



The new degree of comfort.®

Commercial Package Air Conditioners

14.2-30.0 Ton Unit Size





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GENERAL

The EMRHR series of Package Air Conditioners is designed to be the most efficient, quickest to install, easiest to service, and most reliable units in the industry - while still maintaining an affordable price. This platform provides you with a full line of nominal capacities from 14.2 through 30 Tons unit size.

As with all units offered by Rheem, we started our design process with input from the customer. From fan grille to the base rails, Rheem has combined 30 years' worth of package unit design experience with input from Distributors, Dealers and end users to meet the latest application requirements. These units are designed in USA specifically for KSA market considering Saudi Arabia climate conditions.

These package air conditioners are compact, quiet, most efficient and self-contained units are ideal for commercial and top end residential applications.

These units are designed and tested in accordance with AHRI340/360 standard.

Furthermore, they are completely assembled, leak tested, vacuumed, internally factory wired and fully charged with R-410A refrigerant from factory. Each unit is fully factory tested before dispatch and is ready to install. All that is required at site is to connect duct, drain lines, main power supply and field wiring to the thermostat. This greatly reduces the installation work and cost of installation.



FEATURES AND BENEFITS OF RHEEM PACKAGE UNITS

STANDARD FEATURES:

The EMRHR series Package Air Conditioners are designed incorporating many salient features which together provides a heavy duty, robust and long-lasting commercial unit for large commercial applications.

These package units provides an extremely rugged, long life, energy efficient, self-contained package air conditioner that will provide cooling with higher efficiency and reliability over a long and extended period of unit life. The units are special because they use

1. High efficiency totally enclosed Scroll compressors
2. Totally enclosed highly efficient, Class F insulated condenser and evaporator motors
3. New technology, high heat transfer microchannel condenser and evaporator coils for long and maintenance free life
4. Advance engineered American design unit for trouble free operation throughout the life.

In addition to above there are many other features in this as listed below:

- 1 Factory Charged with R-410A Refrigerant
- 2 Factory wired, run tested and quality checked
- 3 Verified 125°F (52°C) Outdoor Ambient Operation,
- 4 Specifically designed in USA for Saudi Arabia climate conditions
- 5 Quiet Scroll Compressors with internal line break overloads
- 6 IP55 Evaporator Motors
- 7 IP54 Condenser Motors
- 8 Two independent refrigerant circuits
- 9 Thermostatic expansion valve on each circuit
- 10 Microchannel Condenser Coil
- 11 Microchannel Evaporator Coil
- 12 Painted G90 Galvanized Sheet Metal Cabinet
- 13 Painted finish meets ASTM B117 1008 hr. salt spray test
- 14 Easy Access door(s)
- 15 High Pressure Cut-out Switch
- 16 Low Pressure Cut-out Switch
- 17 Base Rails with Integral Fork Slots
- 18 Leak proof 2 Piece Indoor Top Cover
- 19 1" washable aluminium mesh Filters
- 20 Solid Core Refrigerant Filter Drier(s) on each circuit
- 21 1/2" rubber Insulation
- 22 Belt-Drive Blower with Adjustable Pitch Motor Sheave

- 23 Blower Assembly with quick belt adjust mechanism
- 24 Easy Indoor Blower Assembly for service convenience
- 25 Shaft down, internally protected, totally Closed Condenser Motors
- 26 Permanently Lubricated Bearings on Blower and Condenser Motors
- 27 Thermally protected Blower and Condenser Motors
- 28 Evaporator external overload protection
- 29 Single phase-phase reversal protection
- 30 15% fresh air provision
- 31 IAQ - Sloped Cleanable Evaporator Drain pan – ASHRAE62
- 32 Single Side Service Easy and safe Electrical Entrances
- 33 24 Volt Control System with resettable circuit breaker protection
- 34 Single-Point Electrical Connections
- 35 Coloured and Labelled Wiring
- 36 Labelled Polarized Plugs for Easy Accessory connections
- 37 Standardized Components
- 38 Produced in an ISO 9001 facility to stringent quality standards
- 39 Designed, Tested and meeting IEC 60335 standards
- 40 Designed and Tested to Rheem stringent reliability standards in USA
- 41 Tested and Rated per AHRI 340/360 and applicable SASO standard
- 42 Stainless steel drain pan as a standard feature
- 43 External gauge port for easy access during service
- 44 100% leak tested and pressure tested from factory
- 45 Internal overload protection for compressor
- 46 Factory fitted inbuilt filter drier

OPTIONAL FEATURES:

- 1 Crankcase heater
- 2 Condenser coil coating
- 3 Compressor external overload
- 4 Medium (up to 2") static drive option
- 5 Condenser coil protection guard
- 6 2" thick washable aluminium mesh air filters
- 7 Microprocessor based controller
- 8 Anti-short cycle timer
- 9 Under voltage protection
- 10 BMS connectivity
- 11 Dry Contacts
- 12 Electrical Heaters
- 13 Low Ambient Kit

(** Check with factory before ordering options as some of them are coming soon in phase 2)

MAIN COMPONENT AND UNIT FEATURES/BENEFITS:

1. COMPRESSORS

Compressors used in these units are totally enclosed, hermetically sealed and highly efficient which has following features.

1. State of art scroll compressor technology
2. Highly Efficient
3. Low Wear due to fewer moving parts
4. Totally enclosed
5. Internally thermally protected
6. Internally spring mounted
7. Externally rubber mounted
8. Suction cooled
9. Large sump area for liquid management
10. Reputed brand
11. Low Sound and Vibration Level



2. MICROCHANNEL CONDENSER COILS

The outdoor coil uses the advance Micro-Channel technology for efficient heat transfer and compactness. These micro-channels have better heat transfer performance than the typical copper/aluminium condenser coils and are more compact. This results in a reduction in the amount of system refrigerant charge by up to 40%, lower coil weights, and improved galvanic corrosion resistance as the micro-channel coil is all aluminium.



The coil is made of flat aluminium tubes automatically brazed to the aluminium fins in the furnace. This ensures less manual brazing and, in a way, less prone to the leakage.

There are multiple benefits of using microchannel condenser coils. Some of them are highlighted below.

1. Less prone to corrosion due to single material
2. Less refrigerant quantity, contributes to sustainability as well as less cost of service for the user
3. Higher heat transfer
4. More resistance to physical damage
5. Less brazing joint means less chances of leakage
6. Easy to re-cycle due to single material construction

3. MICROCHANNEL EVAPORATOR COILS

Similar to condenser coils, the evaporator coils of these models also use the advance Micro-Channel technology for efficient heat transfer and compactness. These micro-channels have better heat transfer performance than the typical copper/aluminium condenser coils and are more compact. The evaporator coils are designed with the advance technology of microchannel. The coil is made of flat tube aluminium tubes automatically brazed to the aluminium fins in the furnace. This ensures less manual brazing and less prone to the leakage.



In addition to the benefits of microchannel coil when used as condenser, there are other benefits when used as evaporator which are listed below.

1. No need of distributor as flat tubes with multiple openings distributes the refrigerant uniformly thru out the coil
2. As there is no distributor, distributor tubes are not required, most of the times distributor tubes get leakage and it is very complicated to manage small diameter multiple tubes.
3. Easy to recycle due to single material construction

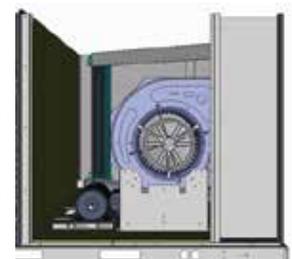
4. CONDENSER FAN-MOTOR

The condenser fans are axial type direct drive internal rotor type motors. The motors are totally enclosed Air Over (TEAO), 4/6 pole with class F insulation and IP 54 ingress protection. The TEAO and Class F insulation features ensure long life. The condenser fans are individually statically and dynamically balanced at the factory. The fan and motor are assembled separately and provided with suitable acrylic coated fan guard.

5. EVAPORATOR FAN-MOTOR

The evaporator fan is forward curved centrifugal DIDW, statically and dynamically balanced, complete with shaft, self-aligning and permanently lubricated ball bearings. the fan is driven by a single speed, 4 pole through adjustable V belt drive, insulation class F and IP55 protection motor, rated for continuous operation at the rated conditions.

The motor is factory wired to the control panel where a dedicated contactor is located and is protected by an overload relay. The group of fan and motor is located on a rigid base which is isolated from the rest of the unit by rubber vibration isolators.



6. CASING AND STRUCTURE

The large Rheem Commercial Series identifies the brand to the customer. The sheet-metal cabinet uses nothing less than 18-gauge G90 galvanized sheet metal. The painted cabinet finish is tested per ASTM B117 to withstand a rigorous 1008-hour salt spray test. To ensure the leak-proof integrity of these units, the design utilizes a two-piece top with an overlapping joint design, along with complete insulation from inside of the panels

The evaporator side of the unit is insulated with closed cell rubber type ½” thickness insulation. The insulation meets the fire requirements of NFPA90A & 90B. The structure permits easy access to all the working parts of the unit, so the maintenance of the unit is very easy.

7. INDOOR AIR QUALITY

Non-corrosive sloped condensate pans minimize biological growth in rooftop units in accordance with ASHRAE (American Society of Heating, Refrigeration and Air Conditioning Engineers) Standard 62-99 (IAQ). 1” inch filters provide for greater particle reduction in the return air.

The Drain pan material used is non-corrosive stainless steel, provides extreme protection against corrosion.

8. EASY ELECTRICAL CONNECTIONS

Terminal boards, located in the unit control box, facilitate connections to room thermostat, outdoor thermostat(s) and electric heater. Service panels are quickly removable, permitting easy servicing. Both power and control connections are made on the same side of the unit to simplify installation. In addition, color-coded wires permit easy tracing and diagnostics.

9. EASY INSTALLATION

All units feature base rail design with forklift slots and rigging holes for easier manoeuvring. Durable packaging protects all units during shipment and storage. Convenient side by side openings permit installation very close to face of buildings or on roof top. The non-corrosive stainless-steel sloped condensate pan minimizes residual condensate in off cycle. An external, field-supplied P-trap is required. Field-installed electric heaters are available in two convenient capacities 30kW or 40kW

10. INSTALLATION FEATURES

- Side by Side supply and Return duct arrangements
- Separate electrical control box
- External gauge port
- V-coil design
- Easy drain fixing
- Easy, single entry electrical cable connection

11. EXTERNAL GAUGE PORT

The high pressure and low pressure can be easily and accurately measured thru the 2-gauge port extended outside. This ensures that service person do not have to open the panel or stop the unit.



12. STAINLESS STEEL DRAIN PAN

Stainless steel drain pan is provided as a standard feature with all the units to avoid corrosion and provide utmost quality to the user. Non-corrosive sloped condensate pans minimize biological growth in rooftop units and provides maximum protection against corrosion.

13. 1008 HOURS SALT SPRAY TEST

Rheem package equipment uses a pre painted sheet metal, tested and rated at 1008-hour salt spray per ASTM B117 standard.

14. CONTINUOUS COOLING UP TO 52 DEG.C AMBIENT TEMPERATURE

Designed and tested in USA specifically for SAUDI ARABIA climate condition, the system provides uninterrupted cooling even during extreme weather conditions. The unit continuously run even at 52 Deg.C ambient conditions.

15. INSULATION

Interior cabinet surfaces are insulated with a 1/2-in. thick, cross linked polyolefin foam, density of 25 +/- 3Kg/m³, with aluminium foil facing on the air side. Insulation and adhesive are meeting the NFPA 90A requirements for flame spread and smoke generation.

16. AIR FILTER

Unit consist of factory-installed, low velocity, cleanable 1-in. thick aluminium filters of commercially available sizes. Filters are accessible through an access panel easily.

17. DUAL CIRCUIT UNITS

Dual, electrically, and mechanically independent refrigerant circuits are provided for all the units, to ensure energy savings during low load condition.

18. COMPRESSOR TIME DELAY

For enhanced compressor safety, there will always be a 3-minute time delay before the compressor can start. In case of power interruption, the system will delay the operation of the compressor in the range of 3-4 minutes in random order. This is to avoid the compressors in the entire building start together.

19. HIGH PRESSURE & LOW-PRESSURE PROTECTION SWITCHES

These standard switches ensure that the system is protected and avoid frequent breakdowns. These switches also ensures that the compressor is protected all



time and have a longer life of operation.

20. ADJUSTABLE INDOOR AIR FLOW

The package unit provides flexibility at site to adjust the air flow based on static pressure at the site using variable motor pulley provided from the factory as a standard feature.

21. EXTERNAL OVERLOAD PROTECTION FOR INDOOR MOTOR

In addition to internal thermal overload protection inside the motor, there is an external electrical protection provided to enhance the safety of indoor electrical motor. This saves the motor from failure in case it is mishandled at site and the motor goes outside the permissible limit.

22. INBUILT FILTER DRIER

Each unit comes with a standard filter drier which cleans the system and protects from component failures.



23. PERFORMANCE FEATURES

- Environment friendly HFC R-410A refrigerant
 - A chlorine-free refrigerant from the HFC group
 - Has zero ozone depletion potential (Helps protect the environment)
 - Thermally efficient and provides high EER (energy efficiency), COP and part load efficiencies
 - In case of leakage only lost refrigerant to be added, no need to remove complete refrigerant and recharge (Saves Service cost)
- EER's up to 11.5
- TXV refrigerant metering device for all models
- Two independent refrigerant circuits, each with a scroll compressor
- Liquid filter drier standard on each circuit
- 15% fresh air intake
- Stainless Steel non-corrosive sloped condensate drain pan in accordance to ASHRAE 62 standard
- Thermally protected and permanently lubricated condenser and evaporator fan motors
- Angle type return air section with washable type filters

24. SUPERIOR RELIABILITY, EFFICIENCY AND SAFETY

1. Robust design and Reliability endurance testing
 - Painted panels tested to ASTM B-117 1008 hours salt spray protection
 - Microchannel condenser coil for extra corrosion protection

2. Compressor Protection:

- *High- and low-pressure cut-outs*
- *Compressor lockout*
- *Phase protection relay*
- *Crankcase heaters are optional for special applications*
- *Internal over temperature protection*

3. Low vibration design:

- *Leak-tight refrigerant circuit*
- *Brazed refrigerant connections for increased leak tightness, also microchannel coil to ensure maximum brazing joints are done through automated furnace.*
- *Low noise scroll compressors with low vibration levels*

4. Thermally protected and permanently lubricated condenser and evaporator fan motors

5. Angle type return air section with washable type filters

6. Transformer for safe 24v control circuit supply included

7. High Efficiency, High Static Blower

8. State-of-art scroll compressor technology

9. Dual, electrically and mechanically independent refrigerant circuit

10. Metallic components

11. Designed and tested in USA, specially for Saudi Arabia climate conditions

12. Reputed brand critical components

NOMENCLATURE

E M R H R X 170 A N T 00 0 A A X X X X

OPTION CODES

SEE SHEET E1 & E2

MINOR SERIES

A = FIRST DESIGN

CONTROL

A = NON COMMUNICATING
B = WITH COMFORT ALERT
C = DDC CONTROLLER

HEATING CONFIGURATION

0 = NO HEAT

HEATING CAPACITY

00 = NO HEAT

DRIVE PACKAGE

A = BELT LOW STATIC
B = BELT MEDIUM STATIC
T = CONSTANT TORQUE

ELECTRICAL DESIGNATION

N = 380/415 V – 3 PH – 50 HZ
V = 380/400 V – 3 PH – 60 HZ

MAJOR DESIGN VARIATIONS

A = FIRST DESIGN

COOLING CAPACITY

170 = 160,000 BTU/HR
190 = 185,000 BTU/HR
240 = 210,000 BTU/HR
300 = 252,000 BTU/HR
360 = 315,000 BTU/HR

MARKET

X = GENERIC

SERIES

R = SINGLE STAGE 042 THRU 120 S = TIER 1 T = TIER 2
TWO STAGE 150 THRU 360

CABINET TYPE

H = HORIZONTAL DISCHARGE

UNIT TYPE

MR = MIDDLE EAST/ROOFTOP

TRADE BRAND

E = RHEEM EXPORT
V = RUUD EXPORT



GENERAL DATA

EMRHR NOMINAL SIZES 14.2 - 30 TONS

Model -EMRHRX Series	170AVA	190AVA	240AVA
Cooling Performance¹			
Gross Cooling Capacity Btu [kW]	160,000 [46.88]	185,000 [54.20]	210,000 [61.53]
EER	11	11.5	11
Nominal CFM	5000	6000	6900
Net Cooling Capacity Btu [kW]	154,000 [45.12]	176,000 [51.57]	200,000 [58.6]
Net Sensible Capacity Btu [kW]	122,060 [35.76]	136,920 [40.12]	151,050 [44.26]
Net Latent Capacity Btu [kW]	31,940 [9.36]	39,080 [11.45]	48,950 [14.34]
Net System Power kW	14	15.3	18.18
Compressor			
No./Type	2/Scroll	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)⁵			
	88	91	91
Outdoor Coil - Fin Type			
Tube Type	Louvered	Louvered	Louvered
MicroChannel Depth in. [mm]	MicroChannel	MicroChannel	MicroChannel
Face Area sq. ft. [sq. m]	0.709 [18]	0.709 [18]	0.709 [18]
Rows / FPI [FPcm]	26.55 [2.47]	26.55 [2.47]	26.55 [2.47]
	2 / 23 [9]	2 / 23 [9]	2 / 23 [9]
Indoor Coil - Fin Type			
Tube Type	Louvered	Louvered	Louvered
MicroChannel Depth in. [mm]	MicroChannel	MicroChannel	MicroChannel
Face Area sq. ft. [sq. m]	1 [25.4]	1.26 [32]	1.26 [32]
Rows / FPI [FPcm]	20.18 [1.87]	21.76 [2.02]	21.76 [2.02]
Drain Connection No./Size in. [mm]	2 / 18 [7]	2 / 18 [7]	2 / 18 [7]
	1/0.75 [19.05]	1/0.75 [19.05]	1/0.75 [19.05]
Outdoor Fan - Type			
No. Used/Diameter in. [mm]	Propeller	Propeller	Propeller
Drive Type/No. Speeds	2/24 [609.6]	3/24 [609.6]	3/24 [609.6]
CFM [L/s]	Direct/1	Direct/1	Direct/1
No. Motors/HP	10000 [4719]	12000 [5663]	14000 [6607]
Motor RPM	2 at 1/2 HP	3 at 1/2 HP	3 at 1/2 HP
	1075	1075	1075
Indoor Fan - Type			
No. Used/Diameter in. [mm]	FC Centrifugal	FC Centrifugal	FC Centrifugal
Drive Type	1/15x15 [381x381]	1/15x18 [457x381]	1/15x18 [381x457]
No. Motors	Belt (Adjustable)	Belt (Adjustable)	Belt (Adjustable)
Motor HP	1	1	1
Motor RPM	3	3	3
	1725	1725	1725
Filter - Type			
Furnished	Permanent washable	Permanent washable	Permanent washable
(NO.) Size Recommended in. [mm x mm x mm]	Yes	Yes	Yes
	(2)0.875x24x24 [22x610x610]	(2)0.875x24x24 [22x610x610]	(2)0.875x24x24 [22x610x610]
Refrigerant Charge Oz. (Sys. 1/Sys. 2) [g]			
	139.2/132.8 [3946/3765]	150.4/142.4 [4264/4037]	140.8/140.8 [3992/3992]
Weights			
Net Weight lbs. [kg]	1259 [571]	1289 [585]	1289 [585]
Ship Weight lbs. [kg]	1359 [616]	1389 [630]	1389 [630]

NOTES:

1. Cooling Performance is rated at 95°F ambient, 80°F entering dry bulb, 67°F entering wet bulb.
Gross capacity does not include the effect of fan motor heat.





Model -MRHRX Series	300AVA	360AVA
Cooling Performance¹		
Gross Cooling Capacity Btu [kW]	252,000 [73.84]	315,000
EER	10.5	10
Nominal CFM	8000	10000
AHRI Net Cooling Capacity Btu [kW]	242,000 [70.91]	302,000 [88.49]
Net Sensible Capacity Btu [kW]	187,870 [55.05]	217,230 [63.65]
Net Latent Capacity Btu [kW]	54,130 [15.86]	84,770 [24.84]
Net System Power kW	23.05	30.2
Compressor		
No./Type	2/Scroll	2/Scroll
Outdoor Sound Rating (dB)⁵		
	92	92
Outdoor Coil - Fin Type		
Tube Type	Louvered	Louvered
MicroChannel Depth in. [mm]	MicroChannel	MicroChannel
Face Area sq. ft. [sq. m]	1 [25.4]	1.26 [32]
Rows / FPI [FPcm]	26.55 [2.47]	26.55 [2.47]
	2 / 23 [9]	2 / 23 [9]
Indoor Coil - Fin Type		
Tube Type	Louvered	Louvered
MicroChannel Depth in. [mm]	MicroChannel	MicroChannel
Face Area sq. ft. [sq. m]	1.26 [32]	1.26 [32]
Rows / FPI [FPcm]	26.77 [2.49]	26.77 [2.49]
Drain Connection No./Size in. [mm]	2 / 18 [7]	2 / 18 [7]
	1/0.75 [19.05]	1/0.75 [19.05]
Outdoor Fan - Type		
No. Used/Diameter in. [mm]	Propeller	Propeller
Drive Type/No. Speeds	3/24 [609.6]	3/24 [609.6]
CFM [L/s]	Direct/1	Direct/1
No. Motors/HP	16000 [7550]	20000 [9438]
Motor RPM	3 at 3/4 HP	3 at 3/4 HP
	1075	1075
Indoor Fan - Type		
No. Used/Diameter in. [mm]	FC Centrifugal	FC Centrifugal
Drive Type	1/15x18 [381x457]	1/18x18 [457x457]
No. Motors	Belt (Adjustable)	Belt (Adjustable)
Motor HP	1	1
Motor RPM	7 1/2	7 1/2
Motor Frame Size	1725	1725
	132	132
Filter - Type		
Furnished	Permanent washable	Permanent washable
(NO.) Size Recommended in. [mm x mm x mm]	Yes	Yes
	(2)0.875x24x24 [22x610x610]	(2)0.875x24x24 [22x610x610]
Refrigerant Charge Oz. (Sys. 1/Sys. 2) [g]		
	177.6/184 [5035/5216]	214.4/211.2 [6078/5988]
Weights		
Net Weight lbs. [kg]	1514 [687]	1544 [700]
Ship Weight lbs. [kg]	1614 [732]	1644 [746]

NOTES:

1. Cooling Performance is rated at 95°F ambient, 80°F entering dry bulb, 67°F entering wet bulb.
Gross capacity does not include the effect of fan motor heat.



COOLING PERFORMANCE DATA - EMRHRX170A

Entering Indoor Air @ 80 F [26.7 C] dbE

Outdoor Dry Bulb Temperature	71°F [21.7°C]				67°F [19.4°C]				63°F [17.2°C]				61°F [16.1°C]				59°F [15.0°C]				
	6000 [1888]	5750 [2714]	5500 [2832]	5250 [2714]	4000 [1888]	5750 [2714]	5500 [2832]	5250 [2714]	5000 [1888]	6000 [2832]	5750 [2714]	5500 [2832]	5250 [2714]	5000 [1888]	6000 [2832]	5750 [2714]	5500 [2832]	5250 [2714]	5000 [1888]		
wBE																					
CFM [L/s]	6000 [1888]	5750 [2714]	5500 [2832]	5250 [2714]	4000 [1888]	5750 [2714]	5500 [2832]	5250 [2714]	5000 [1888]	6000 [2832]	5750 [2714]	5500 [2832]	5250 [2714]	5000 [1888]	6000 [2832]	5750 [2714]	5500 [2832]	5250 [2714]	5000 [1888]		
DR ①	0.11	0.1	0.11	0	0	0.11	0.1	0.11	0	0.11	0.1	0.11	0	0.11	0.1	0.11	0	0	0		
75°F [23.9°C]	190.9 [55.9]	188.4 [55.5]	186.9 [54.8]	185.4 [54.3]	184.2 [53.1]	181.2 [53.1]	178.2 [52.2]	176.8 [51.8]	175.2 [51.3]	174.2 [51.1]	172.8 [50.6]	171.2 [50.2]	169.9 [49.8]	168.6 [49.4]	166.5 [48.9]	165.2 [48.4]	163.2 [47.8]	162.5 [47.6]	161.2 [47.2]	159.9 [46.9]	
Total BTUH [kW]	115.7 [33.9]	113.4 [33.2]	111.4 [32.9]	112.4 [32.9]	112.4 [32.9]	111.4 [32.9]	110.3 [32.5]	109.3 [32.2]	108.3 [31.9]	107.3 [31.6]	106.3 [31.3]	105.3 [31.0]	104.3 [30.7]	103.3 [30.4]	102.3 [30.1]	101.3 [29.8]	100.3 [29.5]	99.3 [29.2]	98.3 [28.9]	97.3 [28.6]	
Sens BTUH [kW]	10.3	10.3	10.3	10.3	10.3	10.3	10.2	10.2	10.2	10.2	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	
Power																					
80°F [26.7°C]	186.9 [54.8]	185.4 [54.3]	184.2 [53.1]	182.8 [52.2]	181.2 [51.3]	179.8 [50.6]	178.2 [50.2]	176.8 [49.8]	175.2 [49.4]	174.2 [49.1]	172.8 [48.6]	171.2 [48.2]	169.9 [47.8]	168.6 [47.4]	166.5 [46.9]	165.2 [46.4]	163.2 [45.8]	162.5 [45.6]	161.2 [45.2]	159.9 [44.9]	
Total BTUH [kW]	114.7 [33.6]	112.4 [32.9]	111.4 [32.9]	112.4 [32.9]	112.4 [32.9]	111.4 [32.9]	110.3 [32.5]	109.3 [32.2]	108.3 [31.9]	107.3 [31.6]	106.3 [31.3]	105.3 [31.0]	104.3 [30.7]	103.3 [30.4]	102.3 [30.1]	101.3 [29.8]	100.3 [29.5]	99.3 [29.2]	98.3 [28.9]	97.3 [28.6]	
Sens BTUH [kW]	10.9	10.8	10.8	10.8	10.8	10.7	10.7	10.7	10.7	10.7	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	
Power																					
85°F [29.4°C]	182.6 [53.5]	181.2 [53.1]	180.0 [52.2]	178.2 [51.3]	176.8 [50.6]	175.2 [50.2]	173.8 [49.8]	172.4 [49.4]	171.0 [49.0]	169.6 [48.6]	168.2 [48.2]	166.8 [47.8]	165.4 [47.4]	164.0 [47.0]	162.6 [46.6]	161.2 [46.2]	159.8 [45.8]	158.4 [45.4]	157.0 [45.0]	155.6 [44.6]	154.2 [44.2]
Total BTUH [kW]	113.2 [33.2]	111.9 [32.7]	111.4 [32.7]	111.4 [32.7]	111.4 [32.7]	111.4 [32.7]	111.4 [32.7]	111.4 [32.7]	111.4 [32.7]	111.4 [32.7]	111.4 [32.7]	111.4 [32.7]	111.4 [32.7]	111.4 [32.7]	111.4 [32.7]	111.4 [32.7]	111.4 [32.7]	111.4 [32.7]	111.4 [32.7]	111.4 [32.7]	
Sens BTUH [kW]	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	
Power																					
90°F [32.2°C]	178.1 [52.2]	176.7 [51.8]	175.3 [51.4]	173.9 [50.6]	172.5 [50.2]	171.1 [49.8]	169.7 [49.4]	168.3 [49.0]	166.9 [48.6]	165.5 [48.2]	164.1 [47.8]	162.7 [47.4]	161.3 [47.0]	159.9 [46.6]	158.5 [46.2]	157.1 [45.8]	155.7 [45.4]	154.3 [45.0]	152.9 [44.6]	151.5 [44.2]	150.1 [43.8]
Total BTUH [kW]	111.4 [32.7]	109.2 [32.2]	109.2 [32.2]	109.2 [32.2]	109.2 [32.2]	109.2 [32.2]	109.2 [32.2]	109.2 [32.2]	109.2 [32.2]	109.2 [32.2]	109.2 [32.2]	109.2 [32.2]	109.2 [32.2]	109.2 [32.2]	109.2 [32.2]	109.2 [32.2]	109.2 [32.2]	109.2 [32.2]	109.2 [32.2]	109.2 [32.2]	
Sens BTUH [kW]	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	
Power																					
95°F [35.0°C]	173.3 [50.8]	171.9 [50.4]	170.5 [50.0]	169.1 [49.6]	167.7 [49.2]	166.3 [48.8]	164.9 [48.4]	163.5 [48.0]	162.1 [47.6]	160.7 [47.2]	159.3 [46.8]	157.9 [46.4]	156.5 [46.0]	155.1 [45.6]	153.7 [45.2]	152.3 [44.8]	150.9 [44.4]	149.5 [44.0]	148.1 [43.6]	146.7 [43.2]	145.3 [42.8]
Total BTUH [kW]	109.2 [32.2]	107.1 [31.4]	107.1 [31.4]	107.1 [31.4]	107.1 [31.4]	107.1 [31.4]	107.1 [31.4]	107.1 [31.4]	107.1 [31.4]	107.1 [31.4]	107.1 [31.4]	107.1 [31.4]	107.1 [31.4]	107.1 [31.4]	107.1 [31.4]	107.1 [31.4]	107.1 [31.4]	107.1 [31.4]	107.1 [31.4]	107.1 [31.4]	
Sens BTUH [kW]	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	
Power																					
100°F [37.8°C]	168.2 [49.3]	166.9 [48.9]	165.6 [48.5]	164.3 [48.1]	163.0 [47.7]	161.7 [47.3]	160.4 [46.9]	159.1 [46.5]	157.8 [46.1]	156.5 [45.7]	155.2 [45.3]	153.9 [44.9]	152.6 [44.5]	151.3 [44.1]	150.0 [43.7]	148.7 [43.3]	147.4 [42.9]	146.1 [42.5]	144.8 [42.1]	143.5 [41.7]	142.2 [41.3]
Total BTUH [kW]	106.7 [31.3]	104.6 [30.6]	104.6 [30.6]	104.6 [30.6]	104.6 [30.6]	104.6 [30.6]	104.6 [30.6]	104.6 [30.6]	104.6 [30.6]	104.6 [30.6]	104.6 [30.6]	104.6 [30.6]	104.6 [30.6]	104.6 [30.6]	104.6 [30.6]	104.6 [30.6]	104.6 [30.6]	104.6 [30.6]	104.6 [30.6]	104.6 [30.6]	
Sens BTUH [kW]	13.3	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	
Power																					
105°F [40.6°C]	162.9 [47.7]	161.6 [47.4]	160.3 [47.0]	158.9 [46.6]	157.6 [46.2]	156.3 [45.8]	154.9 [45.4]	153.6 [45.0]	152.3 [44.6]	150.9 [44.2]	149.6 [43.8]	148.3 [43.4]	147.0 [43.0]	145.7 [42.6]	144.4 [42.2]	143.1 [41.8]	141.8 [41.4]	140.5 [41.0]	139.2 [40.6]	137.9 [40.2]	136.6 [39.8]
Total BTUH [kW]	103.7 [30.4]	101.7 [29.8]	101.7 [29.8]	101.7 [29.8]	101.7 [29.8]	101.7 [29.8]	101.7 [29.8]	101.7 [29.8]	101.7 [29.8]	101.7 [29.8]	101.7 [29.8]	101.7 [29.8]	101.7 [29.8]	101.7 [29.8]	101.7 [29.8]	101.7 [29.8]	101.7 [29.8]	101.7 [29.8]	101.7 [29.8]	101.7 [29.8]	
Sens BTUH [kW]	14	13.9	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	
Power																					
110°F [43.3°C]	157.3 [46.1]	156.0 [45.7]	154.7 [45.3]	153.4 [44.9]	152.1 [44.5]	150.8 [44.1]	149.5 [43.7]	148.2 [43.3]	146.9 [42.9]	145.6 [42.5]	144.3 [42.1]	143.0 [41.7]	141.7 [41.3]	140.4 [40.9]	139.1 [40.5]	137.8 [40.1]	136.5 [39.7]	135.2 [39.3]	133.9 [38.9]	132.6 [38.5]	131.3 [38.1]
Total BTUH [kW]	100.4 [29.4]	98.4 [28.8]	98.4 [28.8]	98.4 [28.8]	98.4 [28.8]	98.4 [28.8]	98.4 [28.8]	98.4 [28.8]	98.4 [28.8]	98.4 [28.8]	98.4 [28.8]	98.4 [28.8]	98.4 [28.8]	98.4 [28.8]	98.4 [28.8]	98.4 [28.8]	98.4 [28.8]	98.4 [28.8]	98.4 [28.8]	98.4 [28.8]	
Sens BTUH [kW]	14.7	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	
Power																					
115°F [46.1°C]	151.4 [44.4]	150.2 [44.0]	149.0 [43.6]	147.7 [43.2]	146.5 [42.8]	145.3 [42.4]	144.1 [42.0]	142.9 [41.6]	141.7 [41.2]	140.5 [40.8]	139.3 [40.4]	138.1 [40.0]	136.9 [39.6]	135.7 [39.2]	134.5 [38.8]	133.3 [38.4]	132.1 [38.0]	130.9 [37.6]	129.7 [37.2]	128.5 [36.8]	127.3 [36.4]
Total BTUH [kW]	96.8 [28.4]	94.8 [27.8]	94.8 [27.8]	94.8 [27.8]	94.8 [27.8]	94.8 [27.8]	94.8 [27.8]	94.8 [27.8]	94.8 [27.8]	94.8 [27.8]	94.8 [27.8]	94.8 [27.8]	94.8 [27.8]	94.8 [27.8]	94.8 [27.8]	94.8 [27.8]	94.8 [27.8]	94.8 [27.8]	94.8 [27.8]	94.8 [27.8]	
Sens BTUH [kW]	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	
Power																					
120°F [48.9°C]	145.2 [42.6]	144.1 [42.2]	143.0 [41.8]	141.9 [41.4]	140.8 [41.0]	139.7 [40.6]	138.6 [40.2]	137.5 [39.8]	136.4 [39.4]	135.3 [39.0]	134.2 [38.6]	133.1 [38.2]	132.0 [37.8]	130.9 [37.4]	129.8 [37.0]	128.7 [36.6]	127.6 [36.2]	126.5 [35.8]	125.4 [35.4]	124.3 [35.0]	123.2 [34.6]
Total BTUH [kW]	92.7 [27.2]	90.9 [26.6]	90.9 [26.6]	90.9 [26.6]	90.9 [26.6]	90.9 [26.6]	90.9 [26.6]	90.9 [26.6]	90.9 [26.6]	90.9 [26.6]	90.9 [26.6]	90.9 [26.6]	90.9 [26.6]	90.9 [26.6]	90.9 [26.6]	90.9 [26.6]	90.9 [26.6]	90.9 [26.6]	90.9 [26.6]	90.9 [26.6]	
Sens BTUH [kW]	16.2	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	
Power																					
125°F [51.7°C]	138.8 [40.7]	137.7 [40.4]	136.6 [40.0]	135.5 [39.6]	134.4 [39.2]	133.3 [38.8]	132.2 [38.4]	131.1 [38.0]	130.0 [37.6]	128.9 [37.2]	127.8 [36.8]	126.7 [36.4]	125.6 [36.0]	124.5 [35.6]	123.4 [35.2]	122.3 [34.8]	121.2 [34.4]	120.1 [34.0]	119.0 [33.6]	117.9 [33.2]	116.8 [32.8]
Total BTUH [kW]	88.3 [25.9]	86.5 [25.4]	86.5 [25.4]	86.5 [25.4]	86.5 [25.4]	86.5 [25.4]	86.5 [25.4]	86.5 [25.4]	86.5 [25.4]	86.5 [25.4]	86.5 [25.4]	86.5 [25.4]	86.5 [25.4]	86.5 [25.4]	86.5 [25.4]	86.5 [25.4]	86.5 [25.4]	86.5 [25.4]	86.5 [25.4]	86.5 [25.4]	
Sens BTUH [kW]	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	
Power																					

DR — Depression Total — Total capacity x 1000 BTUH NOTES:
 dbE — Entering air dry bulb Sens — Sensible capacity x 1000 BTUH ① When the entering air dry bulb is other than 80°F [27°C], adjust the sensible
 wBE — Entering air wet bulb Power — kW input capacity from the table by adding [1.10 x CFM x (1 - DR) x (dbE - 60)].

COOLING PERFORMANCE DATA — EMHRHX190ANA													
Entering Indoor Air @ 80°F [26.7°C] dbE ①													
Outdoor		71°F [21.7°C]			79°F [19.4°C]			86°F [17.2°C]			93°F [15.0°C]		
DB	wbE	7000 [3304]	5000 [2360]	7000 [3304]	5000 [3068]	7000 [3304]	5000 [2360]	7000 [3304]	5000 [3068]	7000 [3304]	5000 [2360]	7000 [3304]	
	CFM [L/s]	0.12	0.15	0.12	0.12	0.12	0.15	0.12	0.12	0.12	0.15	0.12	
	DR ②												
75°F [23.9°C]	Total BTUH [kW]	206.8 [60.6]	195.4 [57.3]	194.4 [57.0]	191.8 [56.2]	194.4 [57.0]	183.7 [53.8]	184.3 [54.0]	181.8 [53.3]	184.3 [54.0]	174.1 [51.0]	174.1 [51.0]	
	Sens BTUH [kW]	134.6 [39.4]	105.7 [31.0]	157.2 [46.1]	149.9 [43.7]	157.2 [46.1]	125.9 [36.9]	174.4 [51.1]	165.9 [48.6]	174.4 [51.1]	141.2 [41.4]	141.2 [41.4]	
	Power	10.6	10.3	10.5	10.4	10.5	10.2	10.3	10.3	10.3	10.1	10.1	
80°F [26.7°C]	Total BTUH [kW]	203.1 [59.5]	191.9 [56.2]	190.7 [55.9]	188.1 [55.1]	190.7 [55.9]	180.2 [52.8]	180.6 [52.9]	178.1 [52.2]	180.6 [52.9]	170.6 [50.0]	170.6 [50.0]	
	Sens BTUH [kW]	132.7 [38.9]	104.3 [30.6]	155.4 [45.5]	147.4 [43.2]	155.4 [45.5]	124.5 [36.5]	172.6 [50.6]	164.1 [48.1]	172.6 [50.6]	139.7 [40.9]	139.7 [40.9]	
	Power	11.1	10.8	11	10.9	11	10.7	10.9	10.8	10.9	10.6	10.6	
85°F [29.4°C]	Total BTUH [kW]	198.9 [58.3]	187.9 [55.1]	186.6 [54.7]	184 [53.9]	186.6 [54.7]	176.3 [51.7]	176.4 [51.7]	174 [51.0]	176.4 [51.7]	166.7 [48.6]	166.7 [48.6]	
	Sens BTUH [kW]	130.4 [38.2]	102.5 [30.0]	153.2 [44.9]	145.3 [42.6]	153.2 [44.9]	122.8 [36.0]	170.3 [49.9]	162 [47.5]	170.3 [49.9]	138 [40.4]	138 [40.4]	
	Power	11.7	11.4	11.6	11.5	11.6	11.3	11.5	11.4	11.5	11.2	11.2	
90°F [32.2°C]	Total BTUH [kW]	194.3 [56.9]	183.6 [53.8]	182 [53.3]	179.5 [52.6]	182 [53.3]	171.9 [50.4]	171.8 [50.3]	169.4 [49.6]	171.8 [50.3]	162.3 [47.6]	162.3 [47.6]	
	Sens BTUH [kW]	127.8 [37.4]	100.6 [29.5]	150.6 [44.1]	142.9 [41.9]	150.6 [44.1]	120.7 [35.4]	167.7 [49.1]	159.5 [46.7]	167.7 [49.1]	136 [39.8]	136 [39.8]	
	Power	12.3	12	12.2	12.1	12.2	11.9	12.1	12	12.1	11.7	11.7	
95°F [35.0°C]	Total BTUH [kW]	189.3 [55.5]	178.8 [52.4]	176.9 [51.8]	174.5 [51.1]	176.9 [51.8]	167.2 [49.0]	166.8 [48.9]	164.5 [48.2]	166.8 [48.9]	157.6 [46.2]	157.6 [46.2]	
	Sens BTUH [kW]	124.9 [36.6]	98.2 [28.8]	147.6 [43.2]	140.2 [41.0]	147.6 [43.2]	118.5 [34.7]	164.8 [48.3]	156.8 [45.9]	164.8 [48.3]	133.8 [39.2]	133.8 [39.2]	
	Power	12.9	12.6	12.8	12.7	12.8	12.5	12.7	12.6	12.7	12.3	12.3	
100°F [37.8°C]	Total BTUH [kW]	183.8 [53.9]	173.6 [50.9]	171.4 [50.2]	169.1 [49.5]	171.4 [50.2]	162 [47.5]	161.3 [47.3]	159.1 [46.6]	161.3 [47.3]	152.4 [44.7]	152.4 [44.7]	
	Sens BTUH [kW]	121.6 [35.6]	95.7 [28.0]	144.3 [42.3]	137 [40.1]	144.3 [42.3]	115.9 [34.0]	161.3 [47.3]	153.7 [45.0]	161.3 [47.3]	131.2 [38.4]	131.2 [38.4]	
	Power	13.6	13.2	13.4	13.3	13.4	13.1	13.3	13.2	13.3	12.9	12.9	
105°F [40.6°C]	Total BTUH [kW]	177.8 [52.1]	168 [49.2]	165.5 [48.5]	163.2 [47.8]	165.5 [48.5]	156.4 [45.8]	155.4 [45.5]	153.2 [44.9]	155.4 [45.5]	146.8 [43.0]	146.8 [43.0]	
	Sens BTUH [kW]	117.9 [34.5]	92.8 [27.2]	140.7 [41.2]	133.5 [39.1]	140.7 [41.2]	113.1 [33.1]	155.4 [45.5]	150.2 [44.0]	155.4 [45.5]	128.3 [37.6]	128.3 [37.6]	
	Power	14.2	13.8	14.1	14	14.1	13.7	14	13.9	14	13.6	13.6	
110°F [43.3°C]	Total BTUH [kW]	171.5 [50.2]	162 [47.5]	159.1 [46.6]	156.9 [46.0]	159.1 [46.6]	150.3 [44.0]	149 [43.7]	146.9 [43.0]	149 [43.7]	140.8 [41.3]	140.8 [41.3]	
	Sens BTUH [kW]	113.8 [33.3]	89.9 [26.3]	136.6 [40.0]	129.7 [38.0]	136.6 [40.0]	109.8 [32.2]	149 [43.7]	146.3 [42.9]	149 [43.7]	125.1 [36.7]	125.1 [36.7]	
	Power	14.9	14.5	14.8	14.7	14.8	14.4	14.6	14.5	14.6	14.2	14.2	
115°F [46.1°C]	Total BTUH [kW]	164.6 [48.2]	155.6 [45.6]	152.3 [44.6]	150.2 [44.0]	152.3 [44.6]	143.9 [42.2]	142.2 [41.7]	140.2 [41.1]	142.2 [41.7]	134.3 [39.3]	134.3 [39.3]	
	Sens BTUH [kW]	109.4 [32.1]	86.2 [25.3]	132.2 [38.7]	125.5 [36.8]	132.2 [38.7]	106.4 [31.2]	142.2 [41.7]	140.2 [41.1]	142.2 [41.7]	121.6 [35.6]	121.6 [35.6]	
	Power	15.6	15.2	15.5	15.4	15.5	15	15.3	15.2	15.3	14.9	14.9	

DR — Depression ratio Total — Total capacity x 1000 BTUH NOTES:
dbE — Entering air dry bulb Sens — Sensible capacity x 1000 BTUH ① When the entering air dry bulb is other than 80°F [27°C], adjust the sensible
wbE — Entering air wet bulb Power — KW input capacity from the table by adding [1.10 x CFM x (t — DR)] x (dbE — 80).

COOLING PERFORMANCE DATA - EMRHRX240A

Entering Indoor Air @ 80°F [26.7°C] dbE ①

	71°F [21.7°C]				67°F [19.4°C]				63°F [17.2°C]				61°F [16.1°C]				59°F [15.0°C]								
	CFM [L/s]	DR	Total BTUH [kW]	Sens BTUH [kW]	Power	CFM [L/s]	DR	Total BTUH [kW]	Sens BTUH [kW]	Power	CFM [L/s]	DR	Total BTUH [kW]	Sens BTUH [kW]	Power	CFM [L/s]	DR	Total BTUH [kW]	Sens BTUH [kW]	Power	CFM [L/s]	DR	Total BTUH [kW]	Sens BTUH [kW]	Power
75°F [23.9°C]	8000 [3776]	0.14	255.1 [74.6]	157.4 [46.1]	13.8	8000 [3776]	0.14	238.7 [69.9]	132.9 [38.9]	13.3	6000 [2832]	0.08	213.9 [62.7]	117.5 [34.3]	13.1	8000 [3776]	0.14	225.4 [66.4]	121.3 [35.9]	13.3	6000 [2832]	0.08	208.2 [61.1]	117.5 [34.3]	13.1
80°F [26.7°C]	8000 [3776]	0.11	242.1 [70.9]	146.5 [42.9]	13.6	8000 [3776]	0.11	226.4 [66.4]	122.9 [36.3]	13.4	6000 [2832]	0.08	208.2 [61.1]	117.5 [34.3]	13.1	8000 [3776]	0.14	214.5 [62.9]	121.3 [35.9]	13.3	6000 [2832]	0.08	208.2 [61.1]	117.5 [34.3]	13.1
85°F [29.4°C]	8000 [3776]	0.11	236.4 [69.2]	141.2 [41.4]	14.2	8000 [3776]	0.11	226.4 [66.4]	122.9 [36.3]	14.4	6000 [2832]	0.08	208.2 [61.1]	117.5 [34.3]	13.1	8000 [3776]	0.14	214.5 [62.9]	121.3 [35.9]	13.3	6000 [2832]	0.08	208.2 [61.1]	117.5 [34.3]	13.1
90°F [32.2°C]	8000 [3776]	0.11	230.4 [67.5]	138.2 [40.5]	14.8	8000 [3776]	0.11	226.4 [66.4]	122.9 [36.3]	15.1	6000 [2832]	0.08	208.2 [61.1]	117.5 [34.3]	13.1	8000 [3776]	0.14	214.5 [62.9]	121.3 [35.9]	13.3	6000 [2832]	0.08	208.2 [61.1]	117.5 [34.3]	13.1
95°F [35.0°C]	8000 [3776]	0.11	223.4 [65.5]	134.8 [39.5]	16.2	8000 [3776]	0.11	226.4 [66.4]	122.9 [36.3]	16.6	6000 [2832]	0.08	208.2 [61.1]	117.5 [34.3]	13.1	8000 [3776]	0.14	214.5 [62.9]	121.3 [35.9]	13.3	6000 [2832]	0.08	208.2 [61.1]	117.5 [34.3]	13.1
100°F [37.8°C]	8000 [3776]	0.11	211.7 [62.2]	131.2 [38.4]	17.7	8000 [3776]	0.11	226.4 [66.4]	122.9 [36.3]	17.4	6000 [2832]	0.08	208.2 [61.1]	117.5 [34.3]	13.1	8000 [3776]	0.14	214.5 [62.9]	121.3 [35.9]	13.3	6000 [2832]	0.08	208.2 [61.1]	117.5 [34.3]	13.1
105°F [40.6°C]	8000 [3776]	0.11	205.1 [60.1]	127.2 [37.3]	18.6	8000 [3776]	0.11	226.4 [66.4]	122.9 [36.3]	18.4	6000 [2832]	0.08	208.2 [61.1]	117.5 [34.3]	13.1	8000 [3776]	0.14	214.5 [62.9]	121.3 [35.9]	13.3	6000 [2832]	0.08	208.2 [61.1]	117.5 [34.3]	13.1
110°F [43.3°C]	8000 [3776]	0.11	198.4 [58.1]	123.9 [36.7]	18.8	8000 [3776]	0.11	226.4 [66.4]	122.9 [36.3]	19.3	6000 [2832]	0.08	208.2 [61.1]	117.5 [34.3]	13.1	8000 [3776]	0.14	214.5 [62.9]	121.3 [35.9]	13.3	6000 [2832]	0.08	208.2 [61.1]	117.5 [34.3]	13.1
115°F [46.1°C]	8000 [3776]	0.11	191.5 [56.1]	120.3 [35.3]	19.4	8000 [3776]	0.11	226.4 [66.4]	122.9 [36.3]	19.9	6000 [2832]	0.08	208.2 [61.1]	117.5 [34.3]	13.1	8000 [3776]	0.14	214.5 [62.9]	121.3 [35.9]	13.3	6000 [2832]	0.08	208.2 [61.1]	117.5 [34.3]	13.1
120°F [48.9°C]	8000 [3776]	0.11	184.4 [54.0]	117.9 [34.7]	20.1	8000 [3776]	0.11	226.4 [66.4]	122.9 [36.3]	20.2	6000 [2832]	0.08	208.2 [61.1]	117.5 [34.3]	13.1	8000 [3776]	0.14	214.5 [62.9]	121.3 [35.9]	13.3	6000 [2832]	0.08	208.2 [61.1]	117.5 [34.3]	13.1
125°F [51.7°C]	8000 [3776]	0.11	177.1 [51.9]	116.8 [34.2]	21.3	8000 [3776]	0.11	226.4 [66.4]	122.9 [36.3]	21.2	6000 [2832]	0.08	208.2 [61.1]	117.5 [34.3]	13.1	8000 [3776]	0.14	214.5 [62.9]	121.3 [35.9]	13.3	6000 [2832]	0.08	208.2 [61.1]	117.5 [34.3]	13.1

Outdoor Dry Bulb Temperature

DR — Depression ratio Total — Total capacity x 1000 BTUH NOTES:
dbE — Entering air dry bulb Sens — Sensible capacity x 1000 BTUH
wbE — Entering air wet bulb Power — kW input capacity from the table by adding $[1.10 \times \text{CFM} \times (1 - \text{DR}) \times (\text{dbE} - 80)]$.

COOLING PERFORMANCE DATA - EMRHRX300A

		Entering Indoor Air @ 80°F [26.7°C] dB E ①									
		71°F [21.7°C]		67°F [19.4°C]		63°F [17.2°C]		61°F [16.1°C]		59°F [15.0°C]	
wB E		7400 [3492]	8350 [3941]	9400 [4436]	8350 [3941]	7400 [3492]	8350 [3941]	9400 [4436]	7400 [3492]	8350 [3941]	9400 [4436]
CFM [L/s]		0.02	0.05	0.08	0.02	0.02	0.05	0.08	0.02	0.05	0.08
DR		296.9 [87]	303.1 [88.8]	289.9 [85]	283.4 [83.1]	277.6 [81.3]	266.4 [78.1]	272.5 [79.9]	260.9 [76.5]	259.4 [76]	259.5 [76]
Total BTUH [kW]		174 [51]	183.8 [53.9]	225.2 [66.3]	213.7 [62.6]	202.3 [59.3]	236.3 [69.3]	250.2 [73.3]	233.8 [65.6]	243.8 [71.5]	230.9 [67.7]
Sens BTUH [kW]		17	16.8	16.8	16.6	16.5	16.4	16.5	16.3	16.2	16.4
Power											
Total BTUH [kW]		302.5 [88.6]	295.7 [86.7]	289.6 [84.9]	282.4 [82.7]	270.3 [79.2]	276 [80.9]	264.9 [77.6]	253.6 [74.3]	246.8 [72.3]	251.9 [73.8]
Sens BTUH [kW]		191.3 [56.1]	180.7 [52.9]	171.1 [50.1]	222.9 [65.3]	210.6 [61.7]	235.2 [68.3]	246.9 [72.4]	220.8 [64.7]	227.9 [66.8]	251.9 [73.8]
Power		17.8	17.4	17.6	17.4	17.2	17.2	17.4	17	16.9	17.2
Total BTUH [kW]		294.8 [86.4]	288.2 [84.4]	282.2 [82.7]	274.6 [80.5]	266.5 [78.7]	251.4 [73.7]	257.2 [75.4]	244.4 [71.6]	239.3 [70.1]	244.2 [71.5]
Sens BTUH [kW]		187.6 [55]	177.2 [51.9]	167.7 [49.2]	219.2 [64.2]	207 [60.7]	229.7 [67.3]	217.5 [63.7]	237.2 [69.5]	224.6 [65.6]	244.2 [71.5]
Power		18.5	18.3	18.2	18.3	18.1	17.9	17.8	17.8	17.7	17.9
Total BTUH [kW]		286.9 [84.1]	280.4 [82.2]	274.6 [80.5]	266.7 [78.2]	260.8 [76.4]	243.7 [71.4]	238.7 [69.9]	236.7 [69.4]	231.8 [67.7]	236.3 [69.2]
Sens BTUH [kW]		183.4 [53.7]	173.2 [50.8]	164 [48.1]	215 [63]	203.1 [59.5]	225.8 [66.2]	213.8 [62.6]	242.1 [70.9]	220.9 [64.7]	236.3 [69.2]
Power		19.4	19.2	19	19.2	18.8	18.8	18.6	18.7	18.5	18.8
Total BTUH [kW]		278.8 [81.7]	272.6 [79.9]	266.9 [78.2]	258.7 [75.8]	252.9 [74.1]	247.6 [72.6]	241.2 [70.7]	231 [67.7]	224.1 [65.7]	228.2 [66.9]
Sens BTUH [kW]		178.8 [52.4]	168.9 [49.5]	159.9 [46.9]	210.4 [61.7]	198.7 [58.2]	221.4 [64.9]	209.7 [61.4]	228.8 [67]	216.8 [63.5]	228.2 [66.9]
Power		20.3	20.1	19.9	20.1	19.9	19.7	19.5	19.6	19.4	19.7
Total BTUH [kW]		270.6 [79.3]	264.5 [77.5]	259 [75.9]	250.4 [73.4]	244.8 [71.7]	227.8 [66.7]	223.1 [65.4]	220.7 [64.7]	216.2 [63.3]	220 [64.5]
Sens BTUH [kW]		173.7 [50.9]	164.1 [48.1]	155.5 [45.5]	205.4 [60.2]	194 [56.8]	216.7 [63.5]	205.2 [60.1]	220.7 [64.7]	212.3 [62.2]	220 [64.5]
Power		21.2	21	20.8	21	20.8	20.6	20.4	20.5	20.3	20.6
Total BTUH [kW]		262.2 [76.8]	256.3 [75.1]	251 [73.6]	242 [70.9]	236.6 [69.3]	231.7 [67.9]	215 [63]	212.5 [62.3]	208.1 [61]	211.6 [62]
Sens BTUH [kW]		168.3 [48.3]	159 [46.6]	150.5 [44.1]	199.9 [58.6]	188.8 [55.3]	211.5 [62]	200.3 [58.7]	212.5 [62.3]	207.4 [60.8]	211.6 [62]
Power		22.3	22	21.8	22.1	21.8	21.6	21.4	21.5	21.3	21.7
Total BTUH [kW]		253.6 [74.3]	247.9 [72.7]	242.8 [71.2]	233.5 [68.4]	228.2 [66.9]	211.2 [61.9]	206.8 [60.6]	204.2 [59.8]	199.9 [58.6]	203 [59.5]
Sens BTUH [kW]		162.4 [47.6]	153.4 [44.9]	145.2 [42.6]	194 [56.8]	183.2 [53.7]	205.9 [60.3]	195 [57.1]	204.2 [59.8]	199.9 [58.6]	203 [59.5]
Power		23.3	23.1	22.8	23.1	22.9	22.7	22.4	22.6	22.3	22.7
Total BTUH [kW]		244.9 [71.8]	239.4 [70.2]	234.5 [68.7]	224.7 [65.9]	219.7 [64.4]	202.7 [59.4]	198.5 [58.2]	195.6 [57.3]	191.6 [56.1]	194.3 [56.9]
Sens BTUH [kW]		156 [45.7]	147.4 [43.2]	139.6 [40.9]	187.7 [55]	177.3 [51.9]	199.9 [58.6]	183.3 [53.5]	195.6 [57.3]	191.6 [56.1]	194.3 [56.9]
Power		24.4	24.2	23.9	24.2	24	23.8	23.5	23.7	23.4	23.8
Total BTUH [kW]		236 [69.2]	230.7 [67.6]	225.9 [66.2]	215.8 [63.3]	211 [61.8]	194 [56.8]	190 [55.7]	183.1 [53.6]	181.2 [53.1]	185.4 [54.3]
Sens BTUH [kW]		149.3 [43.7]	141 [41.3]	133.5 [39.1]	180.9 [53]	170.9 [50.1]	193.5 [56.7]	183.3 [53.7]	186.9 [54.6]	181.2 [53.1]	185.4 [54.3]
Power		25.6	25.3	25.1	25.4	25.1	24.9	24.7	24.9	24.8	25
Total BTUH [kW]		226.9 [66.5]	221.9 [65]	217.3 [63.7]	206.8 [60.6]	202.2 [59.2]	185.1 [54.2]	181.3 [53.1]	178.1 [52.2]	174.4 [51.1]	176.3 [51.7]
Sens BTUH [kW]		142.1 [41.6]	134.2 [39.3]	127.1 [37.2]	173.7 [50.9]	164.1 [48.1]	185.1 [54.2]	176.8 [51.8]	178.1 [52.2]	174.4 [51.1]	176.3 [51.7]
Power		26.9	26.6	26.3	26.7	26.4	26.2	25.9	26.1	25.8	26.3

Outdoor Dry Bulb Temperature

DR — Depression ratio Total — Total capacity x 1000 BTUH NOTES:
 dB E — Entering air dry bulb Sens — Sensible capacity x 1000 BTUH When the entering air dry bulb is other than 80°F [27°C], adjust the sensible
 wB E — Entering air wet bulb Power — kW input capacity from the table by adding [1.10 x CFM x (1 - DR) x (dB E - 80)].



GROSS PERFORMANCE DATA - EMRHR360AVA

Outdoor	wbE	71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]		
DB	CFM [L/s]	10000 [4720]	8675 [4095]	8000 [3776]	10000 [4720]	8675 [4095]	8000 [3776]	10000 [4720]	8675 [4095]	8000 [3776]
	DR ①	0	0.03	0.05	0	0.03	0.05	0	0.03	0.05
75°F	Total BTUH [kW]	384 [112.5]	373.6 [109.5]	368.3 [107.9]	360.7 [105.7]	351 [102.8]	346 [101.4]	338.5 [99.2]	329.4 [96.5]	324.7 [95.1]
[23.9°C]	Sens BTUH [kW]	238.8 [70.0]	212.5 [62.3]	199.7 [58.5]	274.8 [80.5]	246.8 [72.3]	233 [68.3]	304.7 [89.3]	275.3 [80.7]	260.8 [76.4]
	Power	22.8	22.5	22.3	22.5	22.2	22	22.2	21.9	21.7
80°F	Total BTUH [kW]	375.3 [110.0]	365.1 [107.0]	360 [105.5]	352 [103.1]	342.5 [100.4]	337.7 [98.9]	329.9 [96.7]	320.9 [94.0]	316.4 [92.7]
[26.7°C]	Sens BTUH [kW]	234.6 [68.7]	208.8 [61.2]	196.3 [57.5]	270.6 [79.3]	243.1 [71.2]	229.6 [67.3]	300.6 [88.1]	271.6 [79.6]	257.4 [75.4]
	Power	23.8	23.5	23.4	23.5	23.2	23	23.2	22.9	22.7
85°F	Total BTUH [kW]	366 [107.2]	356.1 [104.3]	351.1 [102.9]	342.7 [100.4]	333.5 [97.7]	328.8 [96.3]	320.6 [93.9]	311.9 [91.4]	307.5 [90.1]
[29.4°C]	Sens BTUH [kW]	229.8 [67.3]	204.6 [59.9]	192.4 [56.4]	265.9 [77.9]	239 [70.0]	225.8 [66.2]	295.9 [86.7]	267.5 [78.4]	253.5 [74.3]
	Power	25	24.6	24.5	24.6	24.3	24.1	24.3	24	23.8
90°F	Total BTUH [kW]	356.2 [104.4]	346.5 [101.5]	341.6 [100.1]	332.9 [97.5]	323.9 [94.9]	319.3 [93.6]	310.7 [91.0]	302.3 [88.6]	298.1 [87.3]
[32.2°C]	Sens BTUH [kW]	224.5 [65.8]	199.9 [58.6]	187.9 [55.1]	260.6 [76.4]	234.3 [68.6]	221.4 [64.9]	290.4 [85.1]	262.7 [77.0]	249.1 [73.0]
	Power	26.2	25.8	25.6	25.8	25.5	25.3	25.5	25.2	25
95°F	Total BTUH [kW]	345.7 [101.3]	336.4 [98.6]	331.6 [97.2]	322.5 [94.5]	313.7 [91.9]	309.3 [90.6]	300.3 [88.0]	292.2 [85.6]	288.1 [84.4]
[35.0°C]	Sens BTUH [kW]	218.5 [64.0]	194.7 [57.0]	183 [53.6]	254.6 [74.6]	228.9 [67.1]	216.3 [63.4]	284.5 [83.4]	257.5 [75.4]	244.2 [71.5]
	Power	27.4	27.1	26.9	27.1	26.8	26.6	26.8	26.4	26.3
100°F	Total BTUH [kW]	334.7 [98.1]	325.7 [95.4]	321.1 [94.1]	311.4 [91.2]	303 [88.8]	298.7 [87.5]	289.3 [84.8]	281.5 [82.5]	277.5 [81.3]
[37.8°C]	Sens BTUH [kW]	212 [62.1]	188.9 [55.3]	177.6 [52.0]	248 [72.7]	223.1 [65.4]	210.9 [61.8]	278 [81.5]	251.7 [73.7]	238.7 [69.9]
	Power	28.8	28.4	28.2	28.5	28.1	27.9	28.2	27.8	27.6
105°F	Total BTUH [kW]	323.1 [94.7]	314.4 [92.1]	309.9 [90.8]	299.8 [87.8]	291.7 [85.5]	287.6 [84.3]	277.7 [81.4]	270.2 [79.2]	266.4 [78.1]
[40.6°C]	Sens BTUH [kW]	204.8 [60.0]	182.5 [53.5]	171.5 [50.2]	240.8 [70.6]	216.7 [63.5]	204.9 [60.0]	270.8 [79.3]	245.3 [71.9]	232.7 [68.2]
	Power	30.2	29.8	29.6	29.9	29.5	29.3	29.6	29.2	29
110°F	Total BTUH [kW]	310.9 [91.1]	302.5 [88.6]	298.2 [87.4]	287.7 [84.3]	279.9 [82.0]	275.9 [80.8]	265.5 [77.8]	258.3 [75.7]	254.7 [74.6]
[43.3°C]	Sens BTUH [kW]	197 [57.7]	175.5 [51.4]	165 [48.3]	233.1 [68.3]	209.8 [61.5]	198.3 [58.1]	263 [77.1]	238.3 [69.8]	226.2 [66.3]
	Power	31.8	31.3	31.1	31.4	31	30.8	31.1	30.7	30.5
115°F	Total BTUH [kW]	298.2 [87.4]	290.1 [85.0]	286 [83.8]	274.9 [80.5]	267.5 [78.4]	263.7 [77.3]	252.7 [74.0]	245.9 [72.0]	242.4 [71.0]
[46.1°C]	Sens BTUH [kW]	188.7 [55.3]	168 [49.2]	157.9 [46.3]	224.8 [65.9]	202.4 [59.3]	191.4 [56.1]	252.7 [74.0]	230.8 [67.6]	219 [64.2]
	Power	33.4	32.9	32.7	33	32.6	32.4	32.7	32.3	32.1

DR —Depression ratio Total —Total capacity x 1000 BTUH NOTES:

dbE —Entering air dry bulb Sens —Sensible capacity x 1000 BTUH When the entering air dry bulb is other than 80°F [27°C], adjust the sensible

wbE—Entering air wet bulb Power—KW input capacity from the table by adding [1.10 x CFM x (1 – DR) x (dbE – 80)].

AIRFLOW PERFORMANCE - EMRHR*240*

AIRFLOW PERFORMANCE - 60 Hz - SIDEFLOW

Air Flow CFM [L/s]	Model EMRHR240 Voltage 380-400 / 3 phase / 60 Hz																																						
	External Static Pressure — Inches of Water [kPa]																																						
	0.1 [0.2]	0.2 [0.05]	0.3 [0.07]	0.4 [0.10]	0.5 [0.12]	0.6 [0.15]	0.7 [0.17]	0.8 [0.20]	0.9 [0.22]	1.0 [0.25]	1.1 [0.27]	1.2 [0.30]	1.3 [0.32]	1.4 [0.35]	1.5 [0.37]	1.6 [0.40]	1.7 [0.42]	1.8 [0.45]	1.9 [0.47]	2.0 [0.50]																			
6000 [2831]	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	RPM W	
6100 [2878]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6200 [2926]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300 [2973]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6400 [3020]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6500 [3067]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6600 [3114]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6700 [3162]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6800 [3209]	521	1966	529	2013	541	2075	554	2151	570	2242	589	2347	610	2467	633	2602	659	2751	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
6900 [3256]	525	2026	534	2076	545	2141	559	2220	575	2314	593	2422	614	2545	638	2683	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
7000 [3303]	530	2089	539	2142	550	2210	564	2292	580	2388	598	2500	619	2626	642	2766	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
7100 [3350]	535	2154	544	2210	555	2281	568	2366	584	2466	603	2580	624	2709	647	2852	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
7200 [3398]	540	2222	549	2281	560	2365	573	2443	589	2546	608	2653	628	2795	652	2941	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
7300 [3445]	545	2293	554	2355	565	2431	578	2522	594	2628	613	2748	633	2883	657	3032	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
7400 [3492]	550	2366	559	2431	570	2510	583	2604	599	2713	618	2836	639	2974	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
7500 [3539]	556	2442	564	2510	575	2592	589	2689	605	2801	623	2927	644	3067	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
7600 [3586]	561	2521	570	2591	581	2676	594	2776	610	2891	628	3020	649	3163	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
7700 [3633]	567	2601	575	2675	586	2763	600	2866	615	2983	634	3115	654	3262	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
7800 [3681]	572	2685	581	2762	592	2853	605	2959	621	3079	639	3214	660	3363	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7900 [3728]	578	2771	587	2851	598	2945	611	3053	627	3177	645	3314	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
8000 [3775]	584	2860	593	2942	603	3039	617	3151	633	3277	651	3418	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

NOTE: A-Drive left of bold line & B-Drive right of bold line

Drive Package	A				
Motor H.P. [W]	3 [3728.5]				
Blower Sheave	BK120H				
Motor Sheave	1VP44*28mm				
Belt	B75				
Turns Open	0	1	2	3	5
RPM	654	630	607	578	519

- NOTES: 1. Factory sheave settings are shown in bold type.
 2. Do not set motor sheave below minimum or maximum turns open shown.
 3. Re-adjustment of sheave required to achieve rated airflow at AHRI minimum External Static Pressure
 4. Drive data shown is for horizontal airflow with dry coil.
 5. [] Designates Metric Conversions

ELECTRICAL DATA

ELECTRICAL DATA - EMRHR SERIES						
	MODEL NUMBER	EMRHRX170AVA	EMRHRX190AVA	EMRHRX240AVA	EMRHRX300AVA	EMRHRX360AVA
Unit Information	OPERATING VOLTAGE RANGE	342-440	342-440	342-440	342-440	342-440
	POWER SUPPLY: VOLTS	380/415	380/415	380/415	380/415	380/415
	POWER SUPPLY: PHASE	3	3	3	3	3
	POWER SUPPLY: HERTZ	60	60	60	60	60
	COMPRESSOR: VOLTS	380/415	380/415	380/415	380/415	380/415
	Minimum Circuit Ampacity	36	37	37	63	72/72
	Minimum Overcurrent Protection Size	40	40	40	60	80
	Maximum Overcurrent Protection Size	45	45	45	60	80
Compressor	Quantity	2	2	2	2	2
	Power Supply: Voltage-Phase-Frequency	380/415-3-60	380/415-3-60	380/415-3-60	380/415-3-60	380/415-3-60
	Rated Load Amps Compressor 1 (RLA)	11.00	12.50	12.50	16.00	24.40
	Rated Load Amps Compressor 2 (RLA)	11.00	12.50	12.50	16.00	23.70
	Lock Rotor Amps Compressor 1 (LRA)	88.00	94.30	94.30	135.00	138.00
	Lock Rotor Amps Compressor 2 (LRA)	88.00	94.30	94.30	135.00	145.00
Condenser Motor	OUTDOOR FAN: VOLTS	380	380	380	380	380
	OUTDOOR FAN: PHASE	1	1	1	1	1
	OUTDOOR FAN: FLA	1.70	1.70	1.70	2.20	2.20
	OUTDOOR FAN: HP (KW) (EACH)	1/2 (0.37)	1/2 (0.37)	1/2 (0.37)	3/4 (0.56)	3/4 (0.56)
Evaporator Motor	INDOOR BLOWER: VOLTS	380	380	380	380	380
	INDOOR BLOWER: PHASE	3	3	3	3	3
	INDOOR BLOWER: FLA	4.60	4.60	4.60	7.60	11.60
	INDOOR BLOWER: HP (KW)	3 (2.24)	3 (2.24)	3 (2.24)	5 (3.73)	7 1/2 (5.59)

1. Amp Draw Per Motor. Multiply Value by Number of Motors to Determine Total Amps.

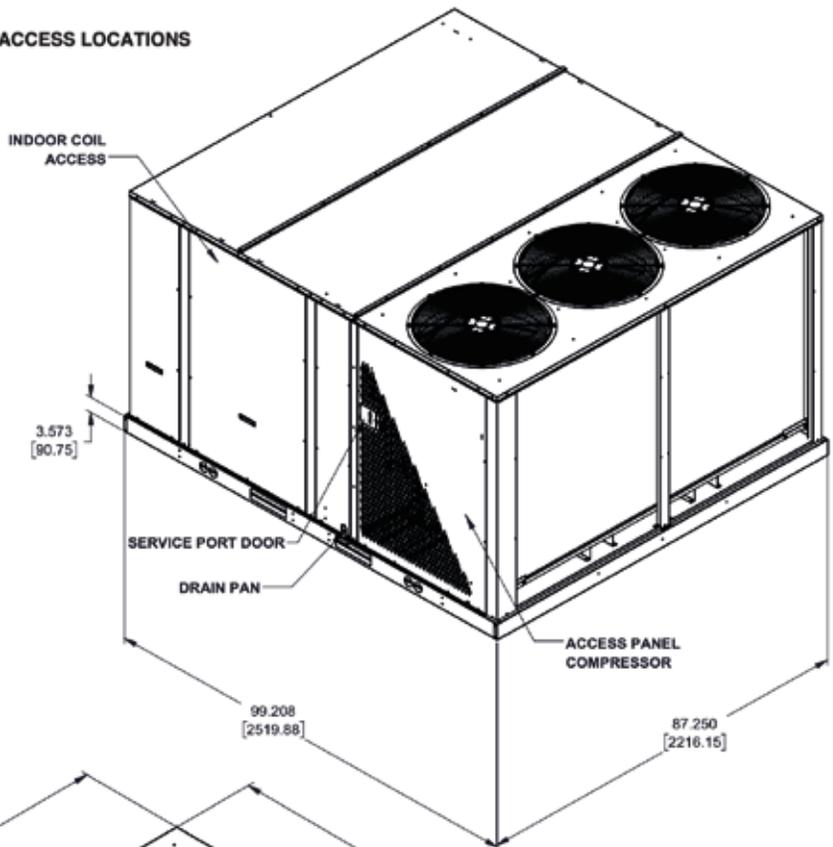
SOUND DATA 60 HERTZ

Model Number	Unit Sound Level (dB)
EMRHRX170AVA	88
EMRHRX190AVA	91
EMRHRX240AVA	91
EMRHRX300AVA	92
EMRHRX360AVA	92

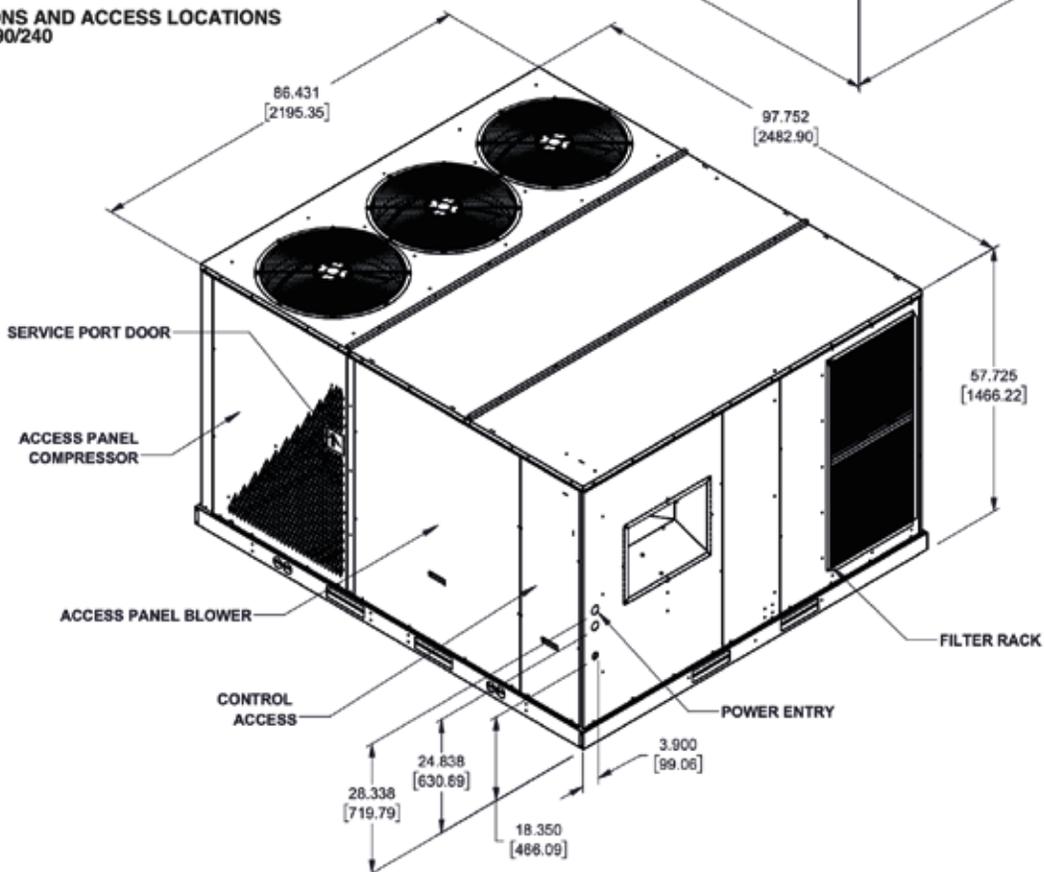


GENERAL ARRANGEMENT LAYOUT

UNIT DIMENSIONS AND ACCESS LOCATIONS
(-)MRHRX170/190/240



UNIT DIMENSIONS AND ACCESS LOCATIONS
(-)MRHRX170/190/240



**UNIT DIMENSIONS AND ACCESS LOCATIONS
(-)MRHRX300/360**

INDOOR COIL
ACCESS

3.573
[90.75]

SERVICE PORT DOOR

DRAIN PAN

ACCESS PANEL
COMPRESSOR

115.250
[2927.35]

87.250
[2216.15]

**UNIT DIMENSIONS AND ACCESS LOCATIONS
(-)MRHRX300/360**

86.431
[2195.35]

113.797
[2890.44]

SERVICE PORT DOOR

ACCESS PANEL
COMPRESSOR

57.725
[1466.22]

ACCESS PANEL BLOWER

FILTER RACK

CONTROL
ACCESS

POWER ENTRY

28.338
[719.79]

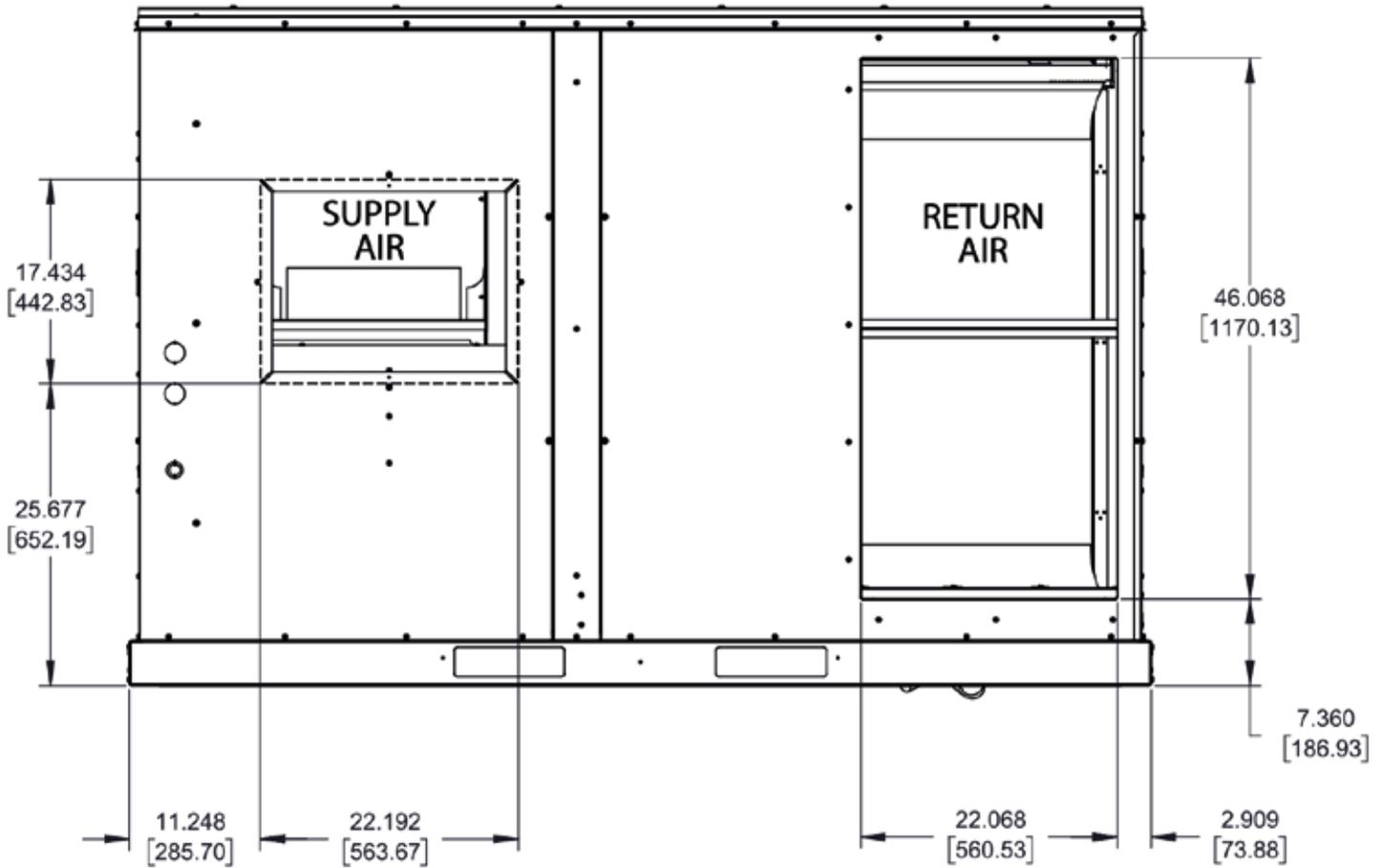
24.838
[630.89]

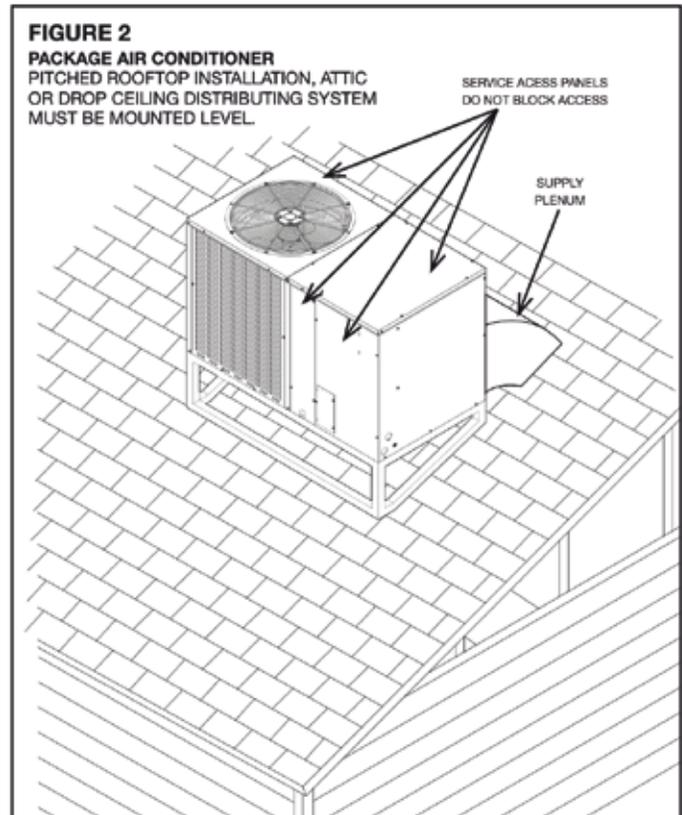
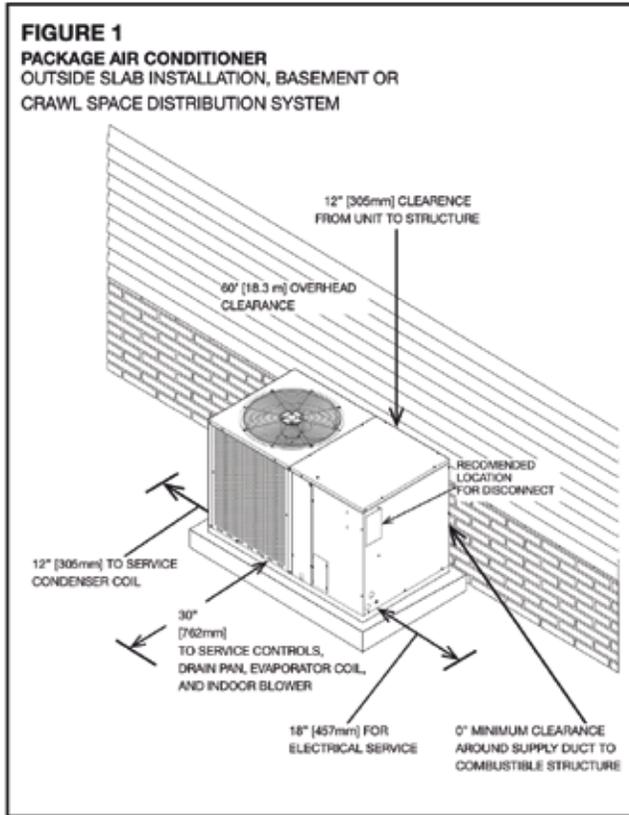
18.350
[466.10]

3.900
[99.06]
TYP.



REAR VIEW ALL CABINETS.
(-)MRHRX170/190/240/300/360





CLEARANCES

The following minimum clearances must be observed for proper unit performance and serviceability.

1. Provide 30" minimum clearance at the front and 18" on the right side of the unit for service access. Provide 12" minimum clearance on the left side of the unit for air inlet.
2. Provide 60" minimum clearance from top of unit.
3. Unit is design certified for application on combustible flooring with 0" minimum clearance.
4. See Figure 1 for illustration of minimum installation-service clearances.
5. Provide 12" minimum clearance from back of unit to structure.

ROOFTOP INSTALLATION

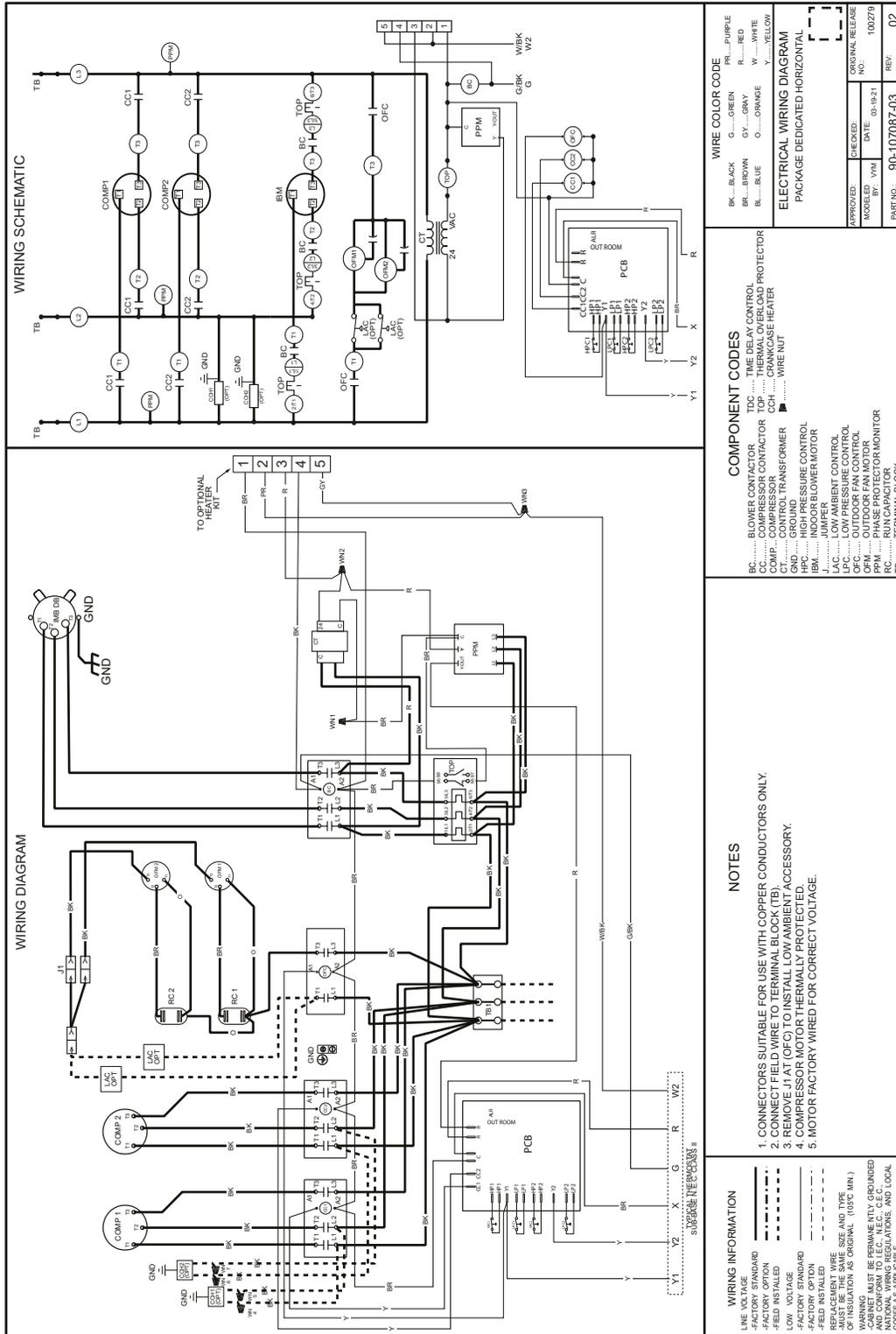
1. Before locating the unit on the roof, make sure that the strength of the roof and beams is adequate at that point to support the weight involved. (See specification sheet for weight of unit.) This is very important and user's responsibility. The unit should be placed on a solid and level platform of adequate strength.
3. The location of the unit on the roof should be such as to provide proper access for inspection and servicing (Figure 2).

IMPORTANT: If unit will not be put into service immediately, cover supply and return openings to prevent excessive condensation.

DUCTWORK

Ductwork should be fabricated by the installing contractor in accordance with local codes and NFPA90A. Industry manuals may be used as a guide when sizing and designing the duct system.

WIRING DIAGRAMS EMRHRX 170AVA



WIRE COLOR CODE

BK...	BLACK	G...	GREEN	PURPLE	
BR...	BROWN	GY...	GRAY	R...	RED
B...	BLUE	O...	ORANGE	W...	WHITE
		Y...	YELLOW		

ELECTRICAL WIRING DIAGRAM
PACKAGE DEDICATED HORIZONTAL

APPROVED	CHECKED	DATE	ORIGINAL RELEASE
MODELED	BY	VN	NO.
			100279
PART NO.	90-107087-03	REV.	02

COMPONENT CODES

BC..... BLOWER CONTACTOR
 TDC..... TIME DELAY CONTROL
 COMP..... COMPRESSOR CONTACTOR
 TOP..... THERMAL OVERLOAD PROTECTOR
 COMP..... COMPRESSOR
 GND..... GROUND
 TRN..... TRANSFORMER
 GND..... GROUND
 HPC..... HIGH PRESSURE CONTROL
 IBM..... INDOOR BLOWER MOTOR
 LAC..... LOW AMBIENT CONTROL
 LFC..... LOW PRESSURE CONTROL
 OFC..... OUTDOOR FAN CONTROL
 PPM..... PRESSURE PROTECTIVE MOTOR
 RC..... PHASE PROTECTOR MONITOR
 TB..... TERMINAL BLOCK

NOTES

- CONNECTORS SUITABLE FOR USE WITH COPPER CONDUCTORS ONLY.
- CONNECT FIELD WIRE TO TERMINAL BLOCK (TB).
- REMOVE J1 AT (OFC) TO INSTALL LOW AMBIENT ACCESSORY.
- COMPRESSOR MOTOR THERMALLY PROTECTED.
- MOTOR FACTORY WIRED FOR CORRECT VOLTAGE.

WIRING INFORMATION

— WIRE VOLTAGE STANDARD
 - - - - - FACTORY OPTION
 - - - - - FIELD INSTALLED
 - - - - - LOW VOLTAGE
 - - - - - FACTORY STANDARD
 - - - - - FIELD INSTALLED
 - - - - - REPLACEMENT WIRE USE AND TYPE OF INSULATION AS ORIGINAL (100% MIN.)

WARNING
 AIRBET MUST BE PERMANENTLY GROUNDING NATIONAL WIRING REGULATIONS, AND LOCAL CODES AS APPLICABLE.

GUIDE SPECIFICATIONS – EMRHR 170 thru 360 (Size Range: 14.2 to 30.0 Nominal Tons)

UNITARY PACKAGED ROOFTOP

1.01 SYSTEM DESCRIPTION

Unit is an outdoor rooftop (or building side) mounted, electrically controlled cooling and heating (optional) unit utilizing scroll hermetic compressors for cooling duty and electric heat. Unit is specifically designed for horizontal supply and return ducts, as shown on general arrangement drawings.

1.02 QUALITY ASSURANCE

1. Unit shall be rated in accordance with AHRI Standard 340/360 and SASO 2874/2016.
2. Unit shall be in compliance with SASO 2874/2016.
3. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
4. Unit casing shall be capable of withstanding 1008-hour salt spray exposure per ASTM B117.
5. Unit shall be designed and manufactured in a facility in accordance and registered by ISO 9001:2015.
6. Unit shall be subjected to a completely automated run test on the assembly line. The data for each unit will be stored at the factory and must be available upon request.
7. Unit shall be designed to conform to ASHRAE 15.
8. Unit shall be safety tested and certified in accordance with IEC-60335-1 & 2-40 Standards as a total package for safety requirements.

1.03 DELIVERY, STORAGE AND HANDLING

1. Unit shall be stored and handled per manufacturer's recommendations. 2. Lifted by crane requires either shipping top panel or spreader bars.
3. Unit shall only be stored or positioned in the upright position.

2.01 GENERAL

The package unit shall be designed to be the most efficient, quickest to install, easiest to service, and most reliable units in the industry - while still maintaining an affordable price. The platform must provide user with a full line of nominal capacities from 14.2 through 30 Tons unit size.

The package units shall be completely assembled, leak tested, vacuumed, internally factory wired and fully charged with R-410A refrigerant from factory. Each unit is fully factory tested before dispatch and is ready to install. All that is required at site is to connect duct, drain lines, main power supply and field wiring to the thermostat.

1. Outdoor, rooftop mounted, electrically controlled, heating and cooling unit utilizing a(n) hermetic scroll compressor(s) for cooling duty.
2. Factory assembled, single-piece heating and cooling rooftop unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, and special features required prior to field start-up.

3. Unit shall use environmentally sound R-410a refrigerant.
4. Unit shall be installed in accordance with the manufacturer's instructions.
5. Unit must be selected and installed in compliance with local, state, and federal codes.

2.02 UNIT CABINET

1. Unit cabinet shall be constructed of galvanized pre-painted steel.
2. Unit cabinet exterior paint shall be: film thickness (dry) 0.003 inches minimum, flat (per ASTM D523, 60oF): 60, Hardness: H-2H Pencil hardness.
3. Evaporator fan compartment interior cabinet insulation shall conform to AHRI Standards 340/360 minimum exterior sweat criteria. Interior surfaces shall be insulated with a minimum 1/2-in. thick, cross linked polyolefin foam, density of 25 +/- 3Kg/m³, aluminum foil-faced on the air side.
4. Base Rail:
 - a. Unit shall have base rails on all sides.
 - b. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging.
 - c. Holes shall be provided in the base rail for moving the rooftop by fork truck.
 - d. Base rail shall be a minimum of 14-gauge thickness.
5. Condensate pan and connections:
 - a. Shall be a sloped condensate drain pan made of a stainless-steel material.
 - b. Shall comply with ASHRAE Standard 62.
 - c. Shall use a 3/4" NPT drain connection, through the side of the drain pan. Connection shall be made per manufacturer's recommendations.
6. Top panel:
 - a. Indoor section shall be a two-piece top panel fixed in such a way that there is no air or water leakage and proper interlocking.
7. Electrical Connections
 - a. All unit power wiring shall enter unit cabinet at a single, factory-prepared, knockout location.
8. Component access panels (standard)
 - a. Cabinet panels shall be easily removable for servicing.

2.03 EVAPORATOR FAN AND MOTOR

1. Evaporator Motor
 - a. Shall have IP55 ingress protection level
 - b. Shall have Class F insulation
 - c. Shall have permanently lubricated bearings.
 - d. Shall have inherent automatic-reset thermal overload protection or circuit breaker.
 - e. Shall have a maximum continuous bhp rating for continuous duty operation; no safety factors above that rating shall be required.
 - f. Shall have external thermal overload for additional safety

2. Evaporator Fan

- a. *The evaporator fan shall be forward curved centrifugal DIDW, statically and dynamically balanced, complete with shaft, self-aligning and permanently lubricated ball bearings.*
- b. *Indoor blower (evaporator fan) shall be belt-driven, double inlet, forward-curved, centrifugal type.*
- c. *Belt drive shall include an adjustable-pitch motor pulley*
- d. *Bearings shall be of the sealed, permanently lubricated, ball-bearing type for longer life and lower maintenance*

3. Condenser Motor

- a. *Shall have IP54 ingress protection level*
- b. *Shall be a totally enclosed motor*
- c. *Shall have permanently lubricated bearings.*
- d. *Shall have inherent thermal overload protection with an automatic reset feature*
- e. *Shall use a shaft-up design.*

4. Condenser Fan

- a. *Shall be a direct-driven propeller type fan and shall discharge air vertically*
- b. *Shall have aluminum blades riveted to corrosion-resistant steel spiders and shall be dynamically balanced.*

2.04 COMPRESSORS

- a. Unit shall use one fully hermetic, scroll compressor for each independent refrigeration circuit.
- b. Compressor motors shall be cooled by refrigerant gas passing through motor windings.
- c. Compressors shall be internally protected from high discharge temperature conditions.
- d. Compressors shall be protected from an over-temperature and over-ampereage conditions by an internal, motor overload device.
- e. Compressor shall be factory mounted on rubber grommets.
- f. Compressor motors shall have internal line break thermal, current overload and high- pressure differential protection.
- g. Crankcase heaters shall not be required for normal operating range.

2.05 CONDENSER COIL

- a. Condenser coil shall be aluminum micro channel type
- b. Coil material shall be only aluminum (Single material)
- c. Copper material shall not be used in the coil
- d. Condenser coils shall be leak tested to 250 psig, pressure tested to 550 psig, and qualified to UL 60335-1 & 2-40 burst test at 2,200 psig.
- e. All the joints (Except 2 main joints) of condenser coils shall be executed automatically through furnace, manual brazing joints shall not be provided.

2.06 EVAPORATOR COIL

- a. Evaporator coil shall be aluminum micro channel type
- b. Coil material shall be only aluminum (Single material)

- c. Copper material shall not be used in the coil
- d. Evaporator coils shall be leak tested to 250 psig, pressure tested to 550 psig, and qualified to UL 60335-1 & 2-40 burst test at 2,200 psig.
- e. All the joints (Except 2 main joints) of evaporator coils shall be executed automatically through furnace, manual brazing joins shall not be provided.

2.06 SYSTEM COMPONENTS

Refrigerant circuit shall include the following control, safety, and maintenance features:

- a. Thermal Expansion Valve (TXV).
- b. Refrigerant filter drier.
- c. External service gauge connections to unit suction and liquid lines.

2.07 FILTER SECTION

- a. Filters access is specified in the unit cabinet section of this specification.
- b. Filters shall be held in place by a sliding filter tray, facilitating easy removal and installation.
- c. `Shall consist of factory-installed, low velocity, cleanable 1-in. thick aluminum filters.
- d. Filters shall be standard, commercially available sizes.
- e. Filter face velocity shall not exceed 365 fpm at nominal airflows.

2.08 INSULATION

- a. Interior cabinet surfaces shall be insulated with a minimum 1/2-in. thick, cross linked polyolefin foam, density of 25 +/- 3Kg/m³, with aluminum foil facing on the air side.
- b. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

2.09 Controls

- a. An optional thermostat must have capability to energize 2 different stages of cooling, and 2 different stages of heating.
- b. An optional thermostat must include capability for occupancy scheduling.

2.10 Electric and Electronic Control System for HVAC

1. General

- a. Shall be complete with self-contained low-voltage control circuit protected by a resettable circuit breaker on the 24-v transformer side. Transformer shall have 100VA capabilities*
- b. Shall utilize color-coded wiring*

2. Safeties

- a. Compressor over-temperature, over current.*
- b. Low-pressure switch.*
- c. High-pressure switch.*

- d. Automatic reset, motor thermal overload protector*
- e. Compressor time delay*
- f. Single phase-phase reversal protection*
- g. External overload protection for evaporator motor*

2.11 OPERATING CHARACTERISTICS

- a. Unit shall be capable of starting and running at 125oF (52oC) ambient outdoor temperature, meeting maximum load criteria of AHRI Standard 340/360 at \pm 10% voltage.
- b. Compressor with standard controls shall be capable of operation from 40oF (4oC) , ambient outdoor temperatures. Accessory low ambient kit is necessary if mechanically cooling at ambient temperatures below 40oF (4oC).
- c. Unit shall discharge supply air horizontally as shown on contract drawings.

2.12 ELECTRICAL REQUIRMENT

- a. Main power supply voltage, phase, and frequency must match those required by the manufacturer.

2.13 SPECIAL FEATURES, OPTIONS AND ACCESSORIES

- 1. Low Ambient Control Package
 - a. Controller shall control coil head pressure by condenser-fan cycling*
- 2. Condenser Coil Hail Guard Assembly
 - a. Shall protect against damage from hail.*
 - b. Shall be metallic protection guard with diamond shape design*
- 3. Electrical Heater
 - a. Heater element shall be open coil resistance wire, nickel-chrome alloy, strung through ceramic insulators mounted on metal frame. Coil ends are staked and welded to terminal screw slots.*
 - b. Heater assemblies shall be provided with integral fusing for protection of internal heater circuits not exceeding 48 amps each. Auto reset thermo limit controls, magnetic heater contactors (24 v coil) and terminal block all mounted in electric heater control box (minimum 18 ga galvanized steel) attached to end of heater assembly.*
- 4. Compressor External Overload
 - a. Shall provide additional safety to compressor apart from internal thermal overload*
- 5. Crankcase Heaters
 - a. Shall provide additional safety to compressor in special cases
- 6. Dry Contacts
 - Shall provide following dry contacts to communicate with the unit thru external BMS program.
 - a. Compressor run status feed back*
 - b. Evaporator fan run status feedback*
 - c. Common fault feedback*
 - d. Remote on/off*
 - e. Fire interlock*

7. Direct-digital Control system for HVAC

A. RTU-C controller

1. Shall be ASHRAE 62-2001 compliant.
2. Shall accept 18-32VAC input power.
3. Shall have an operating temperature range from -40oF (-40oC) to 158oF (70oC), 10% - 95% RH (non-condensing).
4. Controller shall accept the following inputs: space temperature, setpoint adjustment, outdoor air temperature, indoor air quality, outdoor air enthalpy, fire shutdown, return air enthalpy, fan status, remote time clock/door switch.
5. Shall accept a CO2 sensor in the conditioned space, and be Demand Control Ventilation (DCV) ready.
6. Shall provide the following outputs: Economizer, fan, cooling stage 1, cooling stage 2, heat stage 1, heat stage 2, exhaust, occupied.
7. Unit shall provide surge protection for the controller through a circuit breaker.
8. Shall have a field installed communication card allowing the unit to be Internet capable and communicate at a Baud rate of 19.2K or faster
9. Shall have an LED display independently showing the status of activity on the communication bus, and processor operation.
10. Shall have either a field installed BACnet® plug-in communication card which includes an EIA-485 protocol communication port, or a field installed LonWorks™ plug-in communications card.
11. Software upgrades will be accomplished by local download. Software upgrades through chip replacements are not allowed.
12. Shall be shock resistant in all planes to 5G peak, 11ms during operation, and 100G peak, 11ms during storage.
13. Shall be vibration resistant in all planes to 1.5G @ 20-300 Hz.
14. Shall support a bus length of 4000 ft max, 60 devices per 1000 ft section, and 1 RS-485 repeater per 1000 ft sections.

B. Open protocol, direct digital controller:

1. Shall be ASHRAE 62-2001 compliant.
2. Shall accept 18-30VAC, 50-60Hz, and consumer 15VA or less power.
3. Shall have an operating temperature range from -40oF (-40oC) to 130oF (54oC), 10% - 90% RH (non-condensing).
4. Shall have either a field installed BACnet® plug-in communication card which includes an EIA-485 protocol communication port, or a field installed LonWorks™ plug-in communications card.
5. The BACnet® plug in communication card shall include built-in protocol for BACNET (MS/TP and PTP modes)
6. The LonWorks™ plug in communication card shall include the Echelon processor required for all Lon applications.
7. Shall allow access of up to 62 network variables (SNVT). Shall be compatible with all open controllers
8. Baud rate Controller shall be selectable through the EIA-485 protocol communication port.
9. Shall have an LED display independently showing the status of serial communication, running, errors, power, all digital out-puts, and all analog inputs.
10. Shall accept the following inputs: space temperature, setpoint adjustment, outdoor air temperature, indoor air

quality, outdoor air enthalpy, compressor lock-out, fire shutdown, enthalpy switch, and fan status/filter status/humidity/ remote occupancy.

11. Shall provide the following outputs: economizer, fan, cooling stage 1, cooling stage 2, heat stage 1, heat stage 2, exhaust.
12. Software upgrades will be accomplished by either local or remote download. No software upgrades through chip replacements are allowed.

E-Coating of condenser coil (Option)

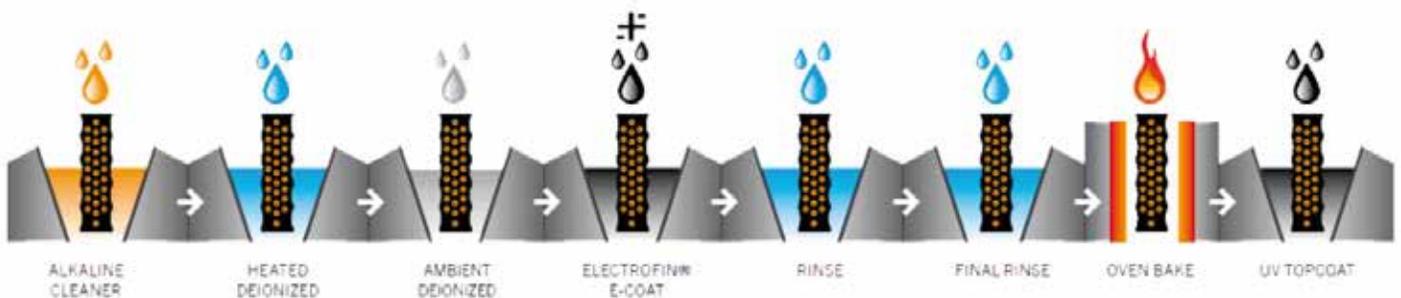
Exceptional flexibility and durability E-Coat adhesion properties and flexibility of the coating material provides excellent coil coverage and corrosion resistance.

Not only does the E-Coat coating provide excellent seacoast, salt environment protection it provides outstanding protection in acidic and alkaline environments ranging from 3.0-12.0 pH levels.

E-Coat coating is designed to protect the coil with less than 1% thermal performance degradation so unlike many other types of coil coatings, E-Coat protects the products heat transfer coils without an adverse effect on cooling performance.

E-Coat coated coils have been tested and passed ASTM B-117 Salt Spray tests exceeding 6000 hours.

Excellent corrosion and UV resistance.





The new degree of comfort.®

In keeping with its policy of continuous progress and product improvement, Rheem reserves the right to make changes without notice.

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INTEGRATED AIR & WATER

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