHC kW	23.2 12.2 6.49	21.9 14.5 6.37	19.5 18.9 6.14	24.1 13.9 6.59	22.9 20.9 6.46	20.9 20.9 6.26	24.7 15.5 6.65	23.5 19.1 6.52	22.2 22.2 6.39
40	TC SHC kW	22.5 11.9 6.86	21.2 14.2 6.73	18.9 18.6 6.50	23.4 13.6 6.96	22.1 20.3 6.83	20.3 20.3 6.64	23.9 15.2 7.03	22.7 18.7 6.90	21.6 21.6 6.77
44	TC SHC kW	21.7 11.7 7.25	20.5 13.9 7.12	18.3 18.3 6.88	22.5 13.3 7.34	21.3 19.7 7.21	19.7 19.7 7.03	23.1 14.9 7.41	21.9 18.4 7.27	20.9 20.9 7.17
48	TC SHC kW	20.9 11.4 7.64	19.7 13.6 7.51	17.6 17.6 7.28	21.7 13.0 7.73	20.5 19.1 7.60	19.1 14.6 7.43	22.2 14.6 7.79	21.1 18.0 7.66	20.3 20.3 7.57
52	TC SHC kW	20.0 11.1 8.04	18.9 13.3 7.90	16.9 16.9 7.67	20.8 12.7 8.13	19.7 15.6 8.00	18.4 18.4 7.84	21.2 14.3 8.19	20.2 17.7 8.06	19.5 19.5 7.98

**3. Formulas:**

$$\text{Ldb C} = \text{Edb C} - \frac{\text{SHC}_{\text{kW}} \times 1000}{1.23 \times \text{L/s}}$$

Lwb = wet-bulb temperature corresponding to enthalpy air leaving indoor coil (h<sub>wb</sub>)

$$\text{Ldb C: } h_{\text{lbw}} = h_{\text{ewb}} - \frac{\text{TC}_{\text{kW}} \times 1000}{1.20 \times \text{L/s}}$$

where h<sub>ewb</sub> = enthalpy of air entering evaporator coil (kj/kg).

4. Capacities are based on 7.6 actual m (12.2 equivalent m) of interconnecting piping sized to the outdoor unit field connections. (Equivalent length is equal to the actual length plus a 50% allowance for fitting losses.) For other equivalent lengths, refer to the Carrier System Design Manual, Part 3, for line losses.

# Performance data (cont)



## COMBINATION RATINGS — SI (cont)

### 38AK008/40RM012 WITH STANDARD 3-ROW COIL

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1450			1900			2350			
	22	20	16	22	20	16	22	20	16	
32	TC SHC kW	26.8 15.5 6.97	25.4 18.9 6.84	23.3 23.3 6.64	27.4 17.5 7.04	26.1 21.6 6.91	24.9 24.9 6.79	27.9 19.2 7.08	26.7 23.8 6.96	26.0 26.0 6.90
36	TC SHC kW	26.0 15.3 7.38	24.6 18.6 7.24	22.7 22.7 7.04	26.6 17.2 7.45	25.4 21.2 7.32	24.3 24.3 7.20	27.1 19.0 7.49	25.9 2.34 7.37	25.3 25.3 7.31
40	TC SHC kW	25.2 15.0 7.80	23.9 18.3 7.66	22.1 22.1 7.46	25.8 16.9 7.87	24.6 20.9 7.73	23.6 23.6 7.63	26.2 18.7 7.92	25.1 23.0 7.79	24.6 24.6 7.74
44	TC SHC kW	24.3 14.7 8.23	23.0 17.9 8.08	21.4 21.4 7.90	24.9 16.6 8.30	23.7 20.5 8.16	22.9 22.9 8.07	25.2 18.3 8.34	24.2 22.4 8.22	23.8 23.8 8.18
48	TC SHC kW	23.3 14.3 8.66	22.1 17.6 8.51	20.7 20.7 8.35	23.9 16.2 8.73	22.8 20.1 8.60	22.1 22.1 8.51	24.2 18.0 8.78	23.3 21.8 8.66	23.0 23.0 8.62
52	TC SHC kW	22.4 14.0 9.10	21.2 17.2 8.96	20.0 20.0 8.81	22.9 15.9 9.17	21.8 19.6 9.04	21.3 21.3 8.97	23.2 17.6 9.22	22.4 21.1 9.10	22.1 22.1 9.08

### 38AK008/40RM007 WITH STANDARD 3-ROW COIL

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	850			1150			1450			
	22	20	16	22	20	16	22	20	16	
32	TC SHC kW	23.6 12.2 5.77	21.9 14.2 5.62	19.8 19.8 5.43	24.8 13.6 5.88	23.1 16.4 5.72	21.1 15.4 5.55	25.5 17.9 5.94	23.9 21.9 5.80	21.9 21.9 5.63
36	TC SHC kW	22.9 11.9 6.15	21.3 13.9 5.96	19.3 19.3 5.73	24.0 13.3 6.27	22.4 20.5 6.08	20.5 15.1 5.87	24.7 17.6 6.34	23.2 21.3 6.17	21.3 21.3 5.97
40	TC SHC kW	22.2 11.6 6.52	20.5 13.6 6.31	18.5 18.5 6.06	23.3 13.0 6.65	21.6 15.7 6.44	19.7 19.7 6.21	23.9 14.8 6.73	22.3 17.2 6.53	20.6 20.6 6.32
44	TC SHC kW	21.4 11.3 6.87	19.8 13.2 6.62	17.9 17.9 6.34	22.4 12.6 7.02	20.8 15.3 6.77	19.1 19.1 6.51	22.9 14.5 7.10	21.5 16.7 6.88	19.9 19.9 6.63
48	TC SHC kW	20.6 11.0 7.24	19.0 12.9 6.96	17.2 17.2 6.64	21.6 12.3 7.40	20.0 14.9 7.12	18.3 18.3 6.83	22.1 14.2 7.49	20.6 16.3 7.23	19.1 19.1 6.97
52	TC SHC kW	19.9 10.7 7.61	18.3 12.5 7.30	16.6 16.6 6.96	20.7 11.9 7.78	19.2 14.5 7.47	17.6 17.6 7.17	21.2 13.9 7.87	19.8 15.9 7.59	18.4 18.4 7.31

#### LEGEND

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

#### NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. SHC is based on 26.7°C db air entering indoor coil.

### 38AKS008/40RM008 WITH STANDARD 3-ROW COIL

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1000			1400			1800			
	22	20	16	22	20	16	22	20	16	
32	TC SHC kW	25.7 13.7 5.95	23.7 16.0 5.78	21.6 21.6 6.04	26.6 15.9 5.88	24.9 18.2 5.71	22.9 22.9 6.10	27.3 17.7 5.95	25.6 20.3 5.79	23.8 23.8 5.79
36	TC SHC kW	24.8 13.3 6.36	23.0 15.6 6.15	21.0 21.0 5.93	25.7 15.5 6.46	24.0 17.8 6.27	22.2 22.2 6.06	26.3 17.4 6.53	24.7 19.9 6.35	23.1 23.1 6.16
40	TC SHC kW	24.0 13.0 6.75	22.2 15.2 6.52	20.2 20.2 6.27	24.9 15.2 6.85	23.2 17.4 6.64	21.4 21.4 6.42	25.5 17.1 6.93	23.8 19.5 6.72	22.3 22.3 6.52
44	TC SHC kW	23.1 12.6 7.13	21.3 14.8 6.86	19.4 19.4 6.57	23.9 14.9 7.25	22.3 16.9 7.00	20.6 16.9 6.74	24.4 16.7 7.33	22.8 19.0 7.09	21.4 21.4 6.87
48	TC SHC kW	22.3 12.3 7.52	20.5 14.4 7.21	18.6 18.6 6.89	23.0 14.6 7.64	21.4 16.5 7.37	19.8 16.5 7.09	23.5 16.4 7.73	21.9 18.6 7.46	20.6 20.6 7.23
52	TC SHC kW	21.4 11.9 7.92	19.7 14.0 7.58	17.9 17.9 7.22	22.0 14.2 8.04	20.5 16.0 7.74	19.0 16.0 7.43	22.5 16.0 8.13	21.0 18.1 7.84	19.7 19.7 7.59

### 38AKS008/40RM012 WITH STANDARD 3-ROW COIL

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1450			1900			2350			
	22	20	16	22	20	16	22	20	16	
32	TC SHC kW	28.0 16.6 6.16	26.0 19.2 5.98	23.9 23.9 5.80	— — —	27.0 22.0 6.07	25.2 25.2 5.91	— — —	27.5 24.9 6.12	26.3 26.3 6.01
36	TC SHC kW	— — 6.39	25.1 18.8 6.16	23.1 23.1 6.49	— — 6.31	26.0 21.6 6.49	24.4 24.4 6.31	— — —	26.5 24.4 6.54	25.4 25.4 6.42
40	TC SHC kW	— — 6.77	24.2 18.4 6.52	22.2 22.2 6.88	— — 6.68	25.1 21.2 6.88	23.5 23.5 6.68	— — —	25.5 24.0 6.93	24.5 24.5 6.81
44	TC SHC kW	— — 7.14	23.2 17.9 6.86	21.3 21.3 7.26	— — 7.04	24.0 20.7 7.26	22.5 22.5 7.04	— — —	24.4 23.4 7.33	23.5 23.5 7.19
48	TC SHC kW	— — 7.52	22.3 17.5 7.21	20.5 20.5 7.65	— — 7.41	23.0 20.3 7.65	21.6 21.6 7.41	— — —	— — —	— — —
52	TC SHC kW	— — 7.89	21.3 17.1 7.56	19.6 19.6 7.56	— — —	21.4 16.0 7.56	19.8 16.0 7.56	— — —	— — —	— — —

#### 3. Formulas:

$$\text{Ldb C} = \text{Edb C} - \frac{\text{SHC}_{\text{kW}} \times 1000}{1.23 \times \text{L/s}}$$

Lwb = wet-bulb temperature corresponding to enthalpy air leaving indoor coil (h<sub>lwb</sub>)

$$\text{Ldb C: } h_{\text{lwb}} = h_{\text{ewb}} - \frac{\text{TC}_{\text{kW}} \times 1000}{1.20 \times \text{L/s}}$$

where h<sub>ewb</sub> = enthalpy of air entering evaporator coil (kj/kg).

4. Capacities are based on 7.6 actual m (12.2 equivalent m) of interconnecting piping sized to the outdoor unit field connections. (Equivalent length is equal to the actual length plus a 50% allowance for fitting losses.) For other equivalent lengths, refer to the Carrier System Design Manual, Part 3, for line losses.



## COMBINATION RATINGS — SI (cont)

**38AKS009/40RM008 WITH STANDARD 3-ROW COIL**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s								
	1000			1400			1800		
	Evaporator Air — Ewb (C)								
	22	20	16	22	20	16	22	20	16
32 TC SHC kW	29.4 15.2 7.88	27.2 17.7 7.60	24.8 24.8 7.27	30.7 17.4 8.06	28.7 20.1 7.79	26.3 26.3 7.47	31.6 19.1 8.18	29.7 22.2 7.93	27.3 27.3 7.61
36 TC SHC kW	28.4 14.8 8.34	26.3 17.2 8.02	23.9 23.9 7.67	29.6 17.0 8.53	27.7 19.6 8.24	25.4 25.4 7.89	30.5 18.8 8.66	28.6 21.7 8.38	26.3 26.3 8.04
40 TC SHC kW	27.4 14.4 8.79	25.4 16.7 8.45	23.1 23.1 8.06	28.6 16.6 8.99	26.7 19.1 8.67	24.5 24.5 8.30	29.4 18.4 9.12	27.6 21.2 8.81	25.4 25.4 8.46
44 TC SHC kW	26.4 14.0 9.23	24.4 16.3 8.84	22.2 22.2 8.41	27.5 16.2 9.43	25.7 18.6 9.08	23.6 23.6 8.67	28.2 18.0 9.57	26.4 20.7 9.23	24.5 24.5 8.85
48 TC SHC kW	25.4 13.5 9.68	23.5 15.8 9.24	21.4 21.4 8.78	26.3 15.8 9.89	24.6 18.1 9.50	22.6 22.6 9.06	27.0 17.6 10.04	25.3 20.2 9.66	23.5 23.5 9.26
52 TC SHC kW	— — —	22.4 15.3 9.69	20.4 20.4 9.19	— — —	23.4 17.5 9.94	21.6 21.6 9.49	— — —	24.1 19.6 10.11	22.5 22.5 9.71

**38AKS009/40RM012 WITH STANDARD 3-ROW COIL**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s								
	1450			1900			2350		
	Evaporator Air — Ewb (C)								
	22	20	16	22	20	16	22	20	16
32 TC SHC kW	32.5 18.1 8.30	30.2 21.0 7.99	27.6 27.6 7.65	33.7 20.2 8.47	31.5 24.1 8.16	29.2 29.2 7.86	— — —	32.2 27.0 8.26	30.4 30.4 8.02
36 TC SHC kW	31.4 17.7 8.79	29.1 20.5 8.45	26.6 26.6 8.07	32.6 19.8 8.97	30.3 23.5 8.63	28.1 28.1 8.31	— — —	31.0 26.5 8.74	29.3 29.3 8.48
40 TC SHC kW	30.2 17.3 9.26	28.0 20.1 8.89	25.6 25.6 8.49	31.3 19.3 9.45	29.1 23.0 9.08	27.1 27.1 8.74	— — —	29.8 25.9 9.19	28.3 28.3 8.93
44 TC SHC kW	29.0 16.9 9.72	26.9 19.6 9.31	24.6 24.6 8.88	30.0 18.9 9.93	27.9 22.5 9.51	26.0 26.0 9.15	— — —	28.5 25.3 9.63	27.1 27.1 9.37
48 TC SHC kW	27.7 16.5 10.20	25.7 19.0 9.74	23.6 23.6 9.27	— — —	27.6 21.9 9.96	24.9 24.9 9.57	— — —	27.2 24.7 10.08	26.0 26.0 9.81
52 TC SHC kW	— — —	24.4 18.5 10.19	22.5 22.5 9.70	— — —	25.3 21.3 10.41	23.7 23.7 10.02	— — —	25.8 21.9 10.53	24.7 24.7 10.28

### LEGEND

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

### NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. SHC is based on 26.7°C db air entering indoor coil.

**38AK012/40RM008 WITH STANDARD 3-ROW COIL**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s								
	1000			1400			1800		
	Evaporator Air — Ewb (C)								
	22	20	16	22	20	16	22	20	16
32 TC SHC kW	29.8 14.9 7.33	28.2 17.3 7.16	25.1 22.0 6.85	31.3 16.8 7.50	29.7 20.0 7.32	26.8 26.2 7.02	32.3 18.6 7.60	30.7 22.6 7.43	28.2 28.2 7.16
36 TC SHC kW	29.1 14.6 7.74	27.5 17.0 7.56	24.5 21.7 7.25	30.5 16.5 7.90	28.9 19.7 7.72	26.1 25.9 7.42	31.5 18.3 8.01	29.9 22.3 7.83	27.5 27.5 7.57
40 TC SHC kW	28.3 14.3 8.16	26.7 14.6 7.99	23.8 21.3 8.32	29.6 16.2 8.14	28.1 19.4 7.85	25.4 24.6 8.43	30.5 18.0 8.25	29.0 21.9 8.00	26.8 26.8 8.00
44 TC SHC kW	27.4 13.9 8.61	25.9 16.3 8.16	23.1 21.0 8.76	28.7 15.8 8.58	27.2 19.0 8.31	24.6 24.6 8.31	29.5 17.6 8.86	28.0 21.6 8.68	26.1 26.1 8.47
48 TC SHC kW	26.5 13.6 9.07	25.0 15.9 8.91	22.3 20.6 8.64	27.7 15.5 9.21	26.2 18.6 9.04	23.9 17.3 8.78	28.5 17.3 9.31	27.1 21.2 9.14	25.4 25.4 8.94
52 TC SHC kW	25.6 13.2 9.54	24.2 15.6 9.38	21.6 20.2 9.13	26.7 15.1 9.68	25.3 18.3 9.51	23.1 23.1 9.27	27.4 16.9 9.77	26.0 20.8 9.60	24.6 24.6 9.43

**38AK012/40RM012 WITH STANDARD 3-ROW COIL**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s								
	1450			1900			2350		
	Evaporator Air — Ewb (C)								
	22	20	16	22	20	16	22	20	16
32 TC SHC kW	32.1 17.4 8.79	30.5 20.8 8.58	27.6 27.2 8.23	33.2 19.5 8.92	31.5 23.7 8.71	29.2 29.2 8.42	33.8 21.4 9.00	32.2 26.4 8.80	30.7 30.7 8.61
36 TC SHC kW	31.3 17.1 9.26	29.7 20.5 9.05	26.9 26.8 8.70	32.3 19.1 9.39	30.7 23.4 9.18	28.5 28.5 8.90	32.9 21.1 9.47	31.4 26.1 9.27	30.0 30.0 9.09
40 TC SHC kW	30.4 16.7 9.75	28.8 20.1 9.55	26.1 26.1 9.21	31.3 18.8 9.88	29.8 23.0 9.67	27.8 27.8 9.41	31.9 23.0 9.96	30.4 25.7 9.76	29.2 29.2 9.60
44 TC SHC kW	29.4 16.4 10.3	27.9 19.8 10.1	25.3 25.3 9.74	30.3 18.5 10.4	28.8 22.6 10.2	27.0 27.0 9.95	30.8 20.4 10.5	29.4 25.2 10.3	28.4 28.4 10.1
48 TC SHC kW	28.4 16.0 10.8	26.9 19.4 10.6	24.5 24.5 10.3	29.2 18.1 10.9	27.8 22.2 10.7	26.2 26.2 10.5	29.7 20.0 11.0	28.4 24.8 10.8	27.5 27.5 10.7
52 TC SHC kW	27.4 15.7 11.3	25.9 19.0 11.1	23.8 23.8 10.9	28.1 18.1 11.4	26.7 21.8 11.3	25.4 25.4 11.1	28.6 19.7 11.5	27.3 24.3 11.3	26.6 26.6 11.2

### 3. Formulas:

$$\text{Ldb C} = \text{Edb C} - \frac{\text{SHCkW} \times 1000}{1.23 \times \text{L/s}}$$

Lwb = wet-bulb temperature corresponding to enthalpy air leaving indoor coil (h/wb)

$$\text{Ldb C: } h_{\text{lb}} = h_{\text{ewb}} - \frac{\text{TCkW} \times 1000}{1.20 \times \text{L/s}}$$

where  $h_{\text{ewb}}$  = enthalpy of air entering evaporator coil (kj/kg).

4. Capacities are based on 7.6 actual m (12.2 equivalent m) of interconnecting piping sized to the outdoor unit field connections. (Equivalent length is equal to the actual length plus a 50% allowance for fitting losses.) For other equivalent lengths, refer to the Carrier System Design Manual, Part 3, for line losses.

# Performance data (cont)



## COMBINATION RATINGS — SI (cont)

38AK012/40RM014 WITH STANDARD 3-ROW COIL

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1750		2350		2950					
	Evaporator Air — Ewb (C)									
	22	20	16	22	20	16	22	20	16	
32	TC SHC kW	33.5 18.9 7.41	31.8 22.8 7.23	28.9 28.9 6.95	34.5 21.4 7.51	32.8 26.3 7.34	30.9 30.9 7.14	35.1 23.7 7.57	33.5 29.3 7.41	32.5 32.5 7.30
36	TC SHC kW	32.7 18.6 7.80	31.0 22.5 7.63	28.2 28.2 7.35	33.6 21.1 7.90	31.9 25.9 7.73	30.2 30.2 7.55	34.2 23.3 7.97	32.6 28.8 7.80	31.7 31.7 7.70
40	TC SHC kW	31.7 18.2 8.22	30.1 22.1 8.04	27.5 27.5 7.78	32.6 20.7 8.31	31.0 25.5 8.14	29.5 29.5 7.98	33.1 23.0 8.38	31.7 28.4 8.22	30.9 30.9 8.13
44	TC SHC kW	30.7 17.9 8.65	29.1 21.8 8.48	26.7 26.7 8.23	31.5 20.3 8.74	30.0 25.1 8.57	28.6 28.6 8.43	32.0 22.6 8.80	30.6 27.8 8.65	30.0 30.0 8.57
48	TC SHC kW	29.6 17.5 9.10	28.1 21.4 8.93	25.9 25.9 8.71	30.4 20.0 9.18	28.9 24.7 9.02	27.8 27.8 8.90	30.9 22.2 9.24	29.6 27.2 9.09	29.0 29.0 9.03
52	TC SHC kW	28.5 17.1 9.55	27.1 21.0 9.39	25.2 25.2 9.21	29.2 19.6 9.64	27.9 24.2 9.48	26.9 26.9 9.38	29.7 21.8 9.68	28.5 26.6 9.55	28.1 28.1 9.51

38AKS012/40RM008 WITH STANDARD 3-ROW COIL

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1000		1400		1800					
	Evaporator Air — Ewb (C)									
	22	20	16	22	20	16	22	20	16	
32	TC SHC kW	29.1 15.1 7.87	26.9 17.5 7.59	24.5 24.5 7.28	30.4 17.2 8.04	28.4 20.0 7.78	26.0 26.0 7.47	31.3 19.0 8.15	29.4 22.1 7.91	27.0 27.0 7.60
36	TC SHC kW	28.1 14.7 8.33	26.0 17.1 8.02	23.6 23.6 7.68	29.4 16.9 8.51	27.4 19.5 8.23	25.1 25.1 7.89	30.2 18.7 8.64	28.3 21.6 8.36	26.1 26.1 8.04
40	TC SHC kW	27.2 14.3 8.78	25.1 16.6 8.44	22.8 22.8 8.07	28.3 16.5 8.97	26.4 19.0 8.66	24.2 24.2 8.30	29.1 18.3 9.10	27.3 21.1 8.80	25.2 25.2 8.46
44	TC SHC kW	26.2 13.9 9.23	24.2 16.2 8.84	22.0 22.0 8.41	27.2 16.1 9.43	25.4 18.5 9.07	23.3 23.3 8.67	27.9 17.9 9.57	26.2 20.6 9.22	24.3 24.3 8.85
48	TC SHC kW	25.2 13.5 9.66	23.2 15.7 9.23	21.0 21.0 8.78	26.2 15.7 9.86	24.4 18.0 9.48	22.4 22.4 9.06	26.9 17.5 10.01	25.1 20.1 9.63	23.3 23.3 9.25
52	TC SHC kW	— — —	22.2 15.2 9.63	20.2 20.2 9.13	— — —	23.2 17.4 9.89	21.4 21.4 9.44	— — —	23.8 19.5 10.05	22.3 22.3 9.65

### LEGEND

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

### NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. SHC is based on 26.7 C db air entering indoor coil.

38AKS012/40RM012 WITH STANDARD 3-ROW COIL

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1450		1900		2350					
	Evaporator Air — Ewb (C)									
	22	20	16	22	20	16	22	20	16	
32	TC SHC kW	32.1 18.0 8.26	29.8 20.9 7.97	27.3 27.3 7.64	33.4 20.1 8.43	31.1 23.9 8.13	28.9 28.9 7.85	— — —	31.8 26.8 8.23	30.1 30.1 8.00
36	TC SHC kW	31.1 17.6 8.76	28.8 20.4 8.43	26.3 26.3 8.07	32.3 19.7 8.93	30.0 23.4 8.60	27.9 27.9 8.29	— — —	30.7 26.3 8.71	29.1 29.1 8.47
40	TC SHC kW	29.9 17.2 9.23	27.7 19.9 8.87	25.4 25.4 8.48	— — —	28.8 22.9 9.05	26.8 26.8 8.73	— — —	29.5 25.8 9.16	28.0 28.0 9.36
44	TC SHC kW	28.7 16.9 9.72	26.6 19.4 9.72	24.4 24.4 9.26	— — —	27.6 22.3 9.93	25.8 25.8 9.55	— — —	28.2 25.2 10.05	26.9 9.62 9.79
48	TC SHC kW	27.6 16.5 10.17	25.5 19.0 9.72	23.3 23.3 9.26	— — —	26.5 21.8 9.93	24.7 24.7 9.55	— — —	27.1 24.7 10.05	25.8 25.8 9.79
52	TC SHC kW	— — —	— — —	— — —	— — —	— — —	— — —	— — —	— — —	— — —

38AKS012/40RM014 WITH STANDARD 3-ROW COIL

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1750		2350		2950					
	Evaporator Air — Ewb (C)									
	22	20	16	22	20	16	22	20	16	
32	TC SHC kW	34.0 19.8 8.51	31.1 23.1 8.13	28.9 28.9 7.85	— — —	32.3 30.6 8.29	30.6 30.6 8.07	— — —	33.3 30.6 8.42	31.9 31.9 8.24
36	TC SHC kW	32.9 19.4 9.02	30.0 22.6 8.60	27.9 27.9 8.30	— — —	31.2 26.6 8.77	29.6 29.6 8.54	— — —	32.2 30.0 8.92	30.9 30.9 8.73
40	TC SHC kW	31.6 18.9 9.51	28.8 22.1 9.04	26.8 26.8 8.73	— — —	29.9 26.0 9.23	28.5 28.5 8.99	— — —	30.8 29.4 9.38	29.7 29.7 9.20
44	TC SHC kW	30.3 18.4 10.03	27.5 21.5 9.49	25.8 25.8 9.14	— — —	28.6 25.4 9.69	27.3 27.3 9.45	— — —	29.5 28.8 9.87	28.5 28.5 9.68
48	TC SHC kW	— — —	26.4 21.0 9.91	24.7 24.7 9.55	— — —	27.4 24.9 10.13	26.3 26.3 9.88	— — —	28.3 28.2 10.32	27.5 27.5 10.14
52	TC SHC kW	— — —	— — —	— — —	— — —	— — —	— — —	— — —	— — —	— — —

### 3. Formulas:

$$\text{Ldb C} = \text{Edb C} - \frac{\text{SHCkW} \times 1000}{1.23 \times \text{L/s}}$$

Lwb = wet-bulb temperature corresponding to enthalpy air leaving indoor coil (h<sub>lwb</sub>)

$$\text{Ldb C: } h_{lwb} = h_{ewb} - \frac{\text{TCkW} \times 1000}{1.20 \times \text{L/s}}$$

where h<sub>ewb</sub> = enthalpy of air entering evaporator coil (kj/kg).

4. Capacities are based on 7.6 actual m (12.2 equivalent m) of interconnecting piping sized to the outdoor unit field connections. (Equivalent length is equal to the actual length plus a 50% allowance for fitting losses.) For other equivalent lengths, refer to the Carrier System Design Manual, Part 3, for line losses.



### COMBINATION RATINGS — SI (cont)

**38AKS013/40RM008 WITH STANDARD 3-ROW COIL**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1000/		1400			1800				
	Evaporator Air — Ewb (C)									
	22	20	16	22	20	16	22	20	16	
20 TC SHC kW	32.2 16.4 6.61	30.0 19.0 6.46	27.3 27.3 6.28	33.9 18.5 6.72	31.7 21.7 6.57	29.0 29.0 6.39	35.0 20.3 6.79	32.9 23.8 6.65	30.0 30.0 6.46	
28 TC SHC kW	30.5 15.7 7.61	28.3 18.2 7.37	25.8 25.8 7.10	32.0 17.8 7.77	29.9 20.8 7.55	27.4 27.4 7.27	32.9 19.6 7.88	31.0 22.9 7.67	28.4 28.4 7.38	
32 TC SHC kW	29.6 15.3 8.12	27.5 17.8 7.85	25.0 25.0 7.55	31.0 17.5 8.28	29.0 20.3 8.03	26.6 19.2 7.74	31.9 22.4 8.40	30.0 22.4 8.16	27.6 27.6 7.86	
36 TC SHC kW	28.7 14.9 8.67	26.6 17.4 8.49	24.2 24.2 8.29	30.0 17.1 8.78	28.0 19.8 8.61	25.7 18.9 8.41	30.9 21.9 8.86	29.0 21.9 8.70	26.7 26.7 8.50	
40 TC SHC kW	27.8 14.6 9.10	25.8 17.0 8.71	23.5 23.5 8.28	29.0 16.7 9.31	27.1 19.3 8.96	24.9 18.5 8.55	29.8 18.5 9.47	28.0 21.4 9.13	25.9 25.9 8.73	
44 TC SHC kW	27.3 14.3 9.49	25.0 16.6 9.13	22.6 22.6 8.72	28.5 16.5 9.69	26.4 19.0 9.36	24.1 18.4 8.97	29.3 18.4 9.84	27.4 21.1 9.51	25.1 25.1 9.14	
48 TC SHC kW	26.4 13.9 9.92	24.2 16.2 9.53	21.8 21.8 9.11	27.5 16.2 10.12	25.5 18.5 9.77	23.3 23.3 9.37	28.3 18.0 10.27	26.4 20.7 9.92	24.3 24.3 9.55	
52 TC SHC kW	25.0 13.4 10.42	23.1 15.7 9.96	21.0 21.0 9.46	25.9 15.6 10.64	24.2 17.9 10.22	22.3 22.3 9.77	26.5 17.4 10.79	24.9 19.9 10.39	23.2 23.2 9.98	

**38AKS013/40RM012 WITH STANDARD 3-ROW COIL**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1450		1900			2350				
	Evaporator Air — Ewb (C)									
	22	20	16	22	20	16	22	20	16	
20 TC SHC kW	35.9 19.2 6.85	33.5 22.5 6.69	30.6 30.6 6.50	37.4 21.6 6.95	35.0 25.7 6.79	32.4 32.4 6.62	38.3 24.0 7.01	35.9 28.7 6.86	33.6 33.6 6.70	
28 TC SHC kW	33.8 18.5 7.98	31.5 21.6 7.72	28.8 28.8 7.43	35.2 20.8 8.13	32.9 24.7 7.87	30.5 30.5 7.61	36.0 23.2 8.21	33.7 27.7 7.96	31.7 31.7 7.74	
32 TC SHC kW	32.8 18.2 8.50	30.5 21.1 8.22	27.9 27.9 7.90	34.1 20.3 8.66	31.8 24.2 8.38	29.5 29.5 8.10	34.8 22.8 8.75	32.5 27.2 8.47	30.7 30.7 8.25	
36 TC SHC kW	31.7 17.8 8.93	29.4 20.7 8.74	27.0 27.0 8.52	32.9 19.9 9.04	30.7 23.7 8.84	28.5 28.5 8.66	33.6 22.4 9.10	31.4 26.6 8.90	29.7 29.7 8.76	
40 TC SHC kW	30.6 17.5 9.62	28.4 20.2 9.21	26.1 26.1 8.77	31.7 19.5 9.83	29.5 23.2 9.42	27.5 27.5 9.04	32.3 22.0 9.95	30.2 26.1 9.55	28.7 28.7 9.26	
44 TC SHC kW	30.2 17.3 9.98	27.8 20.0 9.59	25.3 25.3 9.17	31.4 19.4 10.18	29.0 23.0 9.79	26.9 26.9 9.43	32.1 21.9 10.29	29.8 25.9 9.91	28.1 28.1 9.64	
48 TC SHC kW	29.2 17.0 10.42	26.8 19.5 10.00	24.4 24.4 9.57	30.3 19.0 10.62	28.0 22.5 10.21	25.9 25.9 9.84	30.9 21.5 10.74	28.6 21.9 10.32	27.1 27.1 10.06	
52 TC SHC kW	27.3 16.4 10.97	25.2 18.8 10.48	23.2 23.2 9.99	28.2 18.2 11.19	26.2 21.7 10.70	24.5 24.5 10.30	28.6 20.7 11.31	26.7 24.5 10.83	25.6 25.6 10.56	

See Legend and Notes on page 43.

**38AKS013/40RM014 WITH STANDARD 3-ROW COIL**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1750		2350			2950				
	Evaporator Air — Ewb (C)									
	22	20	16	22	20	16	22	20	16	
20 TC SHC kW	38.1 21.3 7.00	35.1 24.9 6.80	32.4 32.4 6.62	39.4 24.3 7.09	36.5 29.1 6.89	34.2 34.2 6.74	40.2 27.3 7.14	37.6 32.6 6.97	35.7 35.7 6.84	
28 TC SHC kW	35.8 20.5 8.20	32.9 23.9 7.87	30.5 30.5 7.61	37.0 23.4 8.32	34.2 28.0 8.02	32.2 32.2 7.80	37.7 26.4 8.40	35.2 31.5 8.13	33.6 33.6 7.95	
32 TC SHC kW	34.7 20.0 8.74	31.8 23.4 8.38	29.5 29.5 8.10	35.8 22.9 8.87	33.0 27.5 8.53	31.2 31.2 8.31	36.4 26.0 8.95	34.0 30.9 8.66	32.6 32.6 8.48	
36 TC SHC kW	33.5 19.6 9.09	30.6 22.9 8.84	28.5 28.5 8.66	34.5 22.5 9.18	31.9 30.2 8.80	30.2 25.6 9.23	35.2 30.3 9.03	32.8 31.5 9.03	31.5 31.5 8.91	
40 TC SHC kW	32.3 19.1 9.94	29.5 22.4 9.41	27.6 27.6 9.05	33.2 22.0 10.12	30.6 26.4 9.63	29.2 29.2 9.35	33.8 25.1 10.23	31.5 29.7 9.80	30.4 30.4 9.58	
44 TC SHC kW	32.1 19.0 10.29	29.0 22.2 9.78	26.9 26.9 9.43	33.1 22.0 10.46	30.2 26.2 9.98	28.6 28.6 9.72	33.7 25.1 10.56	31.2 29.6 10.15	30.0 30.0 9.95	
48 TC SHC kW	30.9 18.6 10.74	27.9 21.7 10.19	25.9 25.9 9.84	31.9 21.6 10.91	29.1 25.7 10.40	27.6 27.6 10.15	32.5 24.7 11.01	30.1 29.0 10.58	29.0 29.0 10.38	
52 TC SHC kW	28.7 17.8 11.32	26.1 20.9 10.68	24.5 24.5 10.30	29.4 20.7 11.50	27.0 24.7 10.91	26.0 26.0 10.65	29.9 23.8 11.61	27.9 27.9 11.12	27.1 27.1 10.93	

**38AKS014/40RM012 WITH STANDARD 3-ROW COIL**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1450		1900			2350				
	Evaporator Air — Ewb (C)									
	22	20	16	22	20	16	22	20	16	
20 TC SHC kW	40.4 20.6 8.07	37.7 24.3 7.81	34.2 34.2 7.49	42.3 23.4 8.25	39.6 27.8 7.99	36.3 36.3 7.69	43.5 25.8 8.36	40.9 31.0 8.11	37.7 37.7 7.82	
28 TC SHC kW	38.2 19.9 9.28	35.6 23.4 8.98	32.4 32.4 8.61	39.9 22.5 9.48	37.3 26.7 9.18	34.3 34.3 8.83	41.0 24.9 9.60	38.4 29.9 9.31	35.6 35.6 8.99	
32 TC SHC kW	37.0 19.6 9.90	34.5 22.9 9.56	31.4 31.4 8.15	38.7 22.0 10.12	36.1 26.2 9.78	33.3 33.3 9.40	39.6 24.5 10.25	37.2 29.3 9.92	34.6 34.6 9.57	
36 TC SHC kW	35.9 19.2 10.51	33.4 22.4 10.13	30.5 30.5 9.69	37.4 21.6 10.75	34.9 25.6 10.37	32.3 32.3 9.96	38.3 24.0 10.89	35.9 24.0 10.52	33.5 33.5 10.16	
40 TC SHC kW	34.7 18.8 11.09	32.3 22.0 10.70	29.5 29.5 10.26	36.2 21.1 11.32	33.8 25.1 10.93	31.2 31.2 10.53	37.0 23.6 11.46	34.6 23.6 11.07	32.5 32.5 10.73	
44 TC SHC kW	33.6 18.4 11.73	31.2 21.5 11.26	28.5 28.5 10.74	34.9 20.7 11.99	32.6 24.6 11.53	30.2 30.2 11.07	35.7 23.1 12.15	33.4 27.6 11.69	31.4 31.4 11.30	
48 TC SHC kW	32.4 18.0 12.36	30.1 21.0 11.85	27.5 27.5 11.28	33.7 20.2 12.64	31.4 24.0 12.13	29.1 29.1 11.64	34.4 22.7 12.80	32.1 22.7 12.30	30.3 30.3 11.90	
52 TC SHC kW	— — —	25.2 18.8 10.48	23.2 23.2 10.48	23.2 23.2 9.99	— — —	26.7 24.5 10.70	25.6 24.5 10.30	26.7 24.5 10.83	25.6 25.6 10.56	

# Performance data (cont)



## COMBINATION RATINGS — SI (cont)

38AKS014/40RM014 WITH STANDARD 3-ROW COIL

Temp (C) Air Entering Condenser (Edb)		Evaporator Air — L/s								
		1750			2350			2950		
		Evaporator Air — Ewb (C)								
22	20	16	22	20	16	22	20	16	22	20
20	TC SHC kW	43.0 23.2 8.31	39.8 27.1 8.01	36.4 36.4 7.70	44.8 26.2 8.47	41.6 31.4 8.18	38.5 38.5 7.89	45.9 29.2 8.57	42.8 35.1 8.29	40.1 40.1 8.04
28	TC SHC kW	40.6 22.3 9.56	37.4 26.0 9.20	34.4 34.4 8.84	42.1 25.2 9.74	39.1 30.2 9.39	36.4 36.4 9.07	43.1 28.3 9.85	40.2 33.8 9.52	37.9 37.9 9.25
32	TC SHC kW	39.3 21.8 10.21	36.2 25.5 9.79	33.4 33.4 9.41	40.8 24.7 10.40	37.8 29.6 10.00	35.3 35.3 9.66	41.7 27.8 10.52	38.9 33.2 10.15	36.8 36.8 9.86
36	TC SHC kW	38.0 21.3 10.85	35.0 24.9 10.38	32.3 32.3 9.97	39.4 24.3 11.05	36.5 29.0 10.61	34.2 34.2 10.26	40.2 27.3 11.18	37.6 32.6 10.77	35.6 35.6 10.48
40	TC SHC kW	36.8 20.8 11.42	33.8 24.4 10.94	31.3 31.3 10.54	38.0 23.8 11.62	35.2 28.5 11.16	33.1 33.1 10.83	38.8 26.8 11.74	36.2 32.0 11.33	34.5 34.5 11.05
44	TC SHC kW	35.5 20.4 12.12	32.6 23.8 11.54	30.2 30.2 11.07	36.7 23.3 12.35	33.9 27.9 11.80	32.0 32.0 11.42	37.4 26.4 12.49	34.9 31.3 12.00	33.3 33.3 11.69
48	TC SHC kW	34.3 19.9 12.77	31.3 23.3 12.13	29.1 29.1 11.64	35.4 22.8 13.01	32.6 27.3 12.41	30.8 30.8 12.02	— — —	33.6 30.7 12.62	32.2 32.2 12.31
52	TC SHC kW	— — —	26.1 20.9 10.68	24.5 24.5 10.30	— — —	— — —	26.0 26.0 10.65	— — —	— — —	— — —

38AKS014/40RM016 WITH STANDARD 3-ROW COIL

Temp (C) Air Entering Condenser (Edb)		Evaporator Air — L/s								
		2100			2800			3500		
		Evaporator Air — Ewb (C)								
22	20	16	22	20	16	22	20	16	22	20
20	TC SHC kW	46.1 25.9 8.59	42.8 30.4 8.29	39.4 39.4 8.73	47.6 29.2 8.44	44.5 34.8 8.17	41.5 41.5 8.88	49.1 32.9 8.56	45.8 38.4 8.33	43.3 43.3 8.33
28	TC SHC kW	43.3 24.9 9.87	40.1 29.2 9.51	37.0 37.0 9.15	44.6 28.1 10.02	41.6 33.5 9.68	39.0 39.0 9.38	46.0 31.9 10.19	42.8 36.9 9.82	40.7 40.7 9.57
32	TC SHC kW	41.8 24.3 10.54	38.8 28.6 10.13	35.9 35.9 9.74	43.0 27.6 10.70	40.2 32.8 10.32	37.8 37.8 10.00	44.4 31.3 10.89	41.3 36.1 10.48	39.4 39.4 10.21
36	TC SHC kW	40.4 23.8 11.21	37.4 28.0 10.75	34.7 34.7 10.33	41.5 27.0 11.37	38.7 32.1 10.95	36.5 36.5 10.60	42.8 30.8 11.58	39.8 35.4 11.12	38.0 38.0 10.84
40	TC SHC kW	39.0 23.3 11.76	36.1 27.4 11.30	33.5 33.5 10.89	40.0 26.5 11.93	37.3 31.5 11.50	35.2 35.2 11.16	41.3 30.2 12.14	38.4 34.6 11.67	36.7 36.7 11.40
44	TC SHC kW	37.6 22.7 12.52	34.7 26.8 11.47	32.2 32.2 12.70	38.5 25.9 12.19	35.9 30.8 11.80	33.9 33.9 12.95	39.8 29.7 12.39	36.9 33.9 12.39	35.4 35.4 12.09
48	TC SHC kW	— — —	33.4 26.2 12.58	31.0 31.0 12.06	— — —	34.5 30.2 12.82	32.6 32.6 12.41	— — —	— — —	34.1 34.1 12.73
52	TC SHC kW	— — —	— — —	25.8 25.8 10.62	— — —	— — —	— — —	— — —	— — —	— — —

See Legend and Notes on page 43.

38AKS016/40RM014 WITH STANDARD 3-ROW COIL

Temp (C) Air Entering Condenser (Edb)		Evaporator Air — L/s								
		1750			2350			2950		
		Evaporator Air — Ewb (C)								
22	20	16	22	20	16	22	20	16	22	20
20	TC SHC kW	49.6 25.7 11.84	46.3 30.0 11.38	41.8 10.76	51.9 28.8 12.16	48.5 34.6 11.69	44.1 44.1 11.08	53.4 31.7 12.36	49.9 38.4 11.88	45.9 45.9 11.33
28	TC SHC kW	46.9 24.6 13.35	43.6 28.8 12.78	39.6 39.6 12.08	49.0 27.7 13.71	45.7 33.2 13.14	41.8 42.4 12.47	50.3 30.7 13.95	47.0 37.0 13.37	43.5 43.5 12.77
32	TC SHC kW	45.5 24.1 14.10	42.2 28.1 12.78	38.4 38.4 14.47	47.5 27.2 13.86	44.2 32.6 13.18	40.6 40.6 14.71	48.7 30.1 14.10	45.5 36.3 13.50	42.3 42.3 13.50
36	TC SHC kW	44.1 23.6 14.81	40.8 27.5 14.17	37.3 37.3 13.46	45.9 26.6 15.18	42.7 31.9 14.54	39.4 39.4 13.88	47.1 29.6 15.41	44.0 35.6 14.79	41.0 41.0 14.21
40	TC SHC kW	42.7 23.1 15.52	39.4 26.9 14.81	36.0 36.0 14.07	44.4 26.1 15.90	41.2 31.2 15.21	38.1 38.1 14.52	45.5 29.1 16.15	42.5 34.9 15.48	39.7 39.7 14.88
44	TC SHC kW	41.2 22.5 16.23	38.1 26.3 15.41	34.9 34.9 14.60	42.8 25.5 16.65	39.7 30.5 15.85	36.9 36.9 15.11	43.9 30.8 16.91	40.9 34.2 16.15	38.5 38.5 15.52
48	TC SHC kW	— — —	31.3 23.3 12.13	29.1 29.1 11.64	— — —	32.6 27.3 12.41	30.8 30.8 12.02	— — —	— — —	32.2 32.2 12.31
52	TC SHC kW	— — —	— — —	— — —	— — —	— — —	— — —	— — —	— — —	— — —

38AKS016/40RM016 WITH STANDARD 3-ROW COIL

Temp (C) Air Entering Condenser (Edb)		Evaporator Air — L/s								
		2100			2800			3500		
		Evaporator Air — Ewb (C)								
22	20	16	22	20	16	22	20	16	22	20
20	TC SHC kW	53.7 28.8 12.40	50.0 33.6 11.89	45.7 32.2 11.30	55.8 32.2 12.69	52.3 38.4 12.21	48.4 48.4 11.67	57.6 35.8 12.94	53.8 42.6 12.42	50.3 50.3 11.93
28	TC SHC kW	50.5 27.6 13.99	47.0 32.2 13.37	43.1 31.0 12.69	52.4 36.9 14.31	49.1 45.5 13.73	45.5 45.5 13.12	54.1 40.8 14.61	50.5 40.8 13.98	47.4 47.4 13.44
32	TC SHC kW	49.0 27.0 14.75	45.5 31.6 14.10	41.7 31.7 13.40	50.7 30.3 15.07	47.4 36.1 14.46	44.1 44.1 13.84	52.4 34.0 15.39	48.8 40.0 14.72	45.9 45.9 14.18
36	TC SHC kW	47.3 26.4 15.46	43.9 30.9 14.78	40.4 40.4 14.08	49.0 29.7 15.78	45.8 35.4 15.14	42.6 42.6 14.53	50.6 33.4 16.10	47.1 39.1 15.41	44.4 44.4 14.88
40	TC SHC kW	45.8 25.8 16.19	42.4 30.2 15.46	39.0 39.0 14.72	47.3 34.6 16.52	44.1 34.6 15.84	41.2 41.2 15.19	48.8 32.8 16.87	45.4 38.2 16.12	42.9 42.9 15.57
44	TC SHC kW	44.1 25.2 16.96	40.8 29.5 16.13	37.6 37.6 15.31	— — —	42.4 33.8 16.54	39.7 39.7 15.84	— — —	43.6 37.3 16.86	41.4 41.4 16.27
48	TC SHC kW	— — —	33.4 26.2 12.58	31.0 31.0 12.06	— — —	32.6 32.6 12.41	— — —	— — —	— — —	— — —
52	TC SHC kW	— — —	— — —	25.8 25.8 10.62	— — —	— — —	— — —	— — —	— — —	— — —



### COMBINATION RATINGS — SI (cont)

**38AKS016/40RM024 WITH STANDARD 3-ROW COIL**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	2900			3800			4700			
	Evaporator Air — Ewb (C)									
	22	20	16	22	20	16	22	20	16	
20 TC SHC kW	58.5 32.9 13.07	54.2 40.3 12.48	50.3 50.3 11.94	60.3 38.0 13.32	56.3 46.5 12.77	53.1 53.1 12.32	61.5 42.4 13.49	57.9 52.1 12.98	55.2 55.2 12.62	
28 TC SHC kW	54.9 31.5 14.75	50.8 38.9 14.03	47.3 47.3 13.42	56.5 36.7 15.03	52.8 44.9 14.38	49.9 49.9 13.88	57.6 41.0 15.21	54.2 50.4 14.62	52.0 52.0 14.24	
32 TC SHC kW	53.1 30.8 15.52	49.0 38.2 14.77	45.7 45.7 14.15	54.6 36.0 15.81	51.0 44.0 15.13	48.3 48.3 14.63	55.6 40.3 15.99	52.3 49.5 15.37	50.3 50.3 15.01	
36 TC SHC kW	51.2 30.0 16.23	47.3 37.5 15.45	44.2 44.2 14.83	52.7 35.3 16.51	49.1 43.2 15.81	46.7 46.7 15.32	53.6 39.6 16.69	50.4 48.6 16.06	48.6 48.6 15.71	
40 TC SHC kW	49.5 29.3 17.00	45.6 36.8 16.15	42.6 42.6 15.51	50.8 34.6 17.29	47.4 42.4 16.54	45.1 45.1 16.04	51.7 38.9 17.48	48.5 47.8 16.80	47.0 47.0 16.46	
44 TC SHC kW	— — —	43.7 36.0 16.88	41.0 41.0 16.18	— — —	45.4 41.6 17.32	43.3 43.3 16.78	— — —	— — —	— — —	
48 TC SHC kW	— — —	— 33.5 33.5	— — 12.60	— — —	— — —	— — —	— — —	— — —	— — —	
52 TC SHC kW	— — —	— — —	— — —	— — —	— — —	— — —	— — —	— — —	— — —	

**38AKS024/40RM016 WITH STANDARD 3-ROW COIL**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	2100			2800			3500			
	Evaporator Air — Ewb (C)									
	22	20	16	22	20	16	22	20	16	
20 TC SHC kW	66.0 33.5 13.80	61.5 38.7 13.33	55.2 55.2 12.68	69.5 37.1 14.16	65.1 44.2 13.71	59.0 59.0 13.07	71.9 40.8 14.42	67.1 49.4 13.92	61.3 61.3 13.31	
28 TC SHC kW	62.5 32.1 15.69	58.1 37.2 15.13	52.3 52.3 14.38	65.7 35.8 16.09	61.4 42.5 15.55	55.8 55.8 14.83	68.0 39.4 16.39	63.3 47.5 15.79	58.0 58.0 15.12	
32 TC SHC kW	60.7 31.5 16.60	56.4 36.4 15.97	50.7 50.7 15.16	63.7 35.1 17.03	59.5 41.7 16.43	54.2 54.2 15.65	66.0 38.7 17.36	61.4 46.5 16.70	56.4 56.4 15.97	
36 TC SHC kW	58.8 30.8 17.49	54.5 35.6 16.79	49.2 49.2 15.91	61.7 34.3 17.96	57.5 40.8 17.28	52.5 52.5 16.45	63.9 38.0 18.32	59.4 45.4 17.58	54.7 54.7 16.81	
40 TC SHC kW	56.9 30.0 18.43	52.6 34.7 17.72	47.4 47.4 16.86	59.6 33.6 18.88	55.5 39.8 18.20	50.6 50.6 17.39	61.7 37.3 19.24	57.3 44.4 18.50	52.8 52.8 17.75	
44 TC SHC kW	54.9 29.3 19.28	50.6 33.9 18.49	45.7 45.7 17.56	57.4 32.8 19.75	53.3 38.8 18.99	48.8 48.8 18.13	59.5 36.5 20.16	55.1 43.2 19.33	50.9 50.9 18.54	
48 TC SHC kW	52.8 28.5 20.20	48.6 33.0 19.24	43.9 43.9 18.17	55.1 31.9 20.73	51.2 37.8 19.82	46.9 46.9 18.84	57.2 35.7 21.20	52.9 42.1 20.21	49.0 49.0 19.33	
52 TC SHC kW	50.6 27.7 21.03	46.6 32.0 20.06	42.1 42.1 19.01	52.8 31.1 21.55	48.9 36.8 20.63	44.9 44.9 19.67	— — —	50.6 40.9 21.02	47.0 47.0 20.17	

See Legend and Notes on page 43.

**38AKS024/40RM024 WITH STANDARD 3-ROW COIL**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	2900			3800			4700			
	Evaporator Air — Ewb (C)									
	22	20	16	22	20	16	22	20	16	
20 TC SHC kW	73.4 38.8 14.57	68.3 46.0 14.04	62.0 62.0 13.39	76.6 43.9 14.91	71.2 53.1 14.34	65.6 65.6 13.76	78.6 48.4 15.12	73.6 59.3 14.60	68.4 68.4 14.05	
28 TC SHC kW	69.4 37.2 16.56	64.3 44.4 15.92	58.6 58.6 15.19	72.3 42.3 16.93	67.1 51.3 16.27	62.0 62.0 15.62	74.1 46.8 17.16	69.3 57.3 16.55	64.7 64.7 15.97	
32 TC SHC kW	67.3 36.4 17.55	62.3 43.6 16.83	56.8 56.8 16.04	70.0 41.5 17.94	64.9 50.3 17.21	60.2 60.2 16.52	71.7 46.0 18.20	67.1 56.3 17.52	62.8 62.8 16.91	
36 TC SHC kW	65.1 35.5 18.52	60.2 42.7 17.71	55.0 55.0 16.86	67.7 40.7 18.94	62.7 49.3 18.13	58.3 58.3 17.40	69.3 45.1 19.20	64.8 55.2 19.20	60.9 60.9 17.83	
40 TC SHC kW	62.9 34.7 19.43	58.0 41.8 18.61	53.0 53.0 17.79	65.3 39.8 19.84	60.5 48.3 19.03	56.3 56.3 18.33	66.9 44.3 20.10	62.4 54.2 19.36	58.8 58.8 18.76	
44 TC SHC kW	60.6 33.7 20.36	55.7 40.9 19.43	51.0 51.0 18.56	62.8 38.9 20.78	58.1 47.3 19.90	54.2 54.2 19.16	64.3 43.3 21.06	60.0 53.0 20.25	56.7 56.7 19.63	
48 TC SHC kW	58.2 32.8 21.43	53.3 39.9 20.32	49.0 49.0 19.32	60.3 38.0 21.91	55.7 46.2 20.87	52.1 52.1 20.03	61.7 42.4 22.23	57.5 42.4 21.27	54.6 54.6 20.60	
52 TC SHC kW	— — 21.11	50.9 39.0 20.14	46.9 46.9 20.14	— — —	53.3 45.1 21.66	49.9 49.9 20.86	— — —	— — —	52.3 52.3 21.43	

**38AKS024/40RM028 WITH STANDARD 3-ROW COIL**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	3500			4700			5900			
	Evaporator Air — Ewb (C)									
	22	20	16	22	20	16	22	20	16	
20 TC SHC kW	79.4 44.0 15.20	73.2 52.4 14.56	67.2 67.2 13.9	82.0 50.1 15.46	75.8 71.1 14.82	83.5 78.4 14.33	78.4 68.7 15.63	74.3 74.3 15.10	74.3 74.3 14.66	
28 TC SHC kW	75.1 42.4 17.29	68.3 51.0 16.42	63.4 63.4 15.80	77.2 48.4 17.56	72.2 59.2 16.80	78.6 67.2 16.28	73.7 54.3 17.74	70.3 66.6 17.12	70.3 70.3 16.68	
32 TC SHC kW	72.8 41.5 18.35	65.7 50.3 17.33	61.4 61.4 16.71	74.8 47.6 18.64	68.9 58.1 17.78	65.2 65.2 17.24	73.7 54.3 18.82	70.3 65.5 18.13	68.2 68.2 17.69	
36 TC SHC kW	70.5 40.7 19.39	63.1 49.5 18.19	59.4 59.4 17.48	72.2 46.7 19.68	66.4 57.1 18.73	63.1 63.1 18.18	73.4 52.5 19.88	68.8 64.4 19.12	66.1 66.1 18.68	
40 TC SHC kW	68.1 39.8 20.31	60.5 48.8 19.03	57.3 57.3 18.50	69.7 45.8 20.57	63.9 56.0 19.61	60.9 60.9 19.10	70.8 51.7 20.75	66.3 63.3 20.00	63.9 63.9 19.61	
44 TC SHC kW	65.6 38.9 21.31	57.7 48.0 19.82	55.1 55.1 19.32	67.0 44.9 21.58	61.3 54.9 20.50	58.7 58.7 20.00	68.0 50.7 21.76	63.6 62.1 20.93	61.6 61.6 20.56	
48 TC SHC kW	— — 20.68	54.9 47.2 20.20	52.8 52.8 —	— — 21.55	58.7 53.7 21.01	56.4 56.4 —	68.0 50.7 —	63.6 62.1 —	61.6 61.6 —	
52 TC SHC kW	— — 21.37	52.1 46.4 21.00	50.5 50.5 —	— — 21.55	56.0 52.6 21.20	54.0 54.0 —	66.0 62.1 —	63.6 62.1 —	61.6 61.6 —	

# Performance data (cont)



## COMBINATION RATINGS — SI (cont)

38AKS028/40RM024 WITH STANDARD 3-ROW COIL

Temp (C) Air Entering Condenser (Edb)		Evaporator Air — L/s									
		2900			3800			4700			
		Evaporator Air — Ewb (C)									
22	20	16	22	20	16	22	20	16	22	20	16
20	TC SHC kW	86.6 44.0 19.70	81.7 51.5 19.31	73.9 73.9 18.70	90.6 48.9 20.01	84.8 59.2 19.55	77.6 77.6 18.99	93.1 53.4 20.20	87.7 65.8 19.78	80.5 80.5 19.22	
28	TC SHC kW	81.9 42.2 21.44	77.1 49.6 20.84	70.0 70.0 19.95	85.6 47.1 21.90	80.0 57.1 21.20	73.6 73.6 20.39	87.8 51.6 22.18	82.7 63.5 21.54	76.4 76.4 20.75	
32	TC SHC kW	79.4 41.2 22.57	74.6 48.6 21.85	67.8 67.8 20.84	82.9 46.1 23.09	77.5 55.9 22.28	71.3 71.3 21.36	85.0 50.6 23.41	80.0 72.2 22.66	74.1 74.1 21.78	
36	TC SHC kW	77.0 40.2 23.66	72.2 47.6 22.81	65.8 65.8 21.67	80.2 45.2 24.23	74.9 54.8 23.30	69.2 69.2 22.28	82.2 49.6 24.59	77.4 61.0 23.74	71.9 71.9 22.76	
40	TC SHC kW	74.4 39.2 24.82	69.7 46.6 23.84	63.7 63.7 22.58	77.4 44.2 25.45	72.4 53.6 24.39	67.0 67.0 23.27	79.3 48.6 25.84	74.7 59.8 24.87	69.6 69.6 23.82	
44	TC SHC kW	71.8 38.2 26.02	67.1 45.5 25.01	61.4 61.4 23.79	74.6 43.2 26.63	69.7 52.4 25.57	64.6 64.6 24.49	76.4 47.6 27.01	71.9 58.5 26.04	67.2 67.2 25.04	
48	TC SHC kW	69.7 37.3 27.31	64.3 44.4 25.93	58.1 58.1 24.73	72.8 42.5 28.10	67.2 51.3 26.68	61.8 61.8 25.30	74.8 47.0 28.61	69.6 21.9 27.30	64.7 64.7 26.04	
52	TC SHC kW	— — —	61.9 43.4 26.99	56.1 56.1 25.46	— — —	64.8 50.2 27.74	59.7 59.7 26.40	— — —	— — —	62.5 62.5 27.15	

38AKS028/40RM028 WITH STANDARD 3-ROW COIL

Temp (C) Air Entering Condenser (Edb)		Evaporator Air — L/s									
		3500			4700			5900			
		Evaporator Air — Ewb (C)									
22	20	16	22	20	16	22	20	16	22	20	16
20	TC SHC kW	93.2 49.1 20.21	89.7 57.0 19.94	80.1 80.1 19.18	96.9 55.3 20.50	90.7 67.5 20.02	83.9 83.9 19.48	99.0 61.2 20.67	93.5 75.4 20.24	87.1 87.1 19.74	
28	TC SHC kW	88.2 47.3 22.22	83.8 55.3 21.68	75.7 75.7 20.65	91.4 53.4 22.62	85.4 65.2 21.87	79.4 79.4 21.13	93.2 59.2 22.85	88.0 72.9 22.20	82.6 82.6 21.52	
32	TC SHC kW	85.5 46.3 23.48	80.7 54.4 22.76	73.3 73.3 21.66	88.5 52.4 23.92	82.5 64.0 23.03	77.0 77.0 22.21	90.2 58.2 24.18	85.1 71.6 23.42	80.1 80.1 22.68	
36	TC SHC kW	82.8 45.3 24.70	77.6 53.6 23.77	71.0 71.0 22.60	85.5 51.3 25.18	79.7 62.8 23.25	74.6 74.6 23.25	87.1 57.1 25.46	82.2 70.3 24.59	77.7 77.7 23.79	
40	TC SHC kW	80.0 44.2 26.00	74.5 52.7 24.83	68.6 68.6 23.61	82.4 50.2 26.50	76.7 61.5 25.31	72.2 72.2 24.36	83.9 56.1 26.81	79.2 69.0 25.82	75.2 75.2 24.98	
44	TC SHC kW	77.3 43.2 27.19	71.3 51.8 25.91	66.1 66.1 24.80	79.4 49.2 27.66	73.8 60.3 26.45	69.7 69.7 25.56	80.8 55.0 27.95	76.2 67.7 26.96	72.6 72.6 26.20	
48	TC SHC kW	— — —	68.5 51.0 27.02	63.3 63.3 25.68	— — —	71.7 59.4 27.83	67.3 67.3 26.71	— — —	— — —	70.7 70.7 27.56	
52	TC SHC kW	— — —	65.6 50.2 27.96	61.0 61.0 26.75	— — —	— — —	65.0 65.0 27.81	— — —	— — —	— — —	

See Legend and Notes on page 43.

38AKS028/40RM034 WITH STANDARD 3-ROW COIL

Temp (C) Air Entering Condenser (Edb)		Evaporator Air — L/s									
		4250			5650			7050			
		Evaporator Air — Ewb (C)									
22	20	16	22	20	16	22	20	16	22	20	16
20	TC SHC kW	99.5 54.0 20.71	92.5 65.4 19.62	85.7 85.7 20.94	102.5 61.7 20.42	95.8 75.3 19.96	90.0 90.0 21.09	104.3 68.7 20.54	98.7 84.4 20.24	93.5 93.5 20.24	
28	TC SHC kW	93.9 51.9 22.94	86.8 63.0 22.05	80.8 80.8 21.30	96.4 59.6 23.25	90.0 72.7 22.45	85.0 85.0 21.82	98.0 66.6 23.45	92.7 81.7 22.78	88.4 88.4 22.25	
32	TC SHC kW	91.0 50.8 24.29	83.8 61.8 23.22	78.2 78.2 22.38	93.3 58.5 24.64	86.9 71.4 23.68	82.3 65.5 23.00	104.3 65.5 24.86	94.8 80.3 24.08	89.5 85.7 23.51	
36	TC SHC kW	87.9 49.6 25.61	80.8 60.5 24.34	75.6 75.6 23.42	90.0 57.3 25.98	83.8 70.0 24.87	79.6 79.6 24.14	91.4 64.4 22.22	86.3 78.9 25.82	83.0 83.0 24.73	
40	TC SHC kW	84.8 48.4 27.00	77.7 59.2 25.50	73.0 73.0 24.52	86.6 56.1 27.38	80.6 68.6 26.11	76.9 76.9 25.34	87.9 63.2 27.64	83.0 77.4 26.62	80.1 80.1 26.02	
44	TC SHC kW	81.8 47.3 28.17	74.6 57.9 26.62	70.2 70.2 25.68	— — —	77.4 67.2 27.23	74.1 74.1 26.52	— — —	79.8 76.0 27.74	77.3 77.3 27.20	
48	TC SHC kW	— — —	72.5 57.1 28.03	67.8 67.8 26.82	— — —	— — —	72.2 72.2 27.96	— — —	— — —	— — —	
52	TC SHC kW	— — —	65.3 65.3 27.88	— — —	— — —	— — —	— — —	— — —	— — —	— — —	

38AKS034/40RM028 WITH STANDARD 3-ROW COIL

Temp (C) Air Entering Condenser (Edb)		Evaporator Air — L/s									
		3500			4700			5900			
		Evaporator Air — Ewb (C)									
22	20	16	22	20	16	22	20	16	22	20	16
20	TC SHC kW	100.5 51.9 22.37	98.5 59.4 22.22	86.7 86.7 21.34	104.9 58.1 22.69	98.6 71.0 22.23	90.5 90.5 21.63	107.4 64.0 22.88	101.6 78.9 22.45	93.8 93.8 21.87	
28	TC SHC kW	95.4 49.9 24.32	92.3 57.7 23.96	82.0 82.0 22.78	99.2 56.1 24.77	93.0 68.6 24.05	85.8 85.8 23.22	101.5 62.0 25.02	95.9 76.4 24.38	89.1 89.1 23.59	
32	TC SHC kW	92.8 49.0 25.59	89.1 55.8 25.09	79.5 79.5 23.80	96.4 55.2 26.08	90.2 67.3 25.24	83.4 83.4 24.32	98.6 61.0 26.37	93.0 75.1 25.62	86.6 86.6 24.76	
36	TC SHC kW	90.2 48.0 26.91	86.1 56.0 25.25	77.3 77.3 24.85	93.6 54.2 27.45	87.5 66.1 25.46	81.1 81.1 27.45	95.6 60.0 27.77	90.2 73.9 26.91	84.3 84.3 25.97	
40	TC SHC kW	87.5 47.0 28.16	82.9 55.1 27.41	74.9 74.9 26.10	90.7 53.1 26.68	84.6 64.9 27.68	78.7 78.7 27.68	92.5 59.0 28.98	87.3 72.6 28.12	81.9 81.9 27.24	
44	TC SHC kW	84.7 46.0 29.38	79.6 54.2 28.32	72.4 72.4 26.80	87.7 52.1 29.99	81.6 63.6 28.72	76.1 76.1 27.59	89.4 57.9 30.35	84.2 71.2 29.28	79.3 79.3 28.25	
48	TC SHC kW	82.8 45.3 30.70	76.3 53.2 29.30	68.8 68.8 27.66	86.0 51.5 31.40	79.0 62.5 29.87	73.1 73.1 28.60	88.0 57.5 31.83	82.0 70.3 30.53	76.8 76.8 29.39	
52	TC SHC kW	80.1 44.3 31.95	73.1 52.3 30.27	66.4 66.4 28.65	83.0 50.5 32.65	76.0 61.2 30.98	70.7 70.7 29.69	84.9 56.4 33.11	79.0 68.9 31.70	74.3 74.3 30.56	



## COMBINATION RATINGS — SI (cont)

**38AKS034/40RM034 WITH STANDARD 3-ROW COIL**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	4250		5650			7050				
	Evaporator Air — Ewb (C)									
	22	20	16	22	20	16	22	20	16	
20 TC SHC kW	107.5 57.1 22.89	100.9 68.9 22.40	92.9 92.9 21.81	111.2 64.7 23.16	104.4 79.0 22.66	97.3 97.3 22.13	113.4 71.7 23.33	107.4 88.3 22.88	100.9 100.9 22.40	
28 TC SHC kW	101.9 55.0 25.07	95.0 66.4 24.27	87.8 87.8 23.44	105.1 62.6 25.44	98.4 76.4 24.66	92.1 92.1 23.94	107.0 96.9 25.66	101.3 85.5 25.00	95.7 95.7 24.36	
32 TC SHC kW	99.1 53.9 26.44	92.0 65.2 25.48	85.1 85.1 24.56	102.1 61.5 26.85	95.3 75.1 25.94	89.5 68.6 25.14	104.0 84.2 27.10	98.2 84.2 26.32	93.0 93.0 25.62	
36 TC SHC kW	96.2 52.8 27.87	89.0 64.0 26.73	82.7 82.7 25.71	98.9 60.4 28.31	92.3 73.8 27.25	86.9 86.9 26.39	100.7 97.5 28.59	95.1 82.8 27.70	90.4 90.4 26.95	
40 TC SHC kW	93.3 51.7 29.10	86.0 62.7 27.91	80.0 80.0 26.94	95.8 59.3 29.51	89.2 72.4 28.44	84.2 84.2 27.63	97.4 66.4 29.78	92.0 81.4 28.89	87.7 87.7 28.19	
44 TC SHC kW	90.2 50.5 30.52	82.8 61.4 28.98	77.3 77.3 27.82	92.5 58.2 31.00	86.0 71.0 29.64	81.5 81.5 28.70	94.0 65.3 31.31	88.7 79.9 30.20	84.9 84.9 29.41	
48 TC SHC kW	89.0 50.0 32.05	80.3 60.3 30.15	74.1 74.1 28.82	91.6 57.9 32.61	84.0 70.1 30.96	79.0 79.0 29.88	93.4 65.0 32.99	87.1 79.2 32.64	83.0 83.0 30.74	
52 TC SHC kW	— — —	77.2 59.0 31.25	71.5 71.5 29.88	— — —	80.8 68.7 32.12	76.3 76.3 31.04	— — —	83.8 77.7 32.85	80.2 80.2 31.98	

### LEGEND

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

### NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. SHC is based on 26.7 °C db air entering indoor coil.

**38AKS044/40RM034 WITH STANDARD 3-ROW COIL**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	4250		5650			7050				
	Evaporator Air — Ewb (C)									
	22	20	16	22	20	16	22	20	16	
20 TC SHC kW	125.9 64.2 29.60	118.7 76.3 29.04	105.4 105.4 28.01	132.8 72.2 30.14	123.7 87.5 29.43	111.1 111.1 28.45	136.7 79.4 30.44	128.1 97.5 29.77	115.8 115.8 28.82	
28 TC SHC kW	121.1 62.4 32.30	114.0 74.3 31.50	102.1 102.1 30.16	127.1 70.3 32.98	118.6 85.2 32.02	107.5 107.5 30.77	130.6 77.4 33.36	122.6 95.1 32.47	112.0 112.0 31.27	
32 TC SHC kW	118.8 61.5 33.92	112.0 73.5 32.94	101.3 101.3 31.41	124.2 69.2 34.68	116.3 84.2 33.55	106.3 106.3 32.13	127.2 76.2 35.12	119.9 93.9 34.08	110.4 110.4 32.72	
36 TC SHC kW	115.9 60.3 35.55	108.8 72.1 34.43	98.4 98.4 32.81	120.9 68.1 36.35	113.0 82.8 35.10	103.5 103.5 33.61	123.9 75.2 36.81	116.7 92.4 35.68	107.7 107.7 34.26	
40 TC SHC kW	112.3 59.0 37.31	104.9 70.5 36.03	95.0 95.0 34.35	117.1 66.8 38.13	109.1 81.1 36.75	100.1 100.1 35.22	119.9 73.8 38.61	112.7 90.6 37.38	104.3 104.3 35.94	
44 TC SHC kW	109.3 57.8 38.86	101.6 69.2 37.43	92.2 92.2 35.68	113.9 65.7 39.71	105.8 79.6 38.21	97.3 79.3 36.63	116.6 72.7 40.21	109.4 89.2 38.88	101.5 101.5 37.41	
48 TC SHC kW	106.5 56.8 40.58	97.9 67.6 38.61	88.3 88.3 36.43	111.2 64.7 41.64	102.4 78.2 39.64	93.9 93.9 37.69	114.0 71.9 42.28	106.3 87.8 40.53	98.4 98.4 38.72	
52 TC SHC kW	103.5 55.6 42.27	94.7 66.3 40.10	85.7 85.7 37.87	107.9 63.6 43.34	99.2 76.7 41.19	91.2 91.2 39.22	110.5 70.7 43.99	103.0 86.3 42.13	95.7 95.7 40.33	

### 3. Formulas:

$$Ldb\ C = Edb\ C - \frac{SHC_{kW} \times 1000}{1.23 \times L/s}$$

Lwb = wet-bulb temperature corresponding to enthalpy air leaving indoor coil (hwb)

$$Ldb\ C: h|_{Lwb} = h|_{ewb} - \frac{TC_{kW} \times 1000}{1.20 \times L/s}$$

where  $h|_{ewb}$  = enthalpy of air entering evaporator coil (kj/kg).

4. Capacities are based on 7.6 actual m (12.2 equivalent m) of interconnecting piping sized to the outdoor unit field connections. (Equivalent length is equal to the actual length plus a 50% allowance for fitting losses.) For other equivalent lengths, refer to the Carrier System Design Manual, Part 3, for line losses.

# Performance data (cont)



## COMBINATION RATINGS — ENGLISH

38AK007/40RM007 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	1800			2400			3000			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85	TC SHC kW	66.7 34.2 4.98	61.0 42.9 4.79	55.9 51.1 4.62	69.4 38.2 5.08	63.8 49.3 4.88	59.4 58.5 4.73	71.2 41.7 5.14	65.6 55.0 4.95	62.5 62.5 4.84
95	TC SHC kW	63.8 33.2 5.33	58.2 41.7 5.11	53.2 49.7 2.94	66.4 37.1 5.43	60.8 48.1 5.21	56.8 56.6 5.05	68.0 40.7 5.49	62.6 53.8 5.28	60.0 60.0 5.18
100	TC SHC kW	62.3 32.6 5.49	56.7 41.1 5.26	51.9 36.6 5.06	64.8 47.5 5.37	59.3 55.5 5.21	55.5 50.2 5.21	66.3 40.2 5.66	61.0 53.1 5.43	58.7 58.7 5.34
105	TC SHC kW	60.7 32.0 5.65	55.2 40.5 5.41	50.5 36.0 5.20	63.1 46.9 5.76	57.7 54.2 5.52	54.2 53.6 5.36	64.6 39.6 5.83	59.4 52.4 5.59	57.4 57.4 5.50
115	TC SHC kW	57.4 30.8 5.96	52.0 39.3 5.69	47.6 46.6 5.47	59.6 45.5 6.08	54.3 51.5 5.81	51.5 51.5 5.67	61.0 38.4 6.15	56.0 51.0 5.89	54.5 54.5 5.81
125	TC SHC kW	53.9 29.6 6.25	48.6 37.9 5.95	44.8 44.6 5.73	55.9 33.5 6.37	50.8 44.1 6.08	48.7 48.7 5.96	57.2 37.2 6.45	52.4 49.2 6.17	51.5 51.5 6.12

38AK007/40RM008 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	2250			3000			3750			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85	TC SHC kW	74.7 40.5 5.30	68.6 52.0 5.09	63.7 62.1 4.93	77.2 45.6 5.38	71.3 60.2 5.18	68.3 68.3 5.08	78.8 50.4 5.44	73.2 67.2 5.25	71.7 71.7 5.20
95	TC SHC kW	71.4 39.3 5.66	65.4 50.7 5.43	60.9 60.3 5.26	73.8 44.4 5.75	68.0 58.8 5.53	65.5 65.5 5.43	75.2 49.2 5.81	69.9 65.6 5.60	68.8 68.8 5.56
100	TC SHC kW	69.7 38.7 5.84	63.8 50.0 5.59	59.4 59.2 5.41	72.0 43.8 5.93	66.3 58.1 5.70	64.1 64.1 5.61	73.4 48.6 5.99	68.2 64.7 5.77	67.3 67.3 5.74
105	TC SHC kW	67.9 38.1 6.01	62.1 49.3 5.75	58.0 58.0 5.58	70.1 43.2 6.11	64.5 57.3 5.86	62.6 62.6 5.78	71.4 48.0 6.17	66.4 63.8 5.94	65.7 65.7 5.91
115	TC SHC kW	64.1 36.8 6.34	58.4 47.9 6.06	55.1 55.1 5.89	66.1 42.0 6.45	60.8 55.7 6.18	59.5 59.5 6.11	67.4 46.7 6.50	62.7 61.6 6.26	62.4 62.4 6.25
125	TC SHC kW	60.2 35.4 6.65	54.7 46.4 6.34	52.1 52.1 6.19	62.0 40.6 6.75	57.0 53.9 6.47	56.2 56.2 6.42	63.1 45.4 6.82	59.0 58.9 6.58	58.9 58.9 6.58

### LEGEND

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

### NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. SHC is based on 80 F db air entering indoor coil.

38AK008/40RM007 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	1800			2400			3000			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85	TC SHC kW	77.0 38.0 5.78	71.1 46.8 5.63	65.5 55.5 5.48	80.5 41.8 5.88	74.5 53.1 5.72	69.2 63.7 5.58	82.7 45.3 5.93	76.7 58.9 5.77	71.9 70.3 5.65
95	TC SHC kW	74.2 36.9 6.28	68.5 45.7 6.12	63.0 54.2 5.97	77.5 40.7 6.38	71.7 51.9 6.21	66.6 62.4 6.06	79.6 44.2 6.43	73.8 57.7 6.27	69.3 68.6 6.14
100	TC SHC kW	72.7 36.3 6.54	67. 45.1 6.37	61.8 53.6 6.22	75.9 40.2 6.64	70.2 51.3 6.32	65.2 61.6 6.32	77.9 43.7 6.69	72.2 57.1 6.52	67.9 67.5 6.39
105	TC SHC kW	71.2 35.7 6.80	65.6 44.4 6.63	60.4 52.9 6.48	74.2 39.6 6.90	68.6 50.7 6.72	63.8 60.8 6.58	76.2 43.1 6.96	70.5 56.4 6.78	66.5 66.4 6.66
115	TC SHC kW	67.8 34.4 7.33	62.5 43.1 7.16	57.6 51.5 7.02	70.6 38.2 7.43	65.2 49.3 7.25	60.8 59.1 7.12	72.4 41.7 7.49	67.0 55.0 7.31	63.6 63.6 7.20
125	TC SHC kW	64.3 33.1 7.89	59.2 41.8 7.72	54.6 50.0 7.57	66.8 36.9 7.98	61.7 47.9 7.81	57.7 57.1 7.67	68.4 40.4 8.04	63.3 53.4 7.86	60.6 60.6 7.77

38AK008/40RM008 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	2250			3000			3750			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85	TC SHC kW	83.8 43.0 5.92	77.5 54.3 5.76	71.9 65.1 5.61	86.8 62.2 6.00	80.6 74.5 5.84	75.8 52.4 5.71	88.8 69.4 6.06	82.7 79.2 5.89	79.2 79.2 5.80
95	TC SHC kW	80.7 41.9 6.43	74.6 53.1 6.25	69.1 63.7 6.10	83.6 46.7 6.51	77.5 61.0 6.33	73.0 52.5 6.21	85.4 51.2 6.57	79.5 68.1 6.39	76.6 76.6 6.31
100	TC SHC kW	79.0 41.2 6.68	73.0 52.4 6.51	67.7 63.0 6.35	81.8 46.1 6.77	75.8 60.3 6.59	71.5 50.6 6.46	83.6 50.6 6.82	77.7 67.3 6.65	75.1 75.1 6.57
105	TC SHC kW	77.2 40.6 6.95	71.3 51.7 6.76	66.2 62.2 6.61	79.9 45.5 7.03	74.0 59.6 6.85	70.1 50.0 6.73	81.6 50.0 6.73	75.9 66.6 6.91	73.6 73.6 6.83
115	TC SHC kW	73.5 39.3 7.48	67.8 50.3 7.30	63.1 60.5 7.15	75.9 44.1 7.57	70.3 58.1 7.38	67.0 57.2 7.27	77.5 48.6 7.62	72.0 64.8 7.43	70.3 70.3 7.38
125	TC SHC kW	69.4 37.8 8.03	64.1 48.8 7.84	59.8 58.5 7.70	71.6 42.6 8.12	66.4 56.5 7.93	63.8 63.8 7.84	73.0 47.1 8.17	68.0 63.0 7.98	66.8 66.8 7.94

### 3. Formulas:

$$\text{Ldb F} = \text{Edb F} - \frac{\text{SHCBtuh}}{1.10 \times \text{cfm}}$$

Lwb = wet-bulb temperature corresponding to enthalpy air leaving indoor coil (hlwb)

$$\text{Ldb F: hlwb} = \text{hewb} - \frac{\text{TCBtuh}}{4.5 \times \text{cfm}}$$

where hewb = enthalpy of air entering evaporator coil (Btuh/lb).

4. Capacities are based on 25 actual ft (40 equivalent ft) of interconnecting piping sized to the outdoor unit field connections. (Equivalent length is equal to the actual length plus a 50% allowance for fitting losses.) For other equivalent lengths, refer to the Carrier System Design Manual, Part 3, for line losses.



## COMBINATION RATINGS — ENGLISH (cont)

**38AK008/40RM012 WITH STANDARD 3-ROW COIL**

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	3000			4000			5000			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85	TC SHC kW	93.2 51.8 6.72	86.6 67.4 6.54	81.6 80.7 6.40	95.7 58.5 6.79	89.4 77.9 6.62	86.8 64.6 6.54	97.3 86.4 6.84	91.5 90.4 6.67	90.4 90.4 6.64
95	TC SHC kW	89.7 50.6 7.29	83.3 66.1 7.09	78.7 78.5 6.96	92.1 57.2 7.36	86.0 76.4 7.18	83.8 63.3 7.11	93.5 84.6 7.40	88.0 87.3 7.24	87.3 87.3 7.21
100	TC SHC kW	87.8 49.9 7.58	81.4 65.4 7.38	77.2 77.1 7.24	90.1 56.5 7.65	84.1 75.6 7.46	82.2 62.7 7.40	91.5 83.6 7.70	86.2 85.6 7.53	85.6 85.6 7.51
105	TC SHC kW	85.8 49.2 7.87	79.6 64.6 7.67	75.6 75.6 7.54	88.0 55.9 7.95	82.2 74.7 7.75	80.5 62.0 7.70	89.3 82.3 7.99	84.2 83.8 7.82	83.8 83.8 7.81
115	TC SHC kW	81.5 47.7 8.46	75.5 63.0 8.25	72.3 72.3 8.15	83.5 54.4 8.54	78.0 72.8 8.35	76.9 60.5 8.31	84.7 79.5 8.58	80.1 79.5 8.42	79.9 79.9 8.41
125	TC SHC kW	76.9 46.2 9.08	71.3 61.3 8.87	68.8 68.8 8.78	78.6 52.8 9.15	73.7 70.6 8.96	73.0 63.0 8.94	79.8 58.9 9.19	75.8 75.8 9.04	75.8 75.8 9.04

**38AKS008/40RM007 WITH STANDARD 3-ROW COIL**

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	1800			2400			3000			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85	TC SHC kW	82.6 41.5 5.55	76.3 50.9 5.40	69.4 65.1 5.23	86.5 45.9 5.64	80.3 59.7 5.49	73.4 73.4 5.33	88.8 51.6 5.69	83.1 66.2 5.56	76.5 76.5 5.40
95	TC SHC kW	79.1 40.0 6.07	73.1 49.6 5.88	66.6 62.8 5.67	82.7 44.5 6.18	76.7 58.3 5.99	70.4 70.4 5.79	84.8 64.8 6.25	79.4 64.8 5.08	73.4 73.4 5.89
100	TC SHC kW	77.2 39.2 6.32	71.4 49.0 6.11	65.1 61.6 5.88	80.7 43.8 6.45	74.9 57.5 6.24	68.9 68.8 6.02	82.7 49.6 6.52	77.4 64.0 6.33	71.8 71.8 6.13
105	TC SHC kW	75.4 38.5 6.57	69.6 48.3 6.35	63.5 60.3 6.11	78.7 43.0 6.69	73.0 56.8 6.47	67.3 67.2 6.25	80.6 48.9 6.77	75.5 63.3 6.57	70.2 70.2 6.37
115	TC SHC kW	71.6 36.8 7.05	66.1 47.0 6.79	60.3 57.7 6.51	74.7 41.5 7.20	69.2 55.3 6.94	64.0 64.0 6.68	76.4 47.5 7.29	71.6 61.8 7.05	66.9 66.9 6.82
125	TC SHC kW	67.6 35.1 7.57	62.4 45.5 7.27	57.1 55.0 6.95	70.4 39.9 7.74	65.2 53.7 7.43	60.6 60.6 7.16	— — —	67.4 60.3 7.56	63.4 63.5 7.32

### LEGEND

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

### NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. SHC is based on 80 F db air entering indoor coil.

**38AKS008/40RM008 WITH STANDARD 3-ROW COIL**

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	2250			3000			3750			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85	TC SHC kW	89.3 46.0 5.70	82.5 58.8 5.54	75.7 73.1 5.38	92.2 53.7 5.77	86.3 67.9 5.63	80.2 80.2 5.49	94.4 66.2 5.83	89.0 76.6 5.70	83.6 83.6 5.57
95	TC SHC kW	85.3 44.3 6.26	78.8 57.2 6.06	72.4 70.2 5.86	87.8 52.3 6.34	82.3 66.2 6.17	76.7 76.7 5.99	89.8 75.1 6.41	84.8 74.9 6.26	80.0 80.0 6.10
100	TC SHC kW	83.2 43.5 6.54	76.9 56.4 6.31	70.7 68.7 6.08	85.6 51.5 6.63	80.2 65.3 6.53	74.9 74.9 6.24	87.5 56.3 6.70	82.7 74.1 6.52	78.1 78.1 6.36
105	TC SHC kW	81.2 42.7 6.79	75.0 55.6 6.55	68.9 67.2 6.32	83.4 50.8 6.87	78.2 64.4 6.67	73.1 73.1 6.48	85.3 55.5 6.95	80.6 73.2 6.77	76.3 76.3 6.60
115	TC SHC kW	77.0 40.9 7.31	71.0 53.8 7.03	65.3 64.1 6.75	78.9 49.3 7.41	73.9 62.6 7.17	69.4 69.4 6.95	80.6 53.9 7.49	76.2 71.5 7.28	72.5 72.5 7.10
125	TC SHC kW	72.5 39.1 7.86	66.9 52.0 7.53	61.6 60.9 7.22	74.1 47.7 7.96	69.5 47.7 7.68	65.5 65.5 7.45	75.6 52.1 7.45	71.6 69.6 8.05	68.5 68.5 7.81

**38AKS008/40RM012 WITH STANDARD 3-ROW COIL**

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	3000			4000			5000			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85	TC SHC kW	97.3 52.8 5.89	90.2 70.9 5.73	83.8 82.8 5.57	— — —	93.6 81.4 5.81	88.7 88.7 5.69	101.6 69.8 6.00	95.5 94.1 5.85	93.0 93.0 5.79
95	TC SHC kW	92.7 50.9 6.50	85.9 69.1 6.28	79.9 79.6 6.09	— — —	89.0 79.3 6.38	84.7 84.7 6.24	96.5 86.0 6.62	90.7 89.2 6.43	88.9 88.9 6.38
100	TC SHC kW	— — —	83.7 68.2 6.56	77.9 77.9 6.35	— — —	86.7 78.2 6.67	82.6 82.6 6.52	93.9 91.1 6.93	88.3 86.7 6.72	86.7 86.7 6.67
105	TC SHC kW	— — —	81.6 67.2 6.80	75.9 76.3 6.59	— — —	84.5 77.2 6.91	80.5 80.5 6.76	91.5 86.3 7.18	85.9 90.2 6.97	84.7 84.7 6.92
115	TC SHC kW	— — —	77.1 65.3 7.32	71.8 72.8 7.06	— — —	79.3 75.0 7.45	76.3 76.3 7.28	— — —	— — —	— — —
125	TC SHC kW	— — —	72.4 63.3 7.86	67.5 69.3 7.57	— — —	— — —	— — —	— — —	— — —	— — —

### 3. Formulas:

$$Ldb F = Edb F - \frac{SHCBtu}{1.10 \times cfm}$$

Lwb = wet-bulb temperature corresponding to enthalpy air leaving indoor coil (h<sub>wb</sub>)

$$Ldb F: h_{wb} = h_{ewb} - \frac{TCBtu}{4.5 \times cfm}$$

where h<sub>ewb</sub> = enthalpy of air entering evaporator coil (Btuh/lb).

4. Capacities are based on 25 actual ft (40 equivalent ft) of interconnecting piping sized to the outdoor unit field connections. (Equivalent length is equal to the actual length plus a 50% allowance for fitting losses.) For other equivalent lengths, refer to the Carrier System Design Manual, Part 3, for line losses.

# Performance data (cont)



## COMBINATION RATINGS — ENGLISH (cont)

### 38AKS009/40RM008 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	2250			3000			3750			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85	TC SHC kW	102.7 51.5 7.62	94.9 64.2 7.33	86.7 82.5 7.03	107.0 58.7 7.77	99.9 73.6 7.51	91.7 91.6 7.21	109.9 64.1 7.88	103.2 82.3 7.63	95.4 95.4 7.35
95	TC SHC kW	98.2 49.7 8.24	90.5 62.3 7.92	82.5 78.9 7.58	102.2 57.0 8.41	95.3 71.6 8.12	87.5 87.5 7.79	104.9 8.53	98.5 80.4 8.25	91.2 91.2 7.95
100	TC SHC kW	95.7 48.6 8.56	88.3 61.4 8.20	80.7 77.3 7.84	99.3 56.1 8.73	92.7 70.6 8.42	85.5 85.5 8.07	101.9 61.3 8.85	95.8 79.3 8.56	89.1 89.1 8.24
105	TC SHC kW	93.2 47.6 8.86	96.0 60.4 8.49	78.7 75.6 8.11	96.6 55.2 9.03	90.2 69.5 8.71	83.4 83.4 8.35	99.0 91.6 9.16	93.2 78.3 8.86	86.9 86.9 8.54
115	TC SHC kW	88.2 45.6 9.46	81.3 58.3 9.04	74.5 72.0 8.63	91.2 53.4 9.63	85.2 67.4 9.27	79.0 79.0 8.90	93.4 58.3 9.77	87.9 76.2 9.44	82.5 82.5 9.11
125	TC SHC kW	— — —	76.5 56.2 9.63	70.1 68.2 9.17	— — —	80.0 65.2 9.87	74.5 74.5 9.48	— — —	82.6 74.0 10.05	77.8 77.8 9.72

### 38AKS009/40RM012 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	3000			4000			5000			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85	TC SHC kW	113.0 59.2 7.99	104.8 77.2 7.69	96.9 93.7 7.40	116.9 67.1 8.14	109.2 88.5 7.85	102.4 102.4 7.60	119.1 100.8 8.22	111.8 106.9 7.95	106.9 106.9 7.77
95	TC SHC kW	108.1 57.2 8.66	99.9 75.1 8.32	92.3 89.9 7.99	111.8 65.1 8.81	104.2 86.2 8.49	97.8 97.8 8.22	— — —	106.7 98.7 8.60	102.4 102.4 8.42
100	TC SHC kW	105.0 55.9 9.00	97.2 73.9 8.63	89.9 87.9 8.28	108.4 63.8 9.16	101.2 84.8 8.82	95.2 95.2 8.54	— — —	103.4 97.4 8.93	99.8 99.7 8.75
105	TC SHC kW	102.1 54.7 9.32	94.5 72.8 8.93	87.5 85.9 8.57	105.2 62.6 9.48	98.3 83.5 9.12	92.7 92.7 8.83	— — —	100.4 96.1 9.23	97.2 97.2 9.07
115	TC SHC kW	96.4 52.4 9.95	89.1 70.5 9.51	82.6 81.9 9.12	— — —	92.6 80.9 9.72	87.7 87.7 9.42	— — —	94.5 93.7 9.83	92.1 92.1 9.69
125	TC SHC kW	— — —	83.6 68.1 10.13	77.6 77.7 9.70	— — —	86.8 78.2 10.35	82.5 82.5 10.05	— — —	88.4 91.3 10.47	86.8 86.8 10.36

#### LEGEND

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

#### NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. SHC is based on 80 F db air entering indoor coil.

### 38AK012/40RM008 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	2250			3000			3750			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85	TC SHC kW	105 51.5 7.12	96.9 63.5 6.88	89.7 75.1 6.67	110 56.9 7.27	102 72.4 7.02	94.9 87.3 6.81	112 62.2 7.36	105 80.9 7.12	98.8 97.3 6.93
95	TC SHC kW	101 50.1 7.68	93.5 61.9 7.43	86.6 73.6 7.22	106 55.6 7.82	98.0 70.9 7.57	91.6 85.6 7.37	108 60.8 7.92	101 79.4 7.67	95.5 95.0 7.49
100	TC SHC kW	99.3 49.3 7.97	91.8 61.2 7.73	85.1 72.8 7.52	104 54.8 8.11	96.1 70.2 7.86	89.8 84.7 8.20	106 60.0 8.20	98.9 78.6 7.95	93.8 93.7 7.78
105	TC SHC kW	97.4 48.6 8.27	90.0 60.4 8.03	83.3 54.0 7.83	101 59.3 8.41	94.1 69.3 8.16	88.0 83.8 8.50	104 59.3 7.97	96.8 77.7 8.25	92.0 92.0 8.09
115	TC SHC kW	93.2 47.0 8.89	86.1 58.7 8.66	79.7 70.2 8.47	96.9 52.4 9.02	89.8 67.6 8.78	84.2 81.7 8.60	99.2 57.6 9.10	92.3 75.9 8.86	88.3 88.3 8.73
125	TC SHC kW	88.6 45.3 9.54	82.0 57.0 9.32	76.0 68.4 9.15	92.0 50.7 9.66	85.3 65.8 9.44	80.3 79.3 9.27	94.1 55.9 9.74	87.7 74.1 9.51	84.5 84.5 9.41

### 38AK012/40RM012 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	3000			4000			5000			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85	TC SHC kW	112 58.2 8.50	104 74.0 8.22	96.9 89.1 7.98	116 65.2 8.64	108 85.4 8.36	102 102 8.16	118 72.0 8.73	110 95.8 8.45	107 107 8.33
95	TC SHC kW	108 56.7 9.15	100 72.4 8.86	93.5 63.8 8.62	111 83.8 9.29	104 83.8 9.00	98.9 98.9 8.82	114 70.6 9.37	106 94.1 9.09	104 104 8.99
100	TC SHC kW	106 56.0 9.49	98.1 71.6 9.20	91.8 86.5 8.96	109 63.0 9.63	102 83.0 9.34	97.2 97.2 9.16	111 69.8 9.71	104 93.2 9.43	102 102 9.34
105	TC SHC kW	104 55.2 9.84	96.1 70.8 9.55	89.9 85.5 9.32	107 62.3 9.97	99.5 82.1 9.68	95.4 95.4 9.51	109 80.0 10.0	102 92.2 9.77	99.9 99.9 9.69
115	TC SHC kW	99.0 53.5 10.6	91.8 69.1 10.3	86.0 83.4 10.1	102 60.6 10.7	95.0 80.3 10.4	91.6 91.6 10.3	104 67.3 10.8	97.3 90.1 10.5	95.8 95.8 10.4
125	TC SHC kW	94.0 51.8 11.3	87.2 67.3 11.0	82.1 81.0 10.9	96.6 58.8 11.4	90.2 78.3 11.2	87.5 87.5 11.0	98.3 65.5 11.5	92.3 87.7 11.2	91.4 91.4 11.2

#### 3. Formulas:

$$\text{Ldb F} = \text{Edb F} - \frac{\text{SHCBtuh}}{1.10 \times \text{cfm}}$$

Lwb = wet-bulb temperature corresponding to enthalpy air leaving indoor coil (hlwb)

$$\text{Ldb F: hlwb} = \text{hewb} - \frac{\text{TCBtuh}}{4.5 \times \text{cfm}}$$

where hewb = enthalpy of air entering evaporator coil (Btuh/lb).

4. Capacities are based on 25 actual ft (40 equivalent ft) of interconnecting piping sized to the outdoor unit field connections. (Equivalent length is equal to the actual length plus a 50% allowance for fitting losses.) For other equivalent lengths, refer to the Carrier System Design Manual, Part 3, for line losses.



## COMBINATION RATINGS — ENGLISH (cont)

### 38AK012/40RM014 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	3750			5000			6250			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85 TC SHC kW	117 63.9 7.18	109 82.7 6.94	102 99.4 7.18	120 71.8 7.28	112 95.3 7.04	108 6.92	122 79.3 7.34	115 106 7.11	113 113 7.05	
95 TC SHC kW	113 62.5 7.72	105 81.2 7.48	98.6 97.1 7.30	116 70.4 7.82	108 93.6 7.58	105 7.47	118 77.8 7.88	111 104 7.66	109 109 7.61	
100 TC SHC kW	111 61.6 8.01	103 80.3 7.76	96.8 95.9 7.59	114 69.6 8.10	106 92.7 7.86	103 7.77	116 77.0 8.16	108 103 7.94	107 107 8.90	
105 TC SHC kW	108 60.8 8.30	101 79.4 8.05	94.9 94.5 7.88	111 68.8 8.39	104 91.7 8.15	101 8.06	113 76.2 8.45	106 102 8.23	105 105 8.20	
115 TC SHC kW	103 59.1 8.90	96.0 77.6 8.66	91.1 91.1 8.52	106 67.0 8.99	98.9 89.6 8.76	96.8 96.8 8.69	108 74.4 9.04	101 98.9 8.83	101 101 8.81	
125 TC SHC kW	98.2 57.3 9.53	91.3 75.7 9.31	87.3 87.3 9.20	101 65.3 9.623	94.1 87.3 9.40	92.6 92.6 9.35	102 72.6 9.66	96.4 95.6 9.47	96.2 96.2 9.47	

### 38AKS012/40RM008 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	2250			3000			3750			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85 TC SHC kW	101.9 51.2 7.59	93.8 63.8 7.31	85.5 81.4 7.03	106.3 58.4 7.73	99.0 73.2 7.49	90.6 90.6 7.20	109.3 63.8 7.84	102.4 81.9 7.60	94.4 94.4 7.33	
95 TC SHC kW	97.1 49.2 8.23	89.6 61.9 7.91	81.9 78.4 7.58	100.9 56.6 8.39	94.2 71.2 8.11	86.7 61.8 7.79	103.5 85.1 8.51	97.3 79.9 8.24	90.4 90.4 7.94	
100 TC SHC kW	94.7 48.2 8.54	87.4 61.0 8.20	79.9 76.6 7.84	98.2 55.7 8.71	91.7 70.2 8.40	84.6 84.6 8.07	— — —	94.8 78.9 8.54	88.2 88.2 8.24	
105 TC SHC kW	92.3 47.2 8.86	85.1 60.0 8.48	77.8 74.9 8.11	95.6 54.9 9.03	89.3 69.1 8.70	82.5 82.5 8.35	— — —	92.2 77.9 8.85	86.1 86.1 8.53	
115 TC SHC kW	87.4 45.2 9.45	80.5 58.0 9.04	73.7 71.3 8.64	90.3 53.1 9.62	84.3 67.0 9.26	78.3 78.3 8.91	— — —	87.1 75.8 9.43	81.7 81.7 9.11	
125 TC SHC kW	— — —	75.9 55.9 9.57	69.4 67.7 9.13	— — —	79.3 64.9 9.81	73.8 73.8 9.43	— — —	— — —	77.2 77.2 9.67	

### 38AKS012/40RM012 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	3000			4000			5000			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85 TC SHC kW	112.5 59.0 7.95	104.0 76.8 7.66	95.8 92.9 7.38	116.5 67.0 8.08	108.5 88.2 7.81	101.5 101.5 7.57	118.8 75.7 8.16	111.2 100.5 7.90	106.2 106.2 7.73	
95 TC SHC kW	106.6 56.6 8.64	98.7 74.6 8.30	91.3 89.1 7.98	110.1 64.5 8.79	102.8 85.6 8.47	96.7 96.7 8.21	— — —	105.1 98.1 8.57	101.2 101.2 8.41	
100 TC SHC kW	103.8 55.5 8.97	96.1 73.5 8.61	89.4 87.1 8.27	107.1 63.4 9.13	100.0 84.3 8.79	94.2 94.2 8.52	— — —	102.2 96.9 8.90	98.7 98.7 8.73	
105 TC SHC kW	101.1 54.3 9.31	93.5 72.4 8.92	86.6 85.1 8.56	— — —	97.2 83.0 9.11	91.8 91.8 8.83	— — —	99.3 95.7 9.22	96.2 96.2 9.06	
115 TC SHC kW	95.5 52.1 9.92	88.3 70.1 9.50	81.8 81.2 9.11	— — —	91.7 80.5 9.70	86.8 86.8 9.41	— — —	93.6 93.3 9.81	91.3 91.3 9.67	
125 TC SHC kW	— — —	— — —	— — —	— — —	— — —	— — —	— — —	— — —	— — —	

#### LEGEND

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

### 38AKS012/40RM014 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	3750			5000			6250			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85 TC SHC kW	118.3 66.1 8.14	108.5 85.6 7.81	101.8 100.6 7.58	121.8 75.6 8.26	113.1 101.3 7.97	108.0 108.0 7.79	— — —	115.9 113.7 8.06	113.0 113.0 7.96	
95 TC SHC kW	111.8 63.6 8.86	102.7 82.9 8.47	96.7 96.3 8.21	— — —	106.8 98.6 8.64	102.6 102.6 8.47	— — —	109.3 110.6 8.75	107.3 107.3 8.67	
100 TC SHC kW	108.8 62.5 9.21	99.9 81.6 8.79	94.2 94.2 8.52	— — —	103.8 97.4 8.97	100.0 100.0 8.79	— — —	106.3 109.2 9.09	104.6 104.6 9.01	
105 TC SHC kW	105.8 61.3 9.55	97.0 80.3 9.10	91.6 92.0 8.82	— — —	100.9 96.1 9.30	97.3 97.3 9.12	— — —	103.2 107.8 9.42	101.9 101.9 9.35	
115 TC SHC kW	— — 9.68	91.4 77.7 9.40	86.6 87.7 9.40	— — —	95.0 93.6 9.89	92.1 92.1 9.72	— — —	97.2 105.0 10.02	96.4 96.4 9.81	
125 TC SHC kW	— — —	— — —	— — —	— — —	89.0 91.0 10.49	86.7 86.7 10.32	— — —	— — —	— — —	

### 38AKS013/40RM008 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	2250			3000			3750			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85 TC SHC kW	103.5 51.9 7.82	95.9 64.7 7.56	88.0 83.6 7.30	107.7 58.9 7.96	100.9 74.0 7.73	92.8 92.8 7.46	110.5 64.3 8.05	104.1 82.6 7.84	96.4 96.4 7.58	
95 TC SHC kW	99.0 50.0 8.50	91.5 62.8 8.25	83.7 79.9 7.99	102.8 57.3 8.63	96.1 72.0 8.40	88.5 88.5 8.15	105.5 62.5 8.72	99.2 80.7 8.51	92.2 92.2 8.27	
100 TC SHC kW	97.0 49.2 8.81	89.5 61.9 8.48	81.9 78.4 8.14	100.7 56.6 8.98	94.1 71.1 8.68	86.7 86.7 8.35	103.4 61.8 9.09	97.2 79.9 8.82	90.3 90.3 8.51	
105 TC SHC kW	94.8 48.3 9.13	87.4 61.0 8.77	79.9 76.6 8.41	98.4 55.8 9.30	91.8 70.2 8.98	84.7 84.7 8.64	101.0 60.9 9.42	94.9 78.9 9.13	88.3 88.3 8.81	
115 TC SHC kW	90.5 46.5 9.78	83.1 59.1 9.37	75.8 73.1 8.97	93.7 54.2 9.96	87.3 68.3 9.61	80.6 80.6 9.23	96.2 59.3 10.10	90.3 77.1 9.77	84.2 84.2 9.44	
125 TC SHC kW	85.6 44.5 10.47	78.9 57.3 9.97	72.3 70.1 9.47	88.3 52.4 10.67	76.7 66.3 10.24	76.7 76.7 9.81	90.4 57.3 10.24	85.2 75.1 10.44	80.1 80.1 10.06	

NOTES:  
 1. Direct interpolation is permissible. Do not extrapolate.

2. SHC is based on 80 F db air entering indoor coil.

3. Formulas:

$$\text{Ldb F} = \text{Edb F} - \frac{\text{SHCBtuh}}{1.10 \times \text{cfm}}$$

Ldb = wet-bulb temperature corresponding to enthalpy air leaving indoor coil (h|lwb)

$$\text{Ldb F: } h|lwb = h|ewb - \frac{\text{TCBtuh}}{4.5 \times \text{cfm}}$$

where hewb = enthalpy of air entering evaporator coil (Btuh/lb).

4. Capacities are based on 25 actual ft (40 equivalent ft) of interconnecting piping sized to the outdoor unit field connections. (Equivalent length is equal to the actual length plus a 50% allowance for fitting losses.) For other equivalent lengths, refer to the Carrier System Design Manual, Part 3, for line losses.

# Performance data (cont)



## COMBINATION RATINGS — ENGLISH (cont)

38AKS013/40RM012 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	3000			4000			5000		
	Evaporator Air — Ewb (F)								
	72	67	62	72	67	62	72	67	62
85 TC SHC kW	113.5 59.4 8.15	105.6 77.5 7.89	97.9 94.6 7.63	117.3 67.3 8.28	109.9 88.8 8.03	103.2 75.9 8.35	119.4 101.0 8.11	112.4 107.6 7.95	107.6 107.6 7.95
95 TC SHC kW	108.5 57.4 8.82	100.7 75.4 8.56	93.2 65.3 8.31	112.1 86.5 8.94	104.8 98.6 8.69	98.6 74.1 8.49	114.1 98.9 9.00	107.2 103.0 8.77	103.0 103.0 8.63
100 TC SHC kW	106.4 56.5 9.23	98.6 74.5 8.88	91.2 64.4 8.56	109.8 85.5 9.38	102.6 96.6 9.06	96.6 73.3 8.79	111.8 94.9 9.47	104.9 101.1 9.16	101.1 101.1 8.99
105 TC SHC kW	104.0 55.6 9.57	96.2 73.5 9.19	89.0 63.4 8.85	107.4 87.2 9.73	100.2 84.4 9.38	94.3 72.4 9.10	109.3 98.2 9.82	102.4 97.0 9.49	98.9 98.9 9.32
115 TC SHC kW	99.3 53.6 10.27	91.6 71.5 9.84	84.6 83.5 9.45	102.4 61.5 10.45	95.3 82.2 10.05	89.9 70.6 9.75	104.2 70.6 10.54	97.4 94.9 10.17	94.5 94.5 10.01
125 TC SHC kW	93.3 51.2 11.05	86.3 69.3 10.52	80.1 79.7 10.06	95.9 59.0 11.24	89.6 85.0 10.77	85.0 79.5 10.42	97.4 68.3 11.35	91.3 92.4 10.90	89.3 89.3 10.75

38AKS013/40RM014 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	3750			5000			6250		
	Evaporator Air — Ewb (F)								
	72	67	62	72	67	62	72	67	62
85 TC SHC kW	118.9 66.4 8.33	109.9 86.3 8.03	103.5 102.1 7.82	122.2 75.8 8.44	114.1 101.8 8.17	109.3 109.3 8.01	124.6 85.8 8.52	116.8 114.1 8.26	114.0 114.0 8.17
95 TC SHC kW	113.7 64.4 8.99	104.7 83.9 8.69	98.7 98.0 8.49	116.8 73.8 9.09	108.8 99.5 8.83	104.5 104.5 8.68	119.1 83.9 9.17	111.4 91.6 8.91	109.1 109.1 8.84
100 TC SHC kW	111.5 63.5 9.46	102.5 82.8 9.05	96.6 96.2 8.79	114.5 102.4 9.59	106.6 98.5 9.24	102.4 102.4 9.05	116.8 83.1 9.69	109.1 110.5 9.35	107.1 107.1 9.26
105 TC SHC kW	109.0 62.6 9.81	100.0 81.7 9.38	94.3 94.3 9.10	111.9 72.0 9.95	104.0 97.4 9.57	100.1 100.1 9.38	114.2 82.2 10.06	106.5 109.3 9.69	104.8 104.8 9.60
115 TC SHC kW	104.1 60.6 10.54	95.1 79.4 10.04	89.7 89.7 9.74	106.8 70.1 10.69	99.0 95.3 10.26	95.5 80.4 10.06	109.0 108.1 10.81	101.4 106.9 10.39	100.2 100.2 10.32
125 TC SHC kW	97.4 58.1 11.36	89.2 76.7 10.74	84.7 84.6 10.40	99.7 84.6 11.53	92.7 76.6 11.00	90.0 90.0 10.80	101.6 77.9 11.67	94.8 103.8 11.16	94.3 94.3 11.12

38AKS014/40RM012 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	3000			4000			5000		
	Evaporator Air — Ewb (F)								
	72	67	62	72	67	62	72	67	62
85 TC SHC kW	129.3 65.9 9.51	119.5 83.5 9.18	109.5 104.2 8.85	134.9 74.0 9.70	125.4 95.9 9.38	115.9 115.9 9.06	138.2 82.4 9.81	129.1 107.8 9.50	120.8 120.8 9.23
95 TC SHC kW	123.5 63.5 10.42	114.3 81.3 10.00	105.1 100.6 9.58	128.4 71.5 10.65	119.6 93.3 10.25	111.1 111.1 9.86	131.3 80.0 10.78	122.9 105.3 10.40	115.9 115.9 10.08
100 TC SHC kW	120.8 62.4 10.78	111.6 80.1 10.37	102.6 98.5 9.95	125.6 70.5 11.00	116.9 92.0 10.60	108.6 102.3 10.23	128.4 79.0 11.13	120.1 104.1 10.75	113.5 113.5 10.45
105 TC SHC kW	118.1 61.3 11.19	109.1 79.1 10.74	100.4 96.7 10.30	122.6 69.3 11.41	114.1 90.8 10.99	106.3 86.3 10.60	125.2 77.9 11.55	117.2 103.0 11.14	111.1 111.1 10.84
115 TC SHC kW	112.5 59.0 12.03	104.0 76.8 11.52	95.8 92.9 11.03	116.5 67.0 12.27	108.5 88.2 11.79	101.5 101.5 11.37	118.8 75.7 12.41	111.2 100.5 11.95	106.2 106.2 11.65
125 TC SHC kW	— — —	98.6 76.8 12.37	91.2 89.0 11.80	— — —	102.6 85.5 12.68	96.6 96.6 12.21	— — —	104.9 98.0 12.86	101.1 101.1 12.56

### LEGEND

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

38AKS014/40RM014 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	3750			5000			6250		
	Evaporator Air — Ewb (F)								
	72	67	62	72	67	62	72	67	62
85 TC SHC kW	136.9 73.3 9.76	125.9 93.6 9.40	116.7 109.3 9.09	141.7 83.0 9.92	131.4 109.2 9.58	123.8 123.8 10.44	145.1 92.8 10.04	135.1 122.6 9.70	129.4 129.4 9.51
95 TC SHC kW	130.3 70.7 10.73	119.9 90.0 10.26	111.7 109.1 9.89	134.5 80.3 10.92	125.0 106.4 10.49	118.4 118.4 11.19	137.6 90.2 11.06	128.3 119.5 10.64	123.7 123.7 10.43
100 TC SHC kW	127.5 69.7 11.09	117.1 89.6 10.61	110.9 106.9 10.25	131.6 105.2 11.27	122.1 105.2 10.84	115.8 115.8 10.56	134.6 89.2 11.41	125.4 118.1 10.99	121.1 121.1 10.80
105 TC SHC kW	124.5 68.5 11.51	114.3 88.3 11.00	106.8 84.8 10.62	128.4 103.9 11.70	119.2 103.9 11.24	113.3 113.3 10.95	131.3 88.1 11.85	122.3 116.7 11.40	118.5 118.5 11.21
115 TC SHC kW	118.3 66.1 12.38	108.5 85.6 11.79	101.8 100.6 11.39	121.8 103.9 12.59	113.1 101.3 12.06	108.0 108.0 11.76	124.4 85.7 12.74	115.9 113.7 12.24	113.0 113.0 12.06
125 TC SHC kW	— — —	102.5 82.8 12.67	96.6 96.6 12.21	— — —	106.6 98.5 12.99	102.4 102.4 12.67	— — —	— — —	— — —

38AKS014/40RM016 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	4500			6000			7500		
	Evaporator Air — Ewb (F)								
	72	67	62	72	67	62	72	67	62
85 TC SHC kW	145.0 82.7 10.03	135.2 105.8 9.71	125.7 124.6 9.12	148.7 120.8 9.89	140.7 132.9 9.63	132.9 102.9 10.28	152.5 135.5 10.00	144.1 138.9 9.83	138.9 138.9 9.83
95 TC SHC kW	137.4 80.0 11.06	128.4 102.8 10.65	119.8 119.4 10.26	140.6 126.4 11.20	133.4 126.4 10.87	126.4 123.6 10.56	144.0 99.9 11.36	136.4 131.7 11.01	132.1 132.1 10.81
100 TC SHC kW	134.4 79.0 11.40	125.5 101.5 11.00	117.1 116.9 11.00	137.5 126.6 11.98	130.4 115.8 11.64	123.6 123.6 11.31	140.9 98.7 12.14	133.4 130.2 11.78	129.2 129.2 11.59
105 TC SHC kW	131.0 77.8 11.83	122.5 100.1 11.41	114.3 114.3 11.00	133.9 85.6 11.98	127.1 120.6 11.64	120.6 120.6 11.31	137.1 97.4 12.14	129.9 128.5 11.78	126.1 126.1 11.59
115 TC SHC kW	124.0 75.3 12.72	116.2 97.3 11.80	108.6 108.6 12.23	126.5 82.8 12.87	120.4 111.0 12.50	114.5 114.5 12.15	145.5 — —	123.0 125.0 12.66	119.8 119.8 12.47
125 TC SHC kW	— — —	— — —	— — —	— — —	— — —	— — —	— — —	— — —	— — —

### NOTES:

1. Direct interpolation is permissible. Do not extrapolate.

2. SHC is based on 80 F db air entering indoor coil.

3. Formulas:

$$\text{Ldb F} = \text{Edb F} - \frac{\text{SHC} \text{BtuH}}{1.10 \times \text{cfm}}$$

Lwb = wet-bulb temperature corresponding to enthalpy air leaving indoor coil (hwb)

$$\text{Ldb F: h$$



## COMBINATION RATINGS — ENGLISH (cont)

**38AKS016/40RM014 WITH STANDARD 3-ROW COIL**

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	3750			5000			6250		
	Evaporator Air — Ewb (F)								
	72	67	62	72	67	62	72	67	62
85 TC SHC kW	158.9 81.7 13.65	146.6 103.2 12.95	134.6 128.5 12.27	165.3 91.6 14.02	153.4 118.6 13.34	142.4 142.4 12.71	169.6 101.2 14.26	157.9 133.3 13.59	148.5 148.5 13.06
95 TC SHC kW	151.9 79.0 14.67	140.2 100.2 13.95	129.3 124.0 13.28	157.6 88.8 15.02	146.4 115.6 14.33	136.7 136.7 13.74	161.5 97.2 15.26	150.6 128.2 14.59	142.6 142.6 14.10
100 TC SHC kW	148.5 77.7 15.17	136.9 98.7 14.58	126.3 121.4 15.52	154.1 87.5 14.83	143.0 114.1 14.26	133.7 133.7 15.75	158.0 97.2 15.08	147.1 128.2 14.62	139.5 139.5 14.62
105 TC SHC kW	145.0 76.4 15.62	133.5 97.1 14.86	123.4 119.0 15.97	150.3 86.1 15.26	139.4 112.6 14.68	130.6 130.6 16.21	154.0 95.9 15.51	143.4 126.5 15.51	136.4 136.4 15.06
115 TC SHC kW	137.6 73.5 16.55	126.5 93.9 15.72	117.4 113.9 15.03	— — —	132.1 109.5 16.14	124.4 124.4 15.56	— — —	135.8 123.0 16.41	130.0 130.0 15.97
125 TC SHC kW	— — —	116.6 89.4 16.46	109.7 107.4 15.77	— — —	120.9 104.7 16.89	115.5 115.5 16.35	— — —	— — —	— — —

**38AKS016/40RM016 WITH STANDARD 3-ROW COIL**

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	4500			6000			7500		
	Evaporator Air — Ewb (F)								
	72	67	62	72	67	62	72	67	62
85 TC SHC kW	170.0 91.5 14.28	157.8 115.9 13.59	146.2 142.6 12.93	175.3 101.1 14.59	164.9 132.6 13.99	154.7 154.7 13.41	179.8 112.7 14.85	169.3 148.2 14.25	161.3 161.3 13.79
95 TC SHC kW	161.7 88.6 15.28	150.5 112.7 14.59	139.9 137.0 13.93	166.4 97.8 15.56	157.0 128.7 14.98	147.8 147.8 14.42	170.6 109.4 15.82	161.0 144.0 15.23	154.1 154.1 14.81
100 TC SHC kW	158.1 87.3 15.76	147.1 111.1 15.08	136.8 134.1 14.44	162.6 96.4 16.04	153.4 127.0 15.47	144.4 144.4 14.92	166.8 108.0 16.30	157.3 142.2 15.71	150.7 150.7 15.31
105 TC SHC kW	154.1 85.9 16.22	143.4 109.5 15.52	133.2 131.2 14.85	158.3 94.7 16.50	149.4 125.1 15.91	140.9 140.9 15.35	162.4 106.4 16.76	153.2 140.1 16.16	147.1 147.1 15.76
115 TC SHC kW	— — —	135.9 106.1 16.41	126.4 125.2 15.71	— — —	141.4 121.2 16.83	133.6 133.6 16.24	— — —	— — —	— — —
125 TC SHC kW	— — —	— — —	116.6 116.5 16.46	— — —	— — —	— — —	— — —	— — —	— — —

**38AKS016/40RM024 WITH STANDARD 3-ROW COIL**

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	6000			8000			10,000		
	Evaporator Air — Ewb (F)								
	72	67	62	72	67	62	72	67	62
85 TC SHC kW	183.5 104.1 15.06	170.7 140.0 14.33	160.5 159.8 13.74	188.9 120.1 15.37	176.0 162.7 14.63	169.9 169.9 14.28	190.6 133.8 15.46	181.1 182.5 14.92	177.5 177.5 14.71
95 TC SHC kW	174.1 100.6 16.04	162.1 156.5 15.30	153.0 153.0 14.74	179.0 116.5 16.34	166.8 158.9 15.59	161.9 161.9 15.29	180.2 130.2 16.41	171.6 178.2 15.88	169.1 169.1 15.73
100 TC SHC kW	170.3 99.1 16.51	158.4 135.0 15.78	149.5 149.4 15.23	175.0 115.1 16.80	163.0 157.2 16.06	158.4 158.4 15.78	176.2 128.8 16.87	167.7 176.4 16.35	165.6 165.6 16.22
105 TC SHC kW	165.7 97.4 16.99	154.2 133.3 15.67	145.7 145.6 17.29	170.3 113.3 16.51	158.5 155.4 16.51	154.4 154.4 16.24	171.3 127.0 17.35	163.2 174.4 16.82	161.5 161.5 16.70
115 TC SHC kW	— — —	145.6 129.7 17.14	137.9 137.9 16.57	— — —	— — —	146.3 146.3 17.20	— — —	— — —	— — —
125 TC SHC kW	— — —	— — —	— — —	— — —	— — —	— — —	— — —	— — —	— — —

### LEGEND

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

**38AKS024/40RM016 WITH STANDARD 3-ROW COIL**

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	4500			6000			7500		
	Evaporator Air — Ewb (F)								
	72	67	62	72	67	62	72	67	62
85 TC SHC kW	212.9 106.7 16.07	194.5 132.4 15.37	177.5 170.1 14.72	222.6 164.4 15.18	205.8 152.4 15.80	189.5 189.5 15.18	229.4 130.4 16.70	213.0 170.0 15.51	198.0 198.0 15.51
95 TC SHC kW	203.4 103.3 17.33	186.1 128.6 16.56	170.1 163.6 15.83	212.2 114.9 17.73	196.6 147.9 17.03	181.5 181.5 16.35	218.7 126.5 18.02	203.3 165.1 17.33	189.7 189.7 16.72
100 TC SHC kW	198.7 101.7 17.96	181.2 126.4 17.21	165.0 113.2 16.52	207.5 145.6 17.66	191.7 145.6 17.01	176.6 176.6 18.62	214.1 124.9 18.62	198.5 162.7 17.37	185.1 185.1 17.37
105 TC SHC kW	197.1 101.1 18.15	179.9 125.8 17.37	164.0 112.5 16.65	205.7 144.9 18.54	190.2 144.9 17.84	175.4 175.3 17.17	212.3 124.2 18.83	196.9 161.9 18.83	183.8 183.8 17.55
115 TC SHC kW	194.0 100.0 18.55	177.2 124.7 17.71	161.7 111.2 16.94	202.2 143.4 18.96	187.2 143.4 18.21	172.9 172.9 17.49	208.5 122.9 19.28	193.6 160.3 18.53	181.1 181.1 17.91
125 TC SHC kW	183.3 99.6 19.75	168.2 120.6 18.75	154.1 119.6 18.81	190.4 138.6 20.23	177.1 138.5 19.34	164.4 164.3 18.49	196.1 118.5 20.61	182.8 154.9 20.72	172.1 172.1 19.01

**38AKS024/40RM024 WITH STANDARD 3-ROW COIL**

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	6000			8000			10,000		
	Evaporator Air — Ewb (F)								
	72	67	62	72	67	62	72	67	62
85 TC SHC kW	234.3 123.5 16.89	216.1 158.7 16.19	199.2 139.5 15.55	243.5 139.8 17.24	225.4 183.6 16.55	211.3 211.3 16.01	248.0 206.1 17.14	232.6 206.1 16.82	221.1 221.1 16.39
95 TC SHC kW	223.4 119.3 18.23	206.1 154.5 17.45	190.4 135.6 16.75	231.2 179.0 18.61	202.2 179.0 17.83	197.6 178.2 17.28	235.8 149.7 18.79	225.1 201.0 18.15	211.7 211.7 17.71
100 TC SHC kW	218.0 117.7 18.83	201.1 152.5 18.06	185.4 131.4 17.39	227.6 194.3 19.20	209.7 177.0 18.43	197.6 177.0 17.91	231.4 148.2 19.36	216.8 198.9 18.74	207.4 207.4 18.33
105 TC SHC kW	217.1 116.9 19.05	199.5 151.8 18.26	184.1 133.3 17.56	225.5 176.2 19.43	207.9 196.1 18.64	196.1 196.1 18.11	229.3 147.4 18.90	214.9 198.0 18.95	205.8 205.8 18.54
115 TC SHC kW	213.2 115.5 19.51	196.1 150.4 18.65	181.3 131.8 17.91	221.4 174.6 19.92	204.2 193.1 19.06	193.1 193.1 18.50	224.8 145.9 20.09	211.0 196.2 19.40	202.6 202.6 18.98
125 TC SHC kW	200.5 110.6 20.90	184.8 145.8 19.85	171.8 126.8 18.98	207.6 169.6 11.37	191.8 169.4 20.32	182.8 169.4 19.72	210.3 140.7 21.55	198.1 190.3 20.74	191.7 191.7 20.32

### NOTES:

1. Direct interpolation is permissible. Do not extrapolate.

# Performance data (cont)



## COMBINATION RATINGS — ENGLISH (cont)

### 38AKS024/40RM028 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	7500			10,000			12,500			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85	TC SHC kW	250.6 139.5 17.51	229.7 181.8 16.71	215.7 213.8 16.18	259.1 159.6 17.83	238.4 212.6 17.04	229.3 229.3 16.70	263.2 179.4 17.99	246.6 240.0 17.36	240.5 240.5 17.12
95	TC SHC kW	238.6 135.0 18.92	218.2 177.2 18.00	205.9 204.8 17.45	246.5 155.2 19.27	226.4 207.7 19.37	219.2 179.0 18.04	250.1 175.0 19.43	234.4 234.6 18.73	230.1 230.1 18.53
100	TC SHC kW	234.5 133.5 19.49	213.3 175.2 18.58	201.2 200.5 18.06	242.6 153.8 19.84	221.6 205.7 18.94	214.9 214.9 18.65	246.1 173.7 19.99	230.0 232.7 19.30	226.1 226.1 19.13
105	TC SHC kW	232.4 132.7 19.74	211.3 174.4 18.79	240.3 153.0 20.10	219.5 204.9 19.16	213.2 213.2 18.87	212.9 172.9 20.26	243.7 231.7 19.54	227.8 224.3 19.38	224.3 224.3 19.38
115	TC SHC kW	228.0 131.1 20.25	207.4 172.8 19.22	196.3 196.0 18.66	235.6 151.3 20.63	215.3 203.1 19.61	209.6 209.6 19.33	238.8 171.3 20.79	223.4 229.8 20.02	220.5 220.5 18.99
125	TC SHC kW	— — —	194.3 167.5 20.48	185.2 185.2 19.88	— — —	201.4 197.4 20.96	197.8 197.8 20.72	— — —	— — —	208.0 208.0 21.40

### 38AKS028/40RM024 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	6000			8000			10,000			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85	TC SHC kW	276.7 139.7 21.72	254.2 174.3 19.69	231.0 221.2 22.28	289.4 156.4 21.30	267.4 201.3 20.31	245.0 171.3 22.62	297.0 171.3 21.70	276.2 226.0 20.81	256.3 256.3 20.81
95	TC SHC kW	265.3 135.3 23.45	244.1 170.1 22.43	222.8 214.1 21.41	279.6 196.9 24.00	256.1 236.3 23.00	236.3 166.5 22.05	283.6 166.5 24.32	264.4 220.6 23.41	247.1 247.1 22.57
100	TC SHC kW	259.0 132.9 24.28	238.0 167.6 23.18	217.3 209.2 21.11	270.4 149.5 24.87	249.7 193.8 23.79	230.7 230.7 23.79	276.7 164.1 22.81	258.0 217.6 22.42	241.6 241.6 23.37
105	TC SHC kW	253.0 130.6 25.03	232.6 165.4 23.85	212.8 205.4 22.69	263.8 147.1 25.66	243.7 191.3 24.49	226.0 161.6 23.46	269.7 161.6 26.01	251.7 214.8 24.96	236.6 236.6 24.08
115	TC SHC kW	240.9 126.0 26.63	222.0 161.1 25.34	204.1 197.7 24.11	250.7 142.4 27.29	231.9 186.3 26.01	216.6 216.6 24.97	255.6 156.7 27.63	239.4 209.2 26.52	226.7 226.7 25.65
125	TC SHC kW	— — —	210.5 156.4 26.82	193.6 188.6 25.59	— — —	219.8 181.2 27.50	206.1 206.1 26.50	— — —	— — —	216.1 216.1 27.23

### 38AKS028/40RM028 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	7500			10,000			12,500			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85	TC SHC kW	298.5 157.1 22.69	274.6 200.0 21.63	252.4 247.5 20.64	310.3 177.6 23.21	286.1 232.2 22.14	267.8 267.8 21.32	316.9 197.8 23.51	295.7 261.4 22.56	280.8 280.8 21.90
95	TC SHC kW	285.4 152.2 24.41	262.5 195.1 23.31	242.8 238.6 22.36	296.2 172.6 24.93	273.1 257.5 23.82	257.5 192.3 23.07	302.0 156.7 25.21	282.2 255.5 24.26	270.0 270.0 23.67
100	TC SHC kW	278.8 149.8 25.31	255.7 192.4 24.10	236.9 233.2 23.13	289.3 224.0 25.85	266.2 251.7 24.65	251.7 190.0 23.90	294.9 164.1 26.14	275.3 252.5 25.13	264.2 264.2 24.55
105	TC SHC kW	271.9 147.3 26.13	249.3 189.8 24.82	231.7 228.5 23.79	281.9 167.6 26.72	259.3 221.2 24.64	246.2 187.4 24.64	287.1 156.7 27.02	268.2 249.4 25.92	258.4 258.4 25.35
115	TC SHC kW	258.1 142.2 27.80	236.6 184.7 26.33	221.4 219.0 25.30	267.2 162.4 28.41	245.8 215.6 26.96	235.3 182.2 26.24	271.6 167.6 28.72	254.2 244.4 27.53	246.9 246.9 27.03
125	TC SHC kW	— — —	224.0 179.5 27.80	210.2 208.8 26.80	— — —	224.3 224.3 27.82	— — —	— — —	— — —	— — —

#### LEGEND

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

### 38AKS028/40RM034 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	9000			12,000			15,000			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85	TC SHC kW	317.8 172.3 23.55	291.3 224.7 21.51	271.9 199.4 20.42	328.5 268.2 22.88	302.8 261.6 22.27	289.0 221.4 24.28	334.2 252.7 23.33	312.9 221.4 22.88	302.9 302.9 22.88
95	TC SHC kW	302.9 166.7 25.25	277.5 219.2 24.03	260.7 194.0 23.22	312.6 255.7 24.54	277.0 227.0 24.01	317.6 215.9 25.95	297.8 288.5 25.01	290.3 284.0 24.64	290.3 284.0 24.64
100	TC SHC kW	295.9 164.0 26.20	270.3 216.4 24.86	254.3 191.5 24.03	305.4 252.8 26.69	280.8 249.7 25.41	270.7 213.4 24.89	310.1 285.3 26.93	290.5 284.0 25.58	290.5 284.0 25.58
105	TC SHC kW	288.2 161.1 27.08	263.1 213.5 25.62	248.3 196.8 24.76	297.1 249.7 25.21	273.2 249.7 25.70	264.4 210.5 25.70	301.5 281.8 26.76	282.6 277.3 26.45	282.6 277.3 26.45
115	TC SHC kW	— — —	248.9 207.9 27.17	236.5 236.1 26.32	— — —	258.1 243.6 27.80	251.7 251.7 27.36	— — —	— — —	263.9 263.9 28.20
125	TC SHC kW	— — —	— — —	224.6 224.5 27.84	— — —	— — —	— — —	— — —	— — —	— — —

### 38AKS034/40RM028 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	7500			10,000			12,500			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85	TC SHC kW	322.9 166.0 24.75	298.4 209.6 23.82	272.1 186.7 22.82	336.1 242.5 25.25	311.1 242.5 24.30	287.8 206.3 23.42	344.0 272.4 25.55	321.0 301.3 24.68	301.3 301.3 23.93
95	TC SHC kW	310.6 161.5 26.56	286.4 204.7 25.44	262.1 182.1 24.31	323.0 237.3 27.14	298.4 277.6 26.00	277.7 201.8 25.03	330.3 266.8 27.48	298.1 291.0 26.45	291.0 291.0 25.65
100	TC SHC kW	304.2 159.1 27.51	279.9 202.1 26.29	256.5 179.8 25.12	316.5 234.5 28.12	291.8 227.1 26.89	272.1 199.5 26.90	323.5 263.9 27.38	301.5 285.4 26.57	301.5 285.4 26.57
105	TC SHC kW	297.9 156.8 28.38	274.0 199.7 27.06	251.9 177.4 25.83	309.6 247.0 29.03	285.5 267.2 27.69	267.2 197.1 26.68	316.2 29.40 27.68	295.0 280.3 28.22	280.3 280.3 27.40
115	TC SHC kW	284.2 151.8 30.02	260.4 194.4 28.57	204.7 173.2 27.34	295.2 226.2 30.70	271.5 255.9 29.34	255.9 202.1 28.28	301.2 192.1 31.06	280.9 254.9 29.82	268.6 268.6 29.06
125	TC SHC kW	271.2								

**COMBINATION RATINGS — ENGLISH (cont)**
**38AKS034/40RM034 WITH STANDARD 3-ROW COIL**

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	9000			12,000			15,000			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85	TC SHC kW	344.6 182.5 25.57	317.4 235.1 24.55	294.0 288.2 23.65	256.9 209.0 26.04	330.1 272.7 25.02	311.5 231.3 24.32	363.8 307.3 26.30	340.6 326.0 25.42	326.0 326.0 24.87
95	TC SHC kW	331.0 177.3 27.51	304.2 229.8 26.27	282.8 278.1 25.27	342.5 204.1 28.05	316.2 267.1 26.82	300.1 300.1 26.08	348.8 226.3 28.34	326.6 314.3 27.31	314.3 314.3 26.74
100	TC SHC kW	324.3 174.8 28.51	297.3 227.1 27.16	276.8 272.6 26.14	335.5 201.7 29.08	309.2 264.2 27.76	294.1 294.1 27.00	341.6 223.9 29.38	319.6 298.0 28.28	308.3 308.3 27.72
105	TC SHC kW	317.1 172.0 29.45	290.6 224.4 27.98	271.3 267.7 26.91	327.8 199.1 30.05	302.1 261.4 28.62	288.4 288.4 27.85	333.5 221.2 30.36	312.2 294.8 29.18	302.3 302.3 28.63
115	TC SHC kW	302.2 166.4 31.12	276.0 218.6 29.51	258.9 256.4 28.46	312.1 193.8 31.74	286.9 255.2 30.19	275.7 275.6 29.49	317.2 215.7 32.05	296.8 288.0 30.80	289.3 289.3 30.33
125	TC SHC kW	288.3 161.1 32.83	261.8 213.0 30.99	246.5 245.1 29.93	— — —	272.5 249.4 31.73	263.3 263.3 31.10	— — —	282.5 281.7 32.43	276.9 276.9 32.04

**38AKS044/40RM034 WITH STANDARD 3-ROW COIL**

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	9000			12,000			15,000			
	Evaporator Air — Ewb (F)									
	72	67	62	72	67	62	72	67	62	
85	TC SHC kW	413.7 208.7 32.85	382.6 260.9 31.60	344.5 334.0 30.08	432.1 234.4 33.58	399.8 300.7 32.29	364.9 364.9 30.89	443.5 257.8 34.04	412.4 338.8 32.80	382.2 382.2 31.59
95	TC SHC kW	399.2 203.2 35.19	368.7 255.4 33.74	333.6 324.2 32.08	416.4 229.1 36.00	384.9 294.7 34.51	353.6 353.6 33.03	426.9 252.3 36.50	397.2 332.2 35.10	370.5 370.5 33.83
100	TC SHC kW	391.8 200.4 36.36	361.5 252.5 34.80	328.0 319.0 33.08	408.3 226.4 37.21	377.3 291.7 35.61	347.7 347.7 34.09	418.3 249.4 37.72	389.4 328.7 36.24	364.4 364.4 34.95
105	TC SHC kW	384.2 197.5 37.55	354.1 249.6 35.88	322.2 313.8 34.11	400.1 223.6 38.44	369.5 288.5 36.74	341.7 341.7 35.20	409.6 246.5 38.97	381.5 325.2 37.41	358.2 358.2 36.11
115	TC SHC kW	368.5 191.5 39.77	339.0 243.6 37.95	310.2 302.9 36.17	383.1 217.8 40.68	353.5 282.1 38.85	329.2 329.2 37.35	391.7 240.6 41.21	365.1 318.1 39.57	345.2 345.2 38.33
125	TC SHC kW	352.6 185.5 41.94	323.3 237.4 39.90	297.2 291.1 38.08	366.4 212.2 42.91	337.2 275.5 40.87	316.0 316.0 39.39	374.3 234.8 43.45	348.7 310.8 41.67	331.7 331.7 40.48

**LEGEND**

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

1. Direct interpolation is permissible. Do not extrapolate.  
 2. SHC is based on 80 F db air entering indoor coil.  
 3. Formulas:

$$Ldb\ F = Edb\ F - \frac{SHC\ Btu\ h}{1.10 \times cfm}$$

Lwb = wet-bulb temperature corresponding to enthalpy air leaving indoor coil (hwb)

$$Ldb\ F: hwb = hewb - \frac{TC\ Btu\ h}{4.5 \times cfm}$$

where hewb = enthalpy of air entering evaporator coil (Btuh/lb).

4. Capacities are based on 25 actual ft (40 equivalent ft) of interconnecting piping sized to the outdoor unit field connections. (Equivalent length is equal to the actual length plus a 50% allowance for fitting losses.) For other equivalent lengths, refer to the Carrier System Design Manual, Part 3, for line losses.

# Performance data (cont)



## COMBINATION RATINGS — 4-ROW HIGH-CAPACITY COILS — SI

### 38AK007/40RM007 WITH 4-ROW HIGH-CAPACITY COILS

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	850			1130			1420			
	Evaporator Air — Ewb (C)									
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	18.1 16.3 4.93	19.7 13.6 5.16	21.5 10.7 5.40	19.0 15.6 5.06	20.6 12.0 5.29	22.4 20.1 5.53	20.1 17.5 5.21	21.2 13.2 5.37	23.0 13.2 5.61
35	TC SHC kW	17.2 15.9 5.19	18.8 13.2 5.45	20.5 10.4 5.72	18.2 15.2 5.35	19.6 11.6 5.58	21.4 19.5 5.85	19.5 17.1 5.69	20.2 12.8 5.67	22.0 12.8 5.94
38	TC SHC kW	16.7 15.6 5.31	18.3 13.0 5.59	20.0 10.2 5.87	17.8 15.0 5.49	19.1 11.5 5.72	20.9 18.8 6.00	18.8 16.9 5.67	19.7 12.6 5.82	21.4 12.6 6.09
41	TC SHC kW	16.3 15.4 5.44	17.8 12.8 5.73	19.5 10.0 6.02	17.4 14.8 5.64	18.6 11.3 5.87	20.3 18.4 6.16	18.4 16.7 5.82	19.2 12.4 5.96	20.8 12.4 6.25
46	TC SHC kW	15.4 14.9 5.69	16.8 12.4 5.99	18.5 9.6 6.31	16.5 16.5 5.93	17.6 14.4 6.14	19.2 10.9 6.46	17.5 17.5 6.12	18.0 16.2 6.23	19.6 12.0 6.55

### 38AK008/40RM008 WITH 4-ROW HIGH-CAPACITY COILS

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1060			1420			1770			
	Evaporator Air — Ewb (C)									
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	23.2 20.7 6.18	25.2 17.2 6.36	27.3 13.5 6.55	24.4 23.8 6.28	26.3 19.7 6.47	28.4 15.1 6.66	25.5 25.5 6.39	27.0 22.0 6.53	29.1 16.5 6.72
35	TC SHC kW	22.3 20.2 6.68	24.2 16.8 6.86	26.2 13.2 7.06	23.4 23.4 6.77	25.2 19.3 6.96	27.2 14.7 7.17	24.6 24.6 7.42	25.9 21.6 7.24	27.9 16.1 7.49
38	TC SHC kW	21.8 20.0 6.93	23.7 16.6 7.11	25.7 12.9 7.31	22.9 22.9 7.03	24.6 19.1 7.21	26.6 14.5 7.42	24.1 24.1 7.15	25.3 21.4 7.28	27.3 15.9 7.49
41	TC SHC kW	21.3 19.7 7.19	23.1 16.3 7.37	25.1 12.7 7.57	22.4 22.4 7.29	24.0 18.8 7.46	26.0 14.3 7.67	23.6 23.6 7.41	24.7 21.1 7.53	26.6 15.7 7.74
46	TC SHC kW	20.2 19.3 7.73	22.0 15.9 7.91	23.8 12.3 8.12	21.5 21.5 7.86	22.8 18.4 8.01	24.7 13.8 8.21	22.6 22.6 7.97	23.4 20.6 8.08	25.2 15.2 8.29

### 38AK007/40RM008 WITH 4-ROW HIGH-CAPACITY COILS

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1060			1420			1770			
	Evaporator Air — Ewb (C)									
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	19.3 18.7 5.11	21.0 15.5 5.35	22.9 12.0 5.60	20.6 20.6 5.29	21.8 13.6 5.47	23.7 21.7 5.72	22.4 20.2 5.43	24.2 15.0 5.54	24.2 15.0 5.79
35	TC SHC kW	18.3 18.3 5.39	20.0 15.1 5.65	21.8 11.6 5.61	19.8 19.8 5.77	20.8 17.6 6.05	22.6 20.8 5.77	20.8 19.7 5.85	21.3 14.6 6.12	23.1 14.6 6.12
38	TC SHC kW	17.9 17.9 5.53	19.5 14.9 5.79	21.3 11.5 6.08	19.4 19.4 5.77	20.3 13.0 5.92	22.0 20.4 6.21	20.4 19.5 5.93	20.7 14.4 5.99	22.5 14.4 6.28
41	TC SHC kW	17.5 17.5 5.68	19.0 14.7 6.24	20.7 11.3 6.24	18.9 18.9 6.07	19.7 17.2 6.37	21.4 12.8 6.09	19.9 19.2 6.14	20.2 14.2 6.44	21.9 14.2 6.44
46	TC SHC kW	16.7 16.7 5.97	17.9 14.3 6.22	17.9 14.3 6.22	18.0 18.0 6.34	18.5 16.7 6.34	18.5 16.7 6.41	18.9 18.7 6.43	19.0 18.7 6.43	19.0 18.7 6.43

### 38AK008/40RM012 WITH 4-ROW HIGH-CAPACITY COILS

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1416			1888			2360			
	Evaporator Air — Ewb (C)									
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	25.6 25.5 6.44	27.2 15.8 6.58	29.4 27.3 6.59	27.3 24.1 6.67	28.1 17.8 6.86	28.5 28.5 6.71	28.8 27.0 6.73	30.7 19.7 6.91	30.7 19.7 6.91
35	TC SHC kW	24.7 24.7 6.96	26.1 20.4 7.08	28.1 15.4 7.29	26.3 26.3 7.11	27.0 17.4 7.17	28.9 27.4 7.37	27.4 27.4 7.22	27.6 26.4 7.23	29.4 19.3 7.42
38	TC SHC kW	24.2 24.2 7.20	25.5 20.2 7.33	27.5 15.2 7.55	25.8 25.8 7.37	26.3 23.4 7.42	28.2 17.2 7.62	26.8 26.2 7.47	27.0 26.2 7.49	28.7 19.1 7.67
41	TC SHC kW	23.7 23.7 7.47	24.9 20.0 7.59	26.8 15.0 7.81	25.2 25.2 7.63	25.2 23.1 7.68	25.7 16.9 7.87	25.5 26.2 7.74	26.2 25.8 7.75	28.0 18.9 7.92
46	TC SHC kW	22.6 22.6 8.03	23.6 19.5 8.14	25.4 14.5 8.36	24.1 24.1 8.19	24.1 23.1 8.22	25.7 16.9 8.42	25.0 26.2 8.30	25.0 25.8 8.30	26.4 18.4 8.46

### 38AK008/40RM007 WITH 4-ROW HIGH-CAPACITY COILS

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	850			1130			1420			
	Evaporator Air — Ewb (C)									
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	21.6 18.0 6.01	23.5 15.2 6.18	25.4 12.3 6.35	22.8 20.8 6.11	24.7 13.5 6.29	26.7 23.2 6.47	23.6 19.1 6.19	25.5 19.1 6.36	27.5 14.7 6.55
35	TC SHC kW	20.8 17.6 6.49	22.6 14.8 6.67	24.5 11.9 6.85	21.9 20.3 6.60	23.7 16.8 6.77	25.6 22.6 6.97	22.6 18.7 6.67	24.4 18.3 6.85	26.4 14.3 7.05
38	TC SHC kW	20.3 17.4 6.73	22.1 14.6 6.91	24.0 11.7 7.10	21.4 20.1 6.85	23.2 16.6 7.02	25.1 22.2 6.92	22.2 18.5 7.10	23.9 18.5 7.30	25.8 14.1 7.55
41	TC SHC kW	19.8 17.1 6.99	21.6 14.4 7.17	23.4 11.5 7.35	20.9 19.8 7.10	22.6 16.4 7.28	24.5 12.7 7.47	21.7 17.1 7.18	23.3 18.3 7.35	25.2 13.9 7.55
46	TC SHC kW	18.9 16.7 7.54	20.5 13.9 7.71	22.3 11.0 7.90	19.9 19.3 7.64	21.5 16.0 7.82	23.3 12.3 8.02	20.8 17.8 7.74	22.1 17.8 7.88	23.9 13.5 8.08

### 38AK012/40RM008 WITH 4-ROW HIGH-CAPACITY COILS

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1060			1420			1770			
	Evaporator Air — Ewb (C)									
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	27.5 22.7 7.78	29.9 19.1 8.04	32.5 15.3 8.32	29.1 26.3 7.95	31.5 21.7 8.22	34.1 16.9 8.51	30.2 29.4 8.07	32.6 24.2 8.34	35.1 18.5 8.63
35	TC SHC kW	26.6 22.2 8.40	28.9 18.6 8.66	31.3 14.8 8.95	28.0 25.8 8.56	30.3 21.2 8.83	32.8 16.5 9.13	29.0 29.0 8.68	31.3 23.7 8.95	33.8 18.0 9.25
38	TC SHC kW	26.1 22.0 8.73	28.3 18.4 8.98	30.7 14.6 9.27	27.4 25.5 8.87	29.7 19.1 9.14	32.1 16.2 9.44	28.4 28.4 9.00	30.6 23.4 9.26	33.1 17.7 9.56
41	TC SHC kW	25.5 21.8 9.05	27.9 18.2 9.41	30.1 14.4 9.59	26.9 25.2 9.20	29.1 20.7 9.46	31.4 16.0 9.76	27.9 27.9 9.32	30.0 23.2 9.58	32.4 17.5 9.88
46	TC SHC kW	24.4 21.2 9.77	26.5 17.6 10.00	28.7 13.8 10.27	25.7 20.2 9.92	27.7 15.6 10.16	30.3 15.6 10.71	26.8 26.8 10.03		



## COMBINATION RATINGS — 4-ROW HIGH-CAPACITY COILS — SI (cont)

**38AK012/40RM012 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1420			1890			2360			
	Evaporator Air — Ewb (C)									
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	30.9 28.1 7.92	33.2 23.1 8.18	35.9 17.9 8.47	32.5 26.4 8.10	34.4 20.0 8.32	37.1 33.4 8.62	33.4 29.7 7.55	35.3 22.0 8.41	37.9 22.0 8.70
35	TC SHC kW	29.7 27.5 8.53	31.9 22.6 8.77	34.5 17.4 9.08	31.4 26.0 8.71	33.0 19.5 8.90	35.6 32.9 9.21	32.9 29.1 8.89	33.9 21.5 9.00	36.4 21.5 9.30
38	TC SHC kW	29.1 27.2 8.83	31.3 22.3 9.08	33.8 17.2 9.38	30.8 20.8 9.03	32.3 25.7 9.20	34.8 19.2 9.51	32.3 32.3 9.20	33.1 28.9 9.30	35.6 21.2 9.60
41	TC SHC kW	28.5 26.9 9.14	30.6 22.0 9.39	33.0 16.9 9.69	30.4 25.4 9.47	31.6 18.9 9.50	34.0 31.6 9.81	31.6 28.5 9.51	32.4 28.5 9.60	34.7 20.9 9.90
46	TC SHC kW	27.2 26.3 9.83	29.1 21.5 10.05	31.9 16.5 10.63	29.0 24.8 10.04	30.1 18.4 10.17	32.3 30.3 10.46	30.3 27.9 10.20	30.8 27.9 10.27	33.0 20.4 10.54

**38AKS008/40RM008 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1060			1420			1770			
	Evaporator Air — Ewb (C)									
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	22.6 20.4 5.61	24.7 17.0 5.81	27.0 13.4 6.00	23.8 23.8 5.72	25.9 19.6 5.92	28.2 15.0 6.11	25.2 25.2 5.84	26.7 21.9 5.98	29.0 16.5 6.17
35	TC SHC kW	21.6 19.9 6.06	23.7 16.5 6.30	25.8 13.0 6.53	22.8 22.8 6.20	24.7 19.1 6.41	26.9 14.6 6.65	24.2 24.2 6.35	25.4 21.4 6.49	27.6 16.0 6.72
38	TC SHC kW	21.1 19.6 6.27	23.1 16.3 6.53	25.2 12.8 6.79	22.4 22.4 6.43	24.1 18.8 6.65	26.2 14.3 6.90	23.6 23.6 6.59	24.8 21.2 6.74	26.9 15.8 6.98
41	TC SHC kW	20.5 19.4 6.48	22.5 16.1 6.75	24.6 12.6 7.03	21.9 21.9 6.67	23.5 18.6 7.15	25.6 14.1 7.15	23.1 23.1 6.83	24.1 20.9 6.97	26.2 15.6 7.24
46	TC SHC kW	19.4 18.8 6.90	21.3 15.6 7.21	23.3 12.1 7.52	20.9 20.9 7.14	22.2 18.1 7.36	24.2 13.7 7.66	22.0 22.0 7.33	22.8 20.4 7.45	24.8 15.1 7.76

**38AK012/40RM014 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1770			2360			2950			
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	32.4 31.3 8.06	34.9 25.8 8.35	37.7 19.8 8.66	34.4 34.4 8.28	36.2 29.9 8.49	38.9 22.3 8.80	36.0 36.0 8.46	37.0 33.6 8.59	39.7 24.7 8.89
35	TC SHC kW	31.1 30.6 8.65	33.6 25.3 8.94	36.2 19.3 9.26	33.2 33.2 8.89	34.7 29.3 9.08	37.4 21.8 9.40	34.8 34.8 9.08	35.5 32.9 9.17	38.1 24.1 9.50
38	TC SHC kW	30.5 30.5 8.96	32.8 25.0 9.24	35.5 19.1 9.56	32.6 32.6 9.20	34.0 29.0 9.38	36.6 21.6 9.71	34.1 34.1 9.39	34.7 32.5 9.47	37.3 23.9 9.80
41	TC SHC kW	30.1 30.1 9.41	32.1 24.7 9.55	34.6 18.7 9.87	32.1 28.7 9.67	33.2 21.3 9.69	35.7 21.3 10.01	33.4 33.4 9.71	33.9 32.1 9.77	36.4 23.6 10.10
46	TC SHC kW	28.7 28.7 9.99	30.6 24.1 10.23	33.0 18.2 10.53	30.6 30.6 10.22	31.6 28.0 10.35	33.9 20.7 10.67	31.9 20.7 10.39	32.2 31.3 10.43	34.5 23.0 10.74

**38AKS008/40RM007 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	850			1130			1420			
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	20.9 17.7 5.40	23.0 14.9 5.60	25.1 12.1 5.79	22.2 20.4 5.53	24.2 17.0 5.72	26.4 13.4 5.90	23.0 23.0 5.61	25.1 19.0 5.80	27.2 14.6 5.98
35	TC SHC kW	20.0 17.2 5.82	21.9 14.5 6.06	24.0 11.7 6.29	21.2 20.0 5.97	23.1 16.6 6.20	25.2 13.0 6.42	22.1 22.1 6.07	23.9 18.5 6.28	26.0 14.2 6.51
38	TC SHC kW	19.5 17.0 6.02	21.4 14.3 6.28	23.4 11.5 6.53	20.7 19.7 6.18	22.6 16.4 6.43	24.6 12.8 6.67	21.6 21.6 6.30	23.3 18.3 6.51	25.4 14.0 6.76
41	TC SHC kW	19.1 16.8 6.22	20.9 14.1 6.49	22.9 11.2 6.76	20.2 19.5 6.38	22.0 16.2 6.65	24.0 12.5 6.91	21.1 21.1 6.52	22.7 18.1 6.74	24.7 13.7 7.00
46	TC SHC kW	18.1 16.3 6.63	19.8 13.6 6.93	21.7 10.8 7.23	19.1 19.1 6.79	20.8 15.7 7.09	22.7 12.1 7.40	20.2 20.2 6.99	21.5 17.6 7.20	23.4 13.3 7.49

**38AKS009/40RM008 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1060			1420			1770			
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	26.1 22.0 7.21	28.6 18.6 7.52	31.3 15.1 7.82	27.6 25.5 7.40	30.2 21.2 7.70	32.9 16.7 8.01	28.7 23.7 7.54	31.2 18.2 7.83	33.9 18.2 8.13
35	TC SHC kW	24.9 21.4 7.73	27.3 18.0 8.08	29.8 14.5 8.43	26.3 24.9 7.94	28.7 20.7 8.28	31.3 16.1 8.62	27.4 23.1 8.10	29.7 17.6 8.42	32.3 17.6 8.76
38	TC SHC kW	24.2 21.1 7.98	26.6 17.8 8.35	29.1 14.2 8.72	25.7 24.6 8.21	28.0 20.4 8.56	30.5 15.8 8.93	26.8 22.8 8.38	28.9 17.4 8.70	31.5 17.4 9.07
41	TC SHC kW	23.6 20.8 8.24	25.9 17.5 8.63	28.4 13.9 9.02	25.0 24.2 8.48	27.3 20.1 8.86	29.8 15.6 9.24	26.2 22.5 8.67	28.1 17.0 8.99	30.7 17.0 9.37
46	TC SHC kW	22.4 20.2 8.75	24.5 16.9 9.17	26.9 13.4 9.60	23.6 23.6 8.99	25.8 19.5 9.40	28.1 15.0 9.84	25.0 22.5 9.26	26.5 16.5 9.54	28.9 16.5 9.98

See Legend and Notes on page 57.

# Performance data (cont)



## COMBINATION RATINGS — 4-ROW HIGH-CAPACITY COILS — SI (cont)

### 38AKS009/40RM012 WITH 4-ROW HIGH-CAPACITY COILS

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1420			1890			2360			
	Evaporator Air — Ewb (C)									
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	29.1 27.2 7.75	31.5 22.5 8.04	34.3 17.4 8.36	31.0 31.0 7.97	32.7 25.8 8.17	35.6 19.5 8.49	32.6 32.6 8.17	33.7 28.9 8.27	36.4 21.5 8.57
35	TC SHC kW	27.7 26.5 8.30	30.0 21.8 8.62	32.7 16.9 8.99	29.7 25.2 8.58	31.1 18.9 8.76	33.8 31.2 9.12	31.2 28.3 8.78	32.0 20.9 8.89	34.6 20.9 9.22
38	TC SHC kW	27.0 26.2 8.58	29.2 16.6 8.91	31.9 29.0 9.30	29.0 24.9 8.88	30.3 18.6 9.06	32.9 30.5 9.44	30.5 28.0 9.10	31.2 29.0 9.20	33.6 20.6 9.54
41	TC SHC kW	26.4 25.8 8.87	28.4 21.2 9.20	31.0 16.3 9.61	28.3 24.6 9.19	28.5 18.3 9.37	32.0 29.8 9.76	29.8 27.6 9.42	30.4 27.6 9.51	32.7 20.3 9.86
46	TC SHC kW	25.1 25.1 9.43	26.8 20.6 9.75	29.3 15.7 10.20	27.0 23.9 9.78	27.9 17.7 9.95	30.2 28.3 10.36	28.3 26.9 10.03	28.7 26.9 10.09	30.9 19.7 10.48

### 38AKS012/40RM008 WITH 4-ROW HIGH-CAPACITY COILS

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1060			1420			1770			
	Evaporator Air — Ewb (C)									
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	26.1 22.0 7.21	28.6 18.6 7.52	31.3 15.1 7.82	27.6 25.5 7.40	30.2 21.2 7.70	32.9 16.7 8.01	28.7 28.7 7.54	31.2 23.7 7.83	33.9 18.2 8.13
35	TC SHC kW	24.9 21.4 7.73	27.3 18.0 8.08	29.8 14.5 8.43	26.3 24.9 7.94	28.7 20.7 8.28	31.3 16.1 8.62	27.4 27.4 8.10	29.7 23.1 8.42	32.3 17.6 8.76
38	TC SHC kW	24.2 21.1 7.98	26.6 17.8 8.35	29.1 14.2 8.72	25.7 24.6 8.21	28.0 20.4 8.56	30.5 15.8 8.93	26.8 26.8 8.38	28.9 22.8 8.70	31.5 17.4 9.07
41	TC SHC kW	23.6 20.8 8.24	25.9 17.5 8.63	28.4 13.9 9.02	25.0 24.2 8.48	27.3 20.1 8.86	29.8 15.6 9.24	26.2 26.2 8.67	28.1 22.5 8.99	30.7 17.0 9.37
46	TC SHC kW	22.4 20.2 8.75	24.5 16.9 9.17	26.9 13.4 9.60	23.6 23.6 8.99	23.6 19.5 9.40	25.8 15.0 9.84	28.1 25.0 9.26	25.0 21.9 9.54	28.9 16.5 9.98

### 38AKS012/40RM012 WITH 4-ROW HIGH-CAPACITY COILS

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1420			1890			2360			
	Evaporator Air — Ewb (C)									
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	29.1 27.2 7.75	31.5 22.5 8.04	34.3 17.4 8.36	31.0 31.0 7.97	32.7 25.8 8.17	35.6 19.5 8.49	32.6 32.6 8.17	33.7 28.9 8.27	36.4 21.5 8.57
35	TC SHC kW	27.7 26.5 8.30	30.0 21.8 8.62	32.7 16.9 8.99	29.7 25.2 8.58	31.1 18.9 8.76	33.8 28.3 8.12	31.2 28.3 8.78	32.0 20.9 8.89	34.6 20.9 9.22
38	TC SHC kW	27.0 26.2 8.58	29.2 16.6 8.91	31.9 29.0 8.88	29.0 24.9 9.06	30.3 18.6 9.44	32.9 30.5 9.10	30.5 28.0 9.20	31.2 29.0 9.54	33.6 20.6 9.54
41	TC SHC kW	26.4 25.8 8.87	28.4 21.2 9.20	31.0 16.3 9.61	28.3 24.6 9.19	29.5 18.3 9.37	32.0 27.4 9.76	29.8 27.6 9.42	30.4 27.6 9.51	32.7 20.3 9.86
46	TC SHC kW	25.1 25.1 9.43	26.8 20.6 9.75	29.3 15.7 10.20	27.0 23.9 9.78	27.9 17.7 9.95	30.2 28.3 10.36	28.3 26.9 10.03	28.7 26.9 10.09	30.9 19.7 10.48

See Legend and Notes on page 57.

### 38AKS012/40RM014 WITH 4-ROW HIGH-CAPACITY COILS

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s								
	1770			2360			2950		
	Evaporator Air — Ewb (C)								
	17	19	22	17	19	22	17	19	22
29	TC SHC kW	30.7 30.4 7.84	33.4 26.4 8.48	36.4 22.0 8.10	33.0 30.1 8.31	34.7 24.3 8.64	37.6 34.7 8.30	34.7 33.3 8.41	35.5 32.6 8.74
35	TC SHC kW	29.3 29.3 8.43	31.7 25.6 8.78	34.6 21.2 9.14	31.6 31.6 8.75	32.9 29.5 8.95	35.8 32.5 9.31	33.2 32.3 8.96	33.7 32.6 9.41
38	TC SHC kW	28.7 28.7 8.75	31.7 25.2 9.09	33.7 20.8 9.48	30.9 30.9 9.07	32.0 28.8 9.26	34.8 32.1 9.65	32.4 31.8 9.29	32.8 32.5 9.74
41	TC SHC kW	28.0 28.0 9.06	30.0 24.8 9.40	32.8 20.4 9.81	30.2 30.2 9.40	32.0 28.4 9.57	31.1 27.7 9.98	31.6 31.2 9.63	31.8 32.4 10.08
46	TC SHC kW	26.7 26.7 9.65	28.3 24.0 9.98	30.9 19.6 10.45	28.6 28.6 10.02	29.3 27.5 10.15	31.9 21.8 10.61	30.0 30.0 10.26	30.1 32.5 10.71

### 38AKS013/40RM008 WITH 4-ROW HIGH-CAPACITY COILS

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s								
	1060			1420			1770		
	Evaporator Air — Ewb (C)								
	17	19	22	17	19	22	17	19	22
29	TC SHC kW	27.1 22.5 6.81	29.7 19.1 7.06	32.5 15.6 7.30	28.8 21.8 6.97	31.5 21.8 7.21	34.3 29.1 7.45	29.9 24.2 7.08	32.6 18.8 7.31
35	TC SHC kW	25.8 21.9 7.37	28.4 18.5 7.66	31.1 15.0 7.95	27.4 21.4 7.55	30.0 21.2 7.83	32.7 28.5 8.12	28.5 23.6 7.67	33.9 18.2 7.95
38	TC SHC kW	25.2 21.6 7.64	27.7 18.2 7.96	30.3 16.4 8.26	26.7 21.4 8.24	29.2 20.9 8.14	31.9 27.8 8.44	27.8 23.3 7.97	30.2 17.9 8.26
41	TC SHC kW	24.5 21.3 7.90	27.0 17.9 8.24	29.6 14.4 8.57	26.0 20.6 8.11	28.5 20.6 8.44	31.1 27.2 8.76	27.2 23.0 8.26	32.1 17.6 8.55
46	TC SHC kW	23.2 20.6 8.44	25.5 20.0 8.82	28.0 24.0 9.19	24.6 20.0 8.66	26.9 15.5 9.03	29.4 25.9 9.40	25.9 22.3 8.87	27.7 17.0 9.15

### 38AKS013/40RM012 WITH 4-ROW HIGH-CAPACITY COILS

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s								
	1420			1890			2360		
	Evaporator Air — Ewb (C)								
	17	19	22	17	19	22	17	19	22
29	TC SHC kW	30.2 27.7 7.08	32.8 22.9 7.30	35.7 32.0 7.54	32.0 32.0 7.23	34.1 26.3 7.40	37.1 30.0 7.64	33.8 33.8 7.38	35.1 22.0 7.48
35	TC SHC kW	28.8 27.0 7.68	31.2 22.3 7.94	34.1 30.7 8.23	32.4 25.7 7.89	35.2 25.7 8.06	32.4 23.4 8.33	33.4 21.4 8.05	36.0 21.4 8.15
38	TC SHC kW	28.1 26.7 7.98	30.4 22.0 8.25	33.2 30.0 8.21	30.0 25.4 8.38	31.6 25.4 8.67	34.3 31.6 8.87	31.6 28.5 8.38	35.1 21.0 8.48
41	TC SHC kW	27.3 26.3 8.27	29.6 21.7 8.55	32.3 29.3 8.53	30.7 25.1 8.69	33.3 25.1 9.00	30.9 28.7 8.71	31.6 28.1 8.80	34.1 20.7 9.09
46	TC SHC kW	25.9 25.6 8.86	27.9 21.0 9.15	30.4 27.9 9.52	27.9 24.4 9.16	31.4 24.0 9.31	29.3 29.3 9.65	29.8 27.5 9.37	32.1 20.1 9.43



## COMBINATION RATINGS — 4-ROW HIGH-CAPACITY COILS — SI (cont)

**38AKS013/40RM014 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1770			2360			2950			
	Evaporator Air — Ewb (C)									
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	31.9 31.0 7.23	34.7 25.8 7.47	37.8 19.9 7.71	34.1 34.1 7.42	36.1 29.9 7.59	39.2 22.5 7.82	35.9 35.9 7.57	37.0 33.5 7.66	40.1 24.9 7.89
35	TC SHC kW	30.3 30.3 7.87	33.0 25.1 8.14	35.9 19.3 8.43	32.7 32.7 8.10	34.2 29.1 8.28	37.2 21.8 8.56	34.3 34.3 8.28	35.9 33.4 8.69	38.0 24.2 8.63
38	TC SHC kW	29.6 29.6 8.19	32.1 24.7 8.47	35.0 18.9 8.78	31.9 31.9 8.44	33.3 28.8 8.61	36.2 21.5 8.91	33.5 33.5 8.62	34.1 32.3 8.69	36.9 23.8 8.98
41	TC SHC kW	28.9 28.9 8.50	31.2 24.4 8.79	34.0 18.6 9.13	31.2 31.2 8.78	32.4 28.4 8.93	35.2 21.1 9.26	32.7 32.7 8.96	33.2 31.8 9.02	35.9 23.5 9.33
46	TC SHC kW	27.5 27.5 9.13	29.4 23.7 9.42	32.1 17.9 9.80	29.6 29.6 9.44	30.4 27.6 9.56	33.1 20.4 9.93	31.0 31.0 9.64	31.2 30.8 9.67	33.8 22.8 10.02

**38AKS014/40RM016 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	2120			2830			3540			
	Evaporator Air — Ewb (C)									
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	38.6 36.8 8.46	42.2 29.0 8.68	46.1 20.1 8.89	41.3 41.3 8.63	44.0 34.5 8.79	47.9 23.5 8.98	43.6 43.6 8.76	45.2 39.5 8.85	49.2 26.7 9.04
35	TC SHC kW	36.9 36.0 9.31	40.2 28.4 9.57	43.9 19.6 9.85	39.6 39.6 9.52	41.9 23.0 9.70	45.6 41.8 9.97	41.8 38.7 9.69	42.9 26.2 9.77	46.7 10.04
38	TC SHC kW	36.0 36.0 9.72	39.2 28.1 10.00	42.8 19.3 10.31	38.8 38.8 9.96	40.8 22.7 10.14	44.5 22.7 10.45	40.9 40.9 10.14	42.2 38.8 10.42	45.5 25.9 10.52
41	TC SHC kW	35.5 35.5 10.30	38.2 27.9 10.43	41.8 19.1 10.76	38.0 38.0 10.40	39.7 33.3 10.57	43.3 22.5 10.90	40.0 40.0 10.59	40.7 37.9 10.66	44.3 25.7 10.98
46	TC SHC kW	33.6 33.6 10.93	36.2 27.3 11.26	39.6 18.6 11.65	36.3 36.3 11.26	37.6 32.6 11.41	41.0 22.0 11.80	38.1 38.1 11.47	38.5 36.9 11.51	41.9 25.2 11.89

**38AKS014/40RM012 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1420			1890			2360			
	Evaporator Air — Ewb (C)									
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	33.9 29.5 8.27	37.0 24.7 8.50	40.4 19.7 8.75	35.9 34.2 8.43	38.7 28.1 8.62	42.1 21.8 8.86	37.7 37.7 8.55	39.9 31.4 8.71	43.4 23.8 8.94
35	TC SHC kW	32.4 28.8 9.03	35.3 24.0 9.31	38.6 19.0 9.60	34.4 33.3 9.22	36.9 27.4 9.46	40.2 21.1 9.74	36.2 36.2 9.39	38.1 30.8 9.55	41.3 23.1 9.84
38	TC SHC kW	31.7 28.4 9.40	34.5 23.6 9.70	37.7 18.7 10.02	33.6 33.0 9.61	36.0 27.0 9.86	39.2 20.8 10.18	35.4 35.4 9.80	37.1 30.4 9.97	40.3 22.8 10.27
41	TC SHC kW	31.0 28.1 9.77	33.7 23.3 10.09	36.8 18.3 10.44	32.8 32.8 9.98	35.1 26.7 10.25	38.3 20.4 10.60	34.7 34.7 10.21	36.5 30.2 10.51	39.3 22.4 10.70
46	TC SHC kW	29.5 27.4 10.49	32.0 22.6 10.86	35.0 17.7 11.26	31.4 31.4 10.77	33.3 26.0 11.03	36.3 19.7 11.42	33.1 33.1 11.01	34.3 29.2 11.17	37.2 21.8 11.53

**38AKS016/40RM014 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1770			2360			2950			
	Evaporator Air — Ewb (C)									
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	43.8 35.5 11.96	47.9 28.0 12.41	52.2 20.3 12.86	46.3 41.9 12.23	50.4 32.6 12.67	54.8 23.0 13.13	48.0 48.0 12.42	52.2 37.0 12.86	56.6 25.6 13.31
35	TC SHC kW	42.0 34.8 12.95	45.9 27.3 13.48	50.1 19.7 14.01	44.3 41.0 13.27	48.3 32.0 13.78	53.2 22.6 14.82	46.1 46.1 13.51	49.9 36.4 14.00	54.1 25.0 14.52
38	TC SHC kW	41.1 34.4 13.43	44.9 27.0 14.00	49.3 19.5 14.80	43.4 40.7 13.78	47.2 31.7 14.33	51.4 22.1 14.89	45.2 45.2 14.04	48.8 36.1 14.54	52.9 24.7 15.11
41	TC SHC kW	40.2 34.1 13.91	43.9 26.7 14.52	47.9 19.1 15.12	42.4 40.3 14.29	46.2 31.4 14.29	50.2 21.8 15.46	44.3 44.3 14.57	47.9 35.9 15.30	51.7 24.5 15.68
46	TC SHC kW	38.3 33.4 14.90	41.9 26.1 15.56	45.7 18.5 16.23	40.4 39.4 15.29	43.9 30.7 15.94	47.8 21.3 16.61	42.5 42.5 15.67	45.2 35.1 16.16	49.1 23.9 16.82

**38AKS014/40RM014 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	1770			2360			2950			
	Evaporator Air — Ewb (C)									
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	36.0 33.2 8.36	39.4 27.5 8.59	42.8 21.6 8.81	38.0 38.0 8.50	41.0 31.7 8.70	44.7 24.2 8.92	40.2 40.2 8.64	42.2 35.6 8.77	45.9 26.7 8.98
35	TC SHC kW	34.2 32.3 9.16	38.0 27.0 9.72	41.4 21.1 10.01	36.4 36.4 9.36	38.9 30.8 9.57	42.3 23.4 9.85	38.3 38.3 9.52	40.0 34.8 9.67	43.4 25.8 9.93
38	TC SHC kW	33.4 31.8 9.55	36.4 26.3 9.86	39.7 20.5 10.17	35.6 35.6 9.78	37.9 30.5 10.00	41.2 23.0 10.30	37.5 37.5 9.96	39.0 34.2 10.10	42.6 25.5 10.59
41	TC SHC kW	32.8 31.6 10.09	35.5 25.9 10.27	38.7 20.1 10.60	35.0 35.0 10.34	37.2 30.2 10.57	40.1 22.7 10.75	36.9 36.9 10.55	38.2 34.2 10.70	41.1 25.0 10.85
46	TC SHC kW	30.9 30.5 10.69	33.6 25.2 11.06	36.6 19.3 11.45	33.2 33.2 11.01	34.9 29.3 11.24	37.9 34.9 11.25	34.9 34.9 11.34	35.7 32.9 11.72	38.8 24.3 11.72

**38AKS016/40RM016 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	2120			2830			3540			
	Evaporator Air — Ewb (C)									
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	46.6 41.3 12.23	50.9 34.5 12.68	55.3 27.4 13.15	49.2 47.6 12.51	53.5 39.7 12.96	58.0 30.6 13.41	51.5 51.5 12.74	55.0 44.4 13.11	59.7 33.6 13.57
35	TC SHC kW	44.7 40.3 13.28	48.8 33.6 13.80	53.0 26.5 14.34	47.1 46.3 13.60	51.1 41.0 14.10	54.9 29.5 14.64	49.6 49.6 13.92	52.6 43.4 14.28	57.0 32.7 14.81
38	TC SHC kW	43.7 39.8 13.79	47.7 33.2 14.36	51.9 26.1 14.92	46.0 46.0 14.12	49.9 38.3 14.65	54.5 29.4 15.48	48.7 48.7 14.49	51.3 43.4 14.84	55.7 32.2 15.42
41	TC SHC kW	42.8 39.4 14.29	46.7 32.8 14							

# Performance data (cont)



## COMBINATION RATINGS — 4-ROW HIGH-CAPACITY COILS — SI (cont)

### 38AKS016/40RM024 WITH 4-ROW HIGH-CAPACITY COILS

Temp (C) Air Entering Condenser (Edb)		Evaporator Air — L/s								
		2830			3780			4720		
		Evaporator Air — Ewb (C)								
17	19	22	17	19	22	17	19	22	17	19
29	TC SHC kW	50.5 48.7 12.79	55.0 38.0 13.27	59.7 26.1 13.75	54.0 54.0 13.17	57.1 45.2 13.48	61.9 30.5 13.97	56.7 56.7 13.44	58.5 51.8 13.64	63.3 34.7 14.12
35	TC SHC kW	48.4 48.4 13.89	53.4 37.7 14.99	57.2 25.6 14.99	52.0 52.0 14.35	54.6 44.6 14.69	59.2 30.0 15.24	54.6 54.6 14.68	55.9 51.0 14.85	60.6 34.1 15.41
38	TC SHC kW	47.3 47.3 14.43	51.4 37.1 15.00	56.3 25.4 15.87	51.0 51.0 14.93	53.3 44.3 15.27	57.8 29.7 15.85	53.6 53.6 15.30	54.6 50.6 15.43	59.6 34.1 16.32
41	TC SHC kW	46.3 46.3 14.96	50.2 36.8 15.55	54.6 25.0 16.19	50.0 50.0 15.51	52.1 44.0 15.84	56.5 29.4 16.46	52.4 52.4 15.89	53.3 50.2 16.01	57.6 33.5 16.62
46	TC SHC kW	44.6 44.6 16.13	48.5 36.6 17.08	52.0 24.4 17.39	47.9 47.9 16.70	50.2 44.0 17.38	53.7 28.8 17.68	50.1 50.1 17.08	50.5 49.1 17.15	54.7 33.0 17.84

### 38AKS024/40RM016 WITH 4-ROW HIGH-CAPACITY COILS

Temp (C) Air Entering Condenser (Edb)		Evaporator Air — L/s								
		2120			2830			3540		
		Evaporator Air — Ewb (C)								
17	19	22	17	19	22	17	19	22	17	19
29	TC SHC kW	53.8 43.1 16.04	58.8 34.1 16.76	64.2 25.0 17.54	57.2 50.9 16.52	62.3 39.9 17.27	67.6 28.2 18.03	59.5 57.3 16.85	64.6 45.2 17.59	69.9 31.3 18.35
35	TC SHC kW	51.6 42.2 17.29	57.2 33.7 18.60	61.4 24.2 18.92	54.5 49.8 17.78	59.5 39.0 18.59	64.6 27.4 19.43	56.7 56.6 18.14	61.6 44.4 18.95	66.7 30.6 19.77
38	TC SHC kW	50.3 41.7 17.88	55.1 32.9 18.74	60.0 23.7 19.60	53.3 49.3 18.41	58.1 38.6 19.25	63.1 27.0 20.13	55.5 55.5 18.79	60.1 43.9 19.62	65.1 30.2 20.48
41	TC SHC kW	49.1 41.3 18.50	53.7 32.5 19.39	58.6 23.3 20.30	52.0 48.7 19.06	56.6 38.2 19.92	61.5 26.6 20.83	54.2 54.2 19.47	58.6 43.5 20.29	63.5 29.8 21.21
46	TC SHC kW	46.7 40.4 19.76	51.1 31.6 20.72	55.7 22.5 21.70	49.3 47.5 20.35	53.7 37.4 21.30	58.4 25.9 22.27	51.7 51.7 20.86	55.4 42.6 21.64	60.1 29.1 22.64

### 38AKS024/40RM024 WITH 4-ROW HIGH-CAPACITY COILS

Temp (C) Air Entering Condenser (Edb)		Evaporator Air — L/s								
		2830			3780			4720		
		Evaporator Air — Ewb (C)								
17	19	22	17	19	22	17	19	22	17	19
29	TC SHC kW	60.2 54.1 17.00	65.7 45.0 17.77	71.5 35.5 18.58	63.3 62.1 17.43	68.8 51.8 18.21	74.8 39.8 19.04	66.7 66.7 17.89	70.8 57.9 18.48	76.8 43.6 19.32
35	TC SHC kW	57.6 52.7 18.19	62.9 43.8 19.03	69.5 34.9 20.65	60.6 60.6 18.66	65.6 50.5 19.46	71.3 38.6 20.37	64.1 64.1 19.22	67.4 56.6 19.75	73.1 42.4 20.66
38	TC SHC kW	56.8 52.5 19.05	61.4 43.2 19.64	66.9 33.8 20.56	59.3 59.3 19.27	64.0 49.9 20.07	69.6 38.0 21.01	62.7 62.7 19.85	65.8 56.0 20.37	71.3 41.8 21.32
41	TC SHC kW	54.8 51.4 19.31	59.9 42.6 20.26	65.3 33.2 21.22	58.1 58.1 19.92	62.4 37.4 20.70	67.8 37.4 21.67	61.3 61.3 20.50	64.1 55.2 21.00	69.5 41.2 21.99
46	TC SHC kW	52.1 50.1 20.49	56.8 41.4 21.48	62.0 32.1 22.53	55.6 55.6 21.23	59.1 48.0 21.96	64.3 36.2 23.00	59.4 59.4 22.45	60.8 53.9 22.29	65.9 40.0 23.32

See Legend and Notes on page 57.

### 38AKS024/40RM028 WITH 4-ROW HIGH-CAPACITY COILS

Temp (C) Air Entering Condenser (Edb)		Evaporator Air — L/s								
		3540			4720			5900		
		Evaporator Air — Ewb (C)								
17	19	22	17	19	22	17	19	22	17	19
29	TC SHC kW	64.1 62.1 17.96	69.9 51.6 18.80	76.1 39.9 19.69	68.6 68.6 18.60	72.6 59.8 19.20	78.8 45.0 20.09	72.2 72.2 19.11	74.5 67.2 19.49	80.7 49.8 20.37
35	TC SHC kW	62.2 62.0 19.94	66.6 50.3 20.08	72.5 38.7 21.05	65.9 58.4 19.95	69.2 20.52 21.46	75.1 21.46 20.49	69.3 22.17 21.19	70.8 65.6 21.41	76.8 48.5 21.77
38	TC SHC kW	60.0 60.0 19.82	65.4 50.0 20.92	70.8 38.1 21.72	64.5 43.8 20.61	67.5 57.8 21.16	73.3 43.2 21.16	67.8 67.8 21.19	69.0 64.9 21.41	74.9 47.9 22.43
41	TC SHC kW	58.5 58.5 20.43	63.4 37.5 21.38	69.1 63.1 22.41	64.6 57.2 21.30	65.8 52.6 21.83	71.5 42.6 22.87	66.3 66.3 21.90	67.3 64.1 22.09	72.9 47.3 23.14
46	TC SHC kW	56.8 56.8 22.37	60.1 47.8 22.62	65.5 36.3 23.74	60.3 55.8 22.65	62.2 41.7 23.07	68.9 41.7 24.94	63.2 63.2 23.25	63.6 62.3 23.34	68.9 46.1 24.44

### 38AKS028/40RM024 WITH 4-ROW HIGH-CAPACITY COILS

Temp (C) Air Entering Condenser (Edb)		Evaporator Air — L/s								
		2830			3780			4720		
		Evaporator Air — Ewb (C)								
17	19	22	17	19	22	17	19	22	17	19
29	TC SHC kW	75.4 60.2 21.83	82.6 48.3 22.91	90.3 36.1 24.02	80.3 56.2 22.58	87.6 40.6 23.64	95.4 40.6 24.76	83.4 80.6 23.05	90.9 63.7 24.14	98.8 45.0 25.26
35	TC SHC kW	72.0 58.9 23.31	79.0 47.0 24.51	86.4 34.9 25.75	76.6 69.8 24.13	83.7 55.0 25.32	91.1 54.4 26.55	79.6 79.6 24.63	86.6 62.5 25.80	94.1 44.0 27.05
38	TC SHC kW	70.3 58.2 24.04	77.2 46.4 25.28	84.4 34.4 26.58	74.6 69.0 24.85	81.7 54.4 26.12	89.0 39.0 27.40	77.7 77.7 25.39	84.4 61.9 26.60	91.8 43.4 27.92
41	TC SHC kW	68.6 57.6 24.80	75.3 45.8 26.11	82.4 33.8 27.46	72.8 68.4 25.62	79.6 53.8 26.96	86.8 38.4 28.31	76.2 76.2 26.27	82.2 61.2 27.46	89.5 42.9 28.81
46	TC SHC kW	65.2 56.3 26.26	71.6 44.7 27.68	83.3 32.6 29.15	75.4 66.8 27.11	82.2 52.6 28.52	86.8 37.3 29.99	72.8 72.8 27.95	80.0 60.0 29.06	84.7 41.7 30.52

### 38AKS028/40RM028 WITH 4-ROW HIGH-CAPACITY COILS

Temp (C) Air Entering Condenser (Edb)		Evaporator Air — L/s								
		3540			4720			5900		
		Evaporator Air — Ewb (C)								
17	19	22	17	19	22	17	19	22	17	19
29	TC SHC kW	77.1 67.1 22.01	84.3 53.1 23.07	91.7 38.5 24.15	81.3 62.1 22.65	88.3 43.8 23.67	95.8 85.2 24.75	91.0 70.6 23.20	91.0 68.9 24.06	98.6 48.9 25.15
35	TC SHC kW	73.7 65.8 23.52	80.4 51.8 24.68	87.6 37.4 25.87	77.5 77.5 24.18	84.2 42.8 25.34	91.4 81.8 26.51	81.8 86.6 24.90	86.6 69.4 25.71	93.8 47.9 26.92
38	TC SHC kW	71.9 65.1 24.								



## COMBINATION RATINGS — 4-ROW HIGH-CAPACITY COILS — SI (cont)

**38AKS028/40RM034 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	4250			5660			7080			
	Evaporator Air — Ewb (C)									
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	81.9 76.0 22.84	89.4 60.0 23.92	97.2 42.9 25.03	86.8 86.8 23.51	93.1 49.3 24.46	101.0 91.6 25.57	91.6 80.7 24.21	95.6 55.3 25.92	103.4 55.3 25.92
35	TC SHC kW	78.2 74.8 24.40	85.3 58.8 25.59	92.8 41.8 26.84	83.4 83.4 25.26	88.7 69.5 26.15	96.2 48.1 27.39	87.8 78.7 25.98	91.0 79.4 26.54	98.5 54.3 27.76
38	TC SHC kW	76.2 73.8 25.14	83.1 58.2 26.38	90.6 41.3 27.70	81.7 81.7 26.10	86.4 68.9 26.97	93.8 47.6 28.27	85.9 85.9 26.84	88.7 78.7 27.38	96.0 53.7 28.66
41	TC SHC kW	74.3 72.7 25.92	81.0 57.6 27.22	88.2 40.7 28.58	79.9 79.9 26.99	84.2 68.3 27.83	91.4 47.1 29.18	84.0 84.0 27.77	86.3 77.9 28.24	93.5 53.2 29.59
46	TC SHC kW	70.6 70.6 27.44	76.7 56.3 28.82	83.6 39.6 30.28	76.2 76.2 28.68	79.7 67.0 29.46	86.5 46.0 30.91	80.1 80.1 29.54	81.5 76.4 29.85	88.4 52.1 31.32

**38AKS034/40RM034 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	4250			5660			7080			
	Evaporator Air — Ewb (C)									
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	87.2 78.5 24.55	95.0 61.7 25.70	103.1 44.4 26.90	91.6 91.6 25.21	99.2 72.5 26.34	107.4 50.8 27.53	96.6 96.6 25.95	101.8 82.6 26.72	110.0 56.8 27.91
35	TC SHC kW	83.4 76.9 26.07	90.9 60.5 27.35	98.7 43.3 28.66	88.1 88.1 26.87	94.7 71.3 27.99	102.6 49.7 29.32	93.0 93.0 27.72	97.2 81.2 28.39	105.1 55.7 29.73
38	TC SHC kW	81.5 76.2 26.88	88.9 59.9 28.15	96.5 42.7 29.51	86.4 86.4 27.69	92.5 70.6 28.80	100.2 49.1 30.17	91.1 91.1 28.56	94.8 80.6 29.21	102.6 55.2 30.58
41	TC SHC kW	79.6 75.4 27.57	86.7 59.3 28.97	94.2 42.1 30.40	84.6 84.6 28.55	90.1 29.63 31.06	97.7 31.06 29.42	89.1 89.1 30.06	92.4 54.6 31.49	100.0 54.6 31.49
46	TC SHC kW	75.5 73.5 28.99	82.2 58.0 30.49	89.5 41.0 32.08	81.0 81.0 30.21	85.4 68.7 31.18	92.6 47.4 32.75	85.1 85.1 31.11	87.6 78.4 31.66	94.8 53.5 33.21

**38AKS034/40RM028 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	3540			4720			5900			
	Evaporator Air — Ewb (C)									
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	82.0 69.0 23.75	89.5 54.8 24.89	97.4 40.1 26.04	86.3 81.1 24.40	93.9 63.7 25.54	101.8 45.3 26.70	89.9 89.9 24.96	96.9 72.3 25.98	104.8 50.4 27.15
35	TC SHC kW	78.5 67.6 25.19	85.7 53.5 26.45	93.3 39.0 27.75	82.7 79.6 25.93	89.8 62.5 27.17	97.4 44.2 28.43	86.5 86.5 26.59	92.6 71.1 27.65	100.2 49.3 28.90
38	TC SHC kW	76.7 66.9 25.88	83.8 52.9 27.20	91.1 38.4 28.55	80.8 78.7 26.67	87.8 62.0 27.94	95.2 43.7 29.27	84.8 84.8 27.39	90.4 70.5 28.43	97.8 48.8 29.76
41	TC SHC kW	74.9 66.3 26.61	81.8 52.3 27.98	88.9 37.8 29.38	78.7 78.7 27.39	85.6 61.4 28.74	92.9 43.1 28.22	83.0 83.0 28.22	88.1 69.8 29.23	95.4 48.3 30.63
46	TC SHC kW	71.2 64.9 27.99	77.7 51.0 29.48	84.5 36.7 31.00	75.0 75.0 28.88	81.2 60.1 30.27	88.2 42.1 31.81	79.4 79.4 29.86	83.4 68.5 30.76	90.4 47.1 32.29

**38AKS044/40RM034 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (C) Air Entering Condenser (Edb)	Evaporator Air — L/s									
	4250			5660			7080			
	Evaporator Air — Ewb (C)									
	17	19	22	17	19	22	17	19	22	
29	TC SHC kW	101.8 84.1 33.03	110.9 66.8 34.90	120.4 49.1 36.81	107.5 99.1 34.20	116.6 77.7 36.06	126.2 55.4 38.02	111.3 111.3 34.97	120.2 87.8 36.77	129.9 61.4 38.73
35	TC SHC kW	97.8 82.6 34.80	106.5 65.4 36.76	115.7 47.8 38.83	102.9 97.1 35.94	111.7 76.2 37.95	120.9 54.1 40.03	107.1 107.1 36.90	115.1 86.4 38.70	124.3 60.1 40.79
38	TC SHC kW	95.8 81.8 35.71	104.3 64.7 37.74	113.2 47.2 39.87	100.7 96.2 36.87	109.3 75.5 38.91	118.2 53.4 41.05	105.2 105.2 37.96	112.5 85.7 39.69	121.4 59.5 41.83
41	TC SHC kW	93.7 81.0 36.56	102.1 64.0 38.69	110.8 46.5 40.89	98.6 95.2 37.78	106.8 74.8 39.85	115.5 52.8 42.05	103.1 103.1 38.93	109.9 85.0 40.65	118.6 58.8 42.84
46	TC SHC kW	89.4 79.4 38.19	97.3 62.5 40.43	105.6 45.1 42.74	93.8 93.8 39.46	101.7 73.3 41.63	109.9 51.4 43.95	103.1 103.1 40.85	109.9 85.5 42.46	112.8 57.5 44.79

### LEGEND

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

### NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. SHC is based on 26.7 C db air entering indoor coil.

### 3. Formulas:

$$\text{Ldb C} = \text{Edb C} - \frac{\text{SHCkW} \times 1000}{1.23 \times \text{L/s}}$$

Lwb = wet-bulb temperature corresponding to enthalpy air leaving indoor coil (h|wb)

$$\text{Ldb C: h|wb} = \text{hewb} - \frac{\text{TCkW} \times 1000}{1.20 \times \text{L/s}}$$

where hewb = enthalpy of air entering evaporator coil (kj/kg).

4. Capacities are based on 7.6 actual m (12.2 equivalent m) of interconnecting piping sized to the outdoor unit field connections. (Equivalent length is equal to the actual length plus a 50% allowance for fitting losses.) For other equivalent lengths, refer to the Carrier System Design Manual, Part 3, for line losses.

# Performance data (cont)



## COMBINATION RATINGS — 4-ROW HIGH-CAPACITY COILS — ENGLISH

### 38AK007/40RM007 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	1800			2400			3000			
	Evaporator Air — Ewb (F)									
	62	67	72	62	67	72	62	67	72	
85	TC SHC kW	61.7 55.6 4.93	67.4 46.4 5.16	73.4 36.7 5.40	64.9 53.4 5.06	70.5 41.0 5.29	76.6 68.5 5.53	68.5 59.8 5.21	72.5 45.0 5.37	78.6 56.1 5.61
95	TC SHC kW	58.6 54.2 5.19	64.3 45.1 5.45	70.2 35.5 5.72	62.1 52.0 5.35	67.1 39.7 5.58	73.1 66.8 5.85	66.8 58.4 5.69	69.0 43.7 5.67	75.0 50.2 5.94
100	TC SHC kW	57.2 53.4 5.31	62.6 44.5 5.59	68.5 34.8 5.87	60.8 60.8 5.49	65.4 51.4 5.72	71.2 39.1 6.00	64.2 64.2 5.67	67.3 57.7 5.82	73.1 43.1 6.09
105	TC SHC kW	55.6 52.7 5.44	61.0 43.8 5.73	66.7 34.2 6.02	59.4 59.4 5.64	63.6 50.7 5.87	69.4 38.5 6.16	62.7 62.7 5.82	65.5 57.0 5.96	71.1 42.4 6.25
115	TC SHC kW	52.5 51.0 5.69	57.5 42.4 5.99	63.0 32.9 6.31	56.5 56.5 5.93	60.0 49.3 6.14	65.5 37.2 6.46	59.7 59.7 6.12	61.6 55.3 6.23	67.1 41.1 6.55

### 38AK008/40RM008 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	2250			3000			3750			
	Evaporator Air — Ewb (F)									
	62	67	72	62	67	72	62	67	72	
85	TC SHC kW	79.3 70.5 6.18	86.0 58.7 6.55	93.1 46.3 6.28	83.3 81.4 6.47	89.8 67.3 6.66	97.0 51.6 6.39	87.2 87.2 6.39	92.2 75.3 6.53	99.4 56.5 6.72
95	TC SHC kW	76.2 69.1 6.68	82.7 49.4 7.06	89.5 79.8 6.77	79.8 65.9 6.96	86.1 50.2 7.17	93.0 84.1 7.17	84.1 84.1 7.17	88.3 73.7 7.02	95.3 55.1 7.24
100	TC SHC kW	74.5 68.2 6.93	80.9 44.2 7.11	87.6 78.3 7.03	78.3 65.1 7.21	84.1 49.5 7.42	91.0 82.5 7.15	82.5 82.5 7.15	86.3 73.1 7.28	93.1 54.4 7.49
105	TC SHC kW	72.7 67.4 7.19	79.0 55.8 7.37	85.6 43.5 7.29	76.7 64.3 7.46	82.1 48.7 7.67	88.8 80.7 7.41	80.7 80.7 7.41	84.2 72.2 7.53	90.9 53.6 7.74
115	TC SHC kW	69.1 65.8 7.73	75.0 54.2 7.91	81.3 41.9 8.12	73.4 62.7 7.86	77.9 47.2 8.01	84.2 77.1 8.21	77.1 70.4 7.97	79.9 52.1 8.08	86.2 52.1 8.29

### 38AK007/40RM008 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	2250			3000			3750			
	Evaporator Air — Ewb (F)									
	62	67	72	62	67	72	62	67	72	
85	TC SHC kW	65.8 63.8 5.11	71.7 53.0 5.35	78.1 41.0 5.60	70.5 61.5 5.29	74.6 46.3 5.47	80.9 74.1 5.43	74.1 69.1 5.54	76.4 51.2 5.79	82.8 51.2 5.79
95	TC SHC kW	62.7 62.7 5.39	68.3 51.7 5.65	74.5 39.7 5.92	67.6 60.2 5.61	71.0 45.0 5.77	77.2 71.2 6.05	71.2 67.4 5.77	72.7 49.9 5.85	78.8 61.2 6.12
100	TC SHC kW	61.3 61.3 5.53	66.6 51.0 5.79	72.6 66.2 6.08	66.2 59.4 5.77	69.2 44.4 6.21	75.2 69.6 6.19	69.6 66.7 5.93	70.8 49.2 5.99	76.8 62.8 6.28
105	TC SHC kW	59.9 59.9 5.68	64.8 50.3 5.94	70.7 38.5 6.24	64.6 64.6 5.93	67.2 58.7 6.07	73.2 43.7 6.37	67.9 67.9 6.09	68.8 65.7 6.14	74.6 48.5 6.44
115	TC SHC kW	57.0 57.0 5.97	61.1 49.0 6.22	61.1 61.5 6.22	61.5 57.1 6.24	63.3 57.1 6.34	63.3 64.5 6.41	64.5 63.7 6.43	64.9 63.7 6.43	64.9 63.7 6.43

### 38AK008/40RM012 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	3000			4000			5000			
	Evaporator Air — Ewb (F)									
	62	67	72	62	67	72	62	67	72	
85	TC SHC kW	87.5 87.0 6.44	92.9 71.2 6.58	100.3 54.1 6.79	93.2 93.2 6.59	96.1 82.2 6.67	102.9 60.8 6.86	97.3 97.3 6.71	98.3 92.1 6.73	104.8 67.4 6.91
95	TC SHC kW	84.3 84.3 6.96	89.1 69.7 7.08	96.1 52.6 7.29	89.9 80.7 7.11	92.0 59.4 7.17	98.6 93.6 7.37	93.6 93.6 7.22	94.3 90.1 7.23	100.4 66.0 7.42
100	TC SHC kW	82.6 82.6 7.20	87.1 69.0 7.33	93.9 51.9 7.55	88.1 88.1 7.37	90.1 79.8 7.42	92.0 58.6 7.62	91.7 91.7 7.47	92.1 89.3 7.49	98.0 65.2 7.67
105	TC SHC kW	80.9 80.9 7.47	85.0 68.2 7.59	91.6 51.1 7.81	86.2 86.2 7.63	89.9 78.9 7.68	94.0 57.8 7.87	89.6 89.6 7.74	89.9 88.3 7.75	95.5 64.5 7.92
115	TC SHC kW	77.3 77.3 8.03	80.6 66.5 8.14	86.9 49.5 8.36	82.1 82.1 8.19	83.1 77.2 8.22	88.9 84.2 8.42	85.4 85.4 8.30	85.4 85.4 8.30	90.3 62.8 8.46

### 38AK012/40RM008 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	2250			3000			3750			
	Evaporator Air — Ewb (F)									
	62	67	72	62	67	72	62	67	72	
85	TC SHC kW	94.1 77.7 7.78	102.3 65.1 8.04	111.0 52.3 8.32	99.4 89.8 7.95	107.7 74.2 8.22	116.4 100.3 8.51	103.0 82.6 8.07	111.2 83.4 8.34	120.0 63.0 8.63
95	TC SHC kW	90.8 76.0 8.40	98.7 63.5 8.66	107.0 50.7 8.95	95.6 88.0 8.56	103.6 72.6 8.83	112.1 56.2 9.13	99.0 99.0 8.68	106.9 80.9 8.95	115.4 61.4 9.25
100	TC SHC kW	89.1 75.2 8.73	96.8 62.7 8.98	104.9 49.9 9.27	93.7 87.1 8.87	101.5 71.7 9.14	109.7 55.4 9.44	97.1 97.1 9.00	104.7 80.1 9.26	113.0 60.6 9.56
105	TC SHC kW	87.2 74.3 9.05	95.2 62.1 9.41	102.7 49.1 9.59	91.7 86.2 9.20	99.3 70.8 9.46	107.3 54.5 9.76	95.2 95.2 9.32	102.3 79.2 9.58	110.5 59.8 9.88
115	TC SHC kW	83.4 72.5 9.77	90.5 60.1 10.00	98.0 47.2 10.27	87.7 84.3 9.92	94.7 69.1 10.16	103.6 53.4 10.71	91.4 91.4 10.03	97.4 77.4 10.26	105.2 58.0 10.55

See Legend and Notes on page 63.



## COMBINATION RATINGS — 4-ROW HIGH-CAPACITY COILS — ENGLISH (cont)

### 38AK012/40RM012 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	3000			4000			5000		
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85 TC SHC kW	105.4 95.9 7.92	113.4 78.8 8.18	122.5 61.3 8.47	110.9 110.9 8.10	117.6 90.3 8.32	126.7 68.3 8.62	113.9 113.9 7.55	120.5 101.3 8.41	129.4 75.1 8.70
95 TC SHC kW	101.5 94.0 8.53	109.1 77.1 8.77	117.9 59.6 9.08	107.2 107.2 8.71	112.9 88.6 8.90	121.7 66.6 9.21	112.5 112.5 8.89	115.7 99.3 9.00	124.2 73.4 9.30
100 TC SHC kW	99.4 93.0 8.83	106.8 76.2 9.08	115.4 58.7 9.38	105.3 105.3 9.03	110.4 87.7 9.20	118.9 65.6 9.51	110.3 110.3 9.20	113.2 98.5 9.30	121.4 72.5 9.60
105 TC SHC kW	97.3 91.9 9.14	104.4 75.2 9.39	112.8 57.7 9.69	103.8 103.8 9.47	107.8 86.9 9.50	116.2 64.7 9.81	108.1 108.1 9.51	110.6 97.4 9.60	118.6 71.5 9.90
115 TC SHC kW	92.9 89.8 9.83	99.4 73.3 10.05	108.8 56.5 10.63	99.0 99.0 10.04	102.6 84.8 10.17	110.4 62.8 10.46	103.4 103.4 10.20	105.3 95.2 10.27	112.6 69.6 10.54

### 38AKS008/40RM008 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	2250			3000			3750		
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85 TC SHC kW	77.3 69.6 5.61	84.5 58.0 5.81	92.1 45.9 6.00	81.3 81.3 5.72	88.5 66.8 5.92	96.3 51.4 6.11	86.0 86.0 5.84	91.1 74.8 5.98	98.9 56.3 6.17
95 TC SHC kW	73.7 67.9 6.06	80.8 56.5 6.30	88.2 44.4 6.53	78.0 78.0 6.20	84.3 65.2 6.41	91.8 49.8 6.65	82.5 82.5 6.35	86.7 73.1 6.49	94.3 54.8 6.72
100 TC SHC kW	72.0 67.0 6.27	78.8 55.7 6.53	86.1 43.7 6.79	76.3 76.3 6.43	82.2 64.4 6.65	89.6 49.0 6.90	80.7 80.7 6.59	84.6 72.3 6.74	91.9 54.0 6.98
105 TC SHC kW	70.1 66.2 6.48	76.8 54.9 6.75	84.0 42.9 7.03	74.7 74.7 6.67	80.1 63.5 6.88	87.3 48.2 7.15	78.9 78.9 7.15	82.4 71.4 6.83	89.5 53.2 7.24
115 TC SHC kW	66.4 64.3 6.90	72.7 53.3 7.21	79.6 41.3 7.52	71.3 71.3 7.14	75.8 61.9 7.36	82.7 46.6 7.66	75.3 75.3 7.33	77.8 69.5 7.45	84.7 51.6 7.76

### 38AK012/40RM014 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	3750			5000			6250		
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85 TC SHC kW	110.7 107.1 8.06	119.4 88.2 8.35	128.8 67.8 8.66	117.5 117.5 8.28	123.5 102.0 8.49	132.9 76.3 8.80	122.9 122.9 8.46	126.5 114.8 8.59	135.7 84.3 8.89
95 TC SHC kW	106.4 104.5 8.65	114.7 86.3 8.94	123.7 66.0 9.26	113.4 100.1 8.89	118.7 94.0 9.08	127.7 74.5 9.08	118.7 118.7 9.17	121.2 112.2 9.17	130.2 82.5 9.50
100 TC SHC kW	104.1 104.1 8.96	112.2 85.3 9.24	121.1 65.1 9.56	111.3 111.3 9.20	116.1 99.1 9.38	124.9 73.6 9.71	116.5 116.5 9.39	118.5 111.1 9.47	127.3 81.5 9.80
105 TC SHC kW	102.7 102.7 9.41	109.7 84.3 9.55	118.3 64.0 9.87	109.6 109.6 9.67	113.5 98.0 9.69	122.0 72.7 10.01	114.1 114.1 9.71	115.8 109.8 9.77	124.3 80.6 10.10
115 TC SHC kW	97.9 97.9 9.99	104.4 82.3 10.23	112.7 62.1 10.53	104.5 104.5 10.22	107.8 95.7 10.35	115.9 70.6 10.67	109.0 109.0 10.39	109.9 106.9 10.43	118.0 78.5 10.74

### 38AKS008/40RM012 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	3000			4000			5000		
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85 TC SHC kW	85.9 85.9 5.88	91.7 70.7 6.03	99.6 53.8 6.22	92.2 92.2 6.04	95.0 81.7 6.11	102.6 60.6 6.28	96.5 96.5 6.15	97.5 91.7 6.17	104.7 67.3 6.33
95 TC SHC kW	82.5 82.5 6.38	87.4 69.1 6.54	95.0 52.1 6.77	88.4 88.4 6.57	90.5 66.4 6.64	97.6 59.0 6.85	92.4 92.4 6.69	92.9 89.8 6.71	99.5 65.7 6.90
100 TC SHC kW	80.8 80.8 6.62	85.2 68.3 6.78	92.6 51.3 7.03	86.5 86.5 6.83	88.2 79.1 7.08	95.2 58.2 7.11	90.3 90.3 6.95	90.6 88.5 7.16	96.9 64.8 7.16
105 TC SHC kW	79.0 79.0 6.86	83.1 67.4 7.02	90.2 50.5 7.29	84.5 84.5 7.29	85.9 78.0 7.29	92.6 57.4 7.12	88.2 88.2 7.37	88.4 87.4 7.22	94.3 64.0 7.42
115 TC SHC kW	75.3 75.3 7.35	78.5 65.6 7.50	85.3 48.9 7.81	80.4 80.4 7.58	81.3 76.3 7.62	87.4 55.7 7.89	83.9 83.9 7.74	83.9 83.9 7.74	88.9 62.4 7.95

### 38AKS008/40RM007 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	1800			2400			3000		
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85 TC SHC kW	71.5 60.3 5.40	78.4 51.0 5.60	85.6 41.4 5.79	75.7 58.2 5.53	82.7 45.8 5.72	90.0 78.6 5.90	85.6 64.8 5.80	93.0 49.9 5.98	
95 TC SHC kW	68.3 58.8 5.82	74.9 49.5 6.06	81.9 39.9 6.29	72.4 68.2 5.97	79.0 56.7 6.20	86.0 44.3 6.42	81.6 63.3 6.07	88.8 48.4 6.28	
100 TC SHC kW	66.7 58.0 6.02	73.2 48.8 6.28	80.0 39.1 6.53	77.1 67.4 6.43	84.0 55.9 6.67	73.7 73.7 6.30	79.5 62.4 6.51	86.6 47.7 6.76	
105 TC SHC kW	65.1 57.2 6.22	71.4 48.0 6.49	78.1 38.4 6.76	68.9 66.5 6.38	75.2 55.2 6.65	81.9 42.9 6.91	77.5 61.7 6.52	84.4 46.9 6.74	
115 TC SHC kW	61.8 55.6 6.63	67.8 46.5 6.93	74.2 36.9 7.23	65.1 65.1 6.79	71.1 53.6 7.09	77.7 41.4 7.40	69.0 69.0 6.99	79.9 60.0 7.20	

### 38AKS009/40RM008 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	2250			3000			3750		
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85 TC SHC kW	89.1 75.2 7.21	97.7 63.5 7.52	106.7 51.5 7.82	94.2 87.1 7.40	103.0 72.6 7.70	112.2 57.0 8.01	98.0 98.0 7.54	106.7 80.8 7.83	115.9 62.1 8.13
95 TC SHC kW	84.9 73.2 7.73	93.2 61.6 8.08	101.9 49.5 8.43	89.9 85.0 7.94	98.1 70.6 8.28	107.0 55.1 8.62	93.7 93.7 8.10	104.4 78.8 8.42	110.4 60.2 8.76
100 TC SHC kW	82.7 72.1 7.98	90.9 60.7 8.35	99.4 48.6 8.72	87.6 83.9 8.21	95.7 65.6 8.56	104.3 54.1 8.93	91.6 91.6 8.38	98.8 77.8 8.70	107.6 59.3 9.07
105 TC SHC kW	80.6 71.1 8.24	88.5 59.7 8.63	96.9 47.6 8.92	85.3 82.6 8.48	93.2 68.6 8.86	101.7 53.2 9.24	91.6 91.6 8.67	98.8 76.7 8.99	104.7 58.2 9.37
115 TC SHC kW	76.3 69.1 8.75	83.8 57.7 9.17	91.8 45.7 9.60	80.6 80.6 8.99	88.0 66.6 9.40	96.1 51.2 9.84	85.4 85.4 9.26	90.6 74.7 9.54	98.8 56.2 9.98

See Legend and Notes on page 63.

# Performance data (cont)



## COMBINATION RATINGS — 4-ROW HIGH-CAPACITY COILS — ENGLISH (cont)

38AKS009/40RM012 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	3000			4000			5000		
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85   TC SHC kW	99.3 92.8 7.75	107.5 76.7 8.04	117.3 59.6 8.36	105.8 105.8 7.97	111.8 88.2 8.17	121.5 66.6 8.49	111.5 111.5 8.17	115.0 98.8 8.27	124.2 73.4 8.57
95   TC SHC kW	94.6 90.5 8.30	102.4 74.5 8.62	111.8 57.6 8.99	101.5 101.5 8.58	106.2 86.2 8.76	115.4 64.5 9.12	106.6 106.6 8.78	109.3 96.6 8.89	118.0 71.3 9.22
100   TC SHC kW	92.3 89.4 8.58	99.7 73.5 8.91	108.9 56.6 9.30	99.1 99.1 8.88	103.5 85.0 9.06	112.3 63.5 9.44	104.2 104.2 9.10	106.6 95.5 9.20	114.9 70.3 9.54
105   TC SHC kW	90.0 88.2 8.87	97.0 72.6 9.20	105.9 55.5 9.61	96.8 96.8 9.19	100.7 83.9 9.37	109.3 62.5 9.76	101.8 94.2 9.42	103.7 94.3 9.51	111.7 69.2 9.86
115   TC SHC kW	85.6 85.6 9.43	91.6 70.4 9.75	100.0 53.5 10.20	92.1 92.1 9.78	95.1 81.7 9.95	103.1 60.3 10.36	96.7 96.7 10.03	97.9 91.9 10.09	105.4 67.3 10.48

38AKS012/40RM008 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	2250			3000			3750		
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85   TC SHC kW	89.1 75.2 7.21	97.7 63.5 7.52	106.7 51.5 7.82	94.2 87.1 7.40	103.0 72.6 7.70	112.2 57.0 8.01	98.0 98.0 7.54	106.7 80.8 7.83	115.9 62.1 8.13
95   TC SHC kW	84.9 73.2 7.73	93.2 61.6 8.08	101.9 49.5 7.94	89.9 85.0 8.28	98.1 70.6 8.62	107.0 55.1 8.10	93.7 93.7 8.42	101.4 78.8 8.76	110.4 60.2 8.76
100   TC SHC kW	82.7 72.1 7.98	90.9 60.7 8.35	99.4 48.6 8.72	87.6 83.9 8.21	95.7 54.1 8.56	104.3 53.2 8.93	91.6 91.6 8.38	98.8 77.8 8.70	107.6 59.3 9.07
105   TC SHC kW	80.6 71.1 8.24	88.5 59.7 8.63	96.9 47.6 9.02	85.3 82.6 8.48	93.2 68.6 8.86	101.7 53.2 9.24	89.6 89.6 8.67	96.1 76.7 8.99	104.7 58.2 9.37
115   TC SHC kW	76.3 69.1 8.75	83.8 57.7 9.17	91.8 45.7 9.60	80.6 80.6 8.99	88.0 66.6 9.40	96.1 51.2 9.84	85.4 85.4 9.26	90.6 74.7 9.54	98.8 56.2 9.98

38AKS012/40RM012 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	3000			4000			5000		
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85   TC SHC kW	99.3 92.8 7.75	107.5 76.7 8.04	117.3 59.6 8.36	105.8 105.8 7.97	111.8 88.2 8.17	121.5 66.6 8.49	111.5 111.5 8.17	115.0 98.8 8.27	124.2 73.4 8.57
95   TC SHC kW	94.6 90.5 8.30	102.4 74.5 8.62	111.8 57.6 8.99	101.5 101.5 8.58	106.2 86.2 8.76	115.4 64.5 9.12	106.6 106.6 8.78	109.3 96.6 8.89	118.0 71.3 9.22
100   TC SHC kW	92.3 89.4 8.58	99.7 73.5 8.91	108.9 56.6 9.30	99.1 99.1 8.88	103.5 85.0 9.06	112.3 63.5 9.44	104.2 104.2 9.10	106.6 95.5 9.20	114.9 70.3 9.54
105   TC SHC kW	90.0 88.2 8.87	97.0 72.6 9.20	105.9 55.5 9.61	96.8 96.8 9.19	100.7 83.9 9.37	109.3 62.5 9.76	101.8 94.2 9.42	103.7 94.3 9.51	111.7 69.2 9.86
115   TC SHC kW	85.6 85.6 9.43	91.6 70.4 9.75	100.0 53.5 10.20	92.1 92.1 9.78	95.1 81.7 9.95	103.1 60.3 10.36	96.7 96.7 10.03	97.9 91.9 10.09	105.4 67.3 10.48

See Legend and Notes on page 63.

38AKS012/40RM014 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	3750			5000			6250		
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85   TC SHC kW	104.9 103.9 7.84	113.9 90.2 8.16	124.2 75.1 8.48	112.7 102.7 8.10	118.4 83.2 8.64	128.5 118.6 8.30	118.6 113.6 8.41	121.2 113.6 8.74	131.4 90.3 8.74
95   TC SHC kW	100.1 100.1 8.43	108.3 87.4 8.78	118.0 72.3 9.14	107.9 97.9 8.75	112.4 99.0 8.95	122.1 113.3 9.31	113.3 110.4 8.94	115.1 104.7 9.41	124.7 97.5 9.41
100   TC SHC kW	97.9 97.9 8.75	105.4 86.1 9.09	115.0 71.0 9.48	105.5 95.5 9.07	109.4 98.4 9.26	118.9 110.6 9.29	110.6 108.6 9.35	111.9 108.6 9.74	121.3 106.0 9.74
105   TC SHC kW	95.6 95.6 9.06	102.6 84.8 9.40	111.9 69.6 9.81	103.0 103.0 9.40	106.3 96.9 9.57	115.6 108.0 9.63	108.0 106.7 9.76	108.7 84.6 10.08	117.9 84.6 10.08
115   TC SHC kW	91.1 91.1 9.65	96.7 82.0 9.98	105.6 66.9 10.45	97.8 97.8 10.02	100.0 93.8 10.15	108.8 74.6 10.61	102.5 102.5 10.61	102.7 81.6 10.27	110.9 81.6 10.27

38AKS013/40RM008 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	2250			3000			3750		
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85   TC SHC kW	92.5 76.9 6.81	101.5 65.3 7.06	111.1 53.3 7.30	98.2 89.1 6.97	107.4 74.4 7.21	117.2 58.9 7.45	102.3 99.5 7.08	111.4 82.7 7.31	121.3 64.1 7.54
95   TC SHC kW	88.1 74.8 7.37	96.9 63.3 7.66	106.2 51.3 7.95	93.5 86.7 7.83	102.4 72.3 8.12	111.7 56.9 7.67	106.1 90.6 7.95	115.6 80.6 8.23	125.6 62.1 8.23
100   TC SHC kW	86.0 73.8 7.64	94.5 62.3 8.26	103.6 50.3 8.26	91.2 85.7 8.14	99.8 71.3 8.44	109.0 55.9 8.44	95.0 95.0 8.76	103.3 80.6 8.57	112.7 61.1 8.57
105   TC SHC kW	83.7 72.7 7.90	92.1 61.2 8.24	101.0 49.3 8.57	88.8 84.5 8.11	97.3 70.3 8.44	106.3 54.9 8.76	92.8 82.6 8.85	100.4 85.5 8.88	109.6 60.0 8.88
115   TC SHC kW	79.3 70.5 8.44	87.2 59.2 8.82	95.7 47.2 9.19	83.9 81.9 8.66	91.8 68.2 9.03	100.5 52.9 9.40	88.5 88.5 8.87	94.7 76.3 9.15	103.5 57.9 9.52

38AKS013/40RM012 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	3000			4000			5000		
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85   TC SHC kW	103.3 94.8 7.08	112.0 78.3 7.30	122.1 61.3 7.54	109.4 89.8 7.23	116.5 88.4 7.40	126.6 115.5 7.38	115.5 109.9 7.48	119.9 100.9 7.70	129.6 75.2 7.70
95   TC SHC kW	98.3 92.3 7.68	106.6 76.1 7.94	116.3 59.2 8.23	105.0 87.8 7.89	110.6 80.6 8.06	120.3 66.2 8.33	110.5 110.5 8.05	113.9 98.5 8.15	123.1 72.9 8.41
100   TC SHC kW	95.9 91.3 7.80	103.8 75.1 8.25	113.3 68.1 8.56	102.6 86.8 8.21	107.8 83.8 8.38	117.1 65.1 8.67	108.0 108.0 8.38	111.0 97.4 8.48	119.8 71.9 8.48
105   TC SHC kW	93.4 90.0 8.27	101.0 74.0 8.55	110.3 57.1 8.88	106.6 85.6 8.53	104.9 86.9 9.00	113.9 64.0 9.00	105.4 105.4 8.71	108.0 96.1 8.80	116.5 70.8 9.09
115   TC SHC kW									



## COMBINATION RATINGS — 4-ROW HIGH-CAPACITY COILS — ENGLISH (cont)

**38AKS013/40RM014 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	3750			5000			6250		
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85 TC SHC kW	108.9 106.0 7.23	118.5 88.0 7.47	129.0 68.1 7.71	116.5 116.5 7.42	123.3 101.9 7.59	133.8 76.8 7.82	122.7 122.7 7.57	126.4 114.5 7.66	136.8 84.9 7.89
95 TC SHC kW	103.6 103.6 7.87	112.6 85.6 8.14	122.7 65.8 8.43	111.5 111.5 8.10	117.0 99.5 8.28	127.1 74.6 8.56	117.3 117.3 8.28	122.5 114.1 8.69	129.7 82.5 8.63
100 TC SHC kW	101.1 101.1 8.19	109.7 84.5 8.47	119.5 64.7 8.78	109.0 98.3 8.44	113.8 73.4 8.61	123.6 114.5 8.91	114.5 110.2 8.62	116.5 108.7 8.69	126.2 81.3 8.98
105 TC SHC kW	98.7 98.7 8.50	106.7 83.4 8.79	116.3 63.6 9.13	106.5 97.0 8.78	110.6 97.0 8.93	120.1 72.2 9.26	111.7 111.7 8.96	113.2 108.7 9.02	122.6 80.2 9.33
115 TC SHC kW	94.0 94.0 9.13	100.5 81.0 9.42	109.7 61.3 9.80	101.2 101.2 9.44	103.9 94.3 9.56	113.0 69.8 9.93	106.0 106.0 9.64	106.6 105.1 9.67	115.3 77.9 10.02

**38AKS014/40RM016 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	4500			6000			7500		
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85 TC SHC kW	131.8 125.8 8.46	144.1 99.0 8.68	157.3 68.6 8.89	140.9 140.9 8.63	150.2 117.9 8.79	163.6 80.1 8.98	148.8 148.8 8.76	154.3 134.9 8.85	167.9 91.2 9.04
95 TC SHC kW	125.9 9.31	137.3 9.57	150.0 66.9 9.85	135.4 135.4 9.52	143.0 9.70	155.8 78.4 9.97	142.8 142.8 9.69	146.6 132.2 9.77	159.6 89.5 10.04
100 TC SHC kW	122.9 9.72	134.0 10.00	146.3 66.0 10.31	132.6 132.6 9.96	139.4 115.0 10.14	151.9 77.6 10.45	139.6 139.6 10.14	144.3 132.5 10.42	155.4 88.5 10.52
105 TC SHC kW	121.2 10.30	130.6 10.43	142.7 65.2 10.76	129.7 129.7 10.40	135.6 113.8 10.57	147.9 76.7 10.90	136.4 136.4 10.59	139.0 129.5 10.60	151.2 87.7 10.98
115 TC SHC kW	114.7 10.93	123.8 9.33	135.3 63.5 11.65	123.9 123.9 11.26	128.3 111.5 11.41	139.9 75.0 11.80	130.2 130.2 11.47	131.5 126.1 11.51	142.9 86.0 11.89

**38AKS014/40RM012 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	3000			4000			5000		
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85 TC SHC kW	115.8 100.7 8.27	126.3 84.2 8.50	137.9 67.3 8.75	122.7 116.7 8.43	132.1 95.9 8.62	143.8 74.4 8.86	128.7 128.7 8.55	136.4 107.2 8.71	148.2 81.4 8.94
95 TC SHC kW	110.8 98.3 9.03	120.7 81.9 9.31	131.8 64.9 9.60	117.3 113.6 9.22	126.1 93.5 9.46	137.2 9.74	123.6 9.39	130.0 9.55	141.2 79.1 9.84
100 TC SHC kW	108.3 97.2 9.40	117.9 80.7 9.70	128.7 63.8 10.02	114.6 112.5 9.61	123.1 92.2 9.86	134.0 70.9 10.18	121.1 121.1 9.80	126.8 103.9 9.97	137.7 77.8 10.27
105 TC SHC kW	105.8 96.0 9.77	115.0 79.5 10.09	125.6 62.6 10.44	111.9 111.9 9.98	119.9 91.0 10.25	130.7 69.8 10.60	118.5 118.5 10.21	124.5 103.2 10.51	134.1 76.6 10.70
115 TC SHC kW	100.6 93.5 10.49	109.3 77.1 10.86	119.4 60.4 11.26	107.2 107.2 10.77	113.8 88.8 11.03	123.9 67.4 11.42	113.2 113.2 11.01	117.2 99.8 11.17	126.9 74.3 11.53

**38AKS016/40RM014 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	3750			5000			6250		
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85 TC SHC kW	149.6 121.1 11.96	163.5 95.5 12.41	178.2 69.3 12.86	158.2 143.1 12.23	172.3 111.4 12.67	187.2 78.5 13.13	163.9 163.9 12.42	178.1 126.3 12.86	193.3 87.4 13.31
95 TC SHC kW	143.5 118.7 12.95	156.9 93.3 13.48	171.0 67.3 14.01	154.1 140.1 13.27	165.0 109.2 13.78	181.8 77.2 14.82	157.6 157.6 13.51	170.5 124.2 14.00	184.8 85.5 14.52
100 TC SHC kW	140.3 117.6 13.43	153.4 92.2 14.00	168.4 66.7 14.80	148.2 139.0 13.78	161.4 108.1 14.33	175.4 75.5 14.89	154.3 154.3 14.04	166.5 123.1 14.54	180.8 84.5 15.11
105 TC SHC kW	137.2 116.4 13.91	150.0 91.1 14.52	163.6 65.2 15.12	144.9 137.7 14.29	157.7 107.1 14.87	171.4 74.6 15.46	151.3 151.3 14.57	163.7 122.5 15.30	176.5 83.5 15.68
115 TC SHC kW	131.0 114.1 14.90	143.2 89.0 15.56	156.0 63.2 16.23	144.9 134.7 15.29	157.7 105.0 15.94	171.4 72.7 16.61	151.3 145.2 15.67	163.7 122.5 16.16	176.5 83.5 16.82

**38AKS014/40RM016 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	3750			5000			6250		
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85 TC SHC kW	123.1 113.3 8.36	134.4 94.1 8.59	146.3 73.8 8.81	129.9 129.9 8.50	140.1 108.4 8.70	152.8 82.8 8.92	137.4 137.4 8.64	144.0 121.6 8.77	156.7 91.0 8.98
95 TC SHC kW	116.8 110.4 9.16	129.8 92.1 9.72	141.5 72.0 10.01	124.2 124.2 9.36	133.0 105.3 9.57	144.5 80.1 9.85	130.9 130.9 9.52	136.7 119.0 9.67	148.1 88.1 9.93
100 TC SHC kW	114.0 108.7 9.55	124.4 89.8 9.86	135.6 69.9 10.17	121.5 121.5 9.78	129.5 104.2 10.00	140.7 78.6 10.30	128.0 128.0 9.96	133.0 116.9 10.10	145.4 87.2 10.59
105 TC SHC kW	112.0 107.9 10.09	121.1 88.6 10.27	132.0 68.6 10.60	119.5 119.5 10.34	127.2 103.1 10.57	137.0 77.4 10.75	125.9 125.9 10.55	130.5 116.6 10.70	140.3 85.5 10.85
115 TC SHC kW	105.4 104.2 10.69	114.6 86.1 11.06	125.0 66.1 11.45	113.3 113.3 11.01	119.3 100.2 11.24	129.5 74.8 11.62	119.3 119.3 11.25	122.0 112.4 11.34	132.4 82.9 11.72

**38AKS016/40RM016 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	4500			6000			7500		
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85 TC SHC kW	159.3 140.9 12.23	173.7 117.7 12.68	189.0 93.4 13.15	168.0 162.6 12.51	182.7 135.5 12.96	198.1 104.5 13.41	175.8 175.8 12.74	188.0 151.6 13.11	203.7 114.6 13.57
95 TC SHC kW	152.6 137.6 13.28	166.6 114.7 13.80	181.1 90.5 14.34	160.1 158.0 13.60	174.6 132.4 14.10	187.6 100.9 14.64	169.5 148.2 13.92	179.5 148.2 14.28	194.7 111.6 14.81
100 TC SHC kW	149.3 135.9 13.79	163.0 113.3 14.36	177.3 89.1 14.92	157.3 137.3 14.12	170.5 130.8 14.65	186.2 100.4 14.49	166.2 166.2 14.49	175.4 146.6 14.84	190.1 110.0 15.42
105 TC SHC kW	146.0 134.4 14.29	159.4 111.9 14.90	174.5 88.1 15.67	154.1 154.1 14.66	167.6 130.8 15.43	180.7 100.4 15.80	163.6 163.6 15.20	171.1 145.1 15.40	185.5 108.5 16.01

# Performance data (cont)



## COMBINATION RATINGS — 4-ROW HIGH-CAPACITY COILS — ENGLISH (cont)

### 38AKS016/40RM024 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	6,000			8,000			10,000		
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85 TC SHC kW	172.3 166.3 12.79	187.7 129.9 13.27	204.0 89.3 13.75	184.4 184.4 13.17	194.8 154.5 13.48	211.4 104.2 13.97	193.7 193.7 13.44	199.7 176.8 13.64	216.3 118.4 14.12
95 TC SHC kW	165.3 165.3 13.89	182.3 128.6 14.99	195.4 177.6 14.99	177.6 152.3 14.35	186.5 102.3 14.69	202.2 186.6 15.24	186.6 186.6 14.68	190.9 174.1 14.85	206.8 116.5 15.41
100 TC SHC kW	161.7 161.7 14.43	175.5 126.7 15.00	192.3 86.8 15.87	174.1 151.3 14.93	182.2 101.3 15.27	197.5 183.0 15.85	183.0 186.4 15.30	186.4 172.7 15.43	203.5 116.3 16.32
105 TC SHC kW	158.2 158.2 14.96	171.5 125.6 15.55	186.5 85.3 16.19	170.7 150.2 15.51	177.9 100.3 15.84	192.9 179.1 16.46	179.1 171.3 15.89	181.9 171.3 16.01	196.9 114.5 16.62
115 TC SHC kW	152.4 152.4 16.13	165.6 125.0 17.08	177.5 83.2 17.39	163.6 163.6 16.70	171.5 150.3 17.38	183.3 98.3 17.68	171.3 167.6 17.08	186.8 112.6 17.15	203.4 112.6 17.84

### 38AKS024/40RM016 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	4500			6000			7500		
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85 TC SHC kW	183.9 147.1 16.04	201.0 116.6 16.76	219.3 85.3 17.54	195.2 136.1 16.52	212.8 96.3 17.27	231.0 195.6 18.03	203.0 154.4 16.85	220.5 106.9 17.59	238.8 18.35
95 TC SHC kW	176.1 144.2 17.29	195.4 115.1 18.60	209.8 82.7 18.92	186.3 133.2 17.78	203.1 93.5 18.59	220.6 193.3 19.43	193.7 151.7 18.14	210.5 104.4 18.95	228.0 19.77
100 TC SHC kW	171.8 142.4 17.88	188.0 112.3 18.74	205.0 80.9 19.60	181.9 131.7 18.41	198.3 92.2 19.25	215.3 189.4 20.13	189.4 150.0 18.79	205.2 103.1 19.62	222.4 20.48
105 TC SHC kW	167.8 141.1 18.50	183.4 110.9 19.39	200.2 79.6 20.30	177.5 166.3 19.06	193.4 130.3 19.92	210.0 90.9 20.83	185.1 185.1 19.47	200.0 148.7 20.29	216.9 101.8 21.21
115 TC SHC kW	159.4 137.8 19.76	174.4 108.1 20.72	190.2 76.9 21.70	168.5 162.1 20.35	183.5 127.6 21.30	199.3 88.4 22.27	176.5 176.5 20.86	189.2 145.6 21.64	205.3 99.3 22.64

### 38AKS024/40RM024 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	6,000			8,000			10,000		
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85 TC SHC kW	205.7 184.9 17.00	224.5 153.8 17.77	244.3 121.3 18.58	216.1 212.2 17.43	235.1 176.8 18.21	255.4 135.8 19.04	227.7 227.7 17.89	241.6 197.7 18.48	262.2 149.0 19.32
95 TC SHC kW	196.8 180.1 18.19	214.7 149.7 19.03	237.4 206.9 20.65	206.9 172.6 19.46	224.1 131.7 20.37	243.6 189.4 19.22	218.8 189.4 19.75	230.2 193.3 19.75	249.8 144.8 20.66
100 TC SHC kW	193.8 179.4 19.05	209.7 147.6 19.64	228.4 115.5 20.56	202.6 170.3 19.27	218.5 129.6 20.07	237.6 214.1 21.01	214.1 214.1 19.85	224.7 191.3 20.37	243.6 142.7 21.32
105 TC SHC kW	187.1 175.7 19.31	204.6 145.6 20.26	222.9 113.5 21.22	198.5 168.3 19.92	213.0 127.6 20.70	231.7 209.5 21.67	209.5 188.6 20.50	218.8 140.8 21.00	237.5 140.8 21.99
115 TC SHC kW	177.9 171.0 20.49	194.1 141.5 21.48	211.6 109.5 22.53	190.0 164.0 21.23	202.0 123.5 21.96	219.7 202.9 23.00	202.9 184.2 22.45	207.5 136.7 22.29	225.1 136.7 23.32

See Legend and Notes on page 63.

### 38AKS024/40RM028 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	7,500				10,000				
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85 TC SHC kW	219.1 212.0 17.96	238.8 176.1 18.80	259.8 136.4 19.69	234.2 204.1 18.60	248.0 153.7 19.20	269.2 246.5 20.09	246.5 246.5 19.11	254.5 229.5 19.49	275.5 170.0 20.37
95 TC SHC kW	212.5 211.7 19.94	227.5 171.8 20.08	247.7 132.0 21.05	224.9 199.4 19.95	236.3 149.6 20.52	256.6 236.6 21.46	236.6 224.0 20.49	241.7 165.8 20.76	262.2 163.6 21.77
100 TC SHC kW	205.0 205.0 19.82	223.4 170.8 21.22	241.9 130.1 21.72	220.4 202.4 21.61	230.6 147.7 21.16	250.5 231.6 22.17	250.5 231.6 21.19	255.7 221.6 22.43	255.7 221.6 22.43
105 TC SHC kW	199.7 199.7 20.43	216.6 167.7 21.38	235.9 128.0 22.41	215.6 195.3 21.30	224.7 145.5 21.83	244.1 226.3 22.87	226.3 221.6 21.90	229.8 214.1 22.09	249.1 214.1 23.14
115 TC SHC kW	194.0 194.0 22.37	205.4 163.3 22.62	223.7 123.9 23.74	206.1 206.1 22.65	212.6 190.4 23.07	235.2 142.5 24.94	235.2 215.7 23.25	229.8 212.8 23.34	243.4 212.8 24.44

### 38AKS028/40RM024 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	6,000				10,000				
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85 TC SHC kW	257.4 205.5 21.83	282.2 164.8 22.91	308.4 243.4 24.02	274.1 225.4 22.58	299.2 191.9 23.64	325.8 275.4 24.76	310.4 217.4 23.05	337.3 153.8 24.14	337.3 153.8 25.26
95 TC SHC kW	245.9 201.1 23.31	269.7 160.7 24.51	295.2 235.6 25.75	261.5 185.9 24.13	285.8 188.0 25.32	311.3 135.0 26.55	310.4 213.4 24.63	321.5 150.2 25.80	321.5 150.2 27.05
100 TC SHC kW	240.1 198.8 24.04	263.5 158.6 25.28	288.4 235.6 26.58	254.7 185.9 26.12	278.9 185.9 26.96	303.9 133.2 26.81	265.3 214.4 26.27	288.3 148.3 27.46	288.3 148.3 27.92
105 TC SHC kW	234.4 196.7 24.80	257.2 156.6 26.11	281.4 233.7 27.46	248.5 183.9 25.62	271.8 183.9 26.96	296.3 131.2 28.31	260.1 211.4 26.27	305.5 209.2 27.46	305.5 209.2 28.81
115 TC SHC kW	222.7 192.3 26.26	244.6 152.5 27.68	267.5 228.2 29.15	235.9 228.2 27.11	257.4 228.2 28.52	280.9 127.5 29.99	248.8 248.8 27.95	265.9 204.9 29.06	289.4 142.6 30.52

### 38AKS028/40RM028 WITH 4-ROW HIGH-CAPACITY COILS

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm								
	7,500				10,000				
	Evaporator Air — Ewb (F)								
	62	67	72	62	67	72	62	67	72
85 TC SHC kW	263.5 229.3 22.01	287.8 181.2 23.07	313.2 131.6 24.15	277.6 269.1 22.65	301.7 121.1 23.67	327.2 290.9 24.75	310.7 241.2 23.20	336.6 167.2 24.06	336.6 167.2 25.15
95 TC SHC kW	251.6 224.7 23.52	274.7 177.1 24.68	299.0 127.8 25.87	264.8 224.8 24.18	287.7 146.1 25.34	312.1 279.3 26.51	295.6 236.9 24.90	320.4 163.5 25.71	320.4 163.5 26.92
100 TC SHC kW	245.7 222.5 24.25	268.3 175.1 25.47	292.0 126.0 24.94	258.5 258.5 24.94	280.4 206.1 26.12	304.7 144.4 27.39	273.5 237.5 25.75	288.1 234.7 26.52	288.1 234.7 27.77
105 TC SHC kW	239.6 220.0 25.01	261.6 173.1 26.27	284.7 124.1 27.57	253.0 					



## COMBINATION RATINGS — 4-ROW HIGH-CAPACITY COILS — ENGLISH (cont)

**38AKS028/40RM034 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	9,000			12,000			15,000			
	Evaporator Air — Ewb (F)									
	62	67	72	62	67	72	62	67	72	
85	TC SHC kW	279.7 259.7 22.84	305.5 204.9 23.92	332.1 146.4 25.03	296.4 296.4 23.51	318.0 241.8 24.46	345.0 168.3 25.57	312.8 312.8 24.21	326.3 275.6 24.82	353.3 189.0 25.92
95	TC SHC kW	267.2 255.4 24.40	291.2 200.8 25.59	317.0 142.6 26.84	284.9 284.9 25.26	302.8 235.7 26.15	328.6 164.4 27.39	299.8 299.8 25.98	310.6 271.3 26.54	336.3 185.4 27.76
100	TC SHC kW	260.4 252.0 25.14	284.0 198.9 26.38	309.4 140.9 27.70	278.9 278.9 26.10	295.1 235.3 26.97	320.4 162.6 28.27	293.4 293.4 28.84	302.8 268.8 27.38	327.9 183.6 28.66
105	TC SHC kW	253.7 248.4 25.92	276.7 196.7 27.22	301.3 139.0 28.58	272.8 272.8 26.99	287.5 293.2 27.83	312.1 160.9 29.18	286.8 286.8 27.77	294.6 266.0 28.24	319.3 181.8 29.59
115	TC SHC kW	241.1 241.1 27.44	262.0 192.4 28.82	285.5 135.2 30.28	260.3 260.3 28.68	272.1 228.8 29.46	295.5 157.2 30.91	273.6 273.6 29.54	278.4 260.8 29.85	301.9 177.9 31.32

**38AKS034/40RM034 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	9,000			12,000			15,000			
	Evaporator Air — Ewb (F)									
	62	67	72	62	67	72	62	67	72	
85	TC SHC kW	297.9 267.9 24.55	324.3 210.7 25.70	352.1 151.5 26.90	312.9 312.9 25.21	338.8 247.8 26.34	366.7 173.3 27.53	330.1 330.1 25.95	347.7 282.1 26.72	375.8 194.1 27.91
95	TC SHC kW	284.9 262.5 26.07	310.5 147.7 27.35	337.1 300.9 28.66	300.9 243.5 26.87	323.5 317.7 27.99	350.5 277.4 29.32	317.7 317.7 27.72	331.8 190.2 28.39	358.8 188.5 29.73
100	TC SHC kW	278.3 260.2 26.81	303.5 204.5 28.15	329.5 145.9 29.51	295.0 241.3 27.69	315.7 311.0 28.80	342.2 311.0 30.17	311.0 275.1 28.56	323.8 188.5 29.21	350.3 186.6 30.58
105	TC SHC kW	271.7 257.6 27.57	296.2 202.4 28.97	321.7 143.9 30.40	289.0 289.0 28.55	307.8 239.1 29.63	333.7 165.8 31.06	304.3 304.3 29.42	315.7 272.9 30.06	341.5 186.6 31.49
115	TC SHC kW	257.9 251.0 28.99	280.9 198.0 30.49	305.5 139.9 32.08	276.5 276.5 30.21	291.8 234.5 31.18	316.4 161.9 32.75	290.6 290.6 31.11	299.1 267.7 31.66	323.6 182.7 33.21

**38AKS034/40RM028 WITH 4-ROW HIGH-CAPACITY COILS**

Temp (F) Air Entering Condenser (Edb)	Evaporator Air — Cfm									
	7,500			10,000			12,500			
	Evaporator Air — Ewb (F)									
	62	67	72	62	67	72	62	67	72	
85	TC SHC kW	280.1 235.6 23.75	305.6 187.1 24.89	332.5 137.0 26.04	294.8 276.9 24.40	320.8 217.7 25.54	347.7 154.8 26.70	307.1 307.1 24.96	331.0 246.9 25.98	357.9 172.1 27.15
95	TC SHC kW	267.9 230.9 25.19	292.7 182.8 26.45	318.7 133.3 27.75	282.5 271.9 25.93	306.8 213.6 27.17	332.7 151.0 28.43	295.4 295.4 26.59	316.4 242.9 27.65	342.2 168.4 28.90
100	TC SHC kW	261.8 228.6 25.88	286.0 180.6 27.20	311.1 131.1 28.55	276.0 268.8 26.67	299.7 211.6 27.94	325.0 149.2 29.27	289.5 289.5 27.39	308.7 240.7 28.43	334.2 166.7 29.76
105	TC SHC kW	255.7 226.3 26.61	279.2 178.5 27.98	303.7 129.1 27.39	268.8 268.8 27.39	292.5 209.5 28.74	317.1 147.4 30.13	283.4 283.4 28.22	300.9 238.5 29.23	325.8 164.8 30.63
115	TC SHC kW	243.0 221.5 27.99	265.3 174.2 29.48	288.7 125.2 31.00	256.2 256.2 28.88	277.4 205.3 30.27	301.1 143.6 31.81	271.0 271.0 29.86	285.0 234.0 30.76	308.7 160.8 32.29

### LEGEND

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

1. Direct interpolation is permissible. Do not extrapolate.
2. SHC is based on 80 F db air entering indoor coil.

### 3. Formulas:

$$Ldb\ F = Edb\ F - \frac{SHC\ Btuh}{1.10 \times cfm}$$

Lwb = wet-bulb temperature corresponding to enthalpy air leaving indoor coil (h|lwb)

$$Ldb\ F: h|lwb = hewb - \frac{TCBtuh}{4.5 \times cfm}$$

where hewb = enthalpy of air entering evaporator coil (Btuh/lb).

4. Capacities are based on 25 actual ft (40 equivalent ft) of interconnecting piping sized to the outdoor unit field connections. (Equivalent length is equal to the actual length plus a 50% allowance for fitting losses.) For other equivalent lengths, refer to the Carrier System Design Manual, Part 3, for line losses.

# Performance data (cont)



## 40RM WITH STANDARD COIL FAN PERFORMANCE DATA — 0-300 Pa ESP — SI

UNIT (Standard 3-Row Coil)	AIRFLOW (L/s)	EXTERNAL STATIC PRESSURE (Pa)											
		0		50		100		150		200		250	
		r/s	kW	r/s	kW	r/s	kW	r/s	kW	r/s	kW	r/s	kW
40RM 007	850	<b>6.64</b>	0.14	7.56	0.18	9.13	0.26	10.56	0.35	11.88	0.45	13.08	0.55
	990	7.43	0.21	8.28	0.25	9.71	0.34	11.00	0.44	12.22	0.54	13.37	0.66
	1130	8.30	0.30	9.02	0.35	10.36	0.45	11.55	0.55	12.67	0.66	13.73	0.78
	1270	9.06	0.41	9.79	0.47	11.06	0.58	12.17	0.69	13.20	0.81	14.19	0.94
	1420	9.91	0.55	<u>10.58</u>	0.61	<u>11.78</u>	0.74	<u>12.83</u>	0.86	<u>13.80</u>	0.99	<u>14.72</u>	1.12
40RM 008	1060	<b>4.55</b>	0.06	<b>8.21</b>	<b>0.27</b>	9.67	0.37	10.93	0.46	12.11	0.57	13.23	0.68
	1230	<b>5.37</b>	0.11	8.99	0.38	10.37	0.49	11.55	0.60	12.62	0.71	13.65	0.84
	1420	9.21	0.48	9.92	0.55	11.22	0.67	12.33	0.80	13.33	0.92	14.27	1.05
	1600	10.25	0.68	10.89	0.75	<u>12.09</u>	0.90	<u>13.15</u>	1.04	<u>14.10</u>	1.18	<u>14.99</u>	1.33
	1770	11.18	0.90	<u>11.76</u>	<u>0.98</u>	<u>12.88</u>	<u>1.14</u>	<u>13.90</u>	<u>1.30</u>	<u>14.82</u>	<u>1.45</u>	<u>15.67</u>	<u>1.61</u>
40RM 012	1420	<b>6.65</b>	0.22	<b>9.55</b>	<b>0.51</b>	10.89	0.64	12.04	0.77	13.06	0.89	14.02	1.02
	1650	<b>10.06</b>	0.68	10.69	0.76	11.90	0.91	13.00	1.06	13.97	1.20	14.86	1.35
	1890	11.33	0.99	11.88	1.08	12.96	1.25	<u>13.99</u>	<u>1.43</u>	<u>14.93</u>	<u>1.59</u>	<u>15.78</u>	<u>1.76</u>
	2120	12.61	1.38	<u>13.11</u>	<u>1.49</u>	<u>14.08</u>	<u>1.68</u>	<u>15.02</u>	<u>1.88</u>	<u>15.92</u>	<u>2.07</u>	<u>16.74</u>	<u>2.26</u>
	2360	<u>13.90</u>	<u>1.87</u>	<u>14.36</u>	<u>1.99</u>	<u>15.23</u>	<u>2.21</u>	<u>16.10</u>	<u>2.42</u>	<u>16.94</u>	<u>2.64</u>	<u>17.73</u>	<u>2.85</u>
40RM 014	1770	<b>6.57</b>	0.30	<b>7.54</b>	<b>0.39</b>	9.31	0.60	10.72	0.82	11.95	1.04	13.09	1.27
	2030	<b>7.27</b>	0.43	<b>8.11</b>	<b>0.52</b>	9.76	0.75	11.16	1.00	<u>12.36</u>	<u>1.25</u>	<u>13.44</u>	<u>1.50</u>
	2360	<b>8.20</b>	0.64	<b>8.92</b>	<b>0.74</b>	10.38	0.98	<u>11.73</u>	<u>1.26</u>	<u>12.91</u>	<u>1.55</u>	<u>13.97</u>	<u>1.84</u>
	2690	9.16	0.92	9.79	1.02	11.07	1.27	<u>12.33</u>	<u>1.58</u>	<u>13.48</u>	<u>1.90</u>	<u>14.53</u>	<u>2.23</u>
	2950	9.93	1.18	10.50	1.30	<u>11.66</u>	<u>1.56</u>	<u>12.83</u>	<u>1.87</u>	<u>13.95</u>	<u>2.22</u>	<u>14.98</u>	<u>2.58</u>
40RM 016	2120	<b>7.13</b>	0.44	<b>7.91</b>	<b>0.52</b>	9.50	0.74	10.94	0.99	<u>12.17</u>	<u>1.25</u>	<u>13.26</u>	<u>1.51</u>
	2500	<b>8.13</b>	0.68	<b>8.80</b>	<b>0.78</b>	10.15	1.00	11.48	1.27	<u>12.70</u>	<u>1.57</u>	<u>13.78</u>	<u>1.87</u>
	2830	<b>9.03</b>	0.96	<b>9.63</b>	<b>1.07</b>	10.81	1.30	<u>12.01</u>	<u>1.58</u>	<u>13.18</u>	<u>1.90</u>	<u>14.25</u>	<u>2.24</u>
	3210	10.07	1.37	10.62	1.48	<u>11.66</u>	<u>1.73</u>	<u>12.71</u>	<u>2.01</u>	<u>13.77</u>	<u>2.35</u>	<u>14.80</u>	<u>2.71</u>
	3540	10.99	1.81	11.50	1.93	<u>12.45</u>	<u>2.20</u>	<u>13.40</u>	<u>2.49</u>	<u>14.35</u>	<u>2.83</u>	<u>15.31</u>	<u>3.20</u>
40RM 024	2830	<b>8.86</b>	0.94	<b>9.48</b>	<b>1.04</b>	<u>10.65</u>	<u>1.26</u>	<u>11.84</u>	<u>1.53</u>	<u>13.01</u>	<u>1.85</u>	<u>14.10</u>	<u>2.19</u>
	3300	<b>10.14</b>	1.44	<b>10.69</b>	<b>1.56</b>	<u>11.70</u>	<u>1.81</u>	<u>12.71</u>	<u>2.08</u>	<u>13.73</u>	<u>2.41</u>	<u>14.74</u>	<u>2.77</u>
	3780	<b>11.43</b>	<b>2.11</b>	11.93	2.25	12.84	2.52	13.71	2.81	14.60	3.14	<u>15.49</u>	<u>3.51</u>
	4250	12.74	2.96	13.19	3.12	14.02	3.43	<u>14.81</u>	<u>3.74</u>	<u>15.59</u>	<u>4.08</u>	<u>16.37</u>	<u>4.45</u>
	4720	14.05	4.01	14.47	4.19	<u>15.23</u>	<u>4.54</u>	<u>15.96</u>	<u>4.88</u>	<u>16.66</u>	<u>5.24</u>	<u>17.36</u>	<u>5.62</u>
40RM 028	3540	<b>7.60</b>	<b>0.96</b>	<b>8.16</b>	<b>1.09</b>	<b>9.27</b>	<b>1.38</b>	10.34	1.68	11.30	1.97	<u>12.15</u>	<u>2.28</u>
	4130	<b>8.68</b>	<b>1.47</b>	<b>9.18</b>	<b>1.62</b>	10.13	1.94	11.07	2.29	<u>11.99</u>	<u>2.63</u>	<u>12.84</u>	<u>2.97</u>
	4720	9.78	2.15	10.23	2.32	11.07	2.67	<u>11.89</u>	<u>3.05</u>	<u>12.72</u>	<u>3.45</u>	<u>13.53</u>	<u>3.84</u>
	5310	10.89	3.01	11.30	3.20	<u>12.06</u>	<u>3.59</u>	<u>12.80</u>	<u>4.00</u>	<u>13.53</u>	<u>4.43</u>	<u>14.27</u>	<u>4.88</u>
	5900	<u>12.00</u>	<u>4.07</u>	<u>12.38</u>	<u>4.29</u>	<u>13.09</u>	<u>4.72</u>	<u>13.75</u>	<u>5.17</u>	<u>14.41</u>	<u>5.63</u>	<u>15.07</u>	<u>6.11</u>
40RM 034	4250	<b>8.68</b>	<b>1.48</b>	<b>9.17</b>	<b>1.68</b>	10.27	2.07	11.27	2.41	12.19	2.77	<u>13.03</u>	<u>3.13</u>
	4960	9.93	2.35	10.38	2.53	11.21	2.90	11.99	3.28	12.78	3.68	<u>13.56</u>	<u>4.10</u>
	5660	11.21	3.45	11.63	3.66	12.38	4.07	13.08	4.49	13.76	4.93	<u>14.45</u>	<u>5.39</u>
	6370	12.51	4.85	12.89	5.08	13.58	5.54	14.22	6.01	<u>14.83</u>	<u>6.49</u>	<u>15.44</u>	<u>6.99</u>
	7080	13.82	6.59	14.17	6.85	<u>14.81</u>	<u>7.36</u>	<u>15.40</u>	<u>7.88</u>	<u>15.97</u>	<u>8.40</u>	<u>16.52</u>	<u>8.94</u>

### LEGEND

ESP — External Static Pressure

**Bold** indicates field-supplied drive is 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 94-98, to complete the selection.

### NOTES:

1. Maximum allowable fan speed is 1100 rpm (18.3 r/s) for unit sizes 028 and 034; 1200 rpm (20 r/s) for all other sizes.
2. Fan performance is based on deductions for wet coil, clean 51 mm (2-in.) filters, and unit casing. See right for factory-supplied filter pressure drop.
3. The medium-static drive and standard motor combination is NOT AVAILABLE for 40RM016-028 units. Use the alternate motor if medium-static drive is required for these sizes.

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

UNIT 40RM	AIRFLOW (L/s)	PRESSURE DROP (Pa)
007	850	13
	1150	20
	1450	28
008	1000	17
	1400	27
	1800	38
012	1450	28
	1900	42
	2350	56
014	1750	15
	2350	24
	2950	33
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 WITH STANDARD COIL FAN PERFORMANCE DATA — 350-600 Pa ESP — SI

UNIT (Standard 3-Row Coil)	AIRFLOW (L/s)	EXTERNAL STATIC PRESSURE (Pa)									
		350		400		450		500		550	
40RM 007	850	15.16	0.78	16.08	0.89	16.94	1.01	17.74	1.13	18.51	1.26
	990	15.44	0.90	16.38	1.03	17.25	1.16	18.07	1.30	18.84	1.43
	1130	15.73	1.05	16.65	1.19	17.53	1.33	18.36	1.48	19.14	1.62
	1270	16.07	1.21	16.96	1.36	17.82	1.51	18.64	1.67	19.42	1.83
	1420	16.48	1.41	17.32	1.56	18.14	1.72	18.94	1.89	19.71	2.06
40RM 008	1060	15.31	0.94	16.25	1.07	17.14	1.20	17.98	1.34	18.77	1.48
	1230	15.60	1.10	16.51	1.24	17.39	1.39	18.23	1.54	19.03	1.70
	1420	16.05	1.33	16.90	1.48	17.74	1.64	18.54	1.80	19.32	1.97
	1600	16.64	1.62	17.42	1.78	18.20	1.94	18.95	2.11	19.69	2.29
	1770	17.23	1.93	17.97	2.09	18.70	2.26	19.41	2.44	—	—
40RM 012	1420	15.81	1.29	16.67	1.44	17.51	1.60	18.32	1.76	19.11	1.92
	1650	16.51	1.65	17.29	1.80	18.05	1.97	18.80	2.13	19.53	2.31
	1890	17.34	2.09	18.06	2.26	18.77	2.43	19.45	2.61	—	—
	2120	18.24	2.63	18.93	2.82	19.59	3.00	—	—	—	—
	2360	19.18	3.27	19.85	3.48	—	—	—	—	—	—
40RM 014	1770	15.15	1.77	16.13	2.04	17.10	2.33	18.00	2.62	18.85	2.92
	2030	15.41	2.04	16.34	2.32	17.24	2.62	18.07	2.92	18.92	3.24
	2360	15.84	2.43	16.70	2.74	17.54	3.05	18.35	3.38	19.14	3.71
	2690	16.36	2.89	17.19	3.23	17.98	3.57	18.75	3.92	19.49	4.27
	2950	16.79	3.30	17.61	3.66	18.39	4.03	19.13	4.40	19.84	4.77
40RM 016	2120	15.20	2.05	16.12	2.33	16.98	2.62	17.83	2.92	18.67	3.24
	2500	15.67	2.49	16.53	2.80	17.35	3.12	18.13	3.44	18.90	3.77
	2830	16.13	2.92	16.97	3.27	17.77	3.62	18.53	3.97	19.26	4.33
	3210	16.66	3.48	17.50	3.87	18.29	4.26	19.03	4.65	19.75	5.04
	3540	17.13	4.02	17.97	4.45	18.75	4.88	19.50	5.30	—	—
40RM 024	2830	15.90	2.86	16.75	3.18	17.53	3.52	18.30	3.89	19.03	4.23
	3300	16.50	3.53	17.33	3.91	18.17	4.32	18.92	4.70	19.60	5.10
	3780	17.13	4.32	17.97	4.76	18.83	5.22	19.55	5.67	—	—
	4250	17.88	5.30	18.67	5.76	19.48	6.24	—	—	—	—
	4720	18.77	6.52	19.43	6.99	—	—	—	—	—	—
40RM 028	3540	13.85	3.29	14.50	3.80	15.22	4.40	15.83	5.13	16.42	5.74
	4130	14.31	3.71	15.01	4.17	15.74	4.79	16.33	5.37	17.00	6.04
	4720	14.99	4.62	15.65	5.02	16.27	5.46	16.88	5.97	17.50	6.57
	5310	15.68	5.77	16.34	6.20	16.95	6.64	17.53	7.09	18.09	7.58
	5900	16.39	7.10	17.03	7.60	17.64	8.08	18.22	8.57	—	—
40RM 034	4250	14.43	3.88	14.98	4.36	15.84	4.96	16.48	5.50	17.16	6.21
	4960	15.04	4.92	15.71	5.32	16.33	5.74	16.93	6.20	17.51	6.70
	5660	15.81	6.34	16.47	6.81	17.10	7.28	17.69	7.74	18.26	8.21
	6370	16.66	8.04	17.27	8.57	17.88	9.10	—	—	—	—
	7080	17.61	10.06	18.16	10.64	—	—	—	—	—	—

### LEGEND

**ESP** — External Static Pressure

**Bold** indicates field-supplied drive is 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 94-98, to complete the selection.

### NOTES:

1. Maximum allowable fan speed is 1100 rpm (18.3 r/s) for unit sizes 028 and 034; 1200 rpm (20 r/s) for all other sizes.
2. Fan performance is based on deductions for wet coil, clean 51 mm (2-in.) filters, and unit casing. See right for factory-supplied filter pressure drop.
3. The medium-static drive and standard motor combination is NOT AVAILABLE for 40RM016-028 units. Use the alternate motor if medium-static drive is required for these sizes.

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

UNIT 40RM	AIRFLOW (L/s)	PRESSURE DROP (Pa)
007	850	13
	1150	20
	1450	28
008	1000	17
	1400	27
	1800	38
012	1450	28
	1900	42
	2350	56
014	1750	15
	2350	24
	2950	33
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 (cont)



## 40RM WITH STANDARD COIL FAN PERFORMANCE DATA — 0.0-1.2 in. wg ESP — ENGLISH

UNIT (Standard 3-Row Coil)	AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)													
		0.0		0.2		0.4		0.6		0.8		1.0			
40RM 007	1,800	399	0.19	454	0.24	548	0.35	634	0.47	713	0.60	785	0.74	850	0.89
	2,100	446	0.28	497	0.34	583	0.46	660	0.59	733	0.73	802	0.88	867	1.05
	2,400	498	0.40	541	0.47	622	0.60	693	0.74	760	0.89	824	1.05	885	1.22
	2,700	544	0.55	588	0.63	663	0.78	730	0.93	792	1.09	851	1.26	909	1.44
	3,000	594	0.73	635	0.82	707	0.99	770	1.15	828	1.32	883	1.50	937	1.69
40RM 008	2,250	273	0.08	493	0.37	580	0.49	656	0.62	727	0.76	794	0.92	858	1.08
	2,600	322	0.15	540	0.52	622	0.66	693	0.81	757	0.96	819	1.12	878	1.29
	3,000	552	0.65	595	0.73	673	0.91	740	1.07	800	1.24	856	1.41	910	1.60
	3,400	615	0.91	653	1.01	726	1.21	789	1.40	846	1.59	899	1.78	950	1.97
	3,750	671	1.20	706	1.31	773	1.53	834	1.74	889	1.95	940	2.16	988	2.37
40RM 012	3,000	399	0.29	573	0.69	654	0.86	722	1.03	784	1.19	841	1.37	896	1.55
	3,500	604	0.92	641	1.02	714	1.22	780	1.42	838	1.61	892	1.81	942	2.01
	4,000	680	1.33	713	1.45	778	1.68	839	1.91	896	2.14	947	2.36	995	2.58
	4,500	756	1.86	787	1.99	845	2.26	901	2.52	955	2.78	1005	3.03	1051	3.28
	5,000	834	2.51	861	2.67	914	2.96	966	3.25	1016	3.54	1064	3.82	1109	4.11
40RM 014	3,750	394	0.40	453	0.52	558	0.80	643	1.10	717	1.39	785	1.71	848	2.04
	4,300	436	0.57	487	0.70	586	1.00	670	1.34	742	1.67	806	2.01	867	2.36
	5,000	492	0.86	535	0.99	623	1.31	704	1.69	775	2.08	838	2.47	896	2.86
	5,700	550	1.23	587	1.37	664	1.71	740	2.11	809	2.55	872	2.99	929	3.43
	6,250	596	1.59	630	1.74	700	2.09	770	2.51	837	2.97	899	3.45	955	3.94
40RM 016	4,500	428	0.59	475	0.70	570	0.99	656	1.33	730	1.68	796	2.02	856	2.38
	5,300	488	0.92	528	1.04	609	1.34	689	1.71	762	2.11	827	2.51	886	2.92
	6,000	542	1.29	578	1.43	649	1.74	721	2.11	791	2.55	855	3.00	914	3.46
	6,800	604	1.83	637	1.99	700	2.32	763	2.70	826	3.15	888	3.64	946	4.15
	7,500	660	2.42	690	2.59	747	2.95	804	3.34	861	3.79	919	4.29	975	4.83
40RM 024	6,000	532	1.25	569	1.39	639	1.69	711	2.06	781	2.48	846	2.93	905	3.39
	7,000	608	1.93	641	2.09	702	2.42	763	2.80	824	3.23	885	3.71	943	4.23
	8,000	686	2.83	716	3.01	770	3.38	823	3.77	876	4.21	930	4.70	983	5.24
	9,000	764	3.97	791	4.18	841	4.59	888	5.02	935	5.47	982	5.96	1030	6.51
	10,000	843	5.38	868	5.62	914	6.09	957	6.55	1000	7.02	1042	7.53	1084	8.08
40RM 028	7,500	456	1.29	490	1.47	556	1.85	621	2.25	678	2.64	729	3.06	778	3.60
	8,750	521	1.98	551	2.18	608	2.61	664	3.07	720	3.53	770	3.99	816	4.45
	10,000	587	2.88	614	3.11	664	3.59	714	4.09	763	4.62	812	5.15	857	5.68
	11,250	653	4.03	678	4.29	724	4.82	768	5.37	812	5.95	856	6.54	899	7.14
	12,500	720	5.46	743	5.75	785	6.33	825	6.93	865	7.55	904	8.20	944	8.86
40RM 034	9,000	521	1.99	550	2.25	616	2.77	676	3.23	731	3.72	782	4.20	829	4.70
	10,500	596	3.16	623	3.40	672	3.89	720	4.40	767	4.94	814	5.50	859	6.05
	12,000	673	4.63	698	4.90	743	5.45	785	6.02	826	6.62	867	7.23	908	7.87
	13,500	751	6.51	773	6.82	815	7.44	853	8.06	890	8.71	927	9.38	963	10.07
	15,000	829	8.84	850	9.19	888	9.88	924	10.57	958	11.27	991	11.99	1024	12.73

### LEGEND

ESP — External Static Pressure

**Bold** indicates field-supplied drive is 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 94-98, to complete the selection.

### NOTES:

1. Maximum allowable fan speed is 1100 rpm (18.3 r/s) for unit sizes 028 and 034; 1200 rpm (20 r/s) for all other sizes.
2. Fan performance is based on deductions for wet coil, clean 51 mm (2-in.) filters, and unit casing. See right for factory-supplied filter pressure drop.
3. The medium-static drive and standard motor combination is NOT AVAILABLE for 40RM016-028 units. Use the alternate motor if medium-static drive is required for these sizes.

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

UNIT 40RM	AIRFLOW (Cfm)	PRESSURE DROP (in. wg)
007	1,800	0.05
	2,400	0.08
	3,000	0.11
008	2,250	0.07
	3,000	0.11
	3,750	0.15
012	3,000	0.11
	4,000	0.17
	5,000	0.23
014	3,750	0.06
	5,000	0.10
	6,250	0.13
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 WITH STANDARD COIL FAN PERFORMANCE DATA — 1.4-2.4 in. wg ESP — ENGLISH

UNIT (Standard 3-Row Coil)	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
40RM 007	1,800	910	1.04	965	1.20	1016	1.36	1065	1.52	1111	1.69	1155	1.86
	2,100	927	1.21	983	1.38	1035	1.56	1084	1.74	1131	1.92	1175	2.11
	2,400	944	1.41	999	1.59	1052	1.78	1101	1.98	1149	2.18	1193	2.38
	2,700	964	1.63	1018	1.82	1069	2.03	1118	2.24	1165	2.45	—	—
	3,000	989	1.89	1039	2.10	1089	2.31	1136	2.53	1183	2.76	—	—
40RM 008	2,250	918	1.26	975	1.43	1029	1.62	1079	1.80	1126	1.99	1172	2.18
	2,600	936	1.48	991	1.67	1044	1.87	1094	2.07	1142	2.28	1188	2.49
	3,000	963	1.79	1014	1.99	1064	2.20	1113	2.42	1159	2.64	—	—
	3,400	998	2.18	1045	2.39	1092	2.61	1137	2.83	1182	3.07	—	—
	3,750	1034	2.58	1078	2.80	1122	3.03	1164	3.27	—	—	—	—
40RM 012	3,000	949	1.74	1000	1.93	1050	2.14	1099	2.36	1147	2.58	1192	2.81
	3,500	990	2.21	1037	2.42	1083	2.64	1128	2.86	1172	3.10	—	—
	4,000	1040	2.80	1084	3.03	1126	3.26	1167	3.50	—	—	—	—
	4,500	1094	3.53	1136	3.78	1176	4.03	—	—	—	—	—	—
	5,000	1151	4.39	1191	4.66	—	—	—	—	—	—	—	—
40RM 014	3,750	909	2.37	968	2.74	1026	3.12	1080	3.51	1131	3.92	1181	4.32
	4,300	925	2.73	980	3.11	1034	3.52	1084	3.92	1135	4.35	1184	4.78
	5,000	950	3.26	1002	3.67	1052	4.09	1101	4.53	1148	4.98	1190	5.44
	5,700	981	3.88	1031	4.33	1079	4.79	1125	5.25	1169	5.73	—	—
	6,250	1007	4.42	1057	4.91	1103	5.40	1148	5.90	1191	6.40	—	—
40RM 016	4,500	912	2.75	967	3.13	1019	3.52	1070	3.92	1120	4.35	1168	4.79
	5,300	940	3.33	992	3.75	1041	4.18	1088	4.61	1134	5.06	1179	5.52
	6,000	968	3.92	1018	4.38	1066	4.85	1112	5.32	1156	5.80	1198	6.29
	6,800	1000	4.67	1050	5.19	1097	5.71	1142	6.23	1185	6.76	—	—
	7,500	1028	5.39	1078	5.97	1125	6.54	1170	7.11	—	—	—	—
40RM 024	6,000	954	3.83	1005	4.27	1052	4.72	1098	5.22	1142	5.67	—	—
	7,000	990	4.74	1040	5.24	1090	5.80	1135	6.30	1176	6.84	—	—
	8,000	1028	5.79	1078	6.38	1130	7.00	1173	7.60	—	—	—	—
	9,000	1073	7.11	1120	7.72	1169	8.37	—	—	—	—	—	—
	10,000	1126	8.75	1166	9.37	—	—	—	—	—	—	—	—
40RM 028	7,500	831	4.41	870	5.10	913	5.90	950	6.88	985	7.70	—	—
	8,750	859	4.97	901	5.59	944	6.42	980	7.20	1020	8.10	—	—
	10,000	900	6.20	939	6.74	976	7.33	1013	8.00	1050	8.82	—	—
	11,250	941	7.73	980	8.32	1017	8.90	1052	9.51	1086	10.16	—	—
	12,500	984	9.53	1022	10.19	1058	10.84	1093	11.49	—	—	—	—
40RM 034	9,000	866	5.20	899	5.85	950	6.65	989	7.38	1029	8.32	1077	9.74
	10,500	902	6.60	942	7.14	980	7.70	1016	8.31	1051	8.99	1085	9.77
	12,000	949	8.50	988	9.14	1026	9.76	1062	10.38	1095	11.01	—	—
	13,500	1000	10.78	1036	11.49	1073	12.21	—	—	—	—	—	—
	15,000	1057	13.49	1090	14.28	—	—	—	—	—	—	—	—

### LEGEND

**ESP** — External Static Pressure

**Bold** indicates field-supplied drive is 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 94-98, to complete the selection.

### NOTES:

1. Maximum allowable fan speed is 1100 rpm (18.3 r/s) for unit sizes 028 and 034; 1200 rpm (20 r/s) for all other sizes.
2. Fan performance is based on deductions for wet coil, clean 51 mm (2-in.) filters, and unit casing. See right for factory-supplied filter pressure drop.
3. The medium-static drive and standard motor combination is NOT AVAILABLE for 40RM016-028 units. Use the alternate motor if medium-static drive is required for these sizes.

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

UNIT 40RM	AIRFLOW (Cfm)	PRESSURE DROP (in. wg)
007	1,800	0.05
	2,400	0.08
	3,000	0.11
008	2,250	0.07
	3,000	0.11
	3,750	0.15
012	3,000	0.11
	4,000	0.17
	5,000	0.23
014	3,750	0.06
	5,000	0.10
	6,250	0.13
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 (cont)



## FAN PERFORMANCE DATA — 40RM WITH HIGH-CAPACITY COIL — 0-300 Pa ESP — 50 Hz, SI

UNIT 40RM (High-Capacity 4-Row Coil)	AIRFLOW (L/s)	EXTERNAL STATIC PRESSURE (Pa)													
		0		50		100		150		200		250			
		r/s	kW	r/s	kW	r/s	kW	r/s	kW	r/s	kW	r/s	kW		
007	850	<b>6.98</b>	<b>0.16</b>	7.86	0.19	9.40	0.27	10.81	0.37	12.11	0.47	13.29	0.57	14.36	0.69
	990	7.84	0.23	8.64	0.27	10.03	0.36	11.31	0.46	12.52	0.57	13.65	0.69	14.71	0.81
	1130	8.73	0.33	9.46	0.38	10.75	0.48	11.91	0.59	13.01	0.70	14.07	0.83	15.08	0.96
	1270	9.63	0.45	<u>10.31</u>	<u>0.51</u>	<u>11.51</u>	<u>0.62</u>	12.58	0.74	13.60	0.86	14.58	0.99	15.53	1.13
	1420	10.55	0.61	<u>11.18</u>	<u>0.67</u>	<u>12.30</u>	<u>0.80</u>	13.31	0.92	14.26	1.05	<u>15.17</u>	<u>1.19</u>	16.05	1.33
008	1060	<b>4.83</b>	<b>0.07</b>	8.50	0.29	9.91	0.38	11.15	0.48	<u>12.32</u>	<u>0.59</u>	13.44	<u>0.71</u>	14.50	0.83
	1230	<b>5.81</b>	<b>0.14</b>	9.35	0.41	10.67	0.52	<u>11.81</u>	<u>0.63</u>	<u>12.88</u>	<u>0.74</u>	13.90	<u>0.87</u>	14.89	1.00
	1420	9.65	0.52	10.35	0.59	<u>11.59</u>	<u>0.71</u>	<u>12.66</u>	<u>0.84</u>	<u>13.64</u>	<u>0.97</u>	14.57	<u>1.10</u>	15.47	1.24
	1600	10.76	0.74	<u>11.39</u>	<u>0.81</u>	<u>12.54</u>	<u>0.96</u>	13.55	<u>1.10</u>	<u>14.48</u>	<u>1.24</u>	<u>15.34</u>	<u>1.39</u>	16.17	1.53
	1770	11.74	0.97	<u>12.32</u>	<u>1.06</u>	<u>13.40</u>	<u>1.22</u>	14.37	<u>1.38</u>	<u>15.25</u>	<u>1.53</u>	<u>16.07</u>	<u>1.69</u>	16.86	1.85
012	1420	<b>7.02</b>	<b>0.26</b>	<b>9.86</b>	<b>0.54</b>	11.17	0.67	12.28	0.79	13.29	0.92	14.23	<u>1.05</u>	15.14	1.19
	1650	10.44	0.73	11.06	0.80	12.25	0.96	13.31	<u>1.10</u>	<u>14.25</u>	<u>1.25</u>	<u>15.13</u>	<u>1.39</u>	15.96	1.54
	1890	11.76	1.06	12.31	1.15	<u>13.38</u>	<u>1.32</u>	14.37	<u>1.49</u>	<u>15.28</u>	<u>1.66</u>	<u>16.11</u>	<u>1.83</u>	16.89	1.99
	2120	<u>13.10</u>	<u>1.48</u>	<u>13.59</u>	<u>1.58</u>	<u>14.55</u>	<u>1.78</u>	<u>15.48</u>	<u>1.97</u>	<u>16.34</u>	<u>2.17</u>	<u>17.14</u>	<u>2.35</u>	17.89	2.54
	2360	14.45	2.01	<u>14.89</u>	<u>2.12</u>	<u>15.76</u>	<u>2.34</u>	<u>16.62</u>	<u>2.56</u>	<u>17.43</u>	<u>2.77</u>	<u>18.20</u>	<u>2.98</u>	18.92	3.19
014	1770	<b>6.84</b>	<b>0.32</b>	<b>7.78</b>	<b>0.41</b>	9.46	0.62	10.82	0.83	<u>12.02</u>	<u>1.05</u>	<u>13.13</u>	<u>1.28</u>	14.19	1.53
	2030	<b>7.58</b>	<b>0.46</b>	<b>8.40</b>	<b>0.55</b>	9.98	0.78	11.31	1.03	<u>12.47</u>	<u>1.27</u>	<u>13.52</u>	<u>1.52</u>	14.51	1.78
	2360	<b>8.57</b>	<b>0.69</b>	9.27	0.79	10.68	1.04	<u>11.96</u>	<u>1.31</u>	<u>13.09</u>	<u>1.60</u>	<u>14.11</u>	<u>1.88</u>	15.05	2.17
	2690	9.59	0.99	10.20	1.10	11.44	1.36	12.64	<u>1.66</u>	<u>13.74</u>	<u>1.98</u>	<u>14.74</u>	<u>2.30</u>	15.65	2.63
	2950	10.40	1.28	10.96	1.39	<u>12.09</u>	<u>1.67</u>	13.21	<u>1.98</u>	<u>14.27</u>	<u>2.33</u>	<u>15.25</u>	<u>2.68</u>	16.15	3.03
016	2120	<b>7.28</b>	<b>0.45</b>	<b>8.05</b>	<b>0.54</b>	9.60	0.75	11.00	1.00	<u>12.21</u>	<u>1.26</u>	<u>13.28</u>	<u>1.51</u>	14.27	1.78
	2500	<b>8.32</b>	<b>0.71</b>	8.97	0.80	10.29	1.02	11.59	<u>1.30</u>	<u>12.78</u>	<u>1.59</u>	<u>13.84</u>	<u>1.89</u>	14.80	2.19
	2830	9.25	1.00	9.83	1.10	10.99	1.33	<u>12.16</u>	<u>1.62</u>	<u>13.29</u>	<u>1.93</u>	<u>14.34</u>	<u>2.27</u>	15.30	2.60
	3210	10.33	1.42	10.85	1.54	<u>11.87</u>	<u>1.78</u>	<u>12.90</u>	<u>2.07</u>	<u>13.93</u>	<u>2.40</u>	<u>14.93</u>	<u>2.76</u>	15.87	3.14
	3540	11.29	1.88	<u>11.77</u>	<u>2.01</u>	<u>12.69</u>	<u>2.27</u>	<u>13.62</u>	<u>2.56</u>	<u>14.56</u>	<u>2.90</u>	<u>15.49</u>	<u>3.27</u>	16.40	3.67
024	2830	<b>9.03</b>	<b>0.96</b>	<b>9.62</b>	<b>1.06</b>	<b>10.77</b>	<b>1.29</b>	11.94	1.56	13.08	1.87	14.15	<u>2.20</u>	15.12	2.54
	3300	<b>10.34</b>	<b>1.48</b>	<b>10.86</b>	<b>1.60</b>	<b>11.85</b>	<b>1.85</b>	12.84	2.12	13.85	2.45	<u>14.84</u>	<u>2.80</u>	15.78	3.18
	3780	<b>11.67</b>	<b>2.17</b>	12.14	2.31	13.02	2.58	13.88	2.87	<u>14.75</u>	<u>3.20</u>	<u>15.63</u>	<u>3.56</u>	16.50	3.96
	4250	13.01	3.05	13.44	3.21	14.23	3.51	<u>15.00</u>	<u>3.82</u>	<u>15.77</u>	<u>4.16</u>	<u>16.54</u>	<u>4.53</u>	17.32	4.94
	4720	14.36	4.15	<u>14.75</u>	<u>4.32</u>	<u>15.48</u>	<u>4.66</u>	<u>16.18</u>	<u>4.99</u>	<u>16.87</u>	<u>5.35</u>	<u>17.56</u>	<u>5.73</u>	18.26	6.14
028	3540	<b>7.94</b>	<b>1.04</b>	<b>8.51</b>	<b>1.18</b>	9.65	1.48	10.73	1.79	<u>11.68</u>	<u>2.10</u>	<u>12.53</u>	<u>2.46</u>	13.40	2.95
	4130	<b>9.08</b>	<b>1.59</b>	9.57	1.75	10.55	2.10	<u>11.52</u>	<u>2.46</u>	<u>12.45</u>	<u>2.81</u>	<u>13.28</u>	<u>3.17</u>	14.04	3.55
	4720	10.24	2.33	10.68	2.51	<u>11.53</u>	<u>2.88</u>	<u>12.39</u>	<u>3.29</u>	<u>13.24</u>	<u>3.70</u>	<u>14.05</u>	<u>4.11</u>	14.80	4.51
	5310	11.42	3.26	<u>11.81</u>	<u>3.46</u>	<u>12.57</u>	<u>3.88</u>	<u>13.33</u>	<u>4.32</u>	<u>14.09</u>	<u>4.77</u>	<u>14.85</u>	<u>5.24</u>	15.58	5.70
	5900	<u>12.60</u>	<u>4.42</u>	<u>12.96</u>	<u>4.64</u>	<u>13.65</u>	<u>5.09</u>	<u>14.33</u>	<u>5.57</u>	<u>15.01</u>	<u>6.07</u>	<u>15.70</u>	<u>6.58</u>	<b>16.38</b>	<b>7.10</b>
034	4250	<b>8.99</b>	<b>1.62</b>	9.49	1.78	10.44	2.12	11.39	2.49	<u>12.32</u>	<u>2.86</u>	<u>13.18</u>	<u>3.22</u>	13.95	3.59
	4960	10.33	2.51	10.77	2.70	<u>11.59</u>	<u>3.08</u>	<u>12.40</u>	<u>3.49</u>	<u>13.22</u>	<u>3.92</u>	<u>14.03</u>	<u>4.35</u>	<b>14.79</b>	<b>4.78</b>
	5660	<u>11.68</u>	<u>3.68</u>	<u>12.07</u>	<u>3.90</u>	<u>12.81</u>	<u>4.33</u>	<u>13.52</u>	<u>4.77</u>	<u>14.23</u>	<u>5.25</u>	<u>14.95</u>	<u>5.74</u>	<u>15.66</u>	<u>6.23</u>
	6370	<u>13.04</u>	<u>5.18</u>	<u>13.40</u>	<u>5.42</u>	<u>14.07</u>	<u>5.90</u>	<u>14.71</u>	<u>6.39</u>	<u>15.34</u>	<u>6.90</u>	<u>15.97</u>	<u>7.44</u>	<u>16.61</u>	<u>7.98</u>
	7080	14.42	7.05	<b>14.74</b>	<b>7.31</b>	<b>15.36</b>	<b>7.84</b>	<b>15.94</b>	<b>8.38</b>	<b>16.51</b>	<b>8.93</b>	<b>17.08</b>	<b>9.51</b>	<b>17.65</b>	<b>10.10</b>

See Legend and Notes on page 72.



FAN PERFORMANCE DATA — 40RM WITH HIGH-CAPACITY COIL —  
350-600 Pa ESP — 50 Hz, SI

UNIT 40RM (High-Capacity 4-Row Coil)	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
007	850	15.34	0.80	16.25	0.92	17.10	1.03	17.90	1.16	18.66	1.28	19.39	1.41
	850	15.69	0.94	16.61	1.07	17.47	1.20	18.28	1.33	19.04	1.47	19.77	1.61
	1130	16.04	1.09	16.95	1.23	17.81	1.38	18.63	1.53	19.40	1.67	—	—
	1270	16.44	1.27	17.32	1.42	18.17	1.58	18.97	1.74	19.75	1.90	—	—
	1420	16.91	1.49	17.75	1.64	18.56	1.81	19.34	1.97	—	—	—	—
008	1060	15.50	0.96	16.43	1.10	17.31	1.23	18.14	1.37	18.93	1.51	19.68	1.66
	1230	15.84	1.14	16.75	1.28	17.62	1.43	18.45	1.58	19.24	1.74	—	—
	1420	16.34	1.38	17.19	1.54	18.01	1.70	18.81	1.86	19.59	2.03	—	—
	1600	16.97	1.69	17.76	1.85	18.52	2.02	19.27	2.19	—	—	—	—
	1770	17.61	2.01	18.35	2.18	19.07	2.35	19.77	2.53	—	—	—	—
012	1420	16.02	1.33	16.87	1.48	17.71	1.64	18.52	1.80	19.30	1.97	—	—
	1650	16.76	1.70	17.53	1.85	18.29	2.02	19.04	2.19	19.77	2.37	—	—
	1890	17.64	2.16	18.35	2.33	19.05	2.51	19.74	2.69	—	—	—	—
	2120	18.60	2.73	19.28	2.91	19.93	3.10	—	—	—	—	—	—
	2360	19.61	3.40	—	—	—	—	—	—	—	—	—	—
014	1770	15.21	1.78	16.19	2.06	17.13	2.34	18.04	2.64	18.91	2.94	19.75	3.25
	2030	15.46	2.05	16.37	2.33	17.26	2.63	18.12	2.94	18.96	3.26	19.78	3.59
	2360	15.94	2.46	16.78	2.77	17.60	3.08	18.40	3.40	19.18	3.73	19.94	4.07
	2690	16.51	2.95	17.32	3.28	18.09	3.62	18.84	3.96	19.57	4.31	—	—
	2950	16.99	3.39	17.78	3.74	18.54	4.10	19.26	4.47	19.96	4.84	—	—
016	2120	15.21	2.05	16.11	2.33	16.98	2.62	17.83	2.93	18.66	3.24	19.47	3.57
	2500	15.69	2.49	16.54	2.80	17.35	3.12	18.14	3.44	18.90	3.77	19.64	4.11
	2830	16.18	2.94	17.01	3.28	17.79	3.63	18.54	3.97	19.27	4.33	19.97	4.69
	3210	16.75	3.52	17.57	3.90	18.34	4.29	19.08	4.67	19.78	5.06	—	—
	3540	17.26	4.09	18.07	4.50	18.84	4.93	19.57	5.35	—	—	—	—
024	2830	16.01	2.88	16.85	3.22	17.64	3.56	18.39	3.91	19.12	4.26	—	—
	3300	16.67	3.57	17.50	3.96	18.28	4.36	19.03	4.75	19.73	5.15	—	—
	3780	17.35	4.39	18.17	4.82	18.95	5.27	19.68	5.72	—	—	—	—
	4250	18.11	5.37	18.88	5.83	19.63	6.31	—	—	—	—	—	—
	4720	18.96	6.58	19.67	7.05	—	—	—	—	—	—	—	—
028	3540	14.57	3.97	14.95	4.41	15.67	5.07	16.50	5.59	—	—	—	—
	4130	14.76	3.99	15.51	4.57	16.36	5.46	17.00	6.04	—	—	—	—
	4720	15.49	4.92	16.15	5.37	16.78	5.88	17.42	6.50	—	—	—	—
	5310	16.26	6.15	16.91	6.61	17.51	7.08	18.10	7.58	—	—	—	—
	5900	17.04	7.61	17.68	8.11	18.28	8.62	—	—	—	—	—	—
034	4250	14.68	4.00	15.38	4.49	16.12	5.14	17.00	6.15	—	—	—	—
	4960	15.51	5.20	16.17	5.63	16.80	6.09	17.41	6.61	—	—	—	—
	5660	16.35	6.72	17.01	7.21	17.64	7.69	18.23	8.18	—	—	—	—
	6370	17.24	8.54	17.87	9.10	—	—	—	—	—	—	—	—
	7080	18.22	10.70	—	—	—	—	—	—	—	—	—	—

See Legend and Notes on page 72.

# Performance data (cont)



## FAN PERFORMANCE DATA — 40RM WITH HIGH-CAPACITY COIL — 0.0-1.2 in. wg ESP — 50 Hz, ENGLISH

UNIT 40RM (High-Capacity 4-Row Coil)	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
007	1,800	419	0.21	471	0.26	564	0.37	649	0.49	727	0.63	797	0.77	862	0.92
	2,100	471	0.31	519	0.37	602	0.49	679	0.62	751	0.77	819	0.92	882	1.09
	2,400	524	0.44	568	0.51	645	0.64	715	0.79	781	0.94	844	1.11	905	1.28
	2,700	578	0.61	619	0.69	690	0.84	755	0.99	816	1.15	875	1.33	932	1.51
	3,000	633	0.81	671	0.90	738	1.07	799	1.24	856	1.41	910	1.60	963	1.79
008	2,250	290	0.10	510	0.39	594	0.51	669	0.65	739	0.79	806	0.95	870	1.12
	2,600	349	0.19	561	0.55	640	0.70	709	0.84	773	1.00	834	1.16	893	1.34
	3,000	579	0.70	621	0.79	695	0.96	759	1.12	818	1.30	874	1.47	928	1.66
	3,400	646	0.99	683	1.09	752	1.29	813	1.48	869	1.67	920	1.86	970	2.06
	3,750	705	1.31	739	1.42	804	1.63	862	1.85	915	2.05	964	2.26	1011	2.48
012	3,000	421	0.35	592	0.73	670	0.90	737	1.06	797	1.23	854	1.41	908	1.59
	3,500	626	0.98	664	1.08	735	1.28	798	1.48	855	1.67	908	1.87	958	2.07
	4,000	706	1.42	738	1.54	803	1.77	862	2.00	917	2.23	967	2.45	1014	2.67
	4,500	786	1.99	815	2.12	873	2.39	929	2.65	980	2.90	1028	3.16	1073	3.41
	5,000	867	2.70	893	2.84	946	3.14	997	3.43	1046	3.72	1092	4.00	1135	4.28
014	3,750	410	0.43	467	0.55	567	0.83	649	1.12	721	1.41	788	1.72	851	2.05
	4,300	455	0.62	504	0.74	599	1.05	679	1.38	748	1.70	811	2.04	871	2.39
	5,000	514	0.92	556	1.06	641	1.39	718	1.76	786	2.14	847	2.52	903	2.91
	5,700	575	1.32	612	1.47	686	1.82	759	2.23	825	2.66	884	3.09	939	3.52
	6,250	624	1.71	657	1.87	725	2.24	793	2.66	856	3.12	915	3.59	969	4.06
016	4,500	437	0.61	483	0.72	576	1.01	660	1.35	732	1.69	797	2.03	856	2.38
	5,300	499	0.95	538	1.07	617	1.37	696	1.74	767	2.13	830	2.53	888	2.94
	6,000	555	1.34	590	1.48	659	1.79	730	2.17	798	2.59	860	3.04	918	3.49
	6,800	620	1.91	651	2.06	712	2.39	774	2.78	836	3.22	896	3.71	952	4.21
	7,500	677	2.52	706	2.69	761	3.04	817	3.44	873	3.89	929	4.39	984	4.93
024	6,000	542	1.29	577	1.42	646	1.72	716	2.09	785	2.51	849	2.95	907	3.40
	7,000	620	1.99	652	2.15	711	2.48	771	2.85	831	3.28	890	3.76	947	4.27
	8,000	700	2.92	728	3.10	781	3.46	833	3.85	885	4.29	938	4.78	990	5.32
	9,000	781	4.10	806	4.30	854	4.71	900	5.13	946	5.58	993	6.08	1039	6.62
	10,000	862	5.56	885	5.79	929	6.24	971	6.70	1012	7.18	1054	7.69	1096	8.24
028	7,500	476	1.39	510	1.58	579	1.99	644	2.40	701	2.81	752	3.29	804	3.96
	8,750	545	2.14	574	2.35	633	2.81	691	3.29	747	3.77	797	4.25	842	4.76
	10,000	615	3.12	641	3.36	692	3.87	743	4.41	794	4.96	843	5.51	888	6.05
	11,250	685	4.37	709	4.64	754	5.20	800	5.79	845	6.40	891	7.02	935	7.64
	12,500	756	5.92	778	6.22	819	6.83	860	7.47	901	8.14	942	8.83	983	9.52
034	9,000	539	2.18	569	2.39	626	2.85	683	3.34	739	3.83	791	4.32	837	4.82
	10,500	620	3.37	646	3.62	695	4.13	744	4.68	793	5.25	842	5.83	888	6.41
	12,000	701	4.94	724	5.22	769	5.80	811	6.40	854	7.04	897	7.69	940	8.36
	13,500	783	6.95	804	7.27	844	7.91	883	8.57	920	9.26	958	9.97	996	10.71
	15,000	865	9.45	884	9.81	921	10.52	956	11.24	991	11.98	1025	12.75	1059	13.54

See Legend and Notes on page 72.



**FAN PERFORMANCE DATA — 40RM WITH HIGH-CAPACITY COIL —  
1.4-2.4 in. wg ESP — 50 Hz, ENGLISH**

UNIT 40RM (High-Capacity 4-Row Coil)	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
007	1,800	921	1.07	975	1.23	1026	1.39	1074	1.55	1120	1.72	1164	1.90
	2,100	942	1.26	997	1.43	1048	1.61	1097	1.79	1143	1.97	1186	2.16
	2,400	963	1.47	1017	1.66	1069	1.85	1118	2.05	1164	2.25	—	—
	2,700	987	1.71	1039	1.91	1090	2.12	1138	2.33	1185	2.55	—	—
	3,000	1015	1.99	1065	2.20	1113	2.42	1161	2.65	—	—	—	—
008	2,250	930	1.29	986	1.47	1039	1.65	1089	1.84	1136	2.03	1181	2.22
	2,600	950	1.53	1005	1.72	1057	1.92	1107	2.13	1154	2.33	—	—
	3,000	980	1.86	1031	2.06	1081	2.27	1129	2.49	1175	2.72	—	—
	3,400	1018	2.26	1065	2.48	1111	2.70	1156	2.93	—	—	—	—
	3,750	1057	2.69	1101	2.92	1144	3.15	1186	3.39	—	—	—	—
012	3,000	961	1.78	1012	1.98	1062	2.19	1111	2.41	1158	2.64	—	—
	3,500	1005	2.27	1052	2.49	1098	2.71	1142	2.94	1186	3.18	—	—
	4,000	1058	2.90	1101	3.13	1143	3.36	1184	3.60	—	—	—	—
	4,500	1116	3.66	1157	3.91	1196	4.16	—	—	—	—	—	—
	5,000	1176	4.56	—	—	—	—	—	—	—	—	—	—
014	3,750	912	2.39	971	2.76	1028	3.14	1083	3.54	1135	3.95	1185	4.36
	4,300	928	2.75	982	3.13	1036	3.53	1087	3.94	1138	4.37	1187	4.81
	5,000	956	3.30	1007	3.71	1056	4.13	1104	4.56	1151	5.00	1196	5.46
	5,700	990	3.96	1039	4.40	1086	4.85	1130	5.31	1174	5.78	—	—
	6,250	1019	4.54	1067	5.02	1112	5.50	1156	5.99	1198	6.49	—	—
016	4,500	912	2.75	967	3.12	1019	3.52	1070	3.92	1120	4.35	1168	4.79
	5,300	942	3.34	992	3.76	1041	4.18	1088	4.61	1134	5.06	1179	5.52
	6,000	971	3.95	1020	4.40	1067	4.86	1112	5.33	1156	5.81	1198	6.29
	6,800	1005	4.72	1054	5.23	1101	5.75	1145	6.27	1187	6.79	—	—
	7,500	1036	5.48	1084	6.04	1131	6.61	1174	7.17	—	—	—	—
024	6,000	961	3.86	1011	4.31	1058	4.77	1104	5.24	1147	5.71	—	—
	7,000	1000	4.79	1050	5.32	1097	5.85	1142	6.38	1184	6.91	—	—
	8,000	1041	5.88	1090	6.47	1137	7.07	1181	7.67	—	—	—	—
	9,000	1086	7.21	1133	7.82	1178	8.47	—	—	—	—	—	—
	10,000	1138	8.83	1180	9.46	—	—	—	—	—	—	—	—
028	7,500	874	5.33	897	5.91	940	6.80	990	7.50	—	—	—	—
	8,750	886	5.36	930	6.13	982	7.32	1020	8.10	—	—	—	—
	10,000	930	6.60	969	7.20	1007	7.89	1045	8.71	—	—	—	—
	11,250	976	8.25	1014	8.86	1051	9.49	1086	10.17	—	—	—	—
	12,500	1023	10.20	1061	10.88	1097	11.56	—	—	—	—	—	—
034	9,000	881	5.37	923	6.03	967	6.89	1020	8.25	—	—	—	—
	10,500	930	6.97	970	7.55	1008	8.17	1045	8.86	—	—	—	—
	12,000	981	9.02	1021	9.67	1058	10.32	1094	10.97	—	—	—	—
	13,500	1035	11.45	1072	12.20	—	—	—	—	—	—	—	—
	15,000	1093	14.35	—	—	—	—	—	—	—	—	—	—

See Legend and Notes on page 72.

# Performance data (cont)



## LEGEND AND NOTES FOR STANDARD AND HIGH-CAPACITY COIL FAN PERFORMANCE DATA TABLES (English)

### LEGEND

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

**Bold** indicates field-supplied drive is required.

Plain type indicates standard motor and standard drive.

Underline indicates a different motor and drive combination other than the standard motor and standard drive combination is required. Refer to fan motor and drive tables, pages 94-98, to complete 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 table at right for factory-supplied filter pressure drop.
3. For 50 Hz units, the medium-static drive and standard motor combination is not available for 016-028 sizes. Use alternate motor if medium-static drive is required for these sizes.

### FACTORY-SUPPLIED FILTER PRESSURE DROP — ENGLISH

UNIT 40RM	AIRFLOW (Cfm)	PRESSURE DROP (in. wg)
007	1,800	0.05
	2,400	0.08
	3,000	0.11
008	2,250	0.07
	3,000	0.11
	3,750	0.15
012	3,000	0.11
	4,000	0.17
	5,000	0.23
014	3,750	0.06
	5,000	0.10
	6,250	0.13
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

## LEGEND AND NOTES FOR STANDARD AND HIGH CAPACITY COIL FAN PERFORMANCE DATA TABLES (SI)

### LEGEND

**ESP** — External Static Pressure

**Bold** indicates field-supplied drive is required.

Plain type indicates standard motor and standard drive.

Underline indicates a different motor and drive combination other than the standard motor and standard drive combination is required. Refer to fan motor and drive tables, pages 94-98, 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 table at right for factory-supplied filter pressure drop.
3. For 50 Hz units, the medium-static drive and standard motor combination is not available for 016-028 sizes. Use alternate motor if medium-static drive is required for these sizes.

### FACTORY-SUPPLIED FILTER PRESSURE DROP — SI

UNIT 40RM	AIRFLOW (L/s)	PRESSURE DROP (Pa)
007	850	13
	1150	20
	1450	28
008	1000	17
	1400	27
	1800	38
012	1450	28
	1900	42
	2350	56
014	1750	15
	2350	24
	2950	33
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 ACCESSORY PLENUM AIR THROW DATA — SI (m)

UNIT 40RM	AIRFLOW (L/s)	VANE DEFLECTION		
		Straight	22½°	45°
007	1150	11.71	9.91	7.20
008	1400	13.87	11.71	8.63
012	1900	16.65	13.93	9.99
014	2350	13.77	11.63	8.57
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 ACCESSORY PLENUM AIR THROW DATA — ENGLISH (Ft)

UNIT 40RM	AIRFLOW (Cfm)	VANE DEFLECTION		
		Straight	22½°	45°
007	2,400	39	33	24
008	3,000	45	38	28
012	4,000	55	46	33
014	5,000	45	38	28
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	
007	850	15	2	25	25	9	12
	1150	25	3	41	41	16	18
	1450	36	5	60	60	26	23
008	1000	20	2	33	33	12	13
	1400	34	5	57	57	24	22
	1800	51	8	85	85	39	39
012	1450	36	5	60	60	26	23
	1900	56	10	93	93	43	43
	2350	79	15	132	132	65	69
014	1750	18	2	26	26	10	12
	2350	29	5	43	43	17	17
	2950	43	5	62	62	26	27
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	
007	1,800	0.06	0.01	0.10	0.10	0.04	0.05
	2,400	0.10	0.01	0.16	0.16	0.06	0.07
	3,000	0.14	0.02	0.23	0.23	0.10	0.09
008	2,250	0.09	0.01	0.15	0.15	0.06	0.06
	3,000	0.14	0.02	0.23	0.23	0.10	0.09
	3,750	0.21	0.03	0.35	0.35	0.15	0.15
012	3,000	0.14	0.02	0.23	0.23	0.10	0.09
	4,000	0.22	0.04	0.37	0.37	0.17	0.17
	5,000	0.32	0.06	0.53	0.53	0.26	0.28
014	3,750	0.07	0.01	0.11	0.11	0.04	0.05
	5,000	0.12	0.02	0.17	0.17	0.07	0.07
	6,250	0.17	0.02	0.25	0.25	0.11	0.11
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

# Performance data (cont)



## 40RM HYDRONIC HEATING CAPACITIES — SI

UNIT 40RM	AIRFLOW (L/s)	1-ROW STEAM*		2-ROW HOT WATER COIL†			
		Cap.	Ldb	Cap.	Ldb	Water Flow (L/s)	PD
007	850 1150 1450	43 53 62	57 53 51	46 53 61	59 53 50	1.0 1.2 1.3	10.2 12.8 16.0
008	1000 1400 1800	48 59 71	55 50 47	50 60 70	56 50 47	1.1 1.3 1.5	11.5 15.3 19.5
012	1450 1900 2350	62 72 82	50 46 44	88 90 93	65 54 48	1.9 2.0 2.0	15.0 24.7 24.5
014	1750 2350 2950	108 122 136	66 58 53	106 120 134	65 57 52	2.3 2.6 2.9	12.4 15.2 17.9
016	2100 2800 3500	117 129 140	61 53 48	120 137 154	62 55 51	2.6 3.0 3.3	13.3 16.2 19.5
024	2900 3800 4700	135 140 146	53 46 41	150 170 191	58 52 49	3.3 3.7 4.1	15.6 18.6 22.3
028	3500 4700 5900	149 166 183	50 44 41	189 218 247	60 53 50	4.1 4.7 5.4	16.9 20.8 25.4
034	4250 5650 7050	164 180 196	47 41 38	215 247 278	57 51 48	4.7 5.4 6.0	18.5 22.8 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:

1. Maximum operating limits for heating coils: 1207 kPag at 204.4 C.

$$2. \text{ Leaving db} = \text{ent db (C)} + \frac{\text{Capacity (kW)}}{1.23 \times 10^{-3} \times \text{L/s}}$$

3. 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 Hydronic 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 Hydronic Heating Capacities table.

## 40RM HYDRONIC HEATING CAPACITIES — ENGLISH

UNIT 40RM	AIRFLOW (Cfm)	1-ROW STEAM*		2-ROW HOT WATER COIL†			
		Cap.	Ldb	Cap.	Ldb	Water Flow (Gpm)	PD
007	1,800 2,400 3,000	146 173 209	134 126 123	156.0 183.0 206.0	140 131 124	15.6 18.3 20.6	3.4 4.3 5.2
008	2,250 3,000 3,750	168 209 240	129 123 117	174.0 206.0 238.0	133 124 118	17.4 20.6 23.8	4.0 5.2 6.5
012	3,000 4,000 5,000	209 243 279	123 125 111	299.0 275.0 316.0	152 124 119	29.9 27.5 31.6	5.0 6.6 8.2
014	3,750 5,000 6,250	370 425 465	150 137 128	362.0 409.0 456.0	149 136 128	36.2 40.9 45.6	4.2 5.1 6.0
016	4,500 6,000 7,500	402 458 479	141 129 118	412.0 471.0 529.0	145 133 125	41.2 47.1 52.9	4.5 5.5 6.6
024	6,000 8,000 10,000	458 487 499	129 115 105	506.0 584.0 652.0	138 128 120	50.6 58.4 65.2	5.1 6.3 7.5
028	7,500 10,000 12,500	511 575 626	122 112 106	649.0 752.0 842.0	140 130 122	64.9 75.2 84.2	5.7 7.1 8.5
034	9,000 12,000 15,000	560 621 670	117 107 101	735.0 850.0 950.0	136 126 119	73.5 85.0 95.0	6.2 7.8 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 temperature, 20 F water temperature drop, 60 F entering-air temperature.

### NOTES:

1. Maximum operating limits for heating coils: 175 psig at 400 F.

$$2. \text{ Leaving db} = \text{ent db (F)} + \frac{\text{Capacity (Btuh)}}{1.1 \times \text{cfm}}$$

3. 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

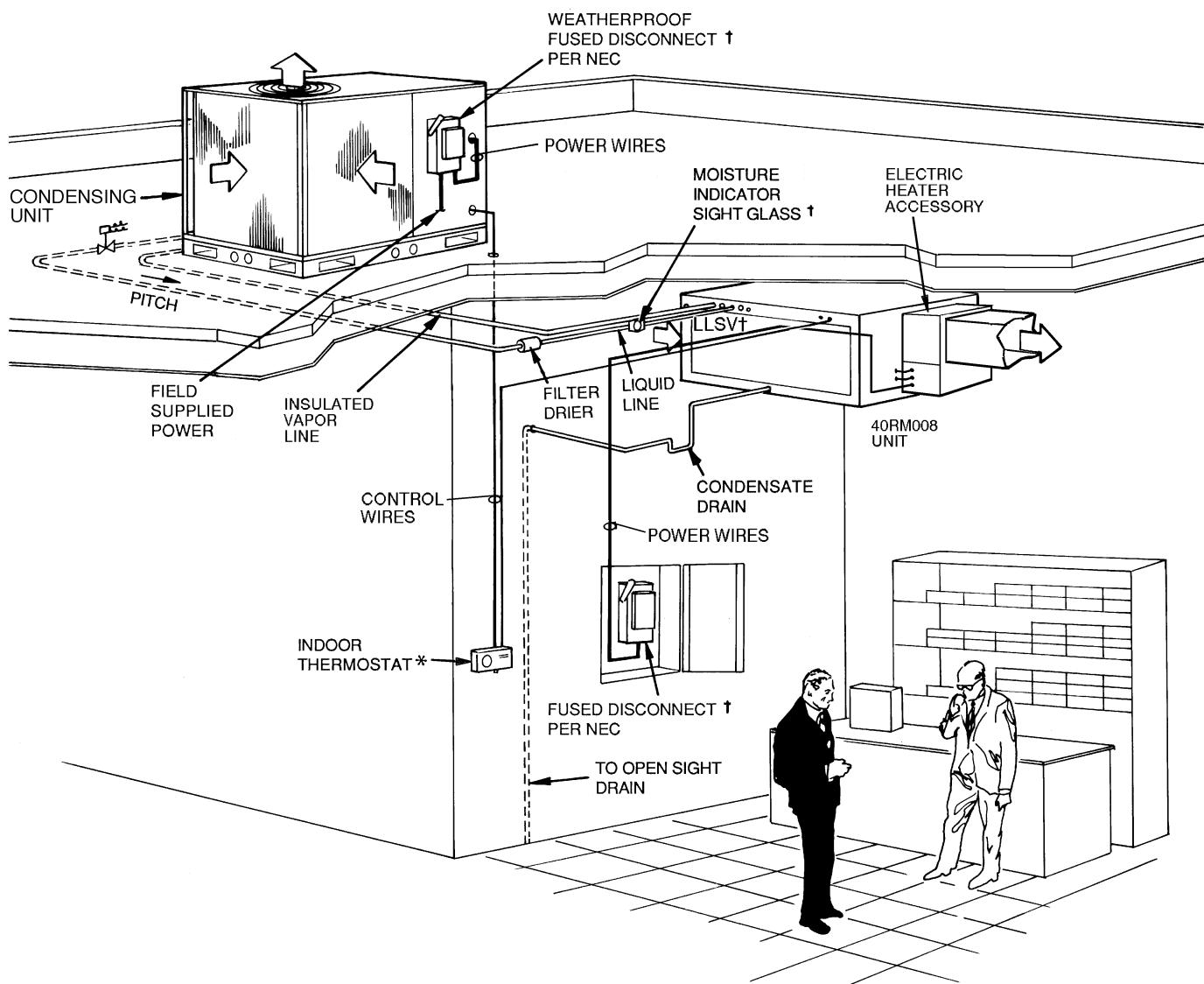
Steam Pressure (kPag)	Entering-Air Temp (F)				
	40	50	60	70	80
0	1.06	0.98	0.91	0.85	0.78
2	1.09	1.02	0.95	0.89	0.82
5	1.13	1.06	1.00	0.93	0.87

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

# Typical piping and wiring



## ROOFTOP INSTALLATION — 38AK007-012, 38AKS008-012



### LEGEND

LLSV — Liquid Line Solenoid Valve  
 NEC — National Electrical Code  
 TXV — Thermostatic Expansion Valve

\*Accessory item.  
 †Field supplied.

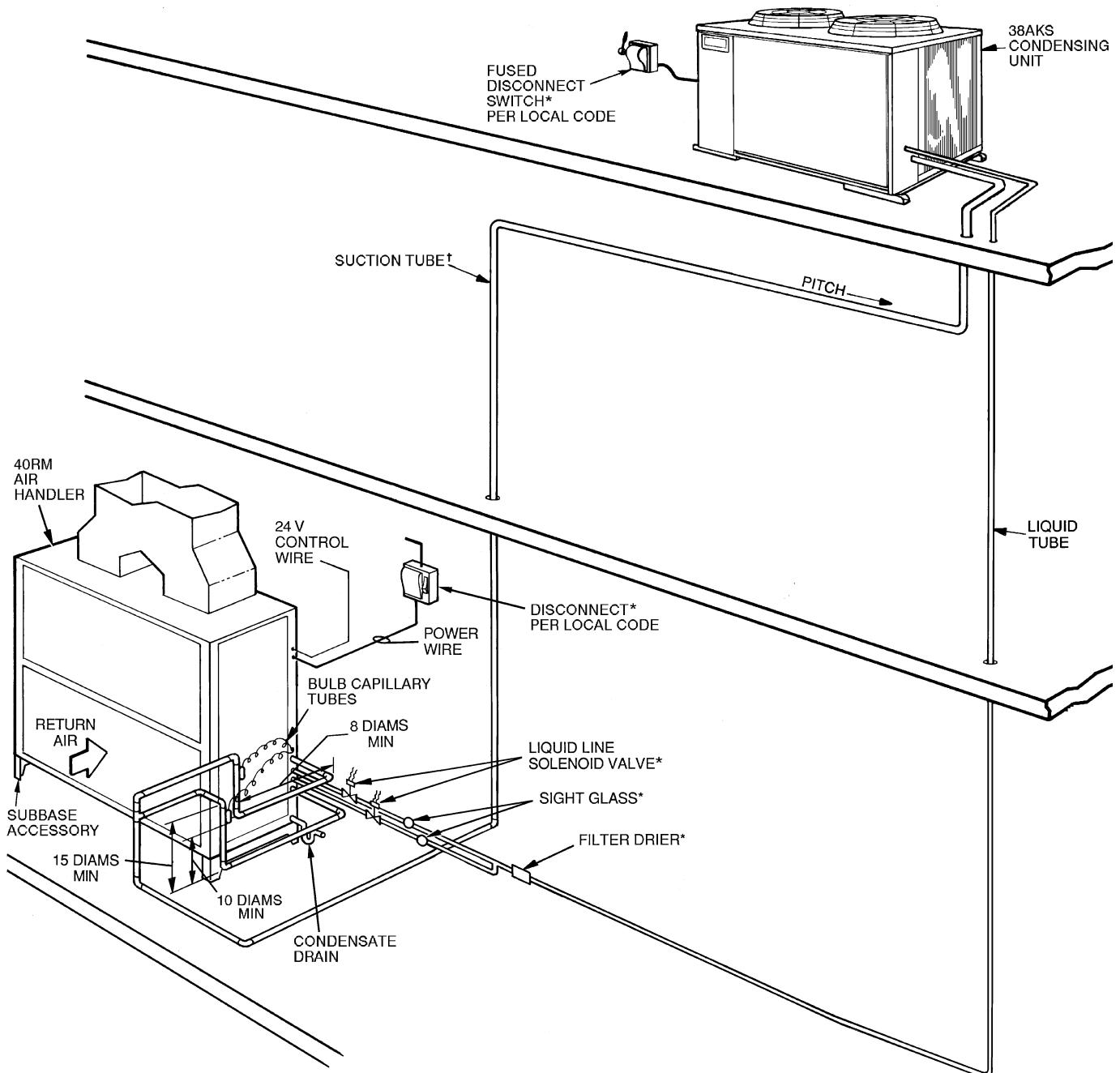
### NOTES:

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.
5. Internal factory-supplied TXVs not shown.

# Typical piping and wiring (cont)

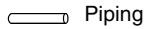


## ROOFTOP INSTALLATION — 38AKS013-024



### LEGEND

**TXV** — Thermostatic Expansion Valve



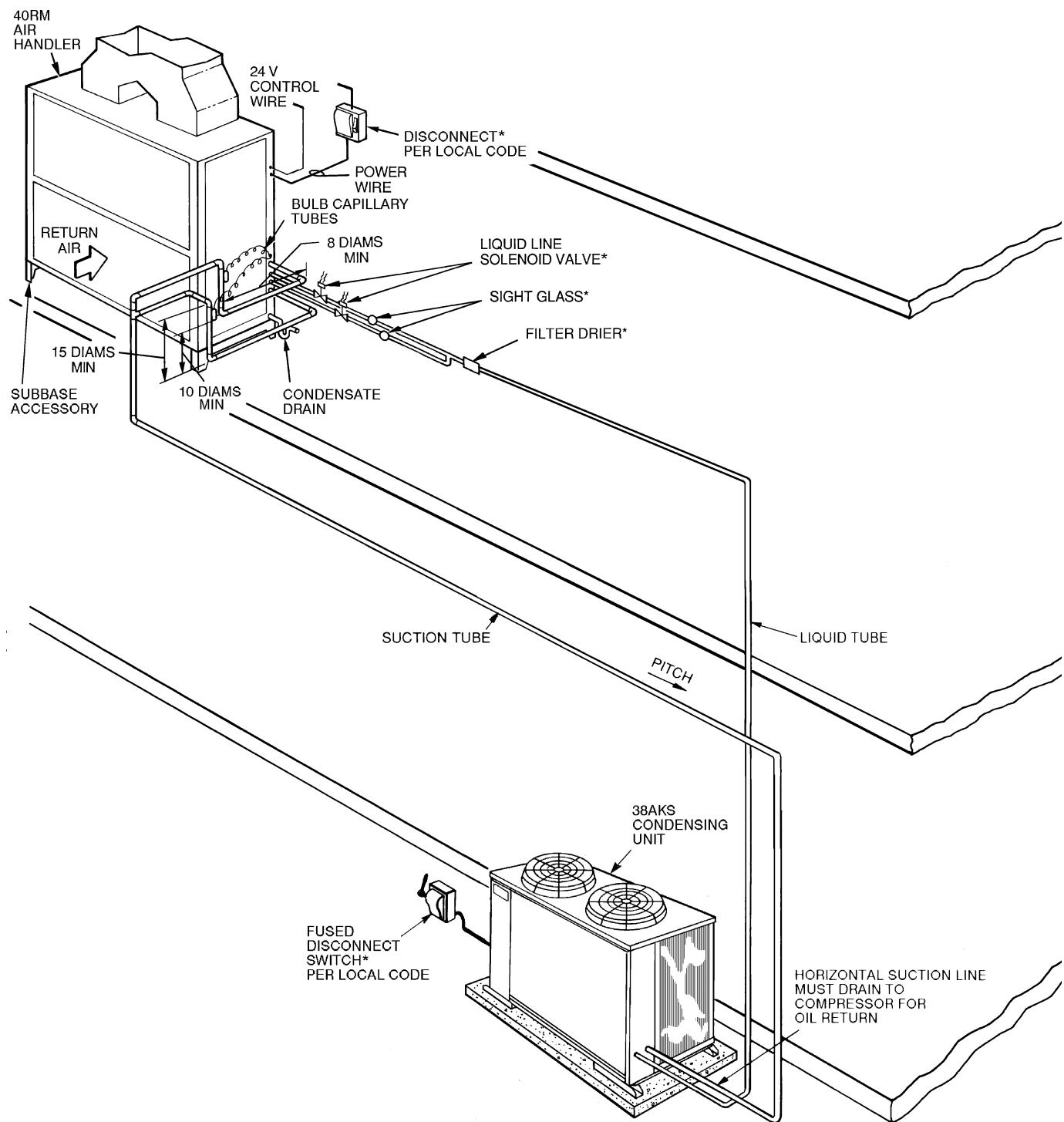
Piping

\*Field supplied.

†Double riser may be required. See Application Data, page 90.

### 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 — 38AKS013-024**

**LEGEND**

**TXV** — Thermostatic Expansion Valve

Piping

\*Field supplied.

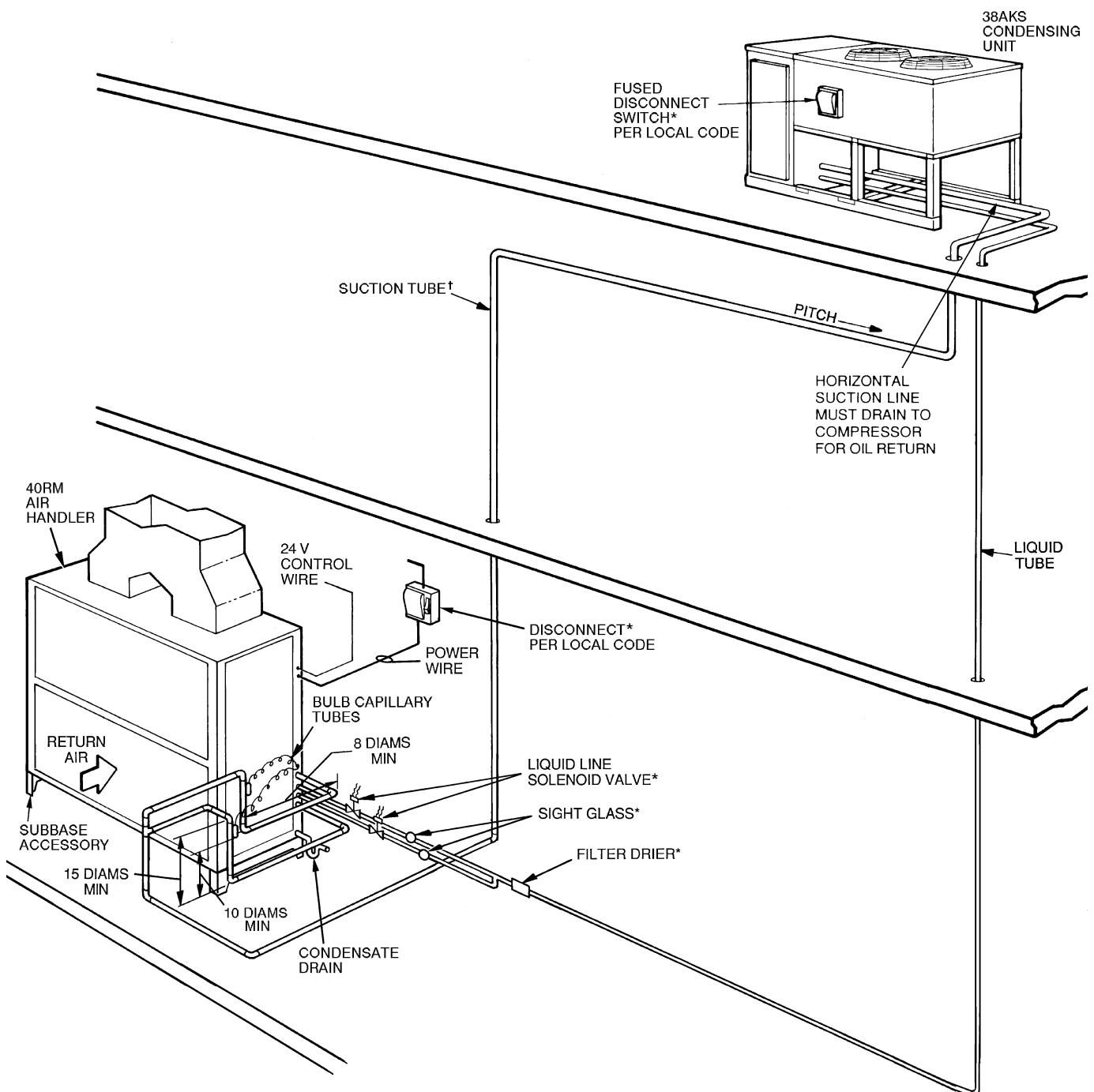
**NOTES:**

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.
5. Internal factory-supplied TXVs not shown.

# Typical piping and wiring (cont)



## ROOFTOP INSTALLATION — 38AKS028-044



### LEGEND

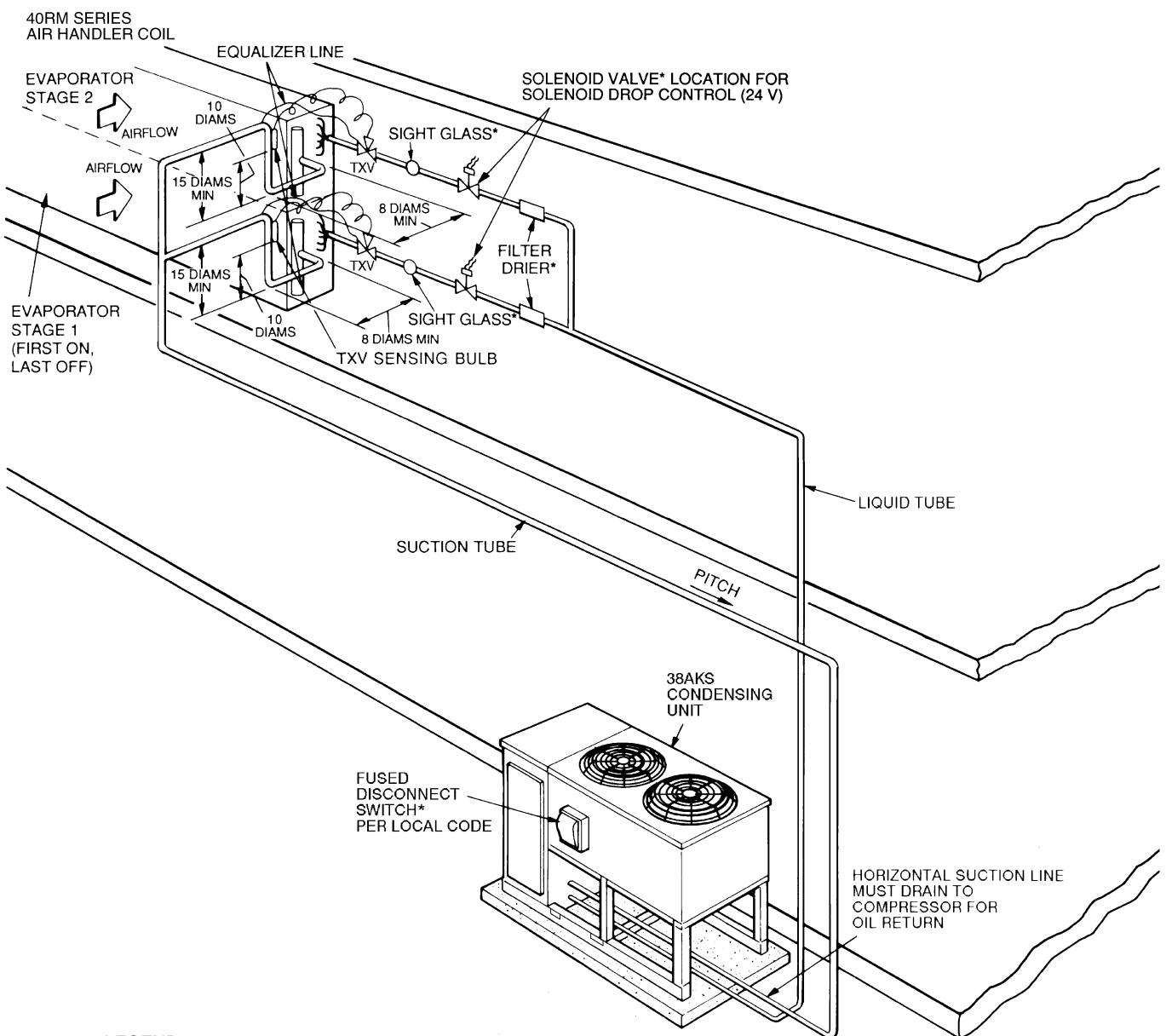
**TXV** — Thermostatic Expansion Valve  
 Piping

\*Field supplied.

†Double riser may be required. See Application Data on page 93.

### 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 — 38AKS028-044**


\*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.

# Electrical data



38AK007-012, 38AKS008-044

UNIT 38AK	NOMINAL VOLTAGE (V-Ph-Hz)	VOLTAGE RANGE*		COMPRESSOR		OFM		POWER SUPPLY	
		Min	Max	RLA	LRA	Qty	FLA (ea)†	MCA	MOCP**
007	230-3-50	198	242	21.8	158	1	1.5	28.8	35
	400-3-50	360	440	10.0	79	1	1.5	14.0	20
008	230-3-50	198	242	28.8	195	1	1.5	37.5	45
	400-3-50	360	440	14.7	95	1	1.5	19.9	25
012	230-3-50	198	242	37.8	239	1	1.5	48.8	60
	400-3-50	360	440	17.2	125	1	1.5	23.0	30
S008	230-3-50	198	253	31.5	160	1	1.5	40.9	50
	400-3-50	342	460	15.7	80	1	1.5	21.1	25
S009	230-3-50	198	253	39.7	198	1	1.5	51.1	60
	400-3-50	342	460	19.9	99	1	1.5	26.4	30
S012	230-3-50	198	253	39.7	198	1	1.5	52.7	60
	400-3-50	342	460	19.9	99	1	1.5	26.3	30
S013	230-3-50	198	264	32.9	128	2	3.5 (2.9)	47.5	80
	400-3-50	342	457	20.0	74	2	3.5 (2.9)	31.4	50
S014	230-3-50	198	264	35.7	143	2	3.5 (2.9)	51.0	80
	400-3-50	342	457	22.1	83	2	3.5 (2.9)	34.0	50
S016	230-3-50	198	264	47.9	200	2	3.5 (2.9)	66.9	100
	400-3-50	342	457	29.3	115	2	3.5 (2.9)	43.0	70
S024	346-3-50	311	380	33.3	115	2	3.5 (2.9)	50.5	80
	230-3-50	198	254	67.9	207	2	3.5 (2.9)	88.1	150
	400-3-50	342	440	34.6	173	2	3.5 (2.9)	49.3	80
S028	346-3-50	311	380	44.9	155	2	4.4	64.9	100
	230-3-50	198	254	76.9	205	2	6.4	109.0	175
	400-3-50	342	440	43.6	223	2	3.0	60.5	100
S034	346-3-50	311	380	53.9	176	2	4.4	76.1	125
	230-3-50	198	254	85.9	220	2	6.4	120.2	200
	400-3-50	342	440	50.0	253	2	3.0	68.5	110
S044	346-3-50	311	380	79.5	240	3	4.4	112.6	175
	230-3-50	198	254	105.1	327	3	6.4	150.6	250
	400-3-50	342	440	65.4	345	3	3.0	90.8	150

#### LEGEND

FLA — Full Load Amps

HACR — Heating, Air Conditioning, Refrigeration

LRA — Locked Rotor Amps

MCA — Minimum Circuit Amps per NEC Section 430-24

MOCP — Maximum Overcurrent Protection

NEC — National Electrical Code (U.S.A. Standard)

OFM — Outdoor-Fan Motor

RLA — Rated Load Amps (Compressor)

\*Permissible limits of the voltage range at which unit will operate satisfactorily.

†Value in parenthesis ( ) is FLA of second fan motor.

\*\*Fuse or HACR circuit breaker.

#### NOTES:

1. Control circuit is 24 v on all units and requires an external power source.

2. MCA and MOCP values are calculated in accordance with NEC (National Electric Code) (U.S.A. Standard), Article 440.

3. Motor FLA and RLA values are established in accordance with UL (Underwriters' Laboratories) Standard 1995 (U.S.A. standard).

4. 38AKS028-044 Units Only:

220-v and 346-v units are part-wind-start units; the value under compressor LRA is for the first winding energized. The 400-v units are across-the-line-start units; value shown is for all windings energized.

#### FIELD POWER WIRE SIZE

UNIT 38AKS	VOLTAGE (3 Ph, 50 Hz)	FIELD POWER WIRE SIZE TB1 WILL ACCEPT
028	346 230 400	14 to 2/0 AWG
034	346 230 400	14 to 2/0 AWG 6 AWG to 350 kcmil 14 to 2/0 AWG
044	346 230 400	14 to 2/0 AWG 6 AWG to 350 kcmil 14 to 2/0 AWG

#### LEGEND

AWG — American Wire Gage

kcmil — Thousand circular mils (formerly MCM)

TB — Terminal Block



### 40RM STANDARD MOTORS

UNIT 40RM	V*-PH-Hz	VOLTAGE LIMITS	FAN MOTOR		POWER SUPPLY	
			kW (Hp)	FLA	Minimum Circuit Amps	MOCP
007	230-3-50	207-253	1.79 (2.4)	5.2	6.5	15
	400-3-50	360-440	1.79 (2.4)	2.6	3.3	15
008	230-3-50	207-253	1.79 (2.4)	5.2	6.5	15
	400-3-50	360-440	1.79 (2.4)	2.6	3.3	15
012	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
014	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
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)	13.2	16.5	25
	400-3-50	360-440	3.73 (5.0)	7.6	9.5	15
028	230-3-50	207-253	5.59 (7.5)	19.8	24.8	40
	400-3-50	360-440	5.59 (7.5)	11.4	14.3	25
034	230-3-50	207-253	7.46 (10.0)	28.0	35.0	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.

### 40RM ALTERNATE MOTORS

UNIT 40RM	V*-PH-Hz	VOLTAGE LIMITS	FAN MOTOR		POWER SUPPLY	
			kW (Hp)	FLA	Minimum Circuit Amps	MOCP
007	230-3-50	207-253	1.79 (2.4)	5.2	6.5	15
	400-3-50	360-440	1.79 (2.4)	2.6	3.3	15
008	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
012	230-3-50	207-253	3.73 (5.0)	13.2	16.5	25
	400-3-50	360-440	3.73 (5.0)	7.6	9.5	15
014	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
016	230-3-50	207-253	3.73 (5.0)	13.2	16.5	25
	400-3-50	360-440	3.73 (5.0)	7.6	9.5	15
024	230-3-50	207-253	5.59 (7.5)	19.8	24.8	40
	400-3-50	360-440	5.59 (7.5)	11.4	14.3	25
028	230-3-50	207-253	7.46 (10.0)	28.0	35.0	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.

### 40RM FAN CONTACTOR COIL

UNIT 40RM	VOLTAGE (vac)	MAXIMUM HOLDING VA
007-034	24	10

# Electrical data (cont)



## 40RM ELECTRIC HEATER DATA

UNIT 40RM	HEATER PART NO.	V-PH-Hz	FAN MOTOR			Nominal Capacity (kW)	ELECTRIC HEATER(S)			FLA	MCA*	MOCP*				
			Hp	kW	FLA		Actual Capacity (kW)									
							Stage 1	Stage 2	Total							
007-012	CAELHEAT001A00	240-3-50	2.4	1.79	5.2	5	5.0	—	5.0	12.0	21.5	25				
			2.9	2.16	7.5	5	5.0	—	5.0	12.0	24.4	25				
			5.0	3.73	15.2	5	5.0	—	5.0	12.0	34.0	40				
	CAELHEAT002A00	400-3-50	2.4	1.79	2.6	5	3.5	—	3.5	5.00	9.5	15				
			2.9	2.16	3.4	5	3.5	—	3.5	5.00	10.5	15				
			5.0	3.73	7.6	5	3.5	—	3.5	5.00	15.8	20				
	CAELHEAT004A00	240-3-50	2.4	1.79	5.2	10	10.0	—	10.0	24.1	36.6	40				
			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	49.2	50				
	CAELHEAT005A00	400-3-50	2.4	1.79	2.6	10	6.9	—	6.9	10.0	15.8	20				
			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				
008-012	CAELHEAT007A00	240-3-50	2.4	1.79	5.2	15	15.0	—	15.0	36.1	51.6	60				
			2.9	2.16	7.5	15	15.0	—	15.0	36.1	54.5	60				
			5.0	3.73	15.2	15	15.0	—	15.0	36.1	64.1	70				
	CAELHEAT008A00	400-3-50	2.4	1.79	2.6	15	10.4	—	10.4	15.0	22.0	25				
			2.9	2.16	3.4	15	10.4	—	10.4	15.0	23.0	25				
			5.0	3.73	7.6	15	10.4	—	10.4	15.0	28.3	30				
	CAELHEAT010A00	240-3-50	2.4	1.79	5.2	25	15.0	10.0	25.0	60.1	81.7	90				
			2.9	2.16	7.5	25	15.0	10.0	25.0	60.1	84.6	90				
			5.0	3.73	15.2	25	15.0	10.0	25.0	60.1	94.2	100				
	CAELHEAT011A00	400-3-50	2.4	1.79	2.6	25	10.4	6.9	17.4	25.1	34.6	25				
			2.9	2.16	3.4	25	10.4	6.9	17.4	25.1	35.6	40				
			5.0	3.73	7.6	25	10.4	6.9	17.4	25.1	40.8	50				
014-024	CAELHEAT013A00	240-3-50	2.4	1.79	5.2	35	20.0	15.0	35.0	84.2	111.7	125				
			2.9	2.16	7.5	35	20.0	15.0	35.0	84.2	114.6	125				
			5.0	3.73	15.2	35	20.0	15.0	35.0	84.2	124.2	125				
	CAELHEAT014A00	400-3-50	2.4	1.79	2.6	35	13.9	10.4	24.3	35.1	47.1	50				
			2.9	2.16	3.4	35	13.9	10.4	24.3	35.1	48.1	50				
			5.0	3.73	7.6	35	13.9	10.4	24.3	35.1	53.4	60				
	CAELHEAT016A00	240-3-50	2.9	2.16	7.5	10	10.0	—	10.0	24.1	39.4	40				
			5.0	3.73	13.2	10	10.0	—	10.0	24.1	46.6	50				
			7.5	5.59	19.8	10	10.0	—	10.0	24.1	54.8	60				
	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	19.9	—	19.9	47.9	69.2	70				
			5.0	3.73	15.2	20	19.9	—	19.9	47.9	76.3	80				
			7.5	5.59	22.8	20	19.9	—	19.9	47.9	84.6	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	106.7	110				
			7.5	5.59	22.8	30	20.0	10.0	30.0	72.2	115.0	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	6.9	20.8	30.1	47.1	50				
			7.5	5.59	11.4	30	13.9	6.9	20.8	30.1	51.8	60				
016-024	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	13.2	50	30.0	20.0	50.0	120.3	166.9	175				
			7.5	5.59	19.8	50	30.0	20.0	50.0	120.3	175.1	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				



### 40RM ELECTRIC HEATER DATA (cont)

UNIT 40RM	HEATER PART NO.	V-PH-Hz	FAN MOTOR			Nominal Capacity (kW)	ELECTRIC HEATER(S)			FLA	MCA*	MOCP*				
			Hp	kW	FLA		Actual Capacity (kW)									
							Stage 1	Stage 2	Total							
028,034	CAELHEAT028A00	240-3-50	7.5	5.59	19.8	20	19.9	—	19.9	47.9	84.6	90				
			10.0	7.46	28.0	20	19.9	—	19.9	47.9	94.8	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	19.8	40	20.0	20.0	40.0	96.2	145.0	150				
			10.0	7.46	22.8	40	20.0	20.0	40.0	96.2	155.3	175				
	CAELHEAT032A00	400-3-50	7.5	5.59	11.4	40	13.8	13.8	27.8	39.9	64.1	70				
			10.0	7.46	16.1	40	13.8	13.8	27.8	39.9	70.0	80				
	CAELHEAT034A00	240-3-50	7.5	5.59	22.8	50	30.0	20.0	50.0	120.3	175.1	200				
			10.0	7.46	32.2	50	30.0	20.0	50.0	120.3	185.4	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	19.8	70	40.0	30.0	70.0	168.4	193.1	200				
			10.0	7.46	28.8	70	40.0	30.0	70.0	168.4	208.4	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

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

#### NOTES:

1. MCA and MOCP values apply to both standard and alternate factory-supplied motors.
2. Electric resistance heaters are rated at 240 v and 480 v. To determine heater capacity (kW) at unit nameplate multiply the 240-v or 480-v capacity (kW) by the multipliers shown in the table below.

HEATER RATING VOLTAGE	ACTUAL HEATER VOLTAGE AT SITE							
	200	208	230	240	400	440	460	480
<b>240</b>	0.694	0.751	0.918	1.0	—	—	—	—
<b>480</b>	—	—	—	—	0.694	0.840	0.918	1.0

3. Heater coils are 24 v and require 8 va holding current.

4. The following equation converts kW of heat energy to Btuh:  
 $kW \times 3,412 = \text{Btuh}$ .

5. Approximate shipping weights:

CAELHEAT001A00 – 014A00 = 55 lbs each  
 CAELHEAT016A00 – 026A00 = 60 lbs each  
 CAELHEAT028A00 – 038A00 = 75 lbs each

# Controls



## Operating sequence — 38AK007-012, 38AKS008-012

At start-up, the thermostat calls for cooling. With all safety devices satisfied, the compressor contactor and fan contactor energize, causing the compressor and outdoor-fan motor to operate. Contacts energize, allowing the field-supplied and -installed indoor-fan contactor to function. A field-supplied and -installed liquid line valve also opens, allowing the system to function in Cooling mode. As cooling demand is satisfied, the thermostat contacts break, deenergizing the contactor and causing the system to shut off. The liquid line solenoid valve closes, minimizing the potential for refrigerant migration. The compressor does not restart until the thermostat again calls for cooling. If a demand for cooling occurs within 5 minutes after the thermostat is satisfied, the system will not restart because of the Time Guard® II device. After the 5-minute time period, the system will restart as normal on thermostat demand. The system is protected with a Cycle-LOC™ device so that the compressor will not start if a high-pressure or low-pressure fault occurs. To reset the Cycle-LOC device, set the thermostat to eliminate the cooling demand, then return to original set point. This should be done only once, and if system shuts down due to the same fault, determine the problem before attempting to reset the Cycle-LOC device.

## Operating sequence — 38AKS013-024

When the first stage of cooling thermostat closes, the timer starts. After approximately 3 seconds, the timer activates the compressor and fan motor no. 1 contactors. When the liquid pressure builds to approximately 1772 kPag (257 psig), fan motor no. 2 is energized.

On demand for additional cooling capacity, the second stage of the cooling thermostat closes, energizing a field-supplied liquid line solenoid (LLS) valve, which opens. This increases the suction pressure, causing the compressor to operate at higher capacity (compressor loads).

When the fan switch is set at AUTO, the indoor-air fan cycles with the compressor. When the switch is set at CONT, the indoor-air fan runs continuously.

At shutdown, the Time Guard II timer prevents the compressor from restarting for approximately 5 minutes.

In addition, a field-supplied solenoid valve wired in parallel with the compressor contactor coil shuts off the liquid line to prevent refrigerant migration back to the compressor during the off cycle.

## Operating sequence — 38AKS028-044

When space thermostat calls for cooling, the no. 1 condenser fan and compressor starts after control module (CM) initial time delay of 3 (+2/-1) seconds. If an optional airflow switch is used, compressor and no. 1 condensing fan will not start until sufficient indoor airflow has closed the switch. After 3 seconds the compressor starts and the liquid line solenoid valve (for solenoid drop control) opens. The crankcase heater is deenergized. If the head pressure reaches 1793 kPag (260 psig), the second condenser fan starts.

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

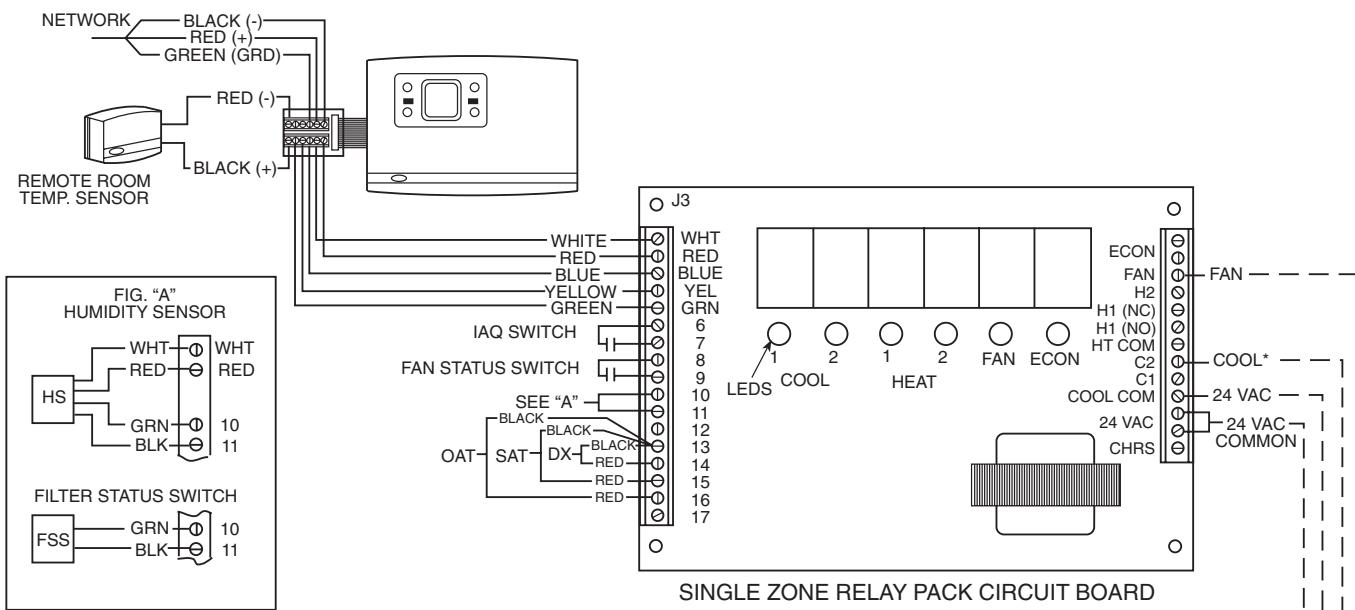
Two minutes after the compressor starts, the bypass relay (BPR) timer is deenergized and the low-pressure switch (LPS) bypass is deactivated. If the LPS trips during the first 2 minutes of operation, the compressor remains operational. If a high-pressure switch (HPS) trips at any time, or the LPS trips after 2 minutes, the compressor cannot restart until the control circuit power is interrupted due to the CM lockout feature.

As the space cooling load is satisfied, the second stage of the thermostat opens, and closes the field-supplied capacity control liquid line solenoid valve to deactivate the second stage coil. The compressor adjusts the number of active cylinders to meet the new load. When the space temperature is satisfied, the first stage of the thermostat opens and the control relay and the BPR open. This closes the solenoid drop control valve. The compressor stops and the crankcase heater is energized, preventing refrigerant from migrating to the compressor during the off cycle (solenoid drop refrigerant control). The CM anti-short-cycling timer is energized and runs for approximately 5 minutes. During this time, the compressor is not able to restart.

# Typical control wiring



## TEMP SYSTEM APPLICATIONS — 38AK007-012, 38AKS008-012



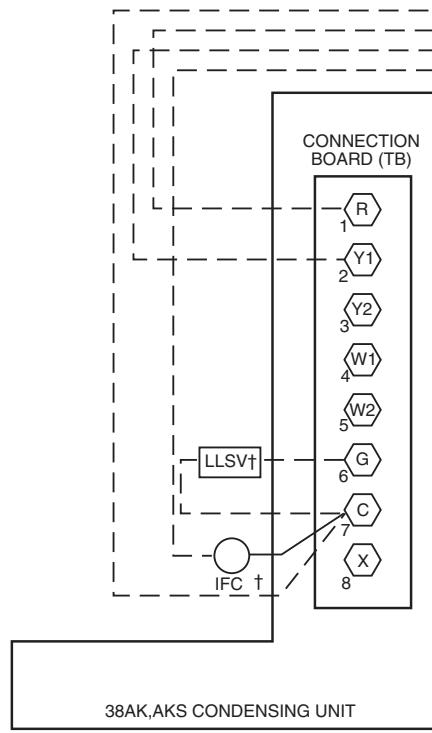
### LEGEND

- DX** — Direct Expansion Coil Sensor
- FSS** — Filter Status Switch
- HS** — Humidity Sensor
- IAQ** — Indoor Air Quality
- IFC** — Indoor-Fan Contactor
- LED** — Light-Emitting Diode
- LLSV** — Liquid Line Solenoid Valve
- OAT** — Outdoor Air Temperature Sensor
- SAT** — Supply Air Temperature Sensor
- TB** — Terminal Block
- Marked Terminal
- Factory Wiring
- Field Control Wiring

\*Single zone relay pack requires 10 va.

†Field-supplied.

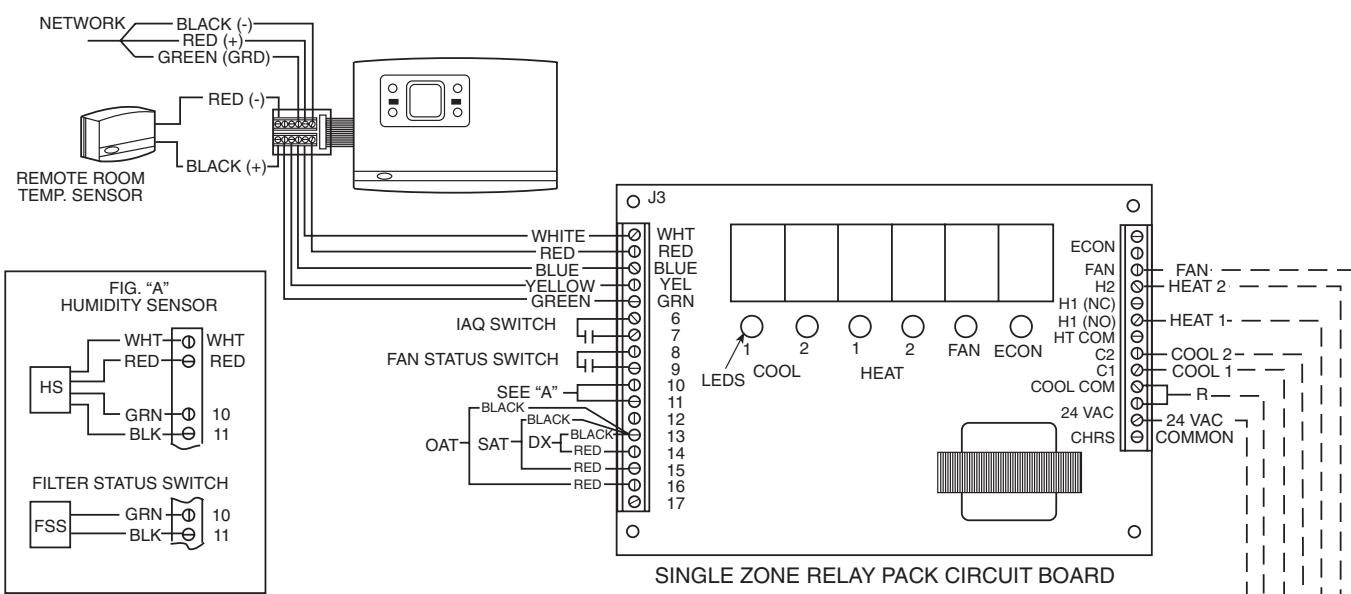
NOTE: Humidity Sensor and filter status switch cannot be wired at the same time.



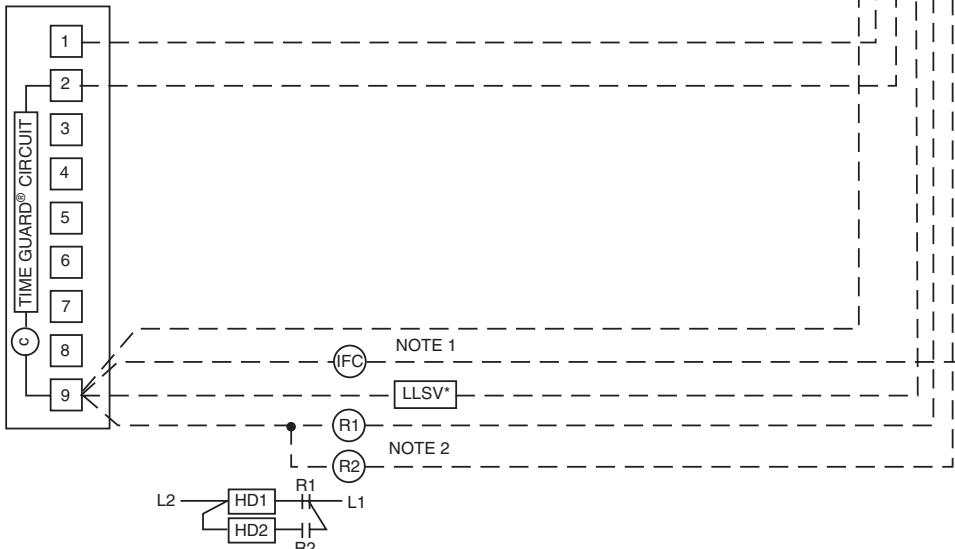
# Typical control wiring (cont)



## TEMP SYSTEM APPLICATIONS — 38AKS013-024



TERMINAL BLOCK (TB2)  
IN CONTROL BOX



\*Field supplied.

NOTES:

1. Combination LLSV plus IFC VA should not exceed 30 VA.
2. Do not exceed 5 VA (24 VAC) per coil.
3. If the VA values in Notes 1 and 2 must be exceeded, use accessory relay-transformer package 38AE900001.
4. Wiring diagrams are general guides only and are not intended for a specific installation. Refer to individual product installation and wiring literature.
5. Humidity Sensor and filter status switch cannot be wired at the same time.

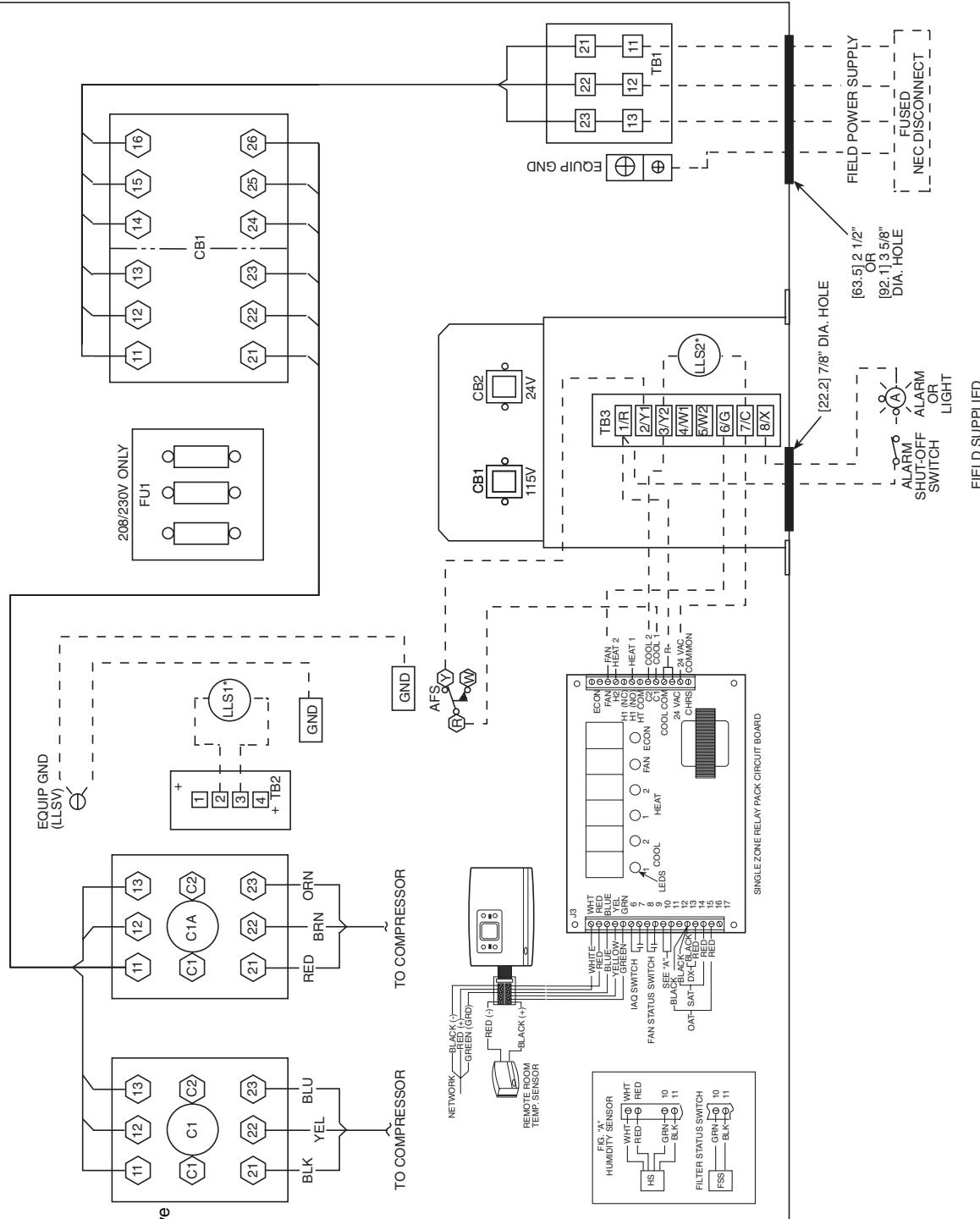
**TEMP SYSTEM APPLICATIONS — 38AKS028-044**
**LEGEND**

<b>AFS</b>	Airflow Switch
<b>CB</b>	Circuit Breaker
<b>EQUIP</b>	Equipment
<b>FU</b>	Fuse
<b>GND</b>	Ground
<b>LLS1</b>	Liquid Line Solenoid for Solenoid Drop Control
<b>LLS2</b>	Liquid Line Solenoid for Capacity Control
<b>LLSV</b>	Liquid Line Solenoid Valve
<b>NEC</b>	National Electrical Code
<b>TB</b>	Terminal Block
<b>—</b>	Field Power Wiring
<b>- - -</b>	Field Control Wiring
<b>—</b>	Factory-installed Wiring

<b>*Field-supplied.</b>	
-------------------------	--

**NOTES:**

1. Factory wiring in accordance with NEC. Any field modifications or additions must be in compliance with all applicable codes.
2. All field interlock contacts must have minimum rating of 180-volt pilot duty plus capacity required for field-installed equipment. All field interlock contacts in the 24-volt control circuit must have minimum rating of 70-volt pilot duty plus capacity required for field-installed equipment.
3. For internal unit wiring, reference wiring book or unit wiring label diagram. TB2 is 115-1-60. TB3 is 24-1-60.
4. The following components are not located in the 38AKS unit control box: LLS1, LLS2, field control thermostat, AFS, alarm shut-off switch, and alarm or light.



# Application data — 38AK007-012, 38AKS008-012



## Operating limits — SI

Maximum outdoor ambient . . . . .	52 C
Minimum return-air temperature . . . . .	13 C
Maximum return-air temperature . . . . .	35 C
Range of acceptable saturation suction temperature . . . . .	-4 to 13 C
Maximum discharge temperature . . . . .	135 C
Minimum discharge superheat . . . . .	33° C

### NOTES:

1. Select air handler at no less than 40 L/s per kW (nominal condensing unit capacity).
2. Total combined draw of the field-supplied liquid line solenoid valve and air handler fan contactor must not exceed 20 volt-amperes (va). If the specified volt-amperes must be exceeded, use a remote relay to control the load.

## REFRIGERANT PIPING SIZES

UNIT 38AK	LINEAR LENGTH OF PIPING — m (ft)							
	0-7.6 (0-25)		7.6-15.2 (25-50)		15.2-22.9 (50-75)		22.9-30.5 (75-100)	
	Line Size (in. OD)							
	L	S	L	S	L	S	L	S
007	1/2	1 1/8	1/2	1 1/8	1/2	1 1/8	1/2	1 1/8
008	1/2	1 1/8	1/2	1 1/8	5/8	1 3/8	5/8	1 3/8
012	1/2	1 1/8	5/8	1 3/8	5/8	1 3/8	5/8	1 3/8
S008	1/2	1 1/8	1/2	1 1/8	5/8	1 3/8	5/8	1 3/8
S009	1/2	1 1/8	5/8	1 1/8	5/8	1 3/8	5/8	1 3/8
S012	1/2	1 1/8	5/8	1 1/8	5/8	1 3/8	5/8	1 3/8

### LEGEND

L — Liquid Line      S — Suction Line

### NOTES:

1. Pipe sizes are based on a 1° C (2° F) loss for liquid and suction lines.
2. Pipe sizes are based on the maximum linear length, shown for each column, plus a 50% allowance for fittings.
3. Charge units with R-22 in accordance with unit installation instructions.
4. Line size conversion to mm:

in.	mm
1/2	12.7
5/8	15.9
1 1/8	28.6
1 3/8	34.9

## LIQUID LINE DATA

UNIT 38AK	MAX ALLOWABLE LIQUID LIFT		LIQUID LINE			
			Max Allowable Pressure Drop		Max Allowable Temp Loss	
	M	Ft	kPa	psi	C	F
007	23.2	76				
008	15.2	50				
012	17.4	57				
S008	15.2	50				
S009	15.8	52				
S012	15.8	52				

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

## Operating limits — English

Maximum outdoor ambient . . . . .	125 F
Minimum return-air temperature . . . . .	55 F
Maximum return-air temperature . . . . .	95 F
Range of acceptable saturation suction temperature . . . . .	25 to 55 F
Maximum discharge temperature . . . . .	275 F
Minimum discharge superheat . . . . .	60° F

### NOTES:

1. Select air handler at no less than 300 cfm/ton (nominal condensing unit capacity).
2. Total combined draw of the field-supplied liquid line solenoid valve and air handler fan contactor must not exceed 20 volt-amperes (va). If the specified volt-amperes must be exceeded, use a remote relay to control the load.

## MINIMUM OUTDOOR-AIR OPERATING TEMPERATURE

UNIT 38AK	COM- PRESSOR CAPACITY (%)	SATURATED CONDENSING TEMP		MINIMUM OUTDOOR TEMP		With Low Ambient Control†
		C	F	C	F	
007	100	32	90	12	53	
008	100	32	90	15	60	
012	100	32	90	11	52	
S008	100	32	90	15	60	
S009	100	32	90	12	53	
S012*	100	32	90	9	48	
	67	27	60	11	52	

\*Unit has one step of unloading.

†38AK007 — Motormaster® I Control only. 38AK008, 38AK012, 38AKS008, 38AKS009, 38AKS012 — Motormaster III Control only. (Motor change required on 38AK007.)

# Application data — 38AKS013-024



## Installation

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

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

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

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

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

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

## OPERATING LIMITS

Maximum Outdoor Ambient	52 C (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	-3.9 to 12.8 C (25 to 55 F)
Maximum Discharge Temperature	135 C (275 F)
Minimum Discharge Superheat	15.6 C (60 F)

## MINIMUM OUTDOOR-AIR OPERATING TEMPERATURE

UNIT 38AKS	COMPRESSOR CAPACITY (%)	SATURATED CONDENSING TEMP		MINIMUM OUTDOOR-AIR OPERATING TEMPERATURE		-29	-20
				Base Unit			
		C	F	C	F		
013	100	32	90	1.7	35		
	67	27	80	7.2	45		
	33*	21	70	12.8	55		
014	100	32	90	2.8	37		
	67	27	80	8.9	48		
	33*	21	70	13.9	57		
016	100	32	90	-5.0	23		
	67	27	80	2.2	36		
	33*	21	70	10.0	50		
024	100	32	90	-9.4	15		
	50	27	80	-6.7	20		

\*Requires field-installed unloader.

†Motormaster® I control — 38AKS013-024.

## LIQUID LINE DATA

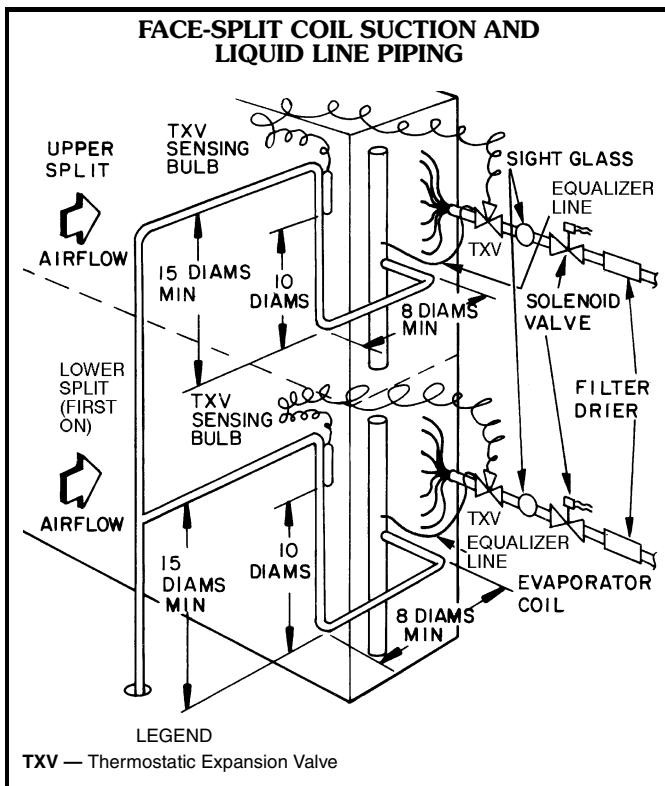
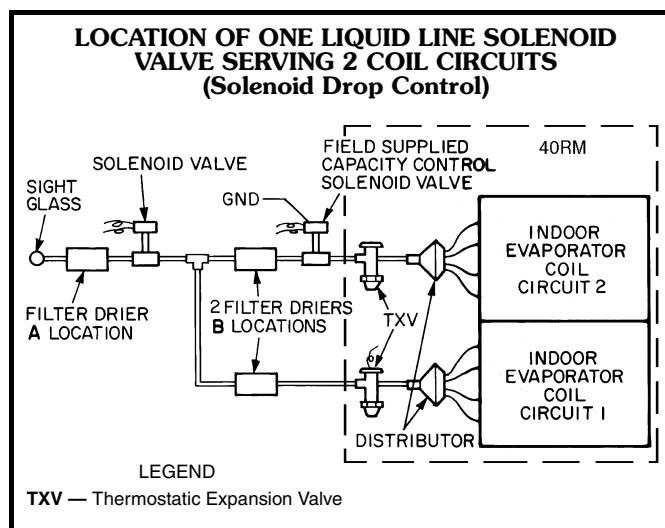
UNIT 38AKS	MAX ALLOW. LIFT — m (ft)	LIQUID LINE	
		Max Allow. Pressure Drop — kPa (psi)	Max Allow. Temp Loss — C (°F)
013	15.8 (52)		
014	20.4 (67)		
016	25.0 (82)		
024	26.5 (87)		
		48 (7)	1 (2)

NOTE: Data above is for units operating at 8 C (45 F) saturated suction and 35 C (95 F) entering air.

## Use of liquid line solenoid valves

A liquid line solenoid valve is recommended.

For dual coil applications, a single liquid line solenoid valve is required to deactivate upper second-stage coil.



# Application data — 38AKS013-024 (cont)



## Oil return

Condensing units with multiple-step unloading may require double suction risers to assure proper oil return at minimum load operating conditions. Reduction of evaporator coil surface should be analyzed to provide sufficient refrigerant velocity to return oil to the compressor. Liquid line solenoid valves may be used in certain situations to accomplish this. Hot gas bypass, if used, should be introduced before the evaporator. Consult Carrier System Design manual.

## REFRIGERANT PIPING SIZES — SI

COND UNIT 38AKS	LENGTH OF INTERCONNECTING PIPING (m)									
	0-4.5		4.5-7.5		7.5-15		15-23		23-30	
	Line Size (in. OD)									
L	S	L	S	L	S	L	S	L	S	
013	1/2	1 1/8	1/2	1 1/8	5/8	1 3/8	5/8	1 3/8	5/8	1 3/8*
014	1/2	1 1/8	5/8	1 3/8	5/8	1 3/8	7/8	1 5/8*	7/8	1 5/8*
016	5/8	1 3/8	5/8	1 3/8	5/8	1 5/8*	7/8	1 5/8*	7/8	1 5/8*
024	5/8	1 3/8	5/8	1 3/8	5/8	1 5/8	7/8	1 5/8	7/8	1 5/8

\*Requires a double suction riser if 2 unloaders are used and the evaporator is below the condensing unit. See Refrigerant Piping Sizes — Double Suction Risers table below and Suction Line Piping figure at right for more information.

### NOTES:

1. Pipe sizes are based on a 1.1 C max loss for liquid lines and 0.8 C max loss for suction lines, selected at maximum length for each interval and for matched systems at nominal rating conditions nominal airflow.
2. Pipe sizes are based on an equivalent length equal to the maximum length of interconnecting piping plus 50% for fittings. A more accurate estimate may result in smaller sizes.
3. Units must be charged in accordance with the unit installation instructions.
4. Line size conversion to mm:

in.	mm
1/2	12.7
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 SIZES — DOUBLE SUCTION RISERS — SI

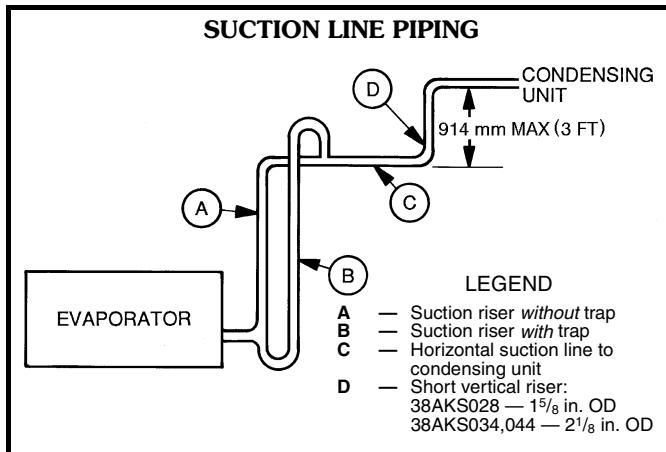
COND UNIT 38AKS	LENGTH OF INTERCONNECTING PIPING (m)									
	7.5-15			18-23			23-30			
	A	B	C	A	B	C	A	B	C	
013	—	—	—	—	—	—	1 1/8	1 3/8	1 5/8	
014	—	—	—	1 1/8	1 3/8	1 5/8	1 1/8	1 3/8	1 5/8	
016	1 1/8	1 3/8	1 5/8	1 1/8	1 3/8	1 5/8	1 1/8	1 3/8	1 5/8	

### NOTES:

1. See Suction Line Piping figure for "A," "B," and "C" dimensions.
2. No double suction risers are needed for unit size 024.

## Insulation

Refrigerant suction piping should be insulated in accordance with guidelines set forth in the Carrier System Design Manual.



## REFRIGERANT PIPING SIZES — ENGLISH

COND UNIT 38AKS	LENGTH OF INTERCONNECTING PIPING (FT)									
	0-15		16-25		25-50		50-75		75-100	
	L	S	L	S	L	S	L	S	L	S
013	1/2	1 1/8	1/2	1 1/8	5/8	1 3/8	5/8	1 3/8	5/8	1 3/8*
014	1/2	1 1/8	5/8	1 3/8	5/8	1 3/8	7/8	1 5/8*	7/8	1 5/8*
016	5/8	1 3/8	5/8	1 3/8	5/8	1 5/8*	7/8	1 5/8*	7/8	1 5/8*
024	5/8	1 3/8	5/8	1 3/8	5/8	1 5/8	7/8	1 5/8	7/8	1 5/8

\*Requires a double suction riser if 2 unloaders are used and the evaporator is below the condensing unit. See Refrigerant Piping Sizes — Double Suction Risers table and Suction Line Piping figure above for more information.

### NOTES:

1. Pipe sizes are based on a 2 F max loss for liquid lines and a 1.5 F max loss for suction lines, selected at maximum length for each interval and for matched systems at nominal rating conditions, nominal airflow.
2. Pipe sizes are based on an equivalent length equal to the maximum length of interconnecting piping plus 50% for fittings. A more accurate estimate may result in smaller sizes.
3. Units must be charged in accordance with the unit installation instructions.

## REFRIGERANT PIPING SIZES — DOUBLE SUCTION RISERS — ENGLISH

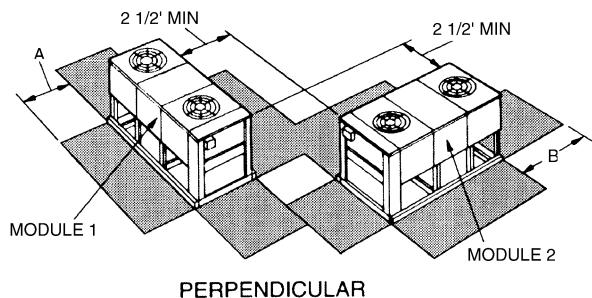
COND UNIT 38AKS	LENGTH OF INTERCONNECTING PIPING (FT)									
	25-50		50-75		75-100		Line Size (in. OD)			
	A	B	C	A	B	C	A	B	C	
013	—	—	—	—	—	—	—	1 1/8	1 3/8	1 5/8
014	—	—	—	1 1/8	1 3/8	1 5/8	1 1/8	1 3/8	1 5/8	
016	1 1/8	1 3/8	1 5/8	1 1/8	1 3/8	1 5/8	1 1/8	1 3/8	1 5/8	

### NOTES:

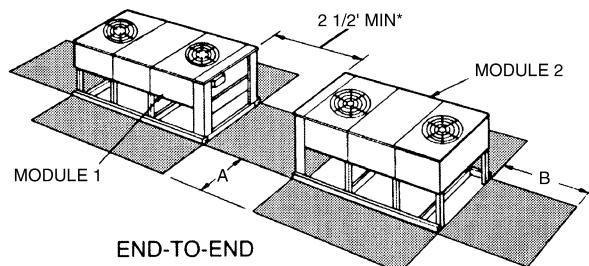
1. See Suction Line Piping figure above for "A," "B," and "C" dimensions.
2. No double suction risers are needed for unit size 024.

## Multiple condensing unit arrangements\*

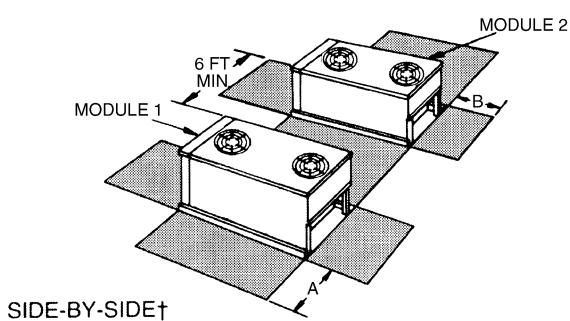
**38AKS013-024**



**38AKS013-024**



**38AKS013-024**



■ Space for Service and Airflow

\*For clearances between controls and grounded surfaces, check local codes.

†Observe minimum recommended space requirements.

38AKS	DIMENSIONS (ft)	
	A	B
013-028	4	4

# Application data — 38AKS028-044



## 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 should be evaluated, particularly at part-load conditions.

The evaporator fan must always be operating when outdoor fan is operating.

Unit cycles should be limited to 3 or less.

Multiple outdoor units may be used with a single indoor unit. This involves multiple refrigeration circuits.

**IMPORTANT:** When application is in a variable air volume (VAV) 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 VAV systems with supply-to-return air recycle as used with Carrier VVT® (variable volume and temperature) Control Systems.

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

## OPERATING LIMITS

Maximum Cooling Load	46 C (115 F)
Minimum Cooling Load	Additional head pressure control may be required below 1.7 C (35 F) outdoor ambient.
Minimum Return-Air Temperature	12.8 C (55 F)
Maximum Return-Air Temperature	35 C (95 F)
Normal Acceptable Saturation Suction Temperature Range	1.1 to 12.8 C (30 to 55 F)
Maximum Discharge Temperature	146 C (295 F)
Minimum Discharge Superheat	15.6 C (60 F)

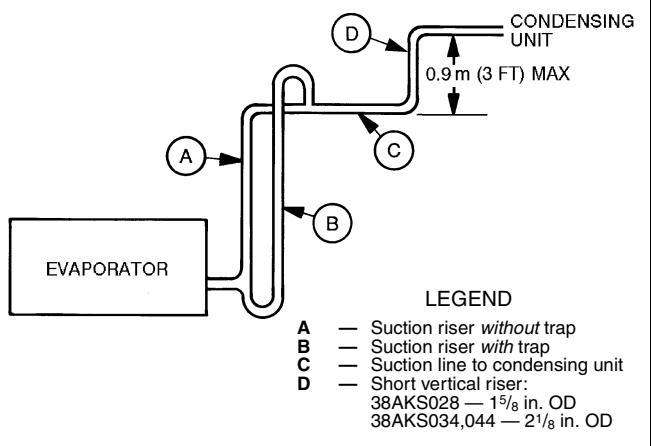
## MINIMUM OUTDOOR-AIR OPERATING TEMPERATURE

UNIT 38AKS	COM- PRESSOR CAPACITY (%)	SATURATED CONDENSING TEMPERATURE		MIN OUTDOOR TEMPERATURE	
		C	F	Base Unit	With Low Ambient Control
028	100	32	90	-6	31
	67	27	80	1.7	35
	33	21	70	1	34
034	100	32	90	-1	30
	67	27	80	1	34
	33	21	70	5.5	42
044	100	32	90	-3.9	25
	67	27	80	-1	30
	33	21	70	1.7	35

## MAXIMUM LIQUID LIFT

UNIT 38AKS	MAXIMUM LIQUID LIFT	
	m	ft
028	23	76
034	20	67
044	23	76

## SUCTION LINE PIPING



**REFRIGERANT PIPE SIZES (Single Suction Risers)**

UNIT 38AKS	LENGTH OF INTERCONNECTING PIPING — m (ft)									
	4.9-7.6 (16-25)		7.9-15.2 (26-50)		15.5-22.8 (51-75)		23.2-30.5 (76-100)		30.8-60.9 (101-200)	
	L	S	L	S	L	S	L	S	L	S
028	7/8	15/8	7/8	21/8*	7/8	21/8*	7/8	21/8*	7/8	21/8*
034	7/8	21/8	7/8	21/8	7/8	21/8	11/8	25/8*	11/8	25/8*
044	7/8	21/8	7/8	21/8	11/8	25/8*	11/8	25/8*	11/8	31/8*

**LEGEND**

L — Liquid Line  
S — Suction Line

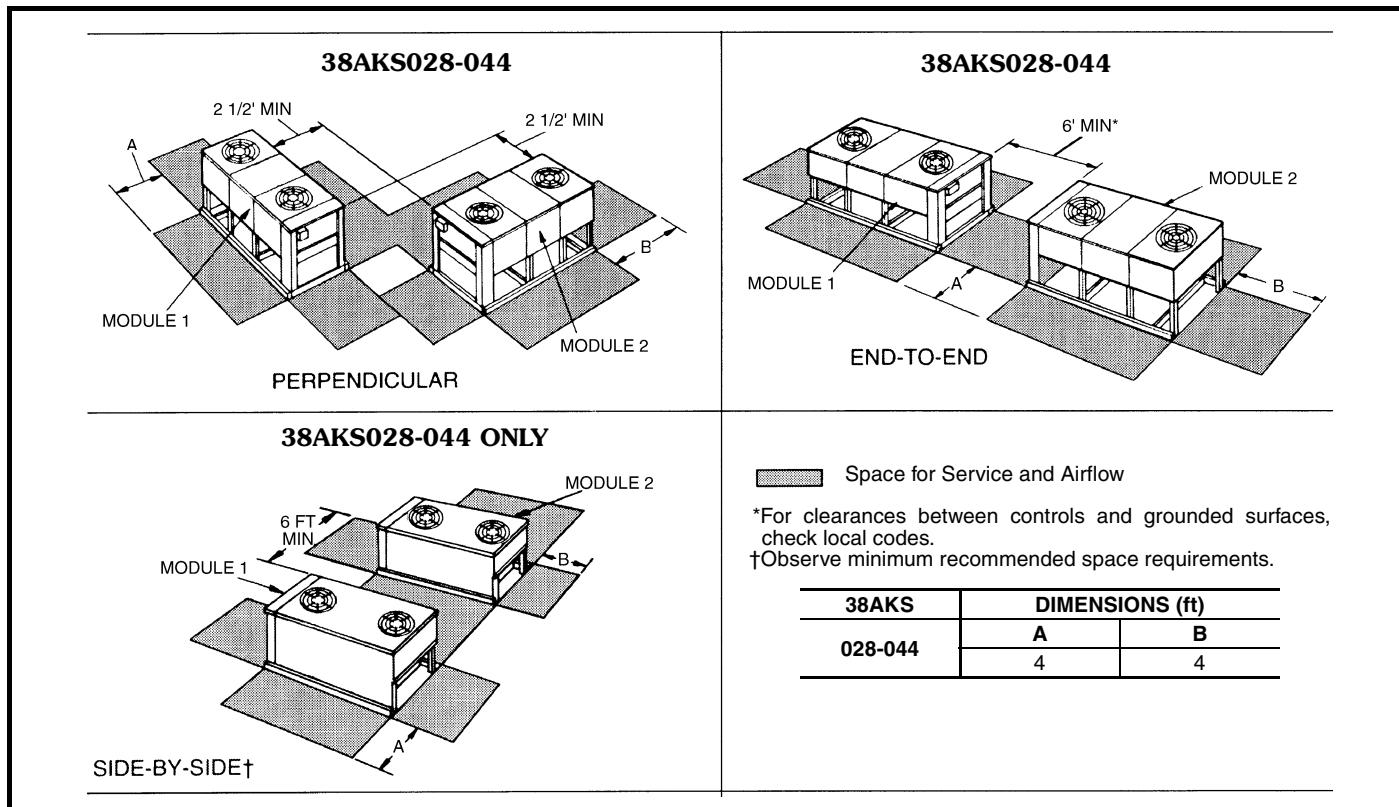
NOTE: All line sizes are inches OD. See notes on page 73 for metric conversions.

\*IMPORTANT — If condensing unit is above air handler, a double suction riser is required. See table below for sizing.

**REFRIGERANT PIPING SIZES (Double Suction Risers)**

UNIT 38AKS	LENGTH OF INTERCONNECTING PIPING — m (ft)											
	7.9-15.2 (26-50)			15.5-22.8 (51-75)			23.2-30.5 (76-100)			30.8-60.9 (101-200)		
	A	B	C	A	B	C	A	B	C	A	B	C
028	15/8	15/8	21/8	15/8	15/8	21/8	15/8	15/8	21/8	15/8	15/8	21/8
034	—	—	—	—	—	—	—	—	—	15/8	15/8	25/8
044	—	—	—	15/8	21/8	25/8	15/8	21/8	25/8	15/8	21/8	25/8

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

**Multiple condensing unit arrangements\***


# Application data — 40RM



## Operating limits

Maximum fan speed —

40RM007-024 . . . . . 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.

## 40RM FACTORY-INSTALLED NOZZLE AND DISTRIBUTOR DATA

UNIT 40RM	TXV Qty...Part No.	DISTRIBUTOR Qty...Part No.	FEEDER TUBES PER DISTRIBUTOR*	NOZZLE Qty...Part No.
007	TDEBX8	1...1116	12	1...E5
008	TDEBX8	1...1126	15	1...C6
012	TDEBX6	2...1115	9	2...E4
014	TDEBX8	2...1115	9	2...E5
016	TDEBX8	2...1116	12	2...E6
024	TDEBXE11	2...1116	13	2...E8
028	TDEBX11	2...1126	15	2...C10
034	TDEBX16	2...1126	18	2...C12

\*Feeder tube size is 6.35 mm (1/4 in.)

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

## 40RM FAN MOTOR DATA STANDARD MOTOR — SI

UNIT 40RM	007	008	012	014	016	024	028	034
<b>230-3-50 and 400-3-50</b>								
Speed (r/s)	23.75	23.75	23.75	23.75	23.75	23.75	23.75	23.75
Shaft kW	1.79	1.79	2.16	2.16	2.16	3.73	5.60	7.46
Frame (NEMA)	56Y	56Y	56Y	56Y	56Y	184T	S213T	S215T
Shaft Dia (mm)	15.9	15.9	22.2	22.2	22.2	28.6	34.9	34.9

### LEGEND

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

## ALTERNATE MOTOR — SI

UNIT 40RM	007	008	012	014	016	024	028
<b>230-3-50 and 400-3-50</b>							
Speed (r/s)	23.75	23.75	23.75	23.75	23.75	23.75	23.75
Shaft kW	1.79	2.16	3.73	3.73	3.73	5.60	7.46
Frame (NEMA)	56Y	56Y	S184T	S184T	S184T	S213T	S215T
Shaft Dia (mm)	15.9	22.2	22.2	28.6	28.6	34.9	34.9

### LEGEND

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



**40RM FAN MOTOR DATA (cont)**  
**STANDARD MOTOR — ENGLISH**

UNIT 40RM	007	008	012	014	016	024	028	034
<b>230-3-50 and 400-3-50</b>								
Speed (rpm)	1425	1425	1425	1425	1425	1425	1425	1425
Hp	2.4	2.4	2.9	2.9	2.9	5.0	7.5	10.0
Frame (NEMA)	56Y	56Y	56Y	56Y	56Y	184T	S213T	S215T
Shaft Dia (in.)	5/8	5/8	7/8	7/8	7/8	1 1/8	1 3/8	1 3/8

## LEGEND

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

**ALTERNATE MOTOR — ENGLISH**

UNIT 40RM	007	008	012	014	016	024	028
<b>230-3-50 and 400-3-50</b>							
Speed (rpm)	1425	1425	1425	1425	1425	1425	1425
Hp	2.4	2.9	5.0	5.0	5.0	7.5	10.0
Frame (NEMA)	56Y	56Y	S184T	S184T	S184T	S213T	S215T
Shaft Dia (in.)	5/8	7/8	7/8	1 1/8	1 1/8	1 3/8	1 3/8

## LEGEND

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

**40RM DRIVE DATA****STANDARD DRIVE — SI**

UNIT 40RM	007	008	012	014	016	024	028	034
<b>MOTOR DRIVE</b>								
Motor Pulley Pitch Diameter (mm)	61.0- 86.4	71.1- 96.5	86.4- 111.8	86.4- 111.8	86.4- 111.8	109.2- 134.6	109.2- 134.6	109.2- 134.6
Pulley Factory Setting Full Turns Open	2.5	2.5	2.5	2.5	2.5	3.0	3.0	3.0
<b>FAN DRIVE</b>								
Pulley Pitch Dia (mm)	203	203	203	229	229	218	279	279
Pulley Bore (mm)	25.4	25.4	25.4	36.5	36.5	36.5	49.2	49.2
Belt No. — Section	1—A	1—A	1—A	1—A	1—A	1—B	2—B	2—B
Belt Pitch (mm)	998	998	1024	1074	1074	1062	1113	1113
<b>FAN SPEEDS (r/s)</b>								
Factory Setting	8.6	9.8	11.6	10.3	10.3	13.3	10.4	10.4
Range	7.1- 10.1	8.3- 11.3	10.1- 13.1	9.0- 11.6	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	20.0	20.0	20.0	20.0	18.3	18.3
Change per 1/2 Turn of Moveable Motor Pulley Flange	0.297	0.297	0.297	0.265	0.265	0.230	0.180	0.180
<b>MAX FULL TURNS FROM CLOSED POSITION</b>								
SHAFTS CENTER DISTANCE (mm)	265-313	265-313	265-313	265-313	265-313	232-279	169-240	169-240

# Application data — 40RM (cont)



## 40RM DRIVE DATA (cont)

### MEDIUM-STATIC DRIVE — SI

UNIT 40RM	007	008	012	014	016	024	028	034
<b>MOTOR DRIVE</b>								
Motor Pulley Pitch Diameter (mm)	86.4-111.8	86.4-111.8	86.4-111.8	86.4-111.8	94.0-119.4	101.6-127.0	109.2-134.6	109.2-134.6
Pulley Factory Setting Full Turns Open	2.5	2.5	2.5	2.5	3.0	2.5	3.0	3.0
<b>FAN DRIVE</b>								
Pulley Pitch Dia (mm)	203	178	152	191	201	178	239	239
Pulley Bore (mm)	25.4	25.4	25.4	36.5	36.5	36.5	49.2	49.2
Belt No. — Section	1—A	1—A	1—A	1—A	1—B	2—A	2—B	2—B
Belt Pitch (mm)	1024	1049	947	998	1011	922	1011	1011
<b>FAN SPEEDS (r/s)</b>								
Factory Setting	11.6	13.2	15.4	12.4	12.6	15.3	12.1	12.1
Range	10.1-13.1	11.5-14.9	13.5-17.4	10.8-13.9	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	20.0	20.0	20.0	20.0	18.3	18.3
Change per 1/2 Turn of Moveable Motor Pulley Flange	0.297	0.340	0.395	0.317	0.252	0.340	0.210	0.210
<b>MAX FULL TURNS FROM CLOSED POSITION</b>	5	5	5	5	6	5	6	6
<b>SHAFTS CENTER DISTANCE (mm)</b>	265-313	265-313	265-313	265-313	232-279	232-279	169-240	169-240

### HIGH-STATIC DRIVE — SI

UNIT 40RM	007	008	012	014	016	024	028	034
<b>MOTOR DRIVE</b>								
Motor Pulley Pitch Diameter (mm)	86.4-111.8	86.4-111.8	101.6-127.0	86.4-111.8	101.6-127.0	101.6-127.0	109.2-134.6	109.2-134.6
Pulley Factory Setting Full Turns Open	2.5	2.5	3.0	2.5	3.0	3.0	3.0	3.0
<b>FAN DRIVE</b>								
Pulley Pitch Dia (mm)	152	140	140	152	178	163	203	218
Pulley Bore (mm)	25.4	25.4	25.4	36.5	36.5	36.5	49.2	49.2
Belt No. — Section	1—A	1—A	1—A	2—A	2—A	2—A	2—B	2—B
Belt Pitch (mm)	947	947	922	922	998	871	935	960
<b>FAN SPEEDS (r/s)</b>								
Factory Setting	15.4	16.8	19.4	15.4	15.3	16.7	14.3	13.3
Range	13.5-17.4	14.7-19.0	17.3-20.0*	13.5-17.4	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	20.0	20.0	20.0	20.0	18.3	18.3
Change per 1/2 Turn of Moveable Motor Pulley Flange	0.395	0.432	0.360	0.395	0.283	0.308	0.247	0.230
<b>MAX FULL TURNS FROM CLOSED POSITION</b>	5	5	6	5	6	6	6	6
<b>SHAFTS CENTER DISTANCE (mm)</b>	265-313	265-313	234-279	232-279	232-279	207-255	169-240	169-240

\*It is possible to adjust drive so that fan speed exceeds maximum allowable. DO NOT exceed 20 r/s.



**40RM DRIVE DATA (cont)**  
**STANDARD DRIVE — ENGLISH**

UNIT 40RM	007	008	012	014	016	024	028	034
<b>MOTOR DRIVE</b>								
Motor Pulley Pitch Diameter (in.)	2.4-3.4	2.8-3.8	3.4-4.4	3.4-4.4	3.4-4.4	4.3-5.3	4.3-5.3	4.3-5.3
Pulley Factory Setting Full Turns Open	2.5	2.5	2.5	2.5	2.5	3.0	3.0	3.0
<b>FAN DRIVE</b>								
Pulley Pitch Dia (in.)	8.0	8.0	8.0	9.0	9.0	8.6	11.0	11.0
Pulley Bore (in.)	1	1	1	1 <sup>7</sup> / <sub>16</sub>	1 <sup>7</sup> / <sub>16</sub>	1 <sup>7</sup> / <sub>16</sub>	1 <sup>15</sup> / <sub>16</sub>	1 <sup>15</sup> / <sub>16</sub>
Belt No. — Section	1—A	1—A	1—A	1—A	1—A	1—B	2—B	2—B
Belt Pitch (in.)	39.3	39.3	40.3	42.3	42.3	41.8	43.8	43.8
<b>FAN SPEEDS (rpm)</b>								
Factory Setting	517	588	695	618	18	795	622	622
Range	428-606	499-677	606-784	538-697	538-697	713-878	557-687	557-687
Max Allowable Speed (rpm)	1200	1200	1200	1200	1200	1200	1100	1100
Change per 1/2 Turn of Moveable Motor Pulley Flange	17.8	17.8	17.8	15.9	15.9	13.8	10.8	10.8
<b>MAX FULL TURNS FROM CLOSED POSITION</b>								
SHAFTS CENTER DISTANCE (in.)	10.44- 12.32	10.44- 12.32	10.44- 12.32	10.44- 12.32	10.44- 12.32	9.12- 10.99	6.67- 9.43	6.67- 9.43

**MEDIUM-STATIC DRIVE — ENGLISH**

UNIT 40RM	007	008	012	014	016	024	028	034
<b>MOTOR DRIVE</b>								
Motor Pulley Pitch Diameter (in.)	3.4-4.4	3.4-4.4	3.4-4.4	3.4-4.4	3.7-4.7	4.0-5.0	4.3-5.3	4.3-5.3
Pulley Factory Setting Full Turns Open	2.5	2.5	2.5	2.5	3.0	2.5	3.0	3.0
<b>FAN DRIVE</b>								
Pulley Pitch Dia (in.)	8.0	7.0	6.0	7.5	7.9	7.0	9.4	9.4
Pulley Bore (in.)	1	1	1	1 <sup>7</sup> / <sub>16</sub>	1 <sup>7</sup> / <sub>16</sub>	1 <sup>7</sup> / <sub>16</sub>	1 <sup>15</sup> / <sub>16</sub>	1 <sup>15</sup> / <sub>16</sub>
Belt No. — Section	1—A	1—A	1—A	1—A	1—B	2—A	2—B	2—B
Belt Pitch (in.)	40.3	41.3	37.3	39.3	39.8	36.8	39.8	39.8
<b>FAN SPEEDS (rpm)</b>								
Factory Setting	695	794	926	741	756	916	728	728
Range	606-784	692-896	808-1045	646-836	667-848	814-1018	652-803	652-803
Max Allowable Speed (rpm)	1200	1200	1200	1200	1200	1200	1100	1100
Change per 1/2 Turn of Moveable Motor Pulley Flange	17.8	20.4	23.7	19.0	15.1	20.4	12.6	12.6
<b>MAX FULL TURNS FROM CLOSED POSITION</b>								
SHAFTS CENTER DISTANCE (in.)	10.44- 12.32	10.44- 12.32	10.44- 12.32	10.44- 12.32	9.16- 10.99	9.16- 10.99	6.67- 9.43	6.67- 9.43

# Application data — 40RM (cont)



## 40RM DRIVE DATA (cont)

### HIGH-STATIC DRIVE DATA

UNIT 40RM	007	008	012	014	016	024	028	034
<b>MOTOR DRIVE</b>								
Motor Pulley Pitch Diameter (in.)	3.4-4.4	3.4-4.4	4.0-5.0	3.4-4.4	4.0-5.0	4.0-5.0	4.3-5.3	4.3-5.3
Pulley Factory Setting Full Turns Open	2.5	2.5	3.0	2.5	3.0	3.0	3.0	3.0
<b>FAN DRIVE</b>								
Pulley Pitch Dia (in.)	6.0	5.5	5.5	6.0	7.0	6.4	8.0	8.6
Pulley Bore (in.)	1	1	1	17/16	17/16	17/16	115/16	115/16
Belt No. — Section	1—A	1—A	1—A	2—A	2—A	2—A	2—B	2—B
Belt Pitch (in.)	37.3	37.3	36.3	36.3	39.3	34.3	36.8	37.8
<b>FAN SPEEDS (rpm)</b>								
Factory Setting	926	1010	1166	926	916	1002	855	795
Range	808-1045	881-1140	1036-1200*	808-1045	814-1018	891-1113	766-944	713-878
Max Allowable Speed (rpm)	1200	1200	1200	1200	1200	1200	1100	1100
Change per 1/2 Turn of Moveable Motor Pulley Flange	23.7	25.9	21.6	23.7	17.0	18.5	14.8	13.8
<b>MAX FULL TURNS FROM CLOSED POSITION</b>								
SHAFTS CENTER DISTANCE (in.)	10.44-12.32	10.44-12.32	9.16-10.99	9.16-10.99	9.16-10.99	8.16-10.02	6.67-9.43	6.67-9.43

\*It is possible to adjust drive so that fan speed exceeds maximum allowable. DO NOT exceed 1200 rpm.

# Guide specifications — 38AKS007-012, 38AKS008-012



## Commercial Air-Cooled Condensing Units

### HVAC Guide Specifications

Size Range: **19.0 to 32.9 kW (5.4 to 9.4 Tons)  
Nominal**

Carrier Model Numbers: **38AK, Sizes 007 to 012  
38AKS, Sizes 008 to 012**

### Part 1 — General

#### 1.01 SYSTEM DESCRIPTION

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

#### 1.02 QUALITY ASSURANCE

- A. Unit shall be rated in accordance with ARI Standard 210/240-89 and 270-84 (U.S.A. standards).
- B. Unit shall be manufactured in a facility registered to ISO 9001 manufacturing quality standard.
- C. Unit construction shall comply with ASHRAE 15 (U.S.A. standard) safety code latest revision and comply with NEC (U.S.A. 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 for semi-hermetic compressor units (38AKS) shall be leak tested at 1034 kPag (150 psig) and pressure tested at 3309 kPag (480 psig). Air-cooled condenser coils for hermetic compressor units (38AK) shall be leak tested at 1379 kPag (200 psig), and pressure tested at 2951 kPag (428 psig).

#### 1.03 DELIVERY, STORAGE, AND HANDLING

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

#### 1.04 WARRANTY (FOR INCLUSION BY SPECIFYING ENGINEER.)

### Part 2 — Products

#### 2.01 EQUIPMENT

##### A. General:

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

##### B. Unit Cabinet:

1. Unit cabinet shall be constructed of galvanized steel, bonderized and coated with a prepainted baked enamel finish.

2. A heavy-gage roll-formed perimeter base rail with forklift slots and lifting holes shall be provided to facilitate rigging.

##### C. Fans:

1. Condenser fans shall be direct driven, propeller-type, discharging air vertically upward.
2. Fan blades shall be balanced.
3. Condenser fan discharge openings shall be equipped with PVC-coated steel wire safety guards.
4. Condenser fan and motor shaft shall be corrosion resistant.

##### D. Compressor:

1. Compressor shall be of the hermetic type (AK) or semi-hermetic reciprocating type (AKS).
2. Compressor shall be mounted on vibration isolators.
3. Semi-hermetic compressors (AKS units) shall have crankcase heaters, oil level sight glasses, discharge service valve, and a totally reversible positive displacement oil pump.
4. Unloader (33% reduction) shall be standard (on 38AKS012 units only).
5. Compressors shall include overload protection.
6. The 38AK012 unit shall have a crankcase heater.

##### E. Condenser Coil:

1. Condenser coil shall be air-cooled and circuited for integral subcooler.
2. Coil shall be constructed of aluminum fins (copper fins optional) mechanically bonded to internally grooved seamless copper tubes which are then cleaned, dehydrated, and sealed.

##### F. Refrigeration Components:

Refrigeration circuit components shall include liquid line service valve, suction line service valve, liquid filter drier, a full charge of compressor oil, and a holding charge of refrigerant. Unit 38AK012 shall include an accumulator.

##### G. Controls and Safeties:

1. Minimum control functions shall include:
  - a. Power and control terminal blocks.
  - b. Compressor lockout on auto-reset safety until reset from thermostat.
2. Minimum safety devices which are equipped with automatic reset (after resetting first at thermostat), shall include:
  - a. High discharge pressure cutout.
  - b. Low suction pressure cutout.

##### H. Operating Characteristics:

1. The capacity of the condensing unit shall meet or exceed Btuh at a suction temperature of \_\_\_\_\_. The power consumption at full load shall not exceed \_\_\_\_\_ kW.

# Guide specifications —

## 38AKS007-012, 38AKS008-012 (cont)



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 conditions of \_\_\_\_\_ entering-air temperature at the evaporator at \_\_\_\_\_ wet bulb and \_\_\_\_\_ dry bulb, and air entering the condensing unit at \_\_\_\_\_.

### 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 contain a 24-v transformer for unit control.

### J. Special Features:

1. Low-Ambient Temperature Control Accessory:  
Low-ambient control shall regulate speed of condenser-fan motor in response to the saturated condensing temperature of the unit. The control shall maintain correct condensing pressure at outdoor temperatures down to -29 C (-20 F). (Motor change required.)
2. Gage Panel Package:  
Gage panel package shall include a suction and discharge pressure gage.
3. 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 environments.
  - 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 (U.S.A.). 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 (U.S.A.). Coil construction shall be copper fins mechanically bonded to copper tubes.

### 4. 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.

### 5. Hail Guard Package:

Hail guard package shall protect coils against damage from hail and other flying debris.

### 6. Winter Start Package:

Package shall provide a timed bypass of low-pressure switch on start-up at low-ambient temperatures.

### 7. Condenser Coil Grille:

Grille shall add decorative appearance to unit and protect condenser coil after installation.

### 8. Electric Solenoid Unloader:

Electric unloader valve piston, coil, and hardware shall be supplied to convert the pressure-operated compressor unloader to electric unloading (38AKS012 only).

# Guide specifications — 38AKS013-024



## Commercial Air-Cooled Condensing Units

### HVAC Guide Specifications

Size Range: **30.4 to 64.3 kW (8.5 to 18.0 Tons), Nominal**

Carrier Model Number: **38AKS, Sizes 013-024**

### Part 1 — General

#### 1.01 SYSTEM DESCRIPTION

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

#### 1.02 QUALITY ASSURANCE

- A. Unit shall be rated in accordance with ARI Standard 360 (U.S.A. standard), latest edition.
- B. Unit shall be manufactured in a facility registered to ISO 9002 manufacturing quality standard.
- C. Unit construction shall comply with latest edition of ANSI/ASHRAE and with NEC (U.S.A. standard).
- D. Unit cabinet shall be capable of withstanding 500-hour salt spray exposure per ASTM B117 (U.S.A. standards) (scribed specimen).
- E. Air-cooled condenser coils shall be leak tested at 1034 kPag (150 psig) and pressure tested at 3310 kPag (480 psig).

#### 1.03 DELIVERY, STORAGE, AND HANDLING

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

#### 1.04 WARRANTY (FOR INCLUSION BY SPECIFYING ENGINEER.)

### Part 2 — Products

#### 2.01 EQUIPMENT

##### A. General:

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

##### B. Unit Cabinet:

Unit cabinet shall be constructed of galvanized steel, bonderized and coated with a prepainted, baked enamel finish.

##### C. Fans:

1. Condenser fans shall be direct-drive propeller type, discharging air vertically upward.
2. Condenser fan motor no. 1 shall be ball bearing type compatible with accessory Motormaster® I low-ambient control.
3. Shafts shall have inherent corrosion resistance.

4. Fan blades shall be statically and dynamically balanced.

5. Condenser fan openings shall be equipped with PVC-coated steel wire safety guards.

##### D. Compressor:

1. Compressor shall be serviceable, reciprocating, semi-hermetic type.
2. Compressor shall be equipped with an automatically reversible oil pump, operating oil charge, suction and discharge shutoff valves, and an insert-type, factory-sized crankcase heater to control oil dilution.
3. Compressor shall be mounted on spring vibration isolators with an isolation efficiency of no less than 95%.
4. Compressor speed shall not exceed 24.2 r/s (1450 rpm).
5. Compressor shall unload using suction cutoff unloading (electrical solenoid unloading shall be available as an accessory).

##### E. Condenser Coil:

1. Condenser coil shall be air cooled, circuited for integral subcooler.
2. Coil shall be constructed of aluminum fins mechanically bonded to copper tubes which are then cleaned, dehydrated, and sealed. Aluminum fins with an epoxy phenolic coating and copper 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 of refrigerant R-22, and compressor oil.

##### G. Controls and Safeties:

1. Minimum control functions shall include:
  - a. Power and control terminal blocks.
  - b. Five-minute Time Guard® II protection to prevent compressor short-cycling.
  - c. Capacity control on the compressor shall be by suction cutoff unloader in response to compressor suction pressure. Electric solenoid unloading shall be available as an accessory.
  - d. Head pressure control to -9.4 C (15 F) by fan cycling. One condenser fan shall be cycled by discharge pressure to maintain proper head pressure.
2. Minimum safety devices shall include:  
Automatic reset (after resetting first at thermostat)
  - a. High discharge-pressure cutout.
  - b. Low suction pressure cutout.

# Guide specifications — 38AKS013-024 (cont)



- c. Condenser fan motors to be protected against overload condition by internal overloads.

## Manual reset at the unit

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

## H. Operating Characteristics:

1. The capacity of the condensing unit shall meet or exceed \_\_\_\_\_ 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 conditions of \_\_\_\_\_ entering-air temperature at the evaporator at \_\_\_\_\_ wet bulb and \_\_\_\_\_ dry bulb, and air entering the condensing unit at \_\_\_\_\_.

## 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 contain a 24-v transformer for unit control, with capacity to operate an indoor fan interlock.

## J. Special Features:

### 1. Low-Ambient Control:

Control shall regulate fan motor speed in response to the saturated condensing temperature of the unit. The control shall allow the unit to operate down to an ambient temperature of -29 C (-20 F).

### 2. Electric Solenoid Unloader:

Unloader valve piston, coil, and hardware shall be supplied to convert the pressure-operated compressor unloader to electric unloading.

### 3. Winter Start:

A winter start control shall be provided to prevent nuisance tripouts at low ambient temperatures.

### 4. Condenser Coil Grille Package:

Grilles shall protect the condenser coils after unit installation.

## 5. Gage Panel Package:

Gage panel package shall include a suction and discharge pressure gage.

## 6. 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 to 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 (U.S.A.). 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 to 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 (U.S.A.). Coil construction shall be copper fins mechanically bonded to copper tubes.

## 7. 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.

# Guide specifications — 38AKS028-044



## Commercial Air-Cooled Condensing Units

### HVAC Guide Specifications

Size Range: **82.8 to 127.0 kW (23.5 to 35.8 Tons), Nominal**

Carrier Model Number: **38AKS, Sizes 028-044**

### Part 1 — General

#### 1.01 SYSTEM DESCRIPTION

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

#### 1.02 QUALITY ASSURANCE

- A. Unit shall be rated in accordance with ARI Standard 360 (U.S.A. standard), latest edition.
- B. Unit shall be manufactured in a facility registered to ISO 9002 manufacturing quality standard.
- C. Unit construction shall comply with ANSI/ASHRAE 15 latest revision safety code and comply with NEC (U.S.A. standards).
- 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, compressor, holding charge (R-22), and special features required prior to field start-up.

##### B. Unit Cabinet:

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

##### C. Fans:

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

##### D. Compressor:

1. Compressor shall be reciprocating, serviceable, semi-hermetic type.
2. Compressor shall be equipped with an automatically reversible oil pump, operating oil charge, suction and discharge shutoff valves, and an insert-type, factory-sized crankcase heater to control oil dilution.
3. Compressor shall be mounted on spring vibration isolators with an isolation efficiency of no less than 95%.
4. Compressor speed shall not exceed 24.2 r/s (1450 rpm).
5. Compressor shall unload using suction cutoff unloading (electrical solenoid unloading shall be available as an accessory).

##### E. Condenser Coil:

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

##### F. Refrigeration Components:

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

##### G. Controls and Safeties:

1. Minimum control functions shall include:
  - a. Power and control terminal blocks.
  - b. Five-minute recycle protection to prevent compressor short-cycling.
  - c. Lockout on auto-reset safety until reset from thermostat.
  - d. Capacity control on the compressor shall be by suction cutoff unloaders in response to compressor suction pressure. Electric

# Guide specifications — 38AKS028-044 (cont)



solenoid unloading shall be available as an accessory.

- e. A solenoid valve shall be provided for solenoid drop control.
- f. Head pressure control to -6 C (31 F) by fan cycling. One condenser fan shall be cycled by discharge pressure to maintain proper head pressure.
- g. Winter start control to prevent nuisance trip-outs at low ambient temperatures.

## 2. Minimum safety devices shall include:

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

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

Manual reset at the unit

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

## H. Operating Characteristics:

- 1. The capacity of the condensing unit shall meet or exceed \_\_\_\_\_ 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 conditions of: \_\_\_\_\_ entering-air temperature at the evaporator at \_\_\_\_\_ wet bulb and \_\_\_\_\_ dry bulb, and air entering the condensing unit at \_\_\_\_\_.

## 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 contain a 24-v transformer for unit control, with capacity to operate an indoor fan interlock.

## J. Special Features:

### 1. Low-Ambient Control:

Control shall regulate fan motor speed in response to the saturated condensing temperature of the unit. The control shall be capable of

maintaining a condensing temperature of 37.8 C (100 F)  $\pm$  5.6 C (10° F) with outdoor temperatures at -28 C (-20 F). (Motor change required.)

### 2. Electric Solenoid Unloader:

Unloader valve piston, coil, and hardware shall be supplied to convert any pressure-operated compressor unloader to 220-v electric unloading. Accessory ModuPanel™ control box or field-supplied step controller shall be provided for electrical unloading.

### 3. Hot-Gas Bypass:

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

### 4. Part-Winding Start:

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

### 5. Gage Panel:

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

### 6. ModuPanel Control Box:

Control box shall be provided to allow system to operate as a VAV (variable air volume) system.

### 7. 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 environments.

#### c. Post-Coated Aluminum-Fin Coils:

Shall have a durable organic coating uniformly applied to 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 (U.S.A.). 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 to 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 (U.S.A.). Coil construction shall be copper fins mechanically bonded to copper tubes.

## 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.

# Guide specifications — 40RM



## Commercial Packaged Air-Handling Unit

### HVAC Guide Specifications

Size Range: **1150 to 5650 L/s (2400 to 12,000 Cfm)**

**Nominal Airflow**

**21 to 105 kW (6 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 an EPA-registered immobilized anti-microbial 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/BS 5750, Part 2 manufacturing quality standard.
- E. Direct-expansion and chilled water 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.

#### 1.04 WARRANTY (FOR INCLUSION BY SPECIFYING ENGINEER)

### 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 contactor, 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 an U.S.A. EPA-registered immobilized anti-microbial 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. High Capacity Coil:

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

**2. 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.

**3. External Paint:**

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 fins bonded to the tubes by mechanical expansion. Coil shall be mounted in a galvanized steel housing that shall be fastened to the unit's fan deck for blow-thru heating operation. Coil shall have maximum working pressure of 1034 kPag (150 psig).

**2. Steam Distributing Coil:**

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

**4. Air Discharge Plenum:**

Plenum shall be factory supplied to provide free-blow air distribution for vertical floor-mounted units. A grille with moveable vanes for horizontal or vertical airflow adjustment shall be included. Plenum 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 CO<sub>2</sub> sensor accessory; economizer dampers shall open when indoor CO<sub>2</sub> level rises above predetermined set point. Economizer shall include enthalpy control and damper actuator.

**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 multistage thermostat with fan switch, time-clock, 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 Package:**

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

**10. CO<sub>2</sub> Sensor:**

Sensor shall provide the ability to signal the economizer to open when the space CO<sub>2</sub> level exceeds the predetermined set point. Sensor shall have the capability of being directly connected to Comfort System relay pack or to economizer using field-supplied and -installed Honeywell dc adapter no. Q769C1004.

**11. Condensate Drain Trap:**

Trap accessory shall include an integral overflow switch that shall cause the air conditioning system to shut down if the trap fails to drain.

**12. UV-C Germicidal Lamps:**

- a. UV-C emitters and fixtures shall be specifically designed for use inside an HVAC system. An ASME nozzled test apparatus using a 45 F (7.2 C) airstream moving at not less than 400 fpm (189 liters/sec.) shall measure individual lamp output. Lamp output at 253.7 nm shall not be less than 10µW/cm<sup>2</sup> per inch of arc length measured at a distance of one meter.
- b. UV-C power supplies shall be high efficiency, electric type which are matched to the emitters and are capable of producing the specified output intensity with an input power no more than 80 watts.

# Guide specifications — 40RM (cont)



- c. Emitters and fixtures shall be installed in sufficient quantity and arranged so as to provide an equal distribution of UV-C energy on the coil and drain pan.
- d. The minimum UV-C energy striking the leading edge of the coil fins shall be not less than  $820 \mu\text{W}/\text{cm}^2$  at the closest point and through placement, not less than 60% of that value at the farthest point. Equal amounts are to strike the drain pan,
- e. Emitters and fixtures shall be installed at right angles to the conforming lines of the coil fins, such that through incident angle reflection, UV-C energy strikes all target surfaces of the coil, drain pan, and the available line of sight airstream.