

Low Charge

20 TO 30 HP AIR COOLED CONDENSING UNITS

with Scroll Compressors



LOW CHARGE

Efficient and Accessible Eco-Friendly Condensing Unit

The Low Charge dual scroll compressor condensing units feature energy-efficient variable speed EC condenser fan motors and are circuited for R448A and R449A/B low GWP refrigerants. Models incorporate features from our award-winning QV-Series Condensing Units™ and Quantum Air™ Condensers such as the innovative floating coil design with generously sized condensers for energy savings, swept wing fan blades for optimal air flow, and LED lighted control panel and hinged venturi panels for easy access. A floored compressor cabinet with removable compressor tray, service convenience outlet, hinged and removable access panels, integral liquid subcooling circuit, and paint protected galvanized steel housing are all standard features of these units.

Standard Features

- Scroll compressors
- 900 RPM Variable Speed EC Condenser Fan Motors
- Available as dual compressor configurations from 20 to 30 HP
- All models are non-flooded and include electronic fan cycling control
- Prepainted gray exterior/ G60 galvanized steel outdoor cabinet construction
- Heavy gauge G90 galvanized steel frame
- Award-winning floating coil design with generously sized condensers for energy savings
- Mechanically formed pre-bent tubing reduces potential leaks
- Enhanced tube design
- Separate power and control electrical panels
- Swept wing fan/Venturi improves airflow and sound
- Crankcase heater
- Pump down switch
- Hinged and removable access panels
- Flip top hinged Venturi panels for easy servicing
- Floored compressor cabinet with removable compressor tray
- LED control and compressor panel lighting
- 110V service convenience outlet
- Service gauge hooks
- Color-coded high and low pressure hoses
- Thru-the-door non-fused disconnect switch
- Suction line isolation valve
- Liquid line isolation valve with sight glass
- Liquid line injection on low temp. models
- Sealed liquid line filter
- Single point alarm with liquid line solenoid lockout
- Control circuit and condenser fan fusing
- Condenser fan contactors
- UL and cUL listed for outdoor use

MODEL NUMBER NOMENCLATURE

R	B	O	D	020	M	4S	G	A
Brand	Model Style	Compressor Type	Configuration	Horsepower	Temperature Range	Refrigerant Type	Voltage^	Vintage
R = Russell	B = Non-Flooded	O = Scroll	D = Dual Piping		M = Medium Temp. L = Low Temp.	4S = R448A, R449A/B	E = 208-230/3/60 G = 460/3/60	

Note: ^ 50 Hz available. Contact Factory for additional information.

Options

- Air defrost timer or electric defrost components
- Electric defrost kits available for up to 4 evaporators
- ElectroFin® or Bronz-Glow coil coating
- Receiver
- Heated and insulated receiver
- Oil separator with check valve
- Suction accumulator
- Replaceable core liquid line filter
- Replaceable core suction line filter
- Sealed suction line filter
- Electronic oil float

20 TO 30 HP AIR COOLED CONDENSING UNITS

	Features and Options	
	DESCRIPTION	RB NON-FLOODED MODELS
GENERAL CONSTRUCTION	Vertical air discharge configuration	STANDARD
	Prepaint gray exterior/G60 Galvanized outdoor cabinet construction	STANDARD
	G90 Galvanized frame	STANDARD
	High and low voltage electrical panels with hinged door	STANDARD
	Single point electrical connection	STANDARD
CONDENSER COIL AND FANS	Award-winning floating coil design	STANDARD
	Copper tubes mechanically expanded into aluminum fins	STANDARD
	900 RPM Variable Speed EC Condenser Fan Motors	STANDARD
	Flip top condenser fan venturi(s)	STANDARD
	Swept wing fan blades for optional air flow	STANDARD
	Enhanced tube	STANDARD
	Adjustable flooded head pressure control valve	N/A
COIL COATINGS	ElectroFin® or Bronz-Glow	OPTIONAL
COMPRESSORS	Crankcase heater	STANDARD
	Electronic oil failure control	OPTIONAL
	Floored compressor cabinet with removable compressor tray	STANDARD
	Coresense Diagnostic Module	STANDARD
	Liquid injection on low temp. compressors	STANDARD
ELECTRICAL AND CONTROL PANEL	Compressor contactor and circuit breaker	STANDARD
	Hinged and removable access panels	STANDARD
	Condenser fan contactors	STANDARD
	Control circuit and condenser fan fuses	STANDARD
	Control circuit and condenser fan breakers	OPTIONAL
	Thru-the-door non-fused disconnect (200 amp Max)	STANDARD
	Thru-the-door breaker disconnect (200 amp Max)	OPTIONAL
	Air defrost time clock	OPTIONAL
	Up to 4 evaporators electric defrost kit	OPTIONAL
	Single point alarm with liquid line solenoid lockout	STANDARD
	Anti short cycle timer	OPTIONAL
	Pump down switch	STANDARD
	208-230 Control voltage	STANDARD
	Service and control LED control panel lighting (Panel door switch/service toggle)	STANDARD
	110 VAC 20 Amp convenience outlet	STANDARD
REFRIGERATION	High and low pressure controls (with color-coded hose connections)	STANDARD
	Horizontal receiver with isolation valves	OPTIONAL
	Refrigerant relief valve	STANDARD
	Replaceable core liquid line filter	OPTIONAL
	Heated and insulated receiver	OPTIONAL
	Oil separator with check valve	OPTIONAL
	Suction accumulator	OPTIONAL
	Liquid line isolation valve with sight glass	STANDARD
	Liquid line solenoid valve (Shipped loose)	OPTIONAL
	Suction isolation valve	STANDARD
	Suction line filter (sealed)	OPTIONAL
	Replaceable core suction line filter	OPTIONAL
	Hot gas bypass (Discharge tee, ball valve)	OPTIONAL
	Crankcase pressure regulator	OPTIONAL

LOW CHARGE

Capacity Data (BTUH) - Medium Temp. R448A, R449A/B Scroll - Dual Compressor - 60 Hz‡

SUCTION TEMPERATURE

MODEL	COMP. MODEL	45	40	35	30	25	20	15	10	0
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90°F Ambient

RBOD020M4S*A	(2) ZB76K5E	247,700	227,200	208,900	191,800	176,000	161,000	146,200	131,200	100,900
RBOD026M4S*A	(2) ZB95K5E	316,400	288,900	262,800	240,400	218,900	198,400	177,800	158,800	121,700
RBOD030M4S*A	(2) ZB114K5E	358,900	328,500	299,600	274,600	250,500	225,800	202,300	180,000	134,000

95°F Ambient

RBOD020M4S*A	(2) ZB76K5E	239,500	219,900	201,000	184,900	169,700	154,600	139,400	126,200	94,500
RBOD026M4S*A	(2) ZB95K5E	305,200	278,500	253,000	231,100	210,100	190,000	169,900	151,300	114,600
RBOD030M4S*A	(2) ZB114K5E	346,000	316,400	288,200	263,700	239,600	212,600	192,200	169,800	125,500

100°F Ambient

RBOD020M4S*A	(2) ZB76K5E	231,100	212,000	193,600	177,900	162,500	148,700	132,900	118,900	88,100
RBOD026M4S*A	(2) ZB95K5E	294,200	267,800	243,000	221,900	201,000	181,200	161,800	143,400	107,800
RBOD030M4S*A	(2) ZB114K5E	332,600	304,100	276,500	252,300	228,700	202,600	181,400	160,000	120,600

110°F Ambient

RBOD020M4S*A	(2) ZB76K5E	–	–	178,000	163,300	147,800	134,300	118,900	105,600	73,700
RBOD026M4S*A	(2) ZB95K5E	–	–	221,900	201,600	182,300	163,300	144,400	127,600	92,800
RBOD030M4S*A	(2) ZB114K5E	–	–	251,800	228,400	206,300	180,400	160,200	138,200	99,900

* Asterisk represents a variable character based upon voltage ordered. See page 2 for nomenclature.

All capacities are calculated at 65°F return gas temperature and dew point values.

‡ Multiply capacity by .83 when used with 50 Hz power.



Swept wing fans improve air flow
and diminish sound output

Stud mounted motors make for
easier motor changes

20 TO 30 HP AIR COOLED CONDENSING UNITS

Capacity Data (BTUH) - Low Temp. R448A, R449A/B Scroll - Dual Compressor - 60 Hz†

SUCTION TEMPERATURE

MODEL	COMP. MODEL	0	-5	-10	-15	-20	-25	-30	-35	-40
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90°F Ambient

RBOD020L4S*A	(2) ZF34K5E	103,100	92,800	81,400	71,900	63,200	55,100	47,700	40,800	35,300
RBOD026L4S*A	(2) ZF41K5E	126,800	112,000	101,400	88,800	78,400	68,800	60,000	51,800	44,200
RBOD030L4S*A	(2) ZF49K5E	155,500	138,800	123,500	109,100	95,700	84,000	73,000	62,800	54,100

95°F Ambient

RBOD020L4S*A	(2) ZF34K5E	100,100	90,500	79,400	69,600	60,900	54,300	46,000	39,500	34,200
RBOD026L4S*A	(2) ZF41K5E	120,400	108,000	97,100	85,700	76,200	66,500	59,300	50,400	43,600
RBOD030L4S*A	(2) ZF49K5E	150,500	135,700	120,700	106,500	93,500	81,100	71,100	60,700	52,300

100°F Ambient

RBOD020L4S*A	(2) ZF34K5E	97,200	87,300	77,300	66,900	58,700	52,700	44,300	39,100	33,200
RBOD026L4S*A	(2) ZF41K5E	116,500	104,000	92,900	82,600	73,000	64,100	57,300	49,700	42,400
RBOD030L4S*A	(2) ZF49K5E	146,100	130,800	116,600	101,500	89,200	78,400	68,800	59,300	51,200

110°F Ambient

RBOD020L4S*A	(2) ZF34K5E	90,100	81,000	69,800	61,500	54,100	48,800	42,200	36,300	31,200
RBOD026L4S*A	(2) ZF41K5E	107,400	96,200	86,700	76,500	67,400	59,200	53,300	46,000	39,500
RBOD030L4S*A	(2) ZF49K5E	133,800	121,000	107,500	93,600	82,900	71,900	62,700	54,400	47,200

* Asterisk represents a variable character based upon voltage ordered. See page 2 for nomenclature.

All capacities are calculated at 65°F return gas temperature and dew point values.

† Multiply capacity by .83 when used with 50 Hz power.



Application: Food Processing

LOW CHARGE

Electrical Specifications - Scroll - Dual Compressor Models

BASE MODEL	COMPRESSOR MODEL	COMPRESSOR			COND. FAN		CONTROL AMPS
		RLA	MCC	LRA	TOTAL FAN FLA	QTY.	

208-230V/3/60 Hz

RBOD020M4S*A	(2) ZB76K5E	38.6	60.3	239	10.8	2	2
RBOD026M4S*A	(2) ZB95K5E	47.4	74.0	298	10.8	2	2
RBOD030M4S*A	(2) ZB114K5E	56.5	88.2	321	10.8	2	2
RBOD020L4S*A	(2) ZF34K5E	33.3	52.0	239	10.8	2	2
RBOD026L4S*A	(2) ZF41K5E	37.8	59.0	248	10.8	2	2
RBOD030L4S*A	(2) ZF49K5E	45.5	71.0	339	10.8	2	2

460V/3/60 Hz

RBOD020M4S*A	(2) ZB76K5E	18.6	29.1	125	5.4	2	1
RBOD026M4S*A	(2) ZB95K5E	21.8	34.1	150	5.4	2	1
RBOD030M4S*A	(2) ZB114K5E	24.4	38.1	179	5.4	2	1
RBOD020L4S*A	(2) ZF34K5E	16.0	25.0	125	5.4	2	1
RBOD026L4S*A	(2) ZF41K5E	17.3	27.0	125	5.4	2	1
RBOD030L4S*A	(2) ZF49K5E	18.1	28.3	139	5.4	2	1

Electrical Specifications - Scroll - Dual Compressor Models Cont.

BASE MODEL	2 CONTACTOR DEFROST KIT					4 CONTACTOR DEFROST KIT				
	KIT NAME	KIT FAN AMPS	KIT HEAT AMPS	MCA	MOPD	KIT NAME	KIT FAN AMPS	KIT HEAT AMPS	MCA	MOPD

208-230V/3/60 Hz

RBOD020M4S*A	DLB96	24	96	123.6	150	DLD96	24	96	123.6	150
RBOD026M4S*A	DLB96	24	96	143.4	175	DLD96	24	96	143.4	175
RBOD030M4S*A	DLB96	24	96	163.9	200	DLD96	24	96	163.9	200
RBOD020L4S*A	DLB96	24	96	122.0	150	DLD96	24	96	122.0	150
RBOD026L4S*A	DLB96	24	96	122.0	150	DLD96	24	96	122.0	150
RBOD030L4S*A	DLB96	24	96	139.2	175	DLD96	24	96	139.2	175

460V/3/60 Hz

RBOD020M4S*A	DLB40	15	48	63.2	80	DLD60	24	60	76.0	90
RBOD026M4S*A	DLB48	15	48	70.4	90	DLD60	24	60	79.4	100
RBOD030M4S*A	DLB48	15	48	76.3	100	DLD60	24	60	85.3	100
RBOD020L4S*A	DLB35	15	35	57.4	70	DLD60	24	60	76.0	80
RBOD026L4S*A	DLB35	15	35	60.3	70	DLD60	24	60	76.0	80
RBOD030L4S*A	DLB35	15	35	62.1	80	DLD60	24	60	76.0	80

* Asterisk represents a variable character based upon voltage ordered. See page 2 for nomenclature.



Application: Warehousing

20 TO 30 HP AIR COOLED CONDENSING UNITS

Defrost Kits- All Models

DEFROST KIT NOMENCLATURE

When selecting defrost kit, use the next higher amp value above the defrost load.

DL	HEATER CONTACTOR QTY.	MAX TOTAL HEATER AMP VALUE	SPECIAL KIT CODES
Defrost Kit Large Condenser	B: 2 Heater Contactors	30 = 30 amps total	"-1" # of Evaps with Multiple Heater Feeds
	D: 4 Heater Contactors	48 = 48 amps total	

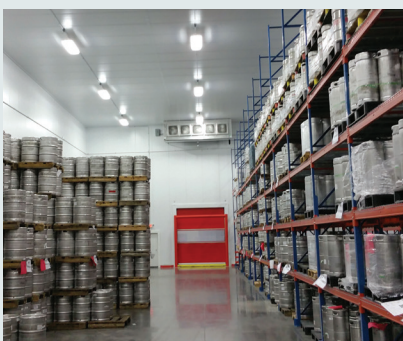
All kits include 1 fan contactor and are suitable for 1 or 3 phase loads.

Electrical resistance loads greater than 48 amps must be split into multiple circuits.

Dual Compressor Kit Options

2 Contactor	4 Contactor
TMR ONLY	DLB35
DLB35	DLB40
DLB40	DLD144-2
DLB48	DLD192-2
DLB60	DLD60
DLB96	DLD96
	DLD144
	DLD192

Defrost Kit selected is not per compressor. One defrost timer controls both systems. Up to two contractors per compressor.



Application: Commercial Warehouse Cooling

LOW CHARGE

Specifications - All Models

MODEL DATA				CONNECTIONS (ODS)		FANS LONG	DIMENSIONS (IN.)			APPROX. SHIP WT. (LBS.)	SOUND DATA dBA †
MODEL NUMBER	COMP. MODEL	HP	COND. FAN QTY.	LIQUID LINE	SUCTION LINE ^		H	W	L		

Dual Compressor Models

RBOD020M4S*A	(2) ZB76K5E	20	2	(2) 7/8	(2) 1-5/8	2	58 1/8	45 3/8	159 1/4	1,928	74.9
RBOD026M4S*A	(2) ZB95K5E	26	2	(2) 7/8	(2) 2-1/8	2	58 1/8	45 3/8	159 1/4	1,928	74.9
RBOD030M4S*A	(2) ZB114K5E	30	2	(2) 7/8	(2) 2-1/8	2	58 1/8	45 3/8	159 1/4	1,928	74.9
RBOD020L4S*A	(2) ZF34K5E	20	2	(2) 5/8	(2) 1-5/8	2	58 1/8	45 3/8	159 1/4	1,928	74.9
RBOD026L4S*A	(2) ZF41K5E	26	2	(2) 5/8	(2) 2-1/8	2	58 1/8	45 3/8	159 1/4	1,928	74.9
RBOD030L4S*A	(2) ZF49K5E	30	2	(2) 5/8	(2) 2-1/8	2	58 1/8	45 3/8	159 1/4	1,928	74.9

* Asterisk represents a variable character based upon model and voltage ordered. See page 2 for nomenclature.

^ Connection size with or without factory installed liquid and/or suction line assembly.

Department of Energy Annual Walk-In Energy Factor (AWEF) Ratings	
Base Model Number	AWEF

Medium Temperature Models¹

RBOD020M4S*A	7.6
RBOD026M4S*A	7.6
RBOD030M4S*A	7.6

Low Temperature Models²

RBOD020L4S*A	3.15
RBOD026L4S*A	3.15
RBOD030L4S*A	3.15

NOMINAL COMPRESSOR HP
DUAL PIPING
20 (2) 10 HP
26 (2) 13 HP
30 (2) 15 HP

* Each asterisk represents a variable character based upon model and voltage ordered. See page 2 for nomenclature.

† Estimated dBA values at 10 feet from the unit. Correction factors: Deduct 6 dBA for 20 to 40 feet, 12 dBA @ 40 to 60 feet. Ratings at the outlet of the discharge air. The actual measurements may vary depending upon installation variables. Environmental factors may have a significant influence on this data.

See page 11 for dimensional drawings.

1. If the medium temperature model has a numerical value in the table above, the following statement applies: "This refrigeration system is designed and certified for use in walk-in cooler applications."
2. If the low temperature model has a numerical value in the table above, the following statement applies: "This refrigeration system is designed and certified for use in walk-in freezer applications."



Application: Industrial Cooling

20 TO 30 HP AIR COOLED CONDENSING UNITS

Highlighted Features



Hinged fan panels for
easy serviceability

Gas filled struts hold fan panels
securely in upright position

Service convenience outlet

Thru-the-door disconnect switch

Floored and lighted compressor
cabinet with removable
compressor tray

Mechanically formed pre-bent
tubing reduces potential leaks

Service gauge hooks

Hinged and removable access panels



*Photo for illustrative purposes only. Units are
not available with Discus compressors.*



Hinged and removable lighted
control panels

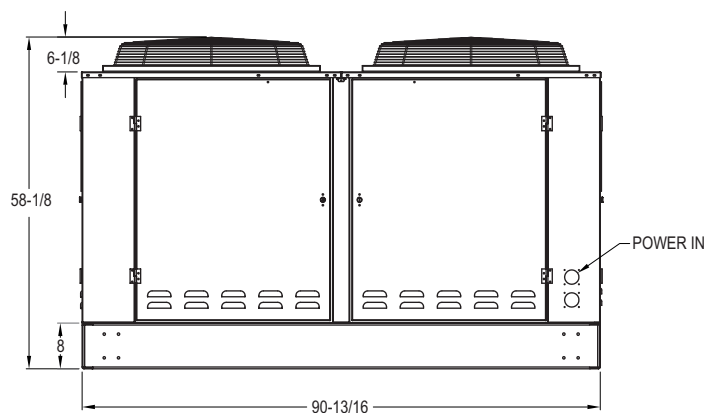
Easy to read control wiring diagram
with diagnostic terminals

Separate high and low voltage
control panels

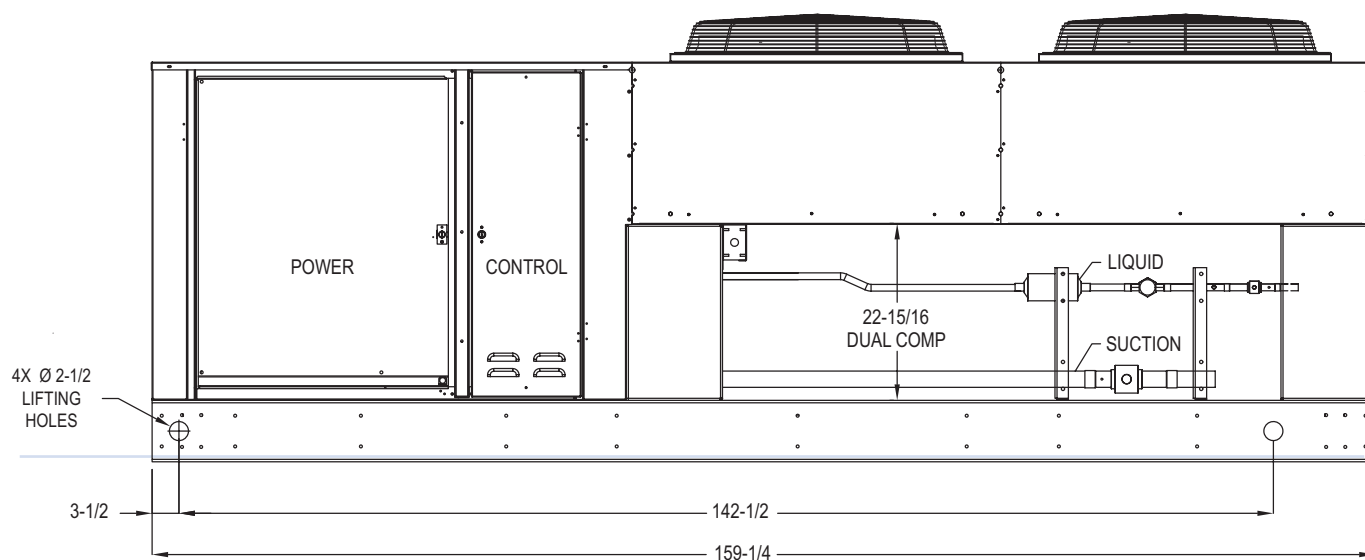
LOW CHARGE

Dimensional Drawings

DUAL WIDTH



2 FAN



Notes:

- All dimensions are in inches.
- Utilize all lifting points during installation.
- Refrigerant connections located on each side for Dual models.

20 TO 30 HP AIR COOLED CONDENSING UNITS

Commercial refrigeration solutions for medium and large cold storage applications

CONDENSING UNITS



QV-SERIES 15 to 100 HP

The design of the innovative QV-Series Condensing Units™ sets the new standard for efficiency, reliability and serviceability to meet the needs of the food processing, industrial cooling and warehousing industries.

Models incorporate features from our award-winning Quantum Air™ Condensers such as the floating coil design, swept wing fan blades, hinged venturi panels, and a LED lighted control panel. Additional advancements include a floored compressor cabinet with removable compressor tray, service convenience outlet, and hinged and removable access panels, QV-Series models are available in single, dual or parallel compressor configurations.



NEXT-GEN II 3 to 22 HP

Next-Gen II units feature a robust design that improves serviceability, increases unit efficiency, and includes a host of standard features and available options to meet

a wide variety of refrigeration needs. Features include a high-efficiency condenser with enhanced copper tubes and aluminum fins; three phase fan motors; and flow-through equipment guard. For easy service and maintenance, units have externally mounted service valves that are easily accessible from the cabinet exterior; large control panel with a swing-wide hinged door; and color-coded point-to-point wiring. Units are offered with Copeland Discus™, Copeland Scroll™ and Bitzer semi-hermetic compressors for use with low GWP refrigerants.

UNIT COOLERS



MEDIUM PROFILE

Units were engineered to meet the Dept. of Energy's new AWEF performance regulations and are the perfect

evaporator solution for medium to large walk-in coolers and freezers. Medium Profile units feature rail-mount motors, high efficiency fan and venturi designs, enhanced surface coil tubing, easily removable fan guards and modular fan panels, face mounted defrost heaters, hinged drain pans and are optimized for multiple refrigerants. One, two and three fan models are available with air, electric or hot gas defrost.



HEAVY DUTY

Units feature energy-efficient rail-mount Dual Speed EC Motors and have several enhanced service features including rail-mount motors, new high

efficiency fan and venturi designs, enhanced surface coil tubing, easily removable fan guards and modular fan panels, face mount defrost heaters, hinged drain pans and shipping pallets designed to facilitate easy installation. Designed with efficiency, service and performance in mind, the Heavy Duty units were engineered to meet the Dept. of Energy's new AWEF performance regulations. One through four fan models are available with air, electric or hot gas defrost.

WAREHOUSE

Designed with efficiency, performance and service in mind, Russell's Warehouse Unit Cooler line is optimized to cover Cold Storage applications in the most effective way. Models are designed exclusively for use in walk-in coolers and freezers 3,000 sq. ft and larger. Warehouse Unit Coolers have several enhanced service features including rail-mount motors, new high efficiency fan and venturi designs, enhanced surface coil tubing, easily removable fan guards and modular fan panels, face mount defrost heaters, hinged drain pans and shipping pallets designed to facilitate easy installation. One through four fan models are available with air, electric or hot gas defrost.



LOW CHARGE CONDENSING UNITS

Due to continuing product development, specifications are subject to change without notice.



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