PACKAGED ELECTRIC / ELECTRIC





STRATEGOS® Rooftop Units Three-Phase - R-410A - 60 Hz

> Bulletin No. 210902 November 2019

COMMERCIAL PRODUCT SPECIFICATIONS











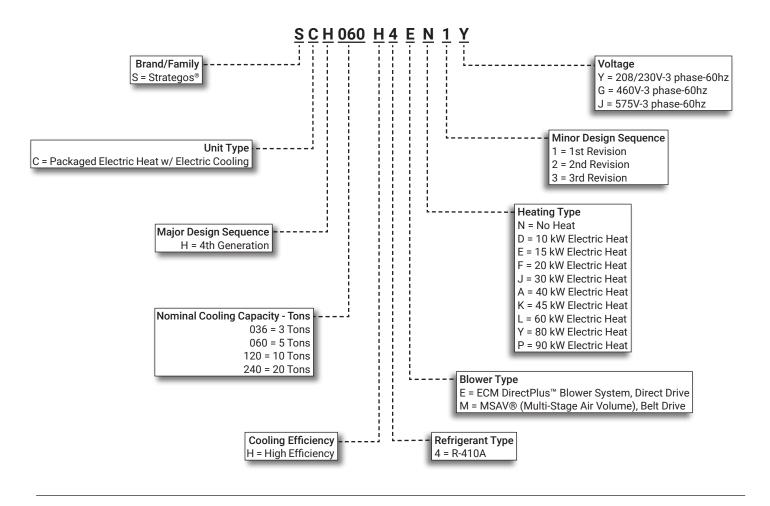




SMARTWIRE SYSTEM

3 to 20 Tons
Net Cooling Capacity - 36,000 to 232,000 Btuh
Optional Electric Heat - 10 to 90 kW

MODEL NUMBER IDENTIFICATION

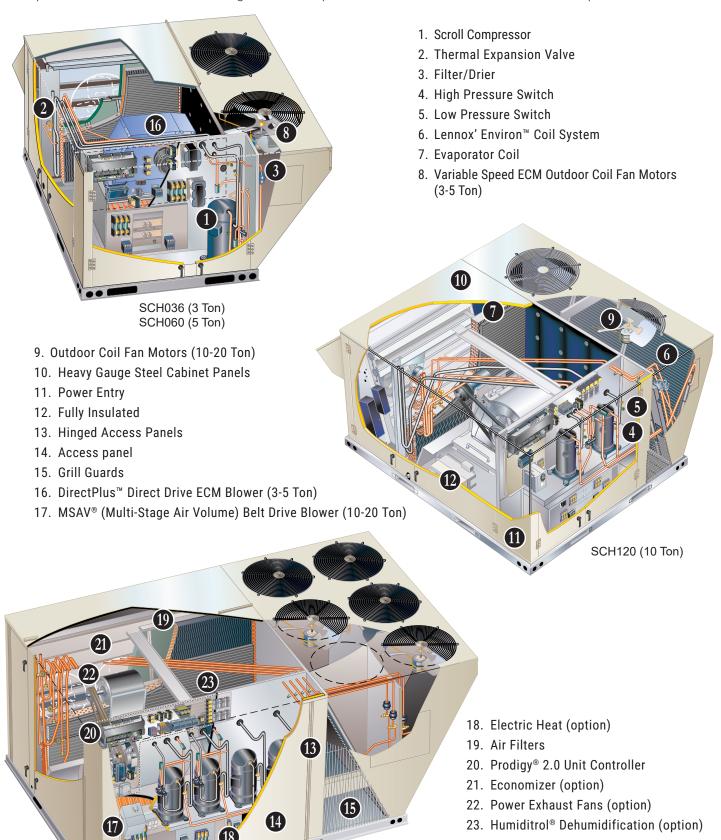


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FEATURE HIGHLIGHTS

Lennox' Strategos® packaged rooftop unit product line was created to save energy with intelligence by offering some of the highest energy efficiency ratings available with a powerful, easy to use unit controller. This makes Strategos® rooftop units perfect for business owners looking for an HVAC product with the lowest total cost of ownership



SCH240 (20 Ton)

APPROVALS AND WARRANTY

APPROVALS

- AHRI Standard 210/240 certified (3 and 5 ton models)
- AHRI Standard 340/360 certified (10 and 20 ton models)
- ETL and CSA listed
- · Unit and components ETL, NEC and CEC bonded for grounding to meet safety standards for servicing
- ENERGY STAR® certified

WARRANTY

- · Compressors Limited five years
- Lennox' Environ™ Coil System Limited three years
- Prodigy® 2.0 Unit Controller Limited three years
- Optional High Performance Economizers Limited five years
- · All other covered components Limited one year

FEATURES AND BENEFITS

COOLING SYSTEM

- Designed to maximize sensible and latent cooling performance at design conditions
- System operation from 0°F to 125°F without additional controls

1 Scroll Compressors

- Two-stage (3 to 5 ton) for increased part load efficiency
- Single speed (10 and 20 ton models)
- · Resiliently mounted on rubber grommets
- Quiet operation

Compressor Crankcase Heater

 Protects against refrigerant migration that can occur during low ambient operation

2 Thermal Expansion Valve (TXV)

- Assures optimal performance throughout the application range
- · Removable element head
- 3 Filter/Drier
 - · Solid core, molecular-sieve, high capacity filter/drier
- 4 High Pressure Switch
 - · Protects the system from high pressure conditions
 - Automatic reset

Low Pressure Switch

- Shuts off unit if suction pressure falls below setting
- · Loss of charge and freeze-up protection
- · Automatic reset

Freezestat

- Cycles compressor off when suction line temperature falls below setpoint
- · Protects evaporator coil

Low Ambient Pressure Switches

- Cycles condenser fan motors based on liquid line pressure
- Enables cooling operation down to 0°F outdoor air temperature

6 Lennox' Environ™ Coil System

- Condenser coil features lightweight, all aluminum brazed fin construction
- Constructed of three components
 - · A flat extrusion tube
 - Fins in-between the flat extrusion tube
 - · Two refrigerant manifolds

Environ™ Coil System Features:

- Improved heat transfer performance due to high primary surface area (flat tubes) versus secondary surface (fins)
- Smaller internal volume (reduced refrigerant charge)
- High durability
- · All aluminum construction
- Fewer brazed joints
- · Compact design
- · Reduced unit weight
- · Easy maintenance/cleaning
- Face split design
- · Mounting brackets with rubber inserts
- Angled cabinet design protects coil from damage

7 Evaporator Coil

- · Copper tube construction
- Enhanced rippled-edge aluminum fins
- · Flared shoulder tubing connections
- Silver soldered construction for improved heat transfer
- Factory leak tested
- Row split coils on multi-stage air volume models
- Cross row circuiting with rifled copper tubing optimizes both sensible and latent cooling capacity

Condensate Drain Pan

- Plastic pan, sloped to meet drainage requirements of ASHRAE 62.1
- Drain connection extends outside unit



FEATURES AND BENEFITS

COOLING SYSTEM (continued)

- 8 Variable-Speed ECM Outdoor Coil Fan Motors (036-060 Only)
 - Fan speed is controlled by the Prodigy[®] 2.0 unit controller
 - Thermal overload protected
 - · Totally enclosed
 - Permanently lubricated ball bearings
 - · Shaft up
 - · Wire basket mount
- 9 Outdoor Coil Fan Motors (120/240 Only)
 - · Permanent split capacitor
 - · Thermal overload protected
 - Totally enclosed
 - Permanently lubricated ball bearings
 - · Shaft up
 - · Wire basket mount

Outdoor Coil Fan

· PVC coated fan guard

R-410A Refrigerant

- · Non-chlorine
- Ozone friendly
- · Unit is factory pre-charged

Required Selections

Cooling Capacity

· Specify nominal cooling capacity of the unit

Options/Accessories

Factory Installed

Condensate Drain Trap (EPDM all sizes, Copper 240 only)

• EPDM high density rubber material

Factory or Field Installed

Drain Pan Overflow Switch

- Monitors condensate level in drain pan
- · Shuts down unit if drain becomes clogged

CABINET

10 Construction

- · Heavy-gauge steel panels
- Full perimeter heavy-gauge galvanized steel base rail (provides structural integrity for transportation, handling, and installation)
- Base rails have rigging holes
- Fork slots (two sides on the 3 and 5 ton models, three sides on the 10 and 20 ton models
- Raised edges around duct and power entry openings in the bottom of the unit for water protection

Airflow

• Units are shipped in downflow (vertical) configuration

Power Entry

 Electrical lines can be brought through the unit base or through horizontal access knock-outs

12 Exterior Panels

- · Constructed of heavy-gauge, galvanized steel
- · Two-layer enamel paint finish

13 Insulation

- Fully insulated with non-hygroscopic fiberglass insulation (conditioned areas)
- Unit base is fully insulated
- Base insulation serves as an air seal to the roof curb, eliminating the need to add a seal during installation

Hinged Access Panels

- Economizer/filter section
- Blower section
- Compressor/controls/heat section
- · Hinges are constructed of galvanized-steel
- Panel seals and quarter-turn latching handles provide a tight air and water seal

15 Grille Guards

Protects space between outdoor coils and main cabinet

Options/Accessories

Factory Installed

Corrosion Protection

- · Completely flexible immersed coating
- · Electrodeposited dry film process
- · AST ElectroFin E-Coat
- Meets Mil Spec MIL-P-53084, ASTM B117 Standard Method Salt Spray Testing

Option 1:

- Coated indoor and outdoor coil assemblies (including tube sheets)
- · Painted cabinet interior

Option 2:

Coated outdoor coil assembly (including tube sheets)

Factory or Field Installed

Combination Coil/Hail Guards

- Heavy gauge steel frame
- Painted to match cabinet
- Expanded metal mesh protects outdoor coil

FEATURES AND BENEFITS

BLOWER

- BLOWLI
- 16 DirectPlus™ Direct Drive ECM Blower System (036-060 Models Only)
 - High-efficiency, variable-speed ECM (electronically commutated) motor
 - · Aerodynamically optimized impeller
 - Backward curved blades mounted directly onto the rotor
 - Combines the motor and electronics into one unit
 - Eliminates the need for a variable-frequency drive
 - Ramps the blower up or down to meet comfort needs
 - · Blower assembly slides out of unit for servicing



 Air inlet grill reduces indoor sound levels without affecting air performance

MSAV® (Multi-Stage Air Volume) Belt Drive Blower System (120-240 Models Only)

- Supply air variable frequency drive (VFD)
- Stages the amount of supply blower airflow according to compressor stages, heating demand, ventilation demand or smoke alarm
- Alters frequency and voltage of the power supply to the blower to control speed
- The amount of airflow for each stage can be set according to a parameter in the Prodigy 2.0 unit controller
- Unit is shipped from the factory with preset airflow
- The VFD has an operational range of 0 to 125°F outdoor air ambient temperature
- Lower operating costs are obtained when the blower is operated on lower speeds
- · Overload protected
- Equipped with ball bearings
- All blower motors 5 hp and above meet minimum energy efficiency standards in accordance with the Energy Independence and Security Act (EISA) of 2007
- Forward curved blades
- · Double inlet
- · Blower wheel is statically and dynamically balanced
- Equipped with ball bearings
- Adjustable pulley (allows speed change during commissioning).
- · Blower assembly slides out of unit for servicing

Blower Proving Switch

Monitors blower operation, shuts down unit if blower fails

Required Selections

Blower Motor Choice (240 only)

· Specify when ordering base unit

Electronic Bypass Control (120-240 Models Only)

- Manual (default) or automatic electronic bypass VFD control
- In case of VFD malfunction, a VFD alarm is generated by the Prodigy® 2.0 unit controller
- VFD can be manually bypassed to continue unit operation at full blower speed. Or the unit controller can be set to automatically switch to full blower speed if a VFD alarm is generated

FEATURES AND BENEFITS

ELECTRICAL

SmartWire™ System

- · Advanced wiring connectors
- Keyed and color-coded to prevent miswiring
- · Wire coloring scheme is standardized across all models
- · Each connection is intuitively labeled to make troubleshooting and servicing guick and easy

Circuit Breakers

- HACR type
- For overload and short circuit protection
- · Factory wired
- · Current sensitive and temperature activated
- Manual reset
- Mounted in the power entry panel

Electrical Plugs

 Positive connection electrical plugs connect common accessories and maintenance parts for easy removal or installation

Required Selections

Voltage Choice

· Specify when ordering base unit

Options/Accessories

Factory Installed

Short-Circuit Current Rating (SCCR) (240 models only)

· Higher short circuit protection up to 100kA

Factory or Field Installed

18 Electric Heat

- · Helix wound nichrome elements
- Time delay for element staging
- Individual element limit controls
- · Wiring harness
- May be four-stage controlled in zone sensor mode
- All required components are included

GFI Service Outlets (2)

- 115V ground fault circuit interrupter (GFCI) type
- Non-powered
- Field-wired (all models)
- Factory-wired and powered (240 model only)

Field Installed

GFI Weatherproof Cover

- Single-gang cover
- Heavy-duty UV-resistant polycarbonate case construction
- · Hinged base cover with gasket

INDOOR AIR QUALITY



19 Air Filters

- · MERV 8 (Minimum Efficiency Reporting Value) based on ASHRAE 52.2 efficiency
- Disposable
- 2 inch pleated

Options/Accessories

Field Installed

Healthy Climate® MERV 13 High Efficiency Air Filters

- MERV 13 (Minimum Efficiency Reporting Value) based on ASHRAE 52.2 efficiency
- Disposable
- · 2 inch pleated

Indoor Air Quality (CO₂) Sensor

- Monitors CO₂ levels and reports to unit controller which adjusts economizer dampers as needed
- MSAV (multi-stage air volume) units with an economizer require a CO₂ sensor to modulate the economizer damper and maintain the desired minimum amount of fresh outdoor air
- CO₂ sensor can be installed in either the occupied zone or the return air duct

Replacement Filter Media Kit With Frame (240 Only)

- · Replaces existing pleated filter media
- Includes washable metal mesh screen and metal frame
- · Clip holds replaceable non-pleated filter

CONTROL SYSTEM

20 PRODIGY® CONTROL SYSTEM



The Prodigy 2.0 unit controller is a microprocessorbased controller that provides flexible control of all unit functions.

Features:

- · LCD Display
- Easy to read menu (4 lines x 20 character display)
- Buttons for menu navigation during setup and diagnostic
- · Menu navigation LEDs for Data, Setup, Service, Settings
- Main Menu and Help Buttons for quick navigation to home screen and built-in help functions
- Scroll, Value Adjustment Select and Save Buttons
- Setup menu insures proper installation and simplified setup of the rooftop unit
- Profile setup copies key settings between units with the same configuration to reduce setup time
- USB port allows a technician to download and transfer unit information to help verify service was performed
- USB software updates on the Prodigy Control System enhance functionality without the need to change components
- · Unit Controller Software
- Unit self-test verifies individual critical component and system performance
- Economizer test function assures economizer is operating correctly
- Time Clock with Run-Time Information

Built-In Functions Include:

- Adjustable Blower On/Off Delay
- · Built-in Control Parameter Defaults
- Compressor Time-Off Delay
- DDC Compatible
- · Dirty Filter Switch Input
- Discharge Air Temperature Control
- Display/Sensor Readout
- Economizer Control Options (See Economizer / Exhaust Air / Outdoor Air sections)
- · Fresh Air Tempering
- Over 100 diagnostic and status messages in English
- Exhaust Fan Control Modes for fresh air damper position (differential pressure transducer or pressure switches)
- Permanent Diagnostic Code Storage
- Field Adjustable Control Parameters (Over 200 settings)
- Indoor Air Quality Input (Demand Control Ventilation)
- Low Ambient Controls for cooling operation down to 0°F

- · Gas Valve Time Delay Between First and Second Stage
- · Minimum Compressor Run Time
- Network Capable (Can be daisy chained to other units or controls)
- Night Setback Mode
- Return Air Temperature Limit Control
- Safety Switch Input allows Controller to respond to a external safety switch trip
- · Service Relay Output
- Smoke Alarm Mode has four choices (unit off, positive pressure, negative pressure, purge)
- Up to 2 heat/2 cool (standard Prodigy unit controller thermostat input)
- Up to 3 cool with additional relay
- Up to 4 cool with room sensor or network operation
- "Strike Three" Protection
- Gas Reheat Control allows simultaneous heating and cooling operation for humidity control of process air applications such as supermarkets
- On Demand Dehumidification monitors and controls condenser hot gas reheat operation with Humiditrol® dehumidification option
- Thermostat Bounce Delay
- Warm Up Mode Delay
- LED Indicators
- PC Interface connects the Prodigy 2.0 unit controller to a PC with the Lennox Unit Controller Software
- Room Sensor Operation controls temperature
- **NOTE** Prodigy Control System features vary with the type of rooftop unit in which the control is installed.
- **NOTE** See separate Prodigy Control System Product Specifications Bulletin for additional information.

CONTROL SYSTEM

PRODIGY® CONTROL SYSTEM (continued)

Control Options

Factory Installed

Blower Proving Switch

Monitors blower operation, shuts down unit if blower fails

Factory or Field Installed

Dirty Filter Switch

Senses static pressure increase indicating dirty filter condition

Fresh Air Tempering

- Used in applications with high outside air requirements
- Controller energizes the first stage heat as needed to maintain a minimum supply air temperature for comfort, regardless of the thermostat demand
- When ordered as a factory option, sensor ships with the unit for field installation

Smoke Detector

- Photoelectric type
- Installed in supply air section, return air section or both sections
- Available with power board and single sensor (supply or return) or power board and two sensors (supply and return)
- Power board located in unit control compartment

Interoperability via BACnet® or LonTalk® Protocols

 Communication compatible with third-party automation systems that support the BACnet Application Specific Controller device profile, LonMark® Space Comfort Controller functional profile, or LonMark Discharge Air Controller functional profile

Commercial Control Systems

L Connection® Network Control System

- Complete building automation control system for single or multi-zone applications
- Options include local interface, software for local or remote communication, and hardware for networking other control functions
- See L Connection Network Control System Product Specifications Bulletin for details

After-Market DDC

Novar® Unit Controller and options

Thermostats

- Control system and thermostat options
- After-Market unit controller options

Field Installed

General Purpose Control Kit

 Plug-in control provides additional analog and digital inputs/outputs for field installed options

OPTIONS / ACCESSORIES

21 ECONOMIZER

Factory or Field Installed

- Economizer operation is set and controlled by the Prodigy[®] 2.0 Unit Controller
- Simple plug-in connections from economizer to unit controller
- All Strategos rooftop units are equipped with factory installed CEC Title 24 approved sensors for outside, return and discharge air temperature monitoring
- **NOTE** Optional sensors may be used instead of unit sensors to determine whether outdoor air is suitable for free cooling. See Options/Accessories table.

High Performance Economizer Features

- · Outdoor air hood is furnished
- · Approved for California Title 24 building standards.
- Low leakage dampers are Air Movement and Control Association International (AMCA) Class 1A Certified -Maximum 3 CFM per sq. ft. leakage at 1 in. w.g.
- ASHRAE 90.1-2010 compliant
- · Gear-driven action
- High torque 24-volt fully-modulating spring return damper motor
- Return air and outdoor air dampers
- Plug-in connections to unit
- Nylon bearings (036-060)
- Stainless steel bearings (120-240)
- Enhanced neoprene blade edge seals
- · Flexible stainless steel jamb seals minimize air leakage.
- **NOTE** High Performance Economizers are not approved for use with enthalpy controls in Title 24 applications.
- NOTE The Free Cooling setpoint for Title 24 applications must be set based on the Climate Zone where the system is installed. See Section 140.4 "Prescriptive Requirements for Space Conditioning Systems" of the California Energy Commission's 2013 Building Energy Efficiency Standards.
- **NOTE** Refer to Installation Instructions for complete setup information.

OPTIONS / ACCESSORIES

ECONOMIZER (continued)

Options / Accessories

Field Installed

Global Control (Not for Title 24)

- The unit controller communicates with a DDC system with one global sensor (enthalpy or sensible)
- Determines whether outside air is suitable for free cooling on all units connected to the control system
- · Sensor must be field provided

Single Enthalpy Temperature Control (Not for Title 24)

• Outdoor air enthalpy sensor enables Economizer if the outdoor enthalpy is less than the setpoint of the control.

Differential Enthalpy Control (Not for Title 24)

- · Order two Single Enthalpy Controls
- One is field installed in the return air section
- One is installed in the outdoor air section
- Allows the economizer control to select between outdoor air or return air, whichever has lower enthalpy

EXHAUST AIR

Factory Installed

Power Exhaust Fan(s) (120 and 240 Models Only)

- Installs external on 10 ton model with economizer option
- Installs internal to 20 ton models with economizer option
- · Provides exhaust air pressure relief
- · Interlocked to run when supply air blower is operating
- Fan runs when outdoor air dampers are 50% open (adjustable)
- · Fan motor is overload protected
- 10-ton model includes steel cabinet and hood painted to match unit

120 Model

- · One, 1/2 hp motor
- Five fan blades
- Total power input 300 Watts
- Total air volume of 4085 cfm at 0.05 in. w.g.

240 Model

- Three, 1/3 hp motors
- 20 in. diameter, five fan blades
- · Total power input 1200 Watts
- Total air volume of 10,200 cfm at 0 in. w.g.

Factory or Field Installed

Barometric Relief Dampers

- · Allows relief of excess air
- Dampers prevent blow back and outdoor air infiltration during off cycle
- Outdoor air hood is furnished with field installed barometric relief dampers for 120-240 models with Power Exhaust
- See Options/Accessories table

OUTDOOR AIR

Factory Installed

Manual Outdoor Air Damper (240 Models Only)

- 0 to 25% (fixed) outdoor air adjustable slide damper
- · Installed in unit
- · Outdoor air hood with bird screen included.

Motorized Outdoor Air Dampers (240 Models Only)

- Linked dampers with a fully modulating spring return damper motor
- · Installed in unit
- · Outdoor air hood with bird screen included.

ROOF CURBS

Factory Installed

Curb Alignment (240 Models Only)

 Adapter plate mates new unit to existing roof curb for easy replacement of older LCE240 models

Field Installed

Hybrid Roof Curbs, Downflow

- · Interlocking tabs fasten corners together
- · No tools required
- Can also be fastened together with furnished hardware
- Available in 14 and 24 inch heights
- · See Options/Accessories table

HUMIDITROL® DEHUMIDIFICATION SYSTEM OPTION

23 OVERVIEW

- · Factory installed option designed to control humidity
- Provides dehumidification on demand using ASHRAE 90.1 recommended method for comfort conditioning humidity control
- Unit comes equipped with one row reheat coil, solenoid valve and humidity controller
- In addition to a thermostat or room sensor used for conventional operation, a humidity sensor is required and must be located in the occupied space
- Remote Mounted Humidity Sensor Kit is required for field installation
- Humidity sensor provides input to the Unit Controller which is used to control activation of the dehumidification operation
- Reheat controls are located in the compressor control section of the unit for easy access

BENEFITS

- Improves indoor air quality
- · Helps prevents damage due to high humidity levels
- Improves comfort levels by reducing space humidity levels

OPERATION

No Dehumidification Demand

- The unit will operate conventionally whenever there is a demand for cooling or heating and no dehumidification demand
- Free cooling is only permitted when there is no demand for dehumidification

Dehumidification Demand Only

- The Unit Controller is factory set at 60% relative humidity setpoint and can be adjusted at the Unit Controller or with optional Unit Controller Software
- For L Connection® Network Control Panel (NCP) applications, the humidity setpoint can be adjusted at the NCP
- Reheat operation will initiate on a dehumidification demand and does not require a cooling demand
- The unit will operate in the dehumidification mode until the relative humidity of the conditioned space is below the setpoint
- The reheat coil is sized to provide 68°F to 75°F supply air during reheat operation
- This reduces sensible cooling capacity and extends compressor run time to control humidity when the cooling load is low
- A solenoid valve diverts hot gas from the compressor to the reheat coil
- The cooled and dehumidified air from the evaporator is reheated as it passes through the reheat coil
- The de-superheated and partially condensed refrigerant continues to the outdoor condenser coil where condensing is completed
- The unit will continue to operate in this mode until the dehumidification demand is satisfied

NOTE - See Sequence of Operation for additional information.

Dehumidification and Cooling Demand (Thermostat/ Room Sensor Application)

Two-stage compressor models (036 and 060)

- If both a dehumidification and a Y1 cooling demand occur, the system will operate in the full cooling mode at first stage indoor air flow
- If a Y2 cooling demand occurs along with a dehumidification demand, the system operates in full cooling mode at full cooling airflow until the Y2 cooling demand is satisfied
- Then the system will revert to the dehumidification mode if a dehumidification mode demand is present

Single Speed Compressor Model (120/240)

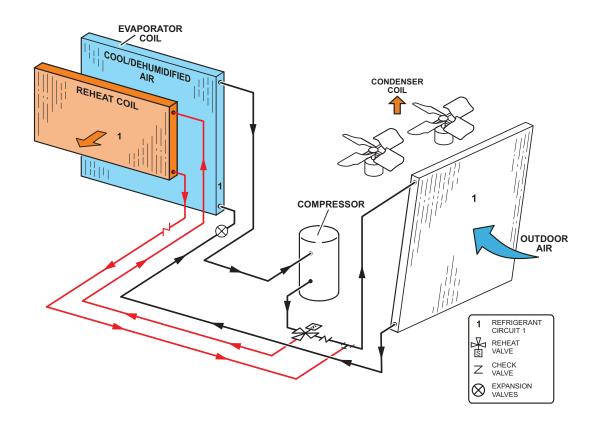
- If both a dehumidification and a full cooling demand occur, the system will operate in cooling until the cooling demand is satisfied
- Then the system will energize the dehumidification mode

Options/Accessories

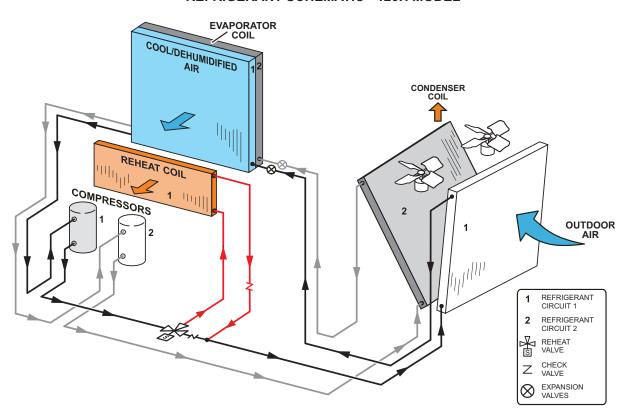
Humidity Sensor Kit

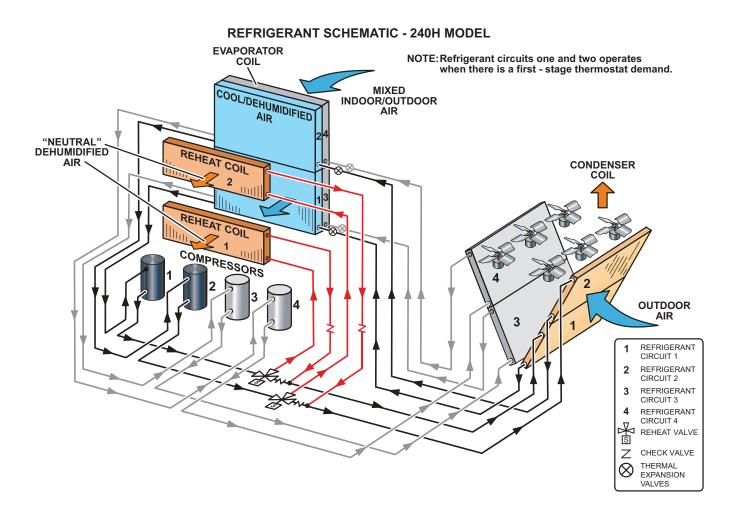
 Remote Mounted Humidity sensor required with factory installed Humiditrol[®] Dehumidification Option or Supermarket reheat field selectable option

REFRIGERANT SCHEMATIC - 036H-60H MODELS



REFRIGERANT SCHEMATIC - 120H MODEL





SEQUENCE OF OPERATION

Objective: Outline the unit functions as a result of room thermostat or zone sensor demands.

Given: When economizer is present, it will function as initial part of the unit cooling system. When not present, unit will function as if outdoor ambient is high and sensed as not suitable.

DIRECT DRIVE SYSTEM OPERATION (3 AND 5 TONS MODELS):

Note: DirectPlus[™] direct drive units feature ECM condenser fans that are staged to match the compressor's capacity. When the compressor is operating at first stage, the condenser fan is operating at low speed. The condenser fan switches to high speed when the compressor switches to second stage to match operation.

Modulating Outdoor Air Damper:

Damper minimum positions #1 and 2 are adjusted during unit setup to provide minimum fresh air requirements at the indicated supply air blower speeds per ASHRAE 62.1.

- Supply air blower is off and the outdoor air damper is closed
- Supply air blower is on low speed and the outdoor air damper is at minimum position 1
- Supply air blower is on high speed and the outdoor air damper is at minimum position 2

¹ Unit Features an Economizer and Outdoor Air is Suitable

Cooling - Thermostat (Up to 2 stages Y1, Y2) or Zone Sensor Mode (Up to 3 stages Y1, Y2, Y3)

Y1 Demand:

- 1st: Compressor is off, supply air blower is on low speed, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting)
- 2nd: After 5 minutes (default unit controller setting), supply air blower switches to high speed. Economizer continues modulating with supply air blower on high speed to maintain 55°F supply air temperature

Y2 Demand:

- 1st: Compressor is off, supply fan is on high speed, and economizer modulates to maintain 55°F supply air temperature
- 2nd: Economizer opens to maximum. If economizer stays at maximum open for 3 minutes (default unit controller setting) compressor is energized and operates at first stage while supply fan stays on high speed
- ¹ Outdoor air suitability is determined by the energy state of outdoor ambient (enthalpy or sensible) and its ability to achieve the desired free cooling effects. Outdoor air suitability can also be determined by a third party controller and provided to the RTU via a network connection.

Y3 Demand:

1st: Economizer is at maximum open and compressor operates at first stage. If economizer stays at maximum open for 3 minutes (default unit controller setting) compressor switches to second stage operation while supply fan stays on high speed

Unit Does Not Feature An Economizer Or Outdoor Air Is Not Suitable

Cooling - Thermostat or Zone Sensor (Up to 2 stages Y1, Y2)

Y1 Demand:

1st: Compressor operates at first stage and supply air blower operates at low speed

Y2 Demand:

1st: Compressor operates at second stage and supply air blower operates at high speed

DIRECT DRIVE SYSTEM OPERATION (3 AND 5 TONS MODELS) (CONTINUED):

Dehumidification Mode (economizer free cooling is locked out):

Unit features the Humiditrol® Dehumidification option.

No Y1, Y2 Demand but a call for dehumidification:

1st: Compressor operates at second stage, supply air blower operates at low speed, and the reheat valve is energized

Y1 Demand:

1st: Compressor operates at second stage, outdoor fan operates at high speed, supply air blower operates at low speed and the reheat valve is de-energized

Y2 Demand:

1st: Compressor operates at second stage, supply air blower operates at high speed, and the reheat valve is de-energized

Heating Mode (Thermostat or Zone Sensor- Electric Heat)

Note: Heating mode is the same for all control options

W1 Demand:

1st stage electric heat is energized and the supply air blower operates at heating speed.

W2 Demand:

2nd stage electric heat is energized and the supply air blower operates at heating speed (20 or 30 kW electric heat option only).

Objective: Outline the unit functions as a result of room thermostat or zone sensor demands.

Given: When economizer is present, it will function as an integral part of the unit cooling system. When not present, unit will function as if economizer is present but outdoor ambient is high and sensed as not suitable.

UNIT OPERATION WITH 2-STAGE THERMOSTAT (2 COOL AND 2 HEAT STAGES, Y1, Y2, W1, W2)

SUPPLY AIR BLOWER SPEED

Unit has following supply air blower speed setting:

- Ventilation Speed
- Cooling Speed Low
- Cooling Speed High
- Heating Speed
- Smoke Speed (Used only in smoke removal option not discussed)

¹ Unit Features An Economizer And Outdoor Air Is Suitable

Cooling - Thermostat Mode (Y1, Y2)

Y1 Demand:

All compressors are off, supply air blower is on low cooling speed to minimize blower power consumption, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting).

Y2 Demand:

All compressors are off, supply air blower is on high cooling speed providing higher cooling capacity, and economizer modulates to maintain 55°F supply air temperature.

If economizer stays at maximum open for 3 minutes, compressor 1 is energized while supply air blower stays on high cooling speed providing maximum cooling capacity.

¹ Outdoor air suitability is determined by the energy state of outdoor ambient (enthalpy or sensible) and its ability to achieve the desired free cooling effects. Outdoor air suitability can also be determined by a third party controller and provided to the rooftop unit via a network connection.

Unit Does Not Feature An Economizer Or Outdoor Air Is Not Suitable

Y1 Demand:

1st Compressor operates and supply air blower operates at low cooling speed.

Y2 Demand:

All compressors operate and supply air blower operates at high cooling speed.

Dehumidification Mode

If a unit with Humiditrol® Dehumidification Option receives a call for dehumidification, economizer free cooling is locked out.

Call For Dehumidification, No Y1, Y2 Demand:

1st stage compressor operates, supply air blower operates at low cooling speed, and the reheat valve is energized.

Y1 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at high cooling speed and the reheat valve is energized.

Y2 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at high cooling speed, and the reheat valve is deenergized.

<u>UNIT OPERATION WITH ZONE SENSOR (3 COOL AND 2 HEAT STAGES, Y1, Y2, Y3 AND W1, W2)</u> SUPPLY AIR BLOWER SPEED

Unit has following supply air blower speed setting:

- Ventilation Speed
- Cooling Speed Low
- Cooling Speed High
- Heating Speed
- Smoke Speed (Used only in smoke removal option not discussed)

1 Unit Features An Economizer And Outdoor Air Is Suitable

Cooling - Thermostat or Zone Sensor Mode (Y1, Y2, Y3)

Y1 Demand:

All compressors are off, supply air blower is on low cooling speed to minimize blower power consumption, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting).

Y2 Demand:

All compressors are off, supply air blower is on high cooling speed providing higher cooling capacity, and economizer modulates to maintain 55°F supply air temperature.

If economizer stays at maximum open for 3 minutes, compressor 1 is energized while supply air blower stays on high cooling speed providing maximum cooling capacity. After compressors are energized the economizer stays at maximum open.

Y3 Demand:

Compressors 1 and 2 are energized while supply air blower stays on high cooling speed.

¹ Outdoor air suitability is determined by the energy state of outdoor ambient (enthalpy or sensible) and its ability to achieve the desired free cooling effects. Outdoor air suitability can also be determined by a third party controller and provided to the rooftop unit via a network connection.

Unit Does Not Feature An Economizer Or Outdoor Air Is Not Suitable

Y1 Demand:

Compressor 1 operates and supply air blower operates at low cooling speed.

Y2 or Y3 Demand:

All compressors operate and supply air blower operates at high cooling speed.

Dehumidification Mode

If a unit with Humiditrol® Dehumidification Option receives a call for dehumidification, economizer free cooling is locked out.

Call For Dehumidification, No Y1, Y2 Demand:

1st stage compressor operates, supply air blower operates at low cooling speed, and the reheat valve is energized.

Y1 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at high cooling speed and the reheat valve is energized.

Y2 Or Y3 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at high cooling speed, and the reheat valve is deenergized.

<u>UNIT OPERATION WITH ZONE SENSOR (3 COOL AND 2 HEAT STAGES, Y1, Y2, Y3 AND W1, W2) (CONTINUED)</u> Heating Mode (Electric Heat)

NOTE - Heating mode is the same for all control options

W1 Demand:

1st stage electric heat is energized and the supply air blower operates at heating speed.

W2 Demand:

2nd stage electric heat is energized and the supply air blower operates at heating speed (20 or 60 kW electric heat option only).

Modulating Outdoor Air Damper

The minimum damper position for "occupied low blower" and "occupied high blower" is adjusted during unit setup to provide minimum fresh air requirements per ASHRAE 62.1 at the corresponding supply air blower speeds.

- When supply air blower is off or the unit is in unoccupied mode, the outdoor air damper is closed.
- When unit is in occupied mode and supply air blower is operating at a speed below the "midpoint" blower speed, the outdoor air damper is at minimum "low blower" position.
- When unit is in occupied mode and supply air blower is operating at a speed equal to or above the "midpoint" blower speed, the outdoor air damper is at minimum "high blower" position.

NOTE - The "midpoint" blower speed is an average of the minimum and maximum blower speed (minimum speed + maximum speed divided by 2).

Power Exhaust Operation

NOTE - Power exhaust operation is the same for all control options

Power exhaust blower operates when economizer outdoor air dampers are 50% open (adjustable) and when supply air blower speed is above 70% (adjustable) of full speed.

Objective: Outline the unit functions as a result of room thermostat or zone sensor demands.

Given: When economizer is present, it will function as an integral part of the unit cooling system. When not present, unit will function as if economizer is present but outdoor ambient is high and sensed as not suitable.

UNIT WITH 2-STAGE THERMOSTAT (2 COOLING STAGES, Y1, Y2)

SUPPLY AIR BLOWER SPEED

Unit has the following supply air blower speed settings:

- Ventilation Speed
- Cooling Speed Low
- Cooling Speed High
- Heating Speed
- Smoke Speed (Used only in smoke removal option not discussed)

¹ Unit Features An Economizer And Outdoor Air Is Suitable

Y1 Demand:

All compressors are off, supply air blower is on low cooling speed to minimize blower power consumption, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting).

Y2 Demand:

All compressors are off, supply air blower is on high cooling speed providing higher cooling capacity, and economizer modulates to maintain 55°F supply air temperature.

If economizer stays at maximum open for 3 minutes, 1st stage compressors (compressor 1 and 2) are energized while supply air blower stays on high cooling speed providing maximum cooling capacity.

¹ Outdoor air suitability is determined by the energy state of outdoor ambient (enthalpy or sensible) and its ability to achieve the desired free cooling effects. Outdoor air suitability can also be determined by a third party controller and provided to the RTU via a network connection.

Unit Does Not Feature An Economizer Or Outdoor Air Is Not Suitable

Y1 Demand:

1st stage compressors operate and supply air blower operates at low cooling speed.

Y2 Demand:

All compressors operate and supply air blower operates at high cooling speed.

Dehumidification Mode

If a unit with Humiditrol® Dehumidification Option receives a call for dehumidification, economizer free cooling is locked out.

Call For Dehumidification, No Y1, Y2 Demand:

1st stage compressors (1 & 2) operate, supply air blower operates at low cooling speed, and the reheat valves are energized.

Y1 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at high cooling speed and the reheat valves are energized.

Y2 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at high cooling speed, and the reheat valves are de-energized.

UNIT WITH ZONE SENSOR (4 COOLING STAGES, Y1, Y2, Y3, Y4)

SUPPLY AIR BLOWER SPEED

Unit has following supply air blower speed setting:

- Ventilation Speed
- Cooling Speed Low
- Cooling Speed Medium-Low
- Cooling Speed Medium-High
- Cooling Speed High
- Heating Speed
- Smoke Speed (Used only in smoke removal option not discussed)

¹ Unit Features An Economizer And Outdoor Air Is Suitable

Y1 Demand:

All compressors are off, supply air blower is on low cooling speed to minimize blower power consumption, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting).

Y2 Demand:

All compressors are off, supply air blower is on high cooling speed providing higher cooling capacity, and economizer modulates to maintain 55°F supply air temperature.

If economizer stays at maximum open for 3 minutes, compressor 1 is energized while supply air blower stays on high cooling speed. After compressor 1 is energized the economizer stays at maximum open.

Y3 Demand:

Compressor 1 and 2 are energized while supply air blower is on high cooling speed providing even higher cooling capacity.

Y4 Demand:

All compressors are energized while supply air blower is on high cooling speed providing maximum cooling capacity.

¹ Outdoor air suitability is determined by the energy state of outdoor ambient (enthalpy or sensible) and its ability to achieve the desired free cooling effects. Outdoor air suitability can also be determined by a third party controller and provided to the RTU via a network connection.

Unit Does Not Feature An Economizer Or Outdoor Air Is Not Suitable

Y1 Demand:

Compressor 1 operates and supply air blower operates at low cooling speed.

Y2 Demand:

Compressors 1 and 2 operate and supply air blower operates at medium-low cooling speed.

Y3 Demand:

Compressors 1, 2, and 3 operate and supply air blower operates at medium-high cooling speed.

Y4 Demand:

All compressors operate and supply air blower operates at high cooling speed.

UNIT WITH ZONE SENSOR (4 COOLING STAGES, Y1, Y2, Y3, Y4) (CONTINUED)

Dehumidification Mode

If a unit with Humiditrol® Dehumidification Option receives a call for dehumidification, economizer free cooling is locked out.

Call For Dehumidification, No Y1, Y2, Y3, Y4 Demand:

Compressors 1 and 2 operate, supply air blower operates at medium-low cooling speed, and both reheat valves are energized.

Y1 Demand With A Call For Dehumidification:

Compressors 1, 2, and 3 operate, supply air blower operates at high cooling speed and both reheat valves are energized.

Y2 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at high cooling speed and both reheat valves are energized.

Y3 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at high cooling speed, and the reheat valve of compressor 1 is energized while the reheat valve of compressor 2 is de-energized.

Y4 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at high cooling speed, and the reheat valves are de-energized.

Heating Mode (Electric Heat)

NOTE - Heating mode is the same for all control options.

W1 Demand:

1st stage electric heat is energized and the supply air blower operates at heating speed.

W2 Demand:

2nd stage electric heat is energized and the supply air blower operates at heating speed (45, 60 or 90 kW electric heat option only).

Modulating Outdoor Air Damper

The minimum damper position for "occupied low blower" and "occupied high blower" is adjusted during unit setup to provide minimum fresh air requirements per ASHRAE 62.1 at the corresponding supply air blower speeds.

- When supply air blower is off or the unit is in unoccupied mode, the outdoor air damper is closed.
- When unit is in occupied mode and supply air blower is operating at a speed below the "midpoint" blower speed, the outdoor air damper is at minimum "low blower" position.
- When unit is in occupied mode and supply air blower is operating at a speed equal to or above the "midpoint" blower speed, the outdoor air damper is at minimum "high blower" position.

NOTE - The "midpoint" blower speed is an average of the minimum and maximum blower speed (minimum speed + maximum speed divided by 2).

Power Exhaust Operation

NOTE - Power exhaust operation is the same for all control options

MSAV® models are equipped with 2-stage power exhaust fans. Power exhaust fans operate when economizer outdoor air dampers are 50% open (adjustable). Power exhaust operates in 1st stage (one fan) up to 70% of supply air blower speed. 2nd stage power exhaust fans (both fans) operate when supply air blower speed is above 70% (adjustable) of full speed.

Item Description COOLING SYSTEM Condensate Drain Trap Corrosion Protection Coated indoor/outdoor coil assemblies, painted cabinet interior Coated outdoor coil assembly Drain Pan Overflow Switch BLOWER - SUPPLY AIR ECM Direct Drive, MSAV® (Multi-Stage Air Volume) Belt Drive, MSAV® (Multi-Stage Air Volume) Belt Drive, MSAV® (Multi-Stage Air Volume) S hp 7,5 hp CABINET Combination Coil/Hail Guards S1GARD22101 S1GARD22111 C1GARD52D-1 CONTROLS Blower Proving Switch Commercial Controls Prodigy® Control System - BACnet® Module Prodigy® Control System - LonTalk® Module Prodigy® Control System - LonTalk® Module CPC Einstein Integration L Connection® Network Dirty Filter Switch S1SNSR55S-1 Fresh Air Tempering C1SNSR75AD1 Smoke Detector Supply Return ELECTRICAL Voltage 60 hz 460V - 3 phase 60 hz 460V - 3 phase 60 hz 460V - 3 phase 61 Service Outlets 15 amp, factory-wired and powered C1GFC115FF1 Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI C1GFC199FF1 ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 60 kW 208/230V or 675V-3ph 60 kW 208/230V or 675V-3ph	Factory	036 0 0 0 0X 0 0 0 0 0 0 0 0	060 0 0 0X 0 0X	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0
Condensate Drain Trap Corrosion Protection Coated indoor/outdoor coil assemblies, painted cabinet interior Coated outdoor coil assembly Drain Pan Overflow Switch BLOWER - SUPPLY AIR ECM Direct Drive, MSAV® (Multi-Stage Air Volume) Bett Drive, MSAV® (Multi-Stage Air Volume) Bett Drive, MSAV® (Multi-Stage Air Volume) Bett Drive, MSAV® (Multi-Stage Air Volume) CABINET Combination Coil/Hail Guards S1GARD22101 S1GARD22111 C1GARD52D-1 CONTROLS Blower Proving Switch Commercial Controls Prodigy® Control System - BACnet® Module Prodigy® Control System - LonTalk® Module CPC Einstein Integration L Connection® Network Dirty Fitter Switch S1SNSR55S-1 Fresh Air Tempering C1SNSR75AD1 Snoke Detector Supply Return ELECTRICAL Voltage 60 hz 460V - 3 phase 6575V - 3 phase GFI Service 20 amp non-powered, field-wired (all voltages) C1GFC120FF1 Outlets 15 amp, factory-wired and powered C1GFC115FF1 Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI C1GFC199FF1 ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V, or 575V-3ph	Factory Factory Factory Factory Factory Factory Factory 19H54 19H55 13T16 Factory	O O O O O O O	O O O O O O O	O O O O O O O	0 0 0 0 0 0
Corrosion Protection Coated indoor/outdoor coil assemblies, painted cabinet interior Coated outdoor coil assembly Drain Pan Overflow Switch E1SNSR71AD1 BLOWER - SUPPLY AIR ECM Direct Drive, MSAV® (Multi-Stage Air Volume) 1.5 hp Belt Drive, MSAV® (Multi-Stage Air Volume) 3 hp 5 hp 7.5 hp CABINET Combination Coil/Hail Guards S1GARD22101 S1GARD22111 C1GARD52D-1 CONTROLS Blower Proving Switch Commercial Controls Prodigy® Control System - BACnet® Module Prodigy® Control System - LonTalk® Module CPC Einstein Integration L Connection® Network Dirty Filter Switch S1SNSR55S-1 Fresh Air Tempering C1SNSR75AD1 Smoke Detector Supply Return ELECTRICAL Voltage 208/230V - 3 phase 60 hz 460V - 3 phase 575V - 3 phase 575V - 3 phase 65 hz 460V - 3 phase 575V - 3 phase 575V - 3 phase 65 hz 52 hz	Factory Factory Factory Factory Factory Factory Factory 19H54 19H55 13T16 Factory	O O O O O O O	O O O O O O O	O O O O O O O	0 0 0 0 0 0
Drain Pan Overflow Switch BLOWER - SUPPLY AIR ECM Direct Drive, MSAV® (Multi-Stage Air Volume) Belt Drive, MSAV® (Multi-Stage Air Volume) Belt Drive, MSAV® (Multi-Stage Air Volume) Belt Drive, MSAV® (Multi-Stage Air Volume) CABINET Combination Coil/Hail Guards S1GARD22101 S1GARD22101 S1GARD22111 C1GARD52D-1 CONTROLS Blower Proving Switch Commercial Controls Prodigy® Control System - BACnet® Module Prodigy® Control System - LonTalk® Module CPC Einstein Integration L Connection® Network Dirty Filter Switch S1SNSR55S-1 Fresh Air Tempering C1SNSR75AD1 Smoke Detector Supply Return ELECTRICAL Voltage 60 hz 460V - 3 phase 60 hz 460V - 3 phase 67Fl Service Q10 amp non-powered, field-wired (all voltages) C1GFCl20FF1 Outlets 15 amp, factory-wired and powered C1GFCl15FF1 2* Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V, 460V or 575V-3ph	Factory 68W88 Factory Factory Factory Factory 19H54 19H55 13T16 Factory	O OX O O O O O	O OX OX O O O O O O	O OX OX O O O	0 0x 0 0
Drain Pan Overflow Switch BLOWER - SUPPLY AIR ECM Direct Drive, MSAV® (Multi-Stage Air Volume) Belt Drive, MSAV® (Multi-Stage Air Volume) Belt Drive, MSAV® (Multi-Stage Air Volume) CABINET Combination Coil/Hail Guards S1GARD22101 S1GARD22111 C1GARD52D-1 CONTROLS Blower Proving Switch Commercial Controls Prodigy® Control System - BACnet® Module Prodigy® Control System - LonTalk® Module CPC Einstein Integration L Connection® Network Dirty Filter Switch S1SNSR55S-1 Fresh Air Tempering C1SNSR75AD1 Snoke Detector Supply Return ELECTRICAL Voltage S0 208/230V - 3 phase 60 hz 460V - 3 phase 575V - 3 phase GFI Service 20 amp non-powered, field-wired (all voltages) C1GFCI20FF1 Outlets 15 amp, factory-wired and powered C1GFCI15FF1 SNoke Torricircuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V, 460V or 575V-3ph	Factory Factory Factory Factory Factory 19H54 19H55 13T16 Factory Factory Factory Factory Factory Factory Factory Factory Factory	OX O O O O O	OX OX O O O O	OX O O O O O	0X 0 0 0 0
BLOWER - SUPPLY AIR ECM Direct Drive, MSAV® (Multi-Stage Air Volume) Belt Drive, MSAV® (Multi-Stage Air Volume) 3 hp 5 hp 7.5 hp 7.5 hp CABINET Combination Coil/Hail Guards S1GARD22101 S1GARD22111 C1GARD52D-1 C1GARD52D-1 C1GARD52D-1 CONTROLS Blower Proving Switch Commercial Controls Prodigy® Control System - BACnet® Module Prodigy® Control System - LonTalk® Module CPC Einstein Integration L Connection® Network Dirty Filter Switch S1SNSR55S-1 Fresh Air Tempering C1SNSR75AD1 Smoke Detector Supply Return ELECTRICAL Voltage 60 hz 460V - 3 phase 575V - 3 phase 60 hz GEI Service QU amp non-powered, field-wired (all voltages) C1GFCI20FF1 Quitels 2 Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V, 460V or 575V-3ph	Factory Factory Factory Factory 19H54 19H55 13T16 Factory Factory Factory Factory Factory Factory 12P68	0 0 0 0 0 0	O O O O O O	O O O O O	0 0 0 0 0
ECM Direct Drive, MSAV® (Multi-Stage Air Volume) Belt Drive, MSAV® (Multi-Stage Air Volume) 3 hp 5 hp 7.5 hp CABINET Combination Coil/Hail Guards S1GARD22101 S1GARD22111 C1GARD52D-1 CONTROLS Blower Proving Switch Commercial Controls Prodigy® Control System - BACnet® Module Prodigy® Control System - L Connection® Network Dirty Filter Switch S1SNSR55S-1 Fresh Air Tempering C1SNSR75AD1 Smoke Detector Supply Return ELECTRICAL Voltage GP1 Service 20 amp non-powered, field-wired (all voltages) C1GFC10FF1 Outlets 15 amp, factory-wired and powered C1GFC115FF1 Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GF1 ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V, 460V or 575V-3ph	Factory Factory Factory 19H54 19H55 13T16 Factory Factory Factory Factory Factory Factory 12P68	OX O O O O O	OX O O O O O	OX O O O O	0 0 0 0
Belt Drive, MSAV® (Multi-Stage Air Volume) 5 hp 7.5 hp CABINET Combination Coil/Hail Guards S1GARD22101 S1GARD22111 C1GARD52D-1 CONTROLS Blower Proving Switch Commercial Controls Prodigy® Control System - BACnet® Module Prodigy® Control System - LonTalk® Module CPC Einstein Integration L Connection® Network Dirty Filter Switch S1SNSR55S-1 Fresh Air Tempering C1SNSR75AD1 Smoke Detector Supply Return ELECTRICAL Voltage 208/230V - 3 phase 60 hz 460V - 3 phase 575V - 3 phase GFI Service Outlets 15 amp, factory-wired and powered C1GFCI15FF1 Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI C1GFCI99FF1 ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V, 460V or 575V-3ph	Factory Factory Factory 19H54 19H55 13T16 Factory Factory Factory Factory Factory Factory 12P68	OX O O O O O	OX O O O O O	OX O O O O	0 0 0 0
Shp 7.5 hp 7.5	Factory Factory 19H54 19H55 13T16 Factory Factory Factory Factory Factory Factory 12P68	0 0 0 0	0 0 0 0	OX O O O O	0 0 0 0
T.5 hp CABINET	Factory 19H54 19H55 13T16 Factory Factory Factory Factory Factory 12P68	0 0 0 0	0 0 0 0	0 0 0	0 0 0 0
CABINET Combination Coil/Hail Guards S1GARD22101 S1GARD22111 C1GARD52D-1 CONTROLS Blower Proving Switch Commercial Controls Prodigy® Control System - BACnet® Module Prodigy® Control System - LonTalk® Module CPC Einstein Integration L Connection® Network Dirty Filter Switch S1SNSR55S-1 Fresh Air Tempering C1SNSR75AD1 Smoke Detector Supply Return ELECTRICAL Voltage 208/230V - 3 phase 60 hz 460V - 3 phase 575V - 3 phase GFI Service Outlets 15 amp, factory-wired and powered C1GFC12FF1 Outlets 25 Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V, 460V or 575V-3ph	19H54 19H55 13T16 Factory Factory Factory Factory Factory 12P68	0 0 0 0	0 0 0 0	0 0 0	0 0 0
Combination Coil/Hail Guards S1GARD22101 S1GARD22111 C1GARD52D-1 CONTROLS Blower Proving Switch Commercial Controls Prodigy® Control System - BACnet® Module Prodigy® Control System - LonTalk® Module CPC Einstein Integration L Connection® Network Dirty Filter Switch S1SNSR55S-1 Fresh Air Tempering C1SNSR75AD1 Smoke Detector Supply Return ELECTRICAL Voltage 208/230V - 3 phase 60 hz 460V - 3 phase 575V - 3 phase GFI Service Outlets 15 amp, factory-wired and powered C1GFC12FF1 Outlets 15 amp, factory-wired and powered C1GFC115FF1 2 Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI C1GFC199FF1 ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V, 460V or 575V-3ph	Factory Factory Factory Factory Factory Factory Factory 12P68	0 0 0 0	0 0 0 0	0 0 0	0 0
S1GARD22111 C1GARD52D-1 CONTROLS Blower Proving Switch Commercial Controls Prodigy® Control System - BACnet® Module Prodigy® Control System - LonTalk® Module CPC Einstein Integration L Connection® Network Dirty Filter Switch S1SNSR55S-1 Fresh Air Tempering C1SNSR75AD1 Smoke Detector Supply Return ELECTRICAL Voltage 208/230V - 3 phase 60 hz 460V - 3 phase 60 hz 460V - 3 phase GFI Service 20 amp non-powered, field-wired (all voltages) C1GFC120FF1 Outlets 15 amp, factory-wired and powered C1GFC115FF1 2 Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI C1GFC199FF1 ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V, 660V or 575V-3ph	Factory Factory Factory Factory Factory Factory Factory 12P68	0 0 0 0	0 0 0 0	0 0 0	0 0
CONTROLS Blower Proving Switch Commercial Controls Prodigy® Control System - BACnet® Module Prodigy® Control System - LonTalk® Module CPC Einstein Integration L Connection® Network Dirty Filter Switch S1SNSR55S-1 Fresh Air Tempering C1SNSR75AD1 Smoke Detector Supply Return ELECTRICAL Voltage 208/230V - 3 phase 60 hz 460V - 3 phase 575V - 3 phase GFI Service 20 amp non-powered, field-wired (all voltages) C1GFC120FF1 Outlets 15 amp, factory-wired and powered C1GFC115FF1 2 Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V, 460V or 575V-3ph	Factory Factory Factory Factory Factory Factory 12P68	0 0 0	0 0 0	0 0 0	0 0
Blower Proving Switch Commercial Controls Prodigy® Control System - BACnet® Module Prodigy® Control System - LonTalk® Module CPC Einstein Integration L Connection® Network Dirty Filter Switch S1SNSR55S-1 Fresh Air Tempering C1SNSR75AD1 Smoke Detector Supply Return ELECTRICAL Voltage 208/230V - 3 phase 60 hz 460V - 3 phase 575V - 3 phase 6FI Service Q0 amp non-powered, field-wired (all voltages) C1GFCl20FF1 Outlets 15 amp, factory-wired and powered C1GFCl15FF1 Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V, 460V or 575V-3ph	Factory Factory Factory Factory Factory 12P68	0 0 0	0 0 0	0 0	0 0
Blower Proving Switch Commercial Controls Prodigy® Control System - BACnet® Module Prodigy® Control System - LonTalk® Module CPC Einstein Integration L Connection® Network Dirty Filter Switch S1SNSR55S-1 Fresh Air Tempering C1SNSR75AD1 Smoke Detector Supply Return ELECTRICAL Voltage 208/230V - 3 phase 60 hz 460V - 3 phase 575V - 3 phase 6FI Service Quamp non-powered, field-wired (all voltages) C1GFCI20FF1 Outlets 15 amp, factory-wired and powered C1GFCI15FF1 Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI C1GFCI99FF1 ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V or 575V-3ph	Factory Factory Factory Factory 12P68	0 0 0	0 0 0	0 0	0
Commercial Controls Prodigy® Control System - BACnet® Module Prodigy® Control System - LonTalk® Module CPC Einstein Integration L Connection® Network Dirty Filter Switch S1SNSR55S-1 Fresh Air Tempering C1SNSR75AD1 Supply Return ELECTRICAL Voltage 60 hz Voltage 208/230V - 3 phase 60 hz 460V - 3 phase 575V - 3 phase 67 Service 20 amp non-powered, field-wired (all voltages) C1GFC120FF1 Outlets 15 amp, factory-wired and powered C1GFC115FF1 Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI C1GFC199FF1 ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V or 575V-3ph	Factory Factory Factory Factory 12P68	0 0 0	0 0 0	0 0	0
Prodigy® Control System - LonTalk® Module CPC Einstein Integration L Connection® Network Dirty Filter Switch S1SNSR55S-1 Fresh Air Tempering C1SNSR75AD1 1 Smoke Detector Supply Return ELECTRICAL Voltage 208/230V - 3 phase 60 hz 460V - 3 phase 60 hz 460V - 3 phase 575V - 3 phase GFI Service 20 amp non-powered, field-wired (all voltages) C1GFCI20FF1 Outlets 15 amp, factory-wired and powered C1GFCI15FF1 2 Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI C1GFCI99FF1 ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V or 575V-3ph	Factory Factory Factory 12P68	0 0	0 0	0	0
CPC Einstein Integration L Connection® Network Dirty Filter Switch S1SNSR55S-1 Fresh Air Tempering C1SNSR75AD1 Supply Return ELECTRICAL Voltage S0 Af 230V - 3 phase 60 hz 460V - 3 phase 575V - 3 phase 67 Service Outlets 15 amp, factory-wired and powered C1GFCI20FF1 Outlets 15 amp, factory-wired and powered C1GFCI15FF1 Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI C1GFCI99FF1 ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V, 460V or 575V-3ph	Factory Factory 12P68	0	0	0	
L Connection® Network Dirty Filter Switch S1SNSR55S-1 Fresh Air Tempering C1SNSR75AD1 1 Smoke Detector Supply Return ELECTRICAL Voltage 60 hz 208/230V - 3 phase 575V - 3 phase 575V - 3 phase 67 Service 20 amp non-powered, field-wired (all voltages) C1GFCI20FF1 Outlets 15 amp, factory-wired and powered C1GFCI15FF1 2 Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V, 460V or 575V-3ph	Factory 12P68	0	0		0
Dirty Filter Switch	12P68	_		0	
Fresh Air Tempering Supply Return ELECTRICAL Voltage 60 hz C1SNSR75AD1 208/230V - 3 phase 460V - 3 phase 575V - 3 phase 575V - 3 phase GFI Service Quamp non-powered, field-wired (all voltages) C1GFCI20FF1 Outlets 15 amp, factory-wired and powered C1GFCI15FF1 2 Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V or 575V-3ph		ОХ	01/	_	0
Supply Return ELECTRICAL Voltage 208/230V - 3 phase 60 hz 460V - 3 phase 575V -	58W63		OX	ОХ	ОХ
Return ELECTRICAL Voltage 208/230V - 3 phase 460V - 3 phase 575V - 3 phase 60 hz 20 amp non-powered, field-wired (all voltages) C1GFCI20FF1 Outlets 15 amp, factory-wired and powered C1GFCI15FF1 2 Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI C1GFCI99FF1 ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V or 575V-3ph	001100	Х	Х	Х	Χ
Voltage 60 hz Voltage 60 hz 460V - 3 phase 575V - 3 phase 575V - 3 phase GFI Service Outlets 15 amp, factory-wired and powered C1GFCI20FF1 2 Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI C1GFCI99FF1 ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V or 575V-3ph	Factory	0	0	0	0
Voltage 60 hz 460V - 3 phase 575V - 3 phase 575V - 3 phase GFI Service 20 amp non-powered, field-wired (all voltages) C1GFCI20FF1 Outlets 15 amp, factory-wired and powered C1GFCI15FF1 2 Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI C1GFCI99FF1 ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V or 575V-3ph	Factory	0	0	0	0
460V - 3 phase 575V - 3 phase GFI Service Outlets 15 amp, factory-wired and powered C1GFCI20FF1 2 Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI C1GFCI99FF1 ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V or 575V-3ph					
GFI Service 20 amp non-powered, field-wired (all voltages) C1GFCI20FF1 Outlets 15 amp, factory-wired and powered C1GFCI15FF1 ² Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI C1GFCI99FF1 ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V or 575V-3ph	Factory	0	0	0	0
GFI Service 20 amp non-powered, field-wired (all voltages) C1GFCI20FF1 Outlets 15 amp, factory-wired and powered C1GFCI15FF1 ² Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI C1GFCI99FF1 ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V or 575V-3ph	Factory	0	0	0	0
Outlets 15 amp, factory-wired and powered C1GFCI15FF1 2 Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI C1GFCI99FF1 ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V or 575V-3ph	Factory	0	0	0	0
2 Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection) Weatherproof Cover for GFI C1GFCI99FF1 ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V or 575V-3ph	67E01	ОХ	ОХ	ОХ	ОХ
Weatherproof Cover for GFI C1GFCI99FF1 ELECTRIC HEAT 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V or 575V-3ph	74M70				0
## ELECTRIC HEAT 15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V or 575V-3ph	Factory				0
15 kW 208/230V, 460V or 575V-3ph 30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V or 575V-3ph	10C89	Х	Х	Х	Χ
30 kW 208/230V, 460V or 575V-3ph 45 kW 208/230V or 575V-3ph					
45 kW 208/230V or 575V-3ph	Factory	0	0	0	
45 kW 208/230V or 575V-3ph	Factory		0	0	0
·	Factory			0	
'				0	0
90 kW 208/230V or 575V-3ph	Factory				0
10 kW 460V-3ph	Factory Factory				
20 kW 460V-3ph		0	0		0
40 kW 460V-3ph	Factory	0	0	0	
80 kW 460V-3ph	Factory Factory	0		0	0
HUMIDITROL® CONDENSER REHEAT OPTION	Factory Factory	0			0
Humiditrol® Dehumidification Option	Factory Factory Factory	0			_
Humidity Sensor Kit, Remote mounted (required) C0SNSR31AE-1	Factory Factory Factory	0			_

¹ Factory installed smoke detectors must be ordered for use with either 115V or 24V external power supply only.

² SCCR option not available with 90 kW - 208/230V electric heat option.

NOTE - Catalog and model numbers shown are for ordering field installed accessories.

OX - Configure To Order (Factory Installed) or Field Installed
O = Configure To Order (Factory Installed)
X = Field Installed

Item Description		Model	Catalog	U	nit Mo	odel N	lo.
		Number	Number	036	060	120	240
INDOOR AIR QUALITY							
Air Filters							
Healthy Climate®	MERV 13 (16 x 20 x 2 - Order 4 p	er unit) C1FLTR40A-1	52W37	X	Х		
High Efficiency Air	MERV 13 (20 x 25 x 2 - Order 4 p	,	52W41			Χ	
Filters	MERV 13 (20 x 20 x 2 - Order 12 p	per unit) C1FLTR40D-1	52W39				Х
Replacement Media Filter W 20 x 20 x 2 Order 12 per uni	/ith Metal Mesh Frame t (includes non-pleated filter media)	C1FLTR30D-1-	44N60				Х
Indoor Air Quality (CO ₂) Se	ensors						
Sensor - Wall-mount, off-whi	ite plastic cover with LCD display	C0SNSR50AE1L	77N39	Х	Χ	Χ	Х
Sensor - Wall-mount, off-whi	ite plastic cover, no display	C0SNSR52AE1L	87N53	Х	Χ	Χ	Х
Sensor - Black plastic case vectors	with LCD display, rated for plenum	C0SNSR51AE1L	87N52	X	Х	X	Х
for plenum mounting	plastic case, no display, rated	C0MISC19AE1	87N54	X	Х	Х	Х
CO ₂ Sensor Duct Mounting I	Kit - for downflow applications	C0MISC19AE1-	85L43	Х	Χ	Χ	Х
Aspiration Box - for duct mot (87N53 or 77N39)	unting non-plenum rated CO₂ sensors	C0MISC16AE1-	90N43	X	Х	X	Х
ECONOMIZER							
High Performance Econon	nizer (Approved for California Title 24 B	uilding Standards / AMC	CA Class 1A	Certif	fied)		
0	er - Includes Outdoor Air Hood d, order Barometric Relief Dampers separa	ately) E1ECON17D-2	Factory 18X87	0	0	0	ОХ
Economizer Controls (Not	for Title 24)						
Single Enthalpy	nalpy Order 2 Single Enthalpy Controls	C1SNSR64FF1	53W64	ОХ	ОХ	ОХ	ОХ
Barometric Relief Dampers	s			•			
	Barometric Reli	ef Dampers (No Hood)	30W72	ОХ	ОХ		
Baromo	etric Relief Dampers With Power Exhaust I	ans (Hood Furnished)	30W92			ОХ	
Ba	rometric Relief Dampers Without Power Ex	khaust Fans (No Hood)	47M14			OX	
Barometri	c Relief Dampers Without Power Exhaust I	Fans (Hood Furnished)	76W17				ОХ
POWER EXHAUST							
Standard Static			Factory			0	0
OUTDOOR AIR			<u> </u>				
Manual Outdoor Air Damper	with Outdoor Air Hood and Bird Screen		Factory				0
	pers with Outdoor Air Hood and Bird Scree	 1	Factory				0
ROOF CURBS		-					
Hybrid Roof Curbs, Downflo	W	S1CURB71101	11F70	Х	Х		
14 in. height	•••	S1CURB71111	11F72			X	
•	Full Peri	meter - S1CURB71121	11F74			- / (Х
Hybrid Roof Curbs, Downflo		S1CURB73101	11F71	Х	Х		
24 in. height		S1CURB73111	11F73			Х	
•	Full Peri	meter - S1CURB73121	11F75			,,	Х
			Factory				, ,

NOTE - Catalog and model numbers shown are for ordering field installed accessories. OX - Configure To Order (Factory Installed) or Field Installed

O = Configure To Order (Factory Installed)
X = Field Installed

SPECIFICATI	ONS	DIR	ECT DRIVE 3 - 5 TON
General	Nominal Tonnage	3 Ton	5 Ton
Data	Model No.	SCH036H4E	SCH060H4E
	Efficiency Type	High	High
	Blower Type	ECM Direct Drive MSAV® (Multi-Stage Air Volume)	ECM Direct Drive MSAV® (Multi-Stage Air Volume)
Cooling	Gross Cooling Capacity - Btuh	37,200	60,300
Performance	¹ Net Cooling Capacity - Btuh	36,000	59,000
	AHRI Rated Air Flow - cfm	1200	1700
	Total Unit Power - kW	2.6	4.5
	¹ SEER (Btuh/Watt) - 208/230V-3ph	19.3	17.8
	¹ SEER (Btuh/Watt) - 460V/575V-3ph	18.6	17.4
	¹ EER (Btuh/Watt) - 208/230V-3ph	14.2	13.0
	¹ EER (Btuh/Watt) - 460V/575V-3ph	13.9	12.8
Refrigerant	Refrigerant Type	R-410A	R-410A
Charge	Environ™ Coil System	7 lbs. 11 oz.	8 lbs. 3 oz.
Environ™ Coil Sys	stem With Humiditrol® Dehumidification Option	8 lbs. 4 oz.	8 lbs. 4 oz.
² Sound Rating Nu	mber (dBA)	67	78
Electric Heat Optio	ons Available (See page 22)	10, 15 kW	10, 15, 20, 30 kW
Compressor Type	(No.)	Two-Stage Scroll (1)	Two-Stage Scroll (1)
Condenser	Net face area - sq. ft.	18.7	18.7
Coil	Number of rows	1	1
	Fins per inch	23	23
Condenser	Motor (No.) horsepower	(2) 1/3 (ECM)	(2) 1/3 (ECM)
Fan(s)	Motor rpm	340-560	340-860
	Total Motor watts	90-136	90-354
	Diameter (No.) - in.	(2) 24	(2) 24
	Number of blades	3	3
	Total air volume - cfm	3900	6300
Evaporator	Net face area - sq. ft.	7.78	7.78
Coil	Tube diameter - in.	3/8	3/8
	Number of rows	4	4
	Fins per inch	14	14
	Drain connection - no. & size	(1) 1 NPT	(1) 1 NPT
	Expansion device type	Balance Port TXV	/, removable head
³ Indoor	Nominal motor output HP	1.5 (ECM)	1.5 (ECM)
Blower	Wheel nominal diameter x width - in.	(1) 14 x 5	(1) 14 x 5
Filters	Type of filter	MERV 8 or	equivalent
	Number and size - in.	(4) 16 x 20 x 2	(4) 16 x 20 x 2
Electrical characte	ristics	208/230V, 460V, or 57	5V - 60 hertz - 3 phase

NOTE - Net capacity includes evaporator blower motor heat deduction. Gross capacity does not include evaporator blower motor heat deduction.

¹ AHRI Certified to AHRI Standard 210/240; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

 $^{^{\}rm 2}$ Sound Rating Number rated in accordance with test conditions included in AHRI Standard 270-95.

³ Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of motors furnished are shown. In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

SPECIFIC	ATIONS			BELT DRIV	'E 10 - 20 TON
General	Nomina	l Tonnage	10 Ton	20	Ton
Data	ı	Model No.	SCH120H4M	SCH24	40H4M
	Efficie	ency Type	High	Hi	gh
	Blo	ower Type	MSAV® (Multi-Stage Air Volume) (Belt Drive)	(Multi-Stage	AV® : Air Volume) Drive)
Cooling	Gross Cooling Capa	city - Btuh	121,000	239	,000
Performance	¹ Net Cooling Capa	city - Btuh	117,000	232	,000
	AHRI Rated Air	Flow - cfm	3800	70	00
	Total Unit P	ower - kW	9.9	19	9.3
	¹ EER (I	Btuh/Watt)	11.8	12	2.0
	¹ IEER (I	Btuh/Watt)	15.6	16	5.8
Refrigerant	Refrige	erant Type	R-410A	R-4	10A
Charge	Environ™ Coil System	Circuit 1	9 lbs. 6 oz.	8 lbs.	8 oz.
		Circuit 2	6 lbs. 1 oz.	8 lbs.	6 oz.
		Circuit 3		6 lbs.	13 oz.
		Circuit 4		7 lbs.	0 oz.
	Environ™ Coil System With	Circuit 1	10 lbs. 0 oz.	8 lbs.	8 oz.
	Humiditrol® Dehumidification	Circuit 2	6 lbs. 1 oz.	8 lbs.	6 oz.
	Option	Circuit 3		6 lbs.	13 oz.
		Circuit 4		7 lbs.	0 oz.
² Sound Ratin	g Number (dBA)		89	9	2
Electric Heat	Options Available (See page 22)		15, 20, 30, 40, 45, 60 kW	20, 30, 40, 6	0, 80, 90 kW
Compressor T	Туре (No.)		Scroll (2)	Scro	oll (4)
Condenser	Net face ar	rea - sq. ft.	45.7	68	3.3
Coil	Fir	ns per inch	23	2	3
Condenser	Motor (No.) he	orsepower	(2) 1/2	(6)	1/3
Fan(s)		Motor rpm	1075	10	75
	Total M	lotor watts	1160	19	00
	Diameter	(No.) - in.	(2) 24	(6)	24
	Number	r of blades	4	;	3
	Total air vol	lume - cfm	10,000	22,	500
Evaporator	Net face ar	rea - sq. ft.	13.54	32	2.2
Coil	Tube dia	meter - in.	3/8	3.	/8
	Numb	er of rows	4	;	3
	Fir	ns per inch	14	1	4
	Drain connection -	no. & size	(1) 1 NPT	(1) 1	NPT
	Expansion d	evice type	Balance	e Port TXV, removable l	nead
³ Indoor	Nominal	I motor HP	3	5	7.5
Blower	RPM Range (Stand	ard Static)	Drive #3 - 660-900 rpm	Drive #4 - 520-685 rpm	Drive #7 - 770-965 rpm
	RPM Range (H	ligh Static)	Drive #4 - 865-1080 rpm	Drive #5 - 685-865 rpm	
	Wheel nominal diameter x	width - in.	(1) 15 x 15	(2) 18 x 15	(2) 18 x 15
Filters	Ту	pe of filter	ľ	MERV 8 or equivalent	
	Number an	d size - in.	(4) 20 x 25 x 2	(12) 20	x 20 x 2
Electrical cha	racteristics		208/230V, 4	60V, or 575V - 60 hertz	- 3 phase

NOTE - Net capacity includes evaporator blower motor heat deduction. Gross capacity does not include evaporator blower motor heat deduction.

NOTE – Units equipped with MSAV® (Multi-Stage Air Volume) are limited to a motor service factor of 1.0.

¹ AHRI Certified to AHRI Standard 340/360: 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure..

² Sound Rating Number rated in accordance with test conditions included in AHRI Standard 270-95.

³ Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of motors furnished are shown. In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

SPECIFICATIONS	PRODIGY® CONTROL SYSTEM
Operating Environment	Temperature: -40°F to 155°F
	Humidity: 10% - 95% RH, Non- Condensing
Power Requirements	24VAC (+/-25%), 50/60Hz
	4.8 VA for M2 maximum
	14.4 VA for M2 w/all expansion boards Maximum
Memory Type	Re-programmable Flash
Device Commissioning	Auto-poll (real plug and play)
Unit type	Electric/Electric, Gas/Electric & Heat Pumps (Rooftops)
Cooling stages	4
Heating stages	4
Modulating Gas Valves	2
Electronic Configure To Order Parameters	239
Alarm Codes	107
Alarm Codes Stored	84
Display Type	Scrolling, 7 plus Character Red LED
Indicator LEDs	1- Heartbeat on each board
	1- Bus transmit
	1 - Bus receive
	1- each for Y1,Y2,W1,W2,G,OCP
Dimensions - Main Board	Main Board: Height: 8 in., Width: 14-1/2 in., Depth: 6 in.
Weight	2 lbs. for M2 w/all modules installed
Cable Type	SysBus - Lennox yellow COMM cable:

RATINGS

NOTE - For Temperatures and Capacities not shown in tables, see bulletin - Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

3 TON HIGH EFFICIENCY SCH036H4E - (1ST STAGE)

								Ou	tdoor A	ir Tem	peratu	re Enter	ing Outo	loor C	oil						
Entering	Total		(65°F					75°F					35°F					95°F		
Wet Bulb	Air	Total	Comp.	Sens	ible To	Total	Total	Comp.	Sens	ible To	Total	Total	Comp.	Sensi	ible To	Total	Total	Comp.	Sens	ible To	Total
Temper-	Volume	Cool	Motor	Ra	atio (S	(T)	Cool	Motor	R	atio (S/	T)	Cool	Motor	Ra	atio (S/	T)	Cool	Motor	R	atio (S/	T)
ature		Cap.	Input	D	ry Bul	b	Сар.	Input		ry Bul	b	Cap.	Input	D	ry Bul	b	Cap.	Input		ry Bull	b
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
	640	27.2	1.02	0.67	0.8	0.93	25.5	1.19	0.68	0.81	0.96	23.9	1.38	0.69	0.83	0.98	22.1	1.61	0.7	0.86	1
63°F	800	29	1.02	0.72	0.87	1	27.2	1.18	0.73	0.89	1	25.3	1.37	0.74	0.92	1	23.6	1.6	0.76	0.95	1
	960	30.3	1.01	0.77	0.94	1	28.5	1.17	0.79	0.97	1	26.7	1.37	0.81	1	1	25	1.58	0.83	1	1
	640	29.3	1.01	0.54	0.65	0.76	27.5	1.18	0.54	0.65	0.78	25.7	1.37	0.53	0.66	0.79	24	1.59	0.54	0.68	0.82
67°F	800	31.1	1.01	0.56	0.7	0.83	29.3	1.17	0.57	0.71	0.85	27.3	1.36	0.57	0.72	0.87	25.5	1.58	0.57	0.74	0.9
	960	32.4	1	0.58	0.74	0.9	30.5	1.16	0.6	0.76	0.93	28.5	1.35	0.59	0.78	0.96	26.5	1.57	0.61	0.8	0.99
	640	31.3	1.01	0.41	0.52	0.62	29.6	1.17	0.41	0.52	0.63	27.8	1.36	0.4	0.53	0.64	25.8	1.58	0.39	0.53	0.65
71°F	800	33.3	1	0.42	0.55	0.68	31.3	1.16	0.43	0.55	0.68	29.4	1.35	0.42	0.55	0.7	27.3	1.56	0.41	0.55	0.71
	960	34.6	1	0.43	0.57	0.72	32.6	1.15	0.44	0.59	0.73	30.5	1.34	0.42	0.58	0.75	28.4	1.55	0.42	0.59	0.77

3 TON HIGH EFFICIENCY SCH036H4E - (2ND STAGE)

F								Ou	tdoor A	ir Tem	peratu	re Enter	ing Outo	loor C	oil						
Entering	Total			85°F					95°F				1	05°F					115°F		
Wet Bulb	Air	Total	Comp.	Sens	ible To	Total	Total	Comp.	Sens	ible To	Total	Total	Comp.	Sensi	ble To	Total	Total	Comp.	Sens	ible To	Total
Temper-	Volume	Cool	Motor	Ra	atio (S/	(T)	Cool	Motor	R	atio (S/	T)	Cool	Motor	Ra	atio (S/	T)	Cool	Motor	R	atio (S/	T)
ature		Cap.	Input		ry Bul	b	Сар.	Input		ry Bul	b	Cap.	Input	D	ry Bul	b	Cap.	Input		ry Bull	b
ature	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
	960	35.1	2.1	0.68	0.83	0.98	32.2	2.35	0.69	0.85	1	29.4	2.64	0.69	0.87	1	26.5	2.99	0.7	0.9	1
63°F	1200	37.2	2.11	0.74	0.92	1	34.3	2.36	0.74	0.94	1	31.5	2.65	0.76	0.98	1	28.5	2.99	0.79	1	1
	1440	39	2.12	0.8	1	1	36.3	2.37	0.82	1	1	33.6	2.66	0.84	1	1	30.6	3	0.87	1	1
	960	37.8	2.12	0.52	0.66	0.79	35	2.36	0.52	0.67	0.81	32.1	2.65	0.52	0.67	0.83	28.9	2.99	0.51	0.68	0.86
67°F	1200	40.1	2.13	0.56	0.72	0.88	37.1	2.37	0.55	0.72	0.9	34.1	2.66	0.56	0.74	0.94	30.8	3	0.55	0.77	0.98
	1440	41.8	2.14	0.59	0.78	0.97	38.6	2.38	0.59	0.8	1	35.4	2.66	0.59	0.82	1	32.1	3.01	0.61	0.85	1
	960	40.7	2.13	0.39	0.52	0.64	37.7	2.38	0.38	0.51	0.64	34.7	2.66	0.37	0.51	0.65	31.5	3.01	0.34	0.51	0.66
71°F	1200	43	2.15	0.41	0.56	0.7	39.9	2.39	0.39	0.55	0.7	36.7	2.67	0.38	0.56	0.72	33.3	3.01	0.38	0.55	0.74
	1440	44.6	2.15	0.43	0.59	0.75	41.3	2.39	0.43	0.59	0.78	38	2.68	0.39	0.6	0.79	34.5	3.01	0.4	0.61	0.82

5 TON HIGH EFFICIENCY SCH060H4E - (1ST STAGE)

								Ou	tdoor A	ir Tem	peratu	re Enter	ing Outo	loor Co	lic						
Entering	Total			65°F					75°F					35°F					95°F		
Wet Bulb Temper-	Air Volume	Total Cool	Comp. Motor		ible To atio (S/		Total Cool	Comp. Motor		ible To atio (S/		Total Cool	Comp. Motor		ble To tio (S/		Total Cool	Comp. Motor		ible To atio (S/	
ature		Сар.	Input		ry Bul	b	Cap.	Input		ry Bul	b	Cap.	Input	D	ry Bul	b	Cap.	Input		ry Bull	b
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
	1070	45.1	1.66	0.68	0.81	0.94	42.5	1.98	0.69	0.82	0.96	39.9	2.33	0.7	0.84	0.98	37.1	2.71	0.71	0.86	1
63°F	1335	48	1.63	0.73	0.88	1	45.2	1.96	0.74	0.9	1	42.4	2.31	0.75	0.92	1	39.4	2.69	0.76	0.95	1
	1600	50.1	1.61	0.78	0.95	1	47.3	1.94	0.79	0.97	1	44.4	2.3	0.81	0.99	1	41.6	2.68	0.83	1	1
	1070	48.4	1.63	0.54	0.66	0.77	45.8	1.96	0.53	0.66	0.78	43	2.31	0.54	0.67	0.8	40.1	2.69	0.54	0.68	0.82
67°F	1335	51.3	1.6	0.57	0.7	0.84	48.6	1.93	0.58	0.71	0.86	45.6	2.29	0.58	0.73	0.88	42.5	2.67	0.57	0.74	0.91
	1600	53.5	1.58	0.6	0.75	0.91	50.6	1.91	0.6	0.76	0.93	47.7	2.27	0.6	0.78	0.95	44.4	2.66	0.61	8.0	0.99
	1070	51.9	1.59	0.42	0.53	0.63	49.1	1.93	0.41	0.52	0.64	46.3	2.28	0.41	0.53	0.64	43.3	2.67	0.4	0.53	0.65
71°F	1335	54.9	1.56	0.43	0.56	0.68	52	1.9	0.43	0.56	0.69	49	2.26	0.43	0.57	0.7	45.7	2.65	0.42	0.57	0.72
	1600	57.2	1.54	0.45	0.59	0.73	54.1	1.88	0.45	0.59	0.74	50.8	2.24	0.43	0.59	0.75	47.5	2.63	0.44	0.6	0.77

5 TON HIGH EFFICIENCY SCH060H4E - (2ND STAGE)

F								Ou	tdoor A	ir Tem	peratu	re Enter	ing Outo	loor C	oil						
Entering Wet	Total			85°F					95°F				1	05°F					115°F		
Bulb	Air	Total	Comp.		ible To		Total	Comp.		ible To		Total	Comp.		ble To		Total	Comp.		ible To	
Temper-	Volume	Cool	Motor	Ra	atio (S/	(T)	Cool	Motor	R	atio (S/	T)	Cool	Motor	Ra	atio (S/	(T)	Cool	Motor	R	atio (S/	T)
ature		Cap.	Input		ry Bul	b	Cap.	Input		ry Bul	b	Cap.	Input	D	ry Bul	b	Cap.	Input		ry Bull	b
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
	1600	58.9	3.32	0.68	0.83	0.98	54.3	3.74	0.68	0.85	1	49.3	4.21	0.7	0.87	1	44.3	4.78	0.7	0.9	1
63°F	2000	62.9	3.35	0.75	0.92	1	58	3.76	0.75	0.95	1	53	4.24	0.77	0.98	1	47.5	4.79	0.78	1	1
	2400	66.1	3.37	0.8	1	1	61.2	3.78	0.81	1	1	56.6	4.27	0.84	1	1	51.5	4.83	0.87	1	1
	1600	64.1	3.35	0.52	0.66	0.79	59.1	3.77	0.52	0.66	0.81	54.1	4.25	0.51	0.67	0.83	48.8	4.8	0.49	0.67	0.85
67°F	2000	68	3.38	0.57	0.72	0.88	62.9	3.8	0.56	0.73	0.91	57.6	4.28	0.56	0.74	0.93	51.9	4.83	0.55	0.76	0.97
	2400	71.2	3.4	0.6	0.78	0.96	65.6	3.82	0.6	0.79	0.99	60.2	4.3	0.6	0.81	1	54.4	4.85	0.6	0.84	1
	1600	69.2	3.39	0.38	0.51	0.64	64.2	3.81	0.37	0.5	0.64	59.1	4.29	0.35	0.5	0.64	53.5	4.84	0.33	0.49	0.66
71°F	2000	73.5	3.42	0.4	0.56	0.7	68.1	3.84	0.39	0.55	0.71	62.6	4.32	0.38	0.55	0.72	56.9	4.87	0.36	0.55	0.73
	2400	76.5	3.44	0.42	0.59	0.76	70.9	3.86	0.42	0.59	0.77	65.1	4.34	0.39	0.59	0.79	59.1	4.89	0.39	0.6	0.82

RATINGS

NOTE - For Temperatures and Capacities not shown in tables, see bulletin - Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

10 TON HIGH EFFICIENCY SCH120H4M (ONE COMPRESSOR OPERATING)

								Ou	tdoor A	ir Tem	peratu	re Enter	ing Outo	loor C	oil						
Entering Wet	Total		(65°F					75°F					35°F					95°F		
Bulb	Air	Total	Comp.	Sens	ible To	Total	Total	Comp.	Sens	ible To	Total	Total	Comp.		ible To		Total	Comp.	Sens	ible To	Total
Temper-	Volume	Cool	Motor	Ra	atio (S	(T)	Cool	Motor		atio (S/		Cool	Motor	Ra	atio (S/	(T)	Cool	Motor	R	atio (S/	T)
ature		Cap.	Input		ry Bul	b	Cap.	Input		ry Bul	b	Cap.	Input	D	ry Bul	b	Cap.	Input		Dry Bull	b
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
	2000	69.2	2.66	0.75	0.9	1	65	2.99	0.76	0.92	1	60.7	3.36	0.77	0.94	1	56.1	3.8	0.78	0.96	1
63°F	2400	72.4	2.68	0.8	0.97	1	67.9	3.01	0.81	0.99	1	63.6	3.38	0.83	1	1	59.5	3.82	0.85	1	1
	2800	75.3	2.7	0.85	1	1	71.3	3.03	0.86	1	1	67.1	3.41	0.88	1	1	62.7	3.84	0.91	1	1
	2000	74.3	2.69	0.59	0.73	0.87	69.9	3.02	0.58	0.73	0.88	65.3	3.39	0.58	0.75	0.9	60.7	3.82	0.58	0.76	0.93
67°F	2400	77.5	2.71	0.62	0.78	0.93	72.9	3.04	0.62	0.79	0.96	68.1	3.41	0.62	0.8	0.98	63.2	3.84	0.62	0.82	1
	2800	79.9	2.73	0.65	0.83	0.99	75.2	3.05	0.65	0.84	1	70.2	3.43	0.66	0.86	1	65.1	3.85	0.66	0.89	1
	2000	79.2	2.73	0.44	0.57	0.71	74.6	3.05	0.43	0.57	0.71	69.9	3.42	0.42	0.57	0.72	65	3.85	0.41	0.58	0.73
71°F	2400	82.6	2.75	0.45	0.61	0.75	77.8	3.07	0.45	0.61	0.77	72.9	3.44	0.44	0.61	0.78	67.9	3.87	0.43	0.62	0.8
	2800	85.3	2.77	0.47	0.64	0.8	80.3	3.09	0.46	0.64	0.82	75.2	3.46	0.45	0.65	0.84	70	3.89	0.45	0.66	0.86

10 TON HIGH EFFICIENCY SCH120H4M (ALL COMPRESSOR OPERATING)

F . 4								Ou	tdoor A	ir Tem	peratu	re Enter	ing Outo	loor C	oil						
Entering	Total			35°F					95°F				1	05°F					115°F		
Wet Bulb	Air	Total	Comp.	Sens	ible To	Total	Total	Comp.	Sens	ible To	Total	Total	Comp.		ible To		Total	Comp.	Sens	ible To	Total
Temper-	Volume	Cool	Motor	Ra	atio (S/	T)	Cool	Motor	R	atio (S/	T)	Cool	Motor	Ra	atio (S/	T)	Cool	Motor	R	atio (S/	T)
ature		Cap.	Input		ry Bul	b	Сар.	Input		ry Bul	b	Cap.	Input	D	ry Bul	b	Cap.	Input		ry Bull	b
uturc	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
	3200	117.4	6.72	0.72	0.86	0.98	109	7.58	0.73	0.87	1	100.2	8.59	0.74	0.89	1	91.1	9.72	0.73	0.91	1
63°F	4000	123.6	6.75	0.78	0.93	1	115	7.62	0.78	0.95	1	106.2	8.62	0.8	0.97	1	96.7	9.76	0.82	1	1
	4800	128.9	6.78	0.83	0.99	1	120.3	7.65	0.84	1	1	111.7	8.66	0.86	1	1	102.4	9.8	0.89	1	1
	3200	125.4	6.76	0.56	0.7	0.83	116.6	7.63	0.55	0.71	0.84	107.6	8.63	0.55	0.7	0.86	97.7	9.76	0.55	0.72	0.88
67°F	4000	131.7	6.8	0.59	0.74	0.9	122.5	7.67	0.59	0.76	0.92	112.8	8.66	0.59	0.77	0.94	102.6	9.8	0.6	0.79	0.97
	4800	136.2	6.83	0.62	0.8	0.97	126.6	7.69	0.64	0.81	0.99	116.5	8.69	0.64	0.85	1	106	9.83	0.65	0.88	1
	3200	133.3	6.81	0.41	0.55	0.67	124.1	7.67	0.4	0.55	0.68	115	8.68	0.38	0.54	0.69	105	9.83	0.37	0.54	0.69
71°F	4000	140	6.85	0.43	0.58	0.73	130.6	7.72	0.42	0.58	0.74	120.6	8.71	0.41	0.59	0.76	110.1	9.86	0.4	0.6	0.77
	4800	145	6.88	0.44	0.61	0.78	135	7.74	0.43	0.62	0.8	125	8.75	0.42	0.62	0.82	114	9.9	0.41	0.63	0.84

RATINGS

NOTE - For Temperatures and Capacities not shown in tables, see bulletin - Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

20 TON HIGH EFFICIENCY SCH240H4M (ONE COMPRESSOR OPERATING)

								Ou	tdoor A	ir Tem	peratu	re Enter	ing Outo	loor C	oil						
Entering	Total		(65°F					75°F					35°F					95°F		
Wet Bulb	Air	Total	Comp.	Sens	ible To	Total	Total	Comp.	Sens	ible To	Total	Total	Comp.	Sens	ble To	Total	Total	Comp.	Sens	ible To	Total
Temper-	Volume	Cool	Motor	Ra	atio (S	/T)	Cool	Motor	R	atio (S/	T)	Cool	Motor	Ra	atio (S/	T)	Cool	Motor	R	atio (S/	T)
ature		Cap.	Input		ry Bul	b	Сар.	Input		ry Bul	b	Cap.	Input		ry Bul	b	Cap.	Input		ry Bull	b
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
	1600	62.2	2.56	0.71	0.83	0.94	60.2	2.9	0.72	0.84	0.96	58	3.28	0.73	0.86	0.98	55.5	3.71	0.74	0.88	1
63°F	2000	66	2.59	0.75	0.88	1	63.7	2.93	0.76	0.9	1	61.3	3.31	0.78	0.92	1	58.6	3.74	0.79	0.94	1
	2400	68.8	2.61	0.79	0.93	1	66.3	2.94	0.8	0.95	1	63.7	3.32	0.81	0.97	1	60.9	3.75	0.83	0.99	1
	1600	65.4	2.58	0.57	0.69	0.8	63.2	2.92	0.57	0.7	0.81	60.8	3.3	0.58	0.71	0.83	58.2	3.73	0.59	0.72	0.84
67°F	2000	69.1	2.61	0.59	0.73	0.85	66.6	2.95	0.6	0.74	0.87	63.9	3.32	0.61	0.75	0.89	61.2	3.75	0.62	0.77	0.91
	2400	71.7	2.64	0.62	0.76	0.9	69	2.96	0.63	0.78	0.92	66.3	3.34	0.63	0.79	0.94	63.2	3.76	0.64	0.81	0.97
	1600	68.6	2.61	0.43	0.55	0.67	66	2.94	0.43	0.56	0.67	63.5	3.32	0.44	0.57	0.68	61.1	3.75	0.44	0.57	0.7
71°F	2000	72.6	2.64	0.44	0.58	0.71	69.7	2.97	0.45	0.59	0.72	67	3.34	0.44	0.6	0.73	64.2	3.77	0.45	0.61	0.75
	2400	75.3	2.66	0.44	0.61	0.74	72.6	2.99	0.46	0.62	0.76	69.8	3.36	0.47	0.62	0.77	66.7	3.79	0.46	0.63	0.79

20 TON HIGH EFFICIENCY SCH240H4M (TWO COMPRESSOR OPERATING)

F - 1 - 2								Ou	tdoor A	ir Tem	peratu	re Enter	ing Outo	loor C	oil						
Entering	Total		(55°F					75°F					35°F					95°F		
Wet Bulb	Air		Comp.		ble To		Total	Comp.		ible To		Total	Comp.		ible To		Total	Comp.		ible To	
Temper-	Volume	Cool	Motor		atio (S/		Cool	Motor		atio (S/		Cool	Motor		atio (S/		Cool	Motor		atio (S/	
ature		Cap.	Input	D	ry Bul	b	Cap.	Input		ry Bul	b	Cap.	Input	D	ry Bul	b	Cap.	Input		ry Bull	00
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
	3200	126.9	5.13	0.71	0.83	0.94	122.7	5.81	0.72	0.84	0.96	117.9	6.58	0.73	0.86	0.98	112.9	7.45	0.74	0.87	0.99
63°F	4000	134.3	5.19	0.75	0.88	1	129.4	5.86	0.76	0.9	1	124.5	6.62	0.77	0.92	1	119.2	7.48	0.79	0.94	1
	4800	139.8	5.23	0.78	0.93	1	134.8	5.89	0.8	0.95	1	129.5	6.65	0.81	0.97	1	123.9	7.51	0.83	0.99	1
	3200	133.1	5.18	0.56	0.69	0.8	128.6	5.85	0.57	0.69	0.81	123.7	6.61	0.58	0.71	0.82	118.4	7.47	0.58	0.72	0.84
67°F	4000	140.6	5.23	0.59	0.73	0.85	135.6	5.9	0.6	0.74	0.87	130.2	6.65	0.61	0.75	0.88	124.7	7.52	0.62	0.76	0.9
	4800	146.1	5.27	0.62	0.76	0.9	140.6	5.93	0.62	0.78	0.92	134.9	6.68	0.63	0.79	0.94	128.7	7.53	0.64	0.81	0.96
	3200	139.4	5.23	0.43	0.55	0.66	134.4	5.89	0.43	0.56	0.67	129.2	6.65	0.44	0.56	0.68	124.3	7.51	0.44	0.57	0.69
71°F	4000	147.4	5.28	0.44	0.57	0.7	141.8	5.94	0.45	0.58	0.71	136.3	6.69	0.45	0.59	0.73	130.4	7.55	0.45	0.6	0.74
	4800	152.9	5.32	0.44	0.6	0.74	147.3	5.97	0.46	0.61	0.76	141.5	6.72	0.47	0.62	0.77	135.3	7.57	0.47	0.63	0.79

20 TON HIGH EFFICIENCY SCH240H4M (THREE COMPRESSOR OPERATING)

F								Ou	tdoor A	ir Tem	peratu	re Enter	ing Outo	loor C	oil						
Entering	Total		8	85°F					95°F				1	05°F					115°F		
Wet Bulb Temper-	Air Volume	Total Cool	Comp. Motor		ible To atio (S/		Total Cool	Comp. Motor		ible To atio (S/		Total Cool	Comp. Motor		ible To atio (S/		Total Cool	Comp. Motor		ible To atio (S/	
ature		Сар.	Input		ry Bul	b	Cap.	Input		ry Bul	b	Сар.	Input	D	ry Bul	b	Cap.	Input		ry Bull	b
uturo	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
	4800	169.1	10.11	0.68	0.82	0.91	155.9	11.44	0.67	0.83	0.92	142.3	12.95	0.68	0.84	0.93	127.8	14.69	0.69	0.85	0.95
63°F	6000	184.9	10.18	0.73	0.87	0.96	171.1	11.51	0.75	0.88	0.97	156.7	13.03	0.76	0.89	0.98	141.5	14.77	0.78	0.91	1
	7200	197.2	10.24	0.8	0.91	0.99	182.8	11.57	0.81	0.92	1	167.9	13.09	0.82	0.93	1	152.3	14.83	0.83	0.95	1
	4800	184.9	10.18	0.51	0.65	0.79	170.6	11.5	0.5	0.66	0.81	156.1	13.02	0.49	0.66	0.82	140.3	14.76	0.48	0.67	0.83
67°F	6000	199	10.25	0.54	0.71	0.86	183.9	11.56	0.54	0.72	0.86	167.9	13.08	0.54	0.74	0.87	151.1	14.82	0.54	0.76	0.89
	7200	209.3	10.29	0.58	0.77	0.89	193.7	11.61	0.58	0.78	0.9	177.3	13.13	0.59	8.0	0.92	160.3	14.86	0.59	8.0	0.93
	4800	200.7	10.25	0.36	0.5	0.63	186.2	11.57	0.34	0.49	0.63	170.9	13.09	0.33	0.49	0.64	154.7	14.83	0.3	0.48	0.65
71°F	6000	215.5	10.32	0.38	0.54	0.69	199.9	11.64	0.37	0.54	0.7	184.1	13.16	0.35	0.53	0.71	166.7	14.91	0.33	0.54	0.73
	7200	225.6	10.37	0.4	0.58	0.75	210.3	11.69	0.39	0.58	0.77	193.3	13.21	0.38	0.58	0.78	174.7	14.95	0.37	0.59	0.79

20 TON HIGH EFFICIENCY SCH240H4M (ALL COMPRESSOR OPERATING)

F								Out	tdoor A	ir Tem	peratu	re Enter	ing Outo	loor C	oil						
Entering Wet	Total		8	85°F					95°F				1	05°F					115°F		
Bulb	Air	Total	Comp.		ible To		Total	Comp.		ible To		Total	Comp.		ible To		Total	Comp.		ible To	
Temper-	Volume	Cool	Motor		atio (S/		Cool	Motor		atio (S/		Cool	Motor	_	atio (S/		Cool	Motor		atio (S/	
ature		Сар.	Input		ry Bul	b	Cap.	Input		ry Bul	b	Cap.	Input	D	ry Bul	b	Cap.	Input		ry Bull	b
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
	6400	228.6	13.54	0.66	0.82	0.96	209.7	15.31	0.67	0.84	0.98	190.8	17.33	0.68	0.86	1	171.2	19.64	0.68	0.88	1
63°F	8000	246.6	13.63	0.72	0.9	1	228	15.4	0.74	0.92	1	208.4	17.42	0.75	0.95	1	188	19.75	0.77	0.98	1
	9600	262	13.7	0.79	0.97	1	242.8	15.47	0.81	0.99	1	223.2	17.5	0.83	1	1	203	19.83	0.85	1	1
	6400	250.6	13.65	0.5	0.64	0.79	231.4	15.41	0.49	0.65	0.8	211.2	17.43	0.48	0.66	0.82	189.7	19.75	0.48	0.66	0.85
67°F	8000	268.4	13.73	0.54	0.71	0.87	247.9	15.49	0.54	0.72	0.89	226.6	17.51	0.54	0.73	0.92	203.1	19.82	0.54	0.76	0.95
	9600	281.2	13.79	0.58	0.77	0.94	259.8	15.55	0.58	0.78	0.96	237	17.56	0.59	8.0	0.99	213.1	19.88	0.59	0.83	1
	6400	272.7	13.74	0.36	0.49	0.62	253.1	15.51	0.34	0.49	0.63	232.6	17.53	0.32	0.48	0.63	210.4	19.86	0.3	0.47	0.65
71°F	8000	291.3	13.83	0.37	0.53	0.69	270.1	15.59	0.36	0.53	0.69	247.5	17.62	0.35	0.54	0.71	223.5	19.94	0.33	0.54	0.73
	9600	304.7	13.89	0.39	0.57	0.75	282	15.65	0.38	0.58	0.76	258.2	17.68	0.38	0.59	0.78	233.7	20.01	0.36	0.59	0.81

HUMIDITROL® DEHUMIDIFICATION SYSTEM RATINGS

3 TON HIGH EFFICIENCY SCH036H4E WITH HUMIDITROL® OPERATING - DIRECT DRIVE

								Out	tdoor A	ir Tem	peratu	re Enter	ing Outo	loor C	oil						
Entering	Total			65°F					75°F					35°F					95°F		
Wet Bulb	Air	Total	Comp.	Sens	ible To	Total	Total	Comp.	Sens	ible To	Total	Total	Comp.	Sens	ible To	Total	Total	Comp.	Sens	ible To	Total
Temper-	Volume	Cool	Motor	Ra	atio (S/	T)	Cool	Motor	Ra	atio (S/	T)	Cool	Motor	Ra	atio (S/	T)	Cool	Motor	R	atio (S/	Τ)
ature		Cap.	Input		ry Bul	b	Cap.	Input		ry Bul	b	Сар.	Input		ry Bul	b	Cap.	Input		Dry Bulk	<u> </u>
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
	640	24.6	1.6	0.45	0.59	0.72	20.1	1.8	0.41	0.53	0.71	15.7	2.0	0.31	0.48	0.71	11.3	2.2	0.16	0.43	0.70
63°F	800	26.6	1.6	0.48	0.63	0.78	21.5	1.8	0.44	0.60	0.80	16.5	2.0	0.35	0.56	0.83	11.4	2.2	0.20	0.53	0.85
	960	28.6	1.7	0.51	0.68	0.84	22.9	1.8	0.46	0.66	0.86	17.2	2.0	0.38	0.66	0.93	11.5	2.2	0.24	0.62	1.00
	640	28.5	1.7	0.35	0.46	0.58	24.1	1.9	0.24	0.39	0.54	19.6	2.1	0.16	0.33	0.36	15.2	2.3	0.04	0.26	0.48
67°F	800	31.1	1.7	0.36	0.47	0.62	25.9	1.9	0.26	0.42	0.60	20.7	2.1	0.17	0.36	0.40	15.4	2.3	0.05	0.25	0.57
	960	33.8	1.7	0.38	0.52	0.65	27.7	1.9	0.31	0.48	0.64	21.7	2.1	0.22	0.44	0.63	15.7	2.3	0.05	0.36	0.61
	640	32.5	1.7	0.24	0.34	0.43	28.0	1.9	0.13	0.25	0.37	23.6	2.1	0.09	0.17	0.25	19.1	2.3	-0.08	0.09	0.26
71°F	800	35.7	1.7	0.24	0.35	0.46	30.3	1.9	0.14	0.28	0.41	24.9	2.1	0.07	0.20	0.32	19.5	2.3	-0.11	0.09	0.30
	960	38.9	1.7	0.24	0.37	0.49	32.5	1.9	0.16	0.30	0.44	26.2	2.1	0.05	0.23	0.40	19.8	2.3	-0.14	0.10	0.33

5 TON HIGH EFFICIENCY SCH060H4E WITH HUMIDITROL® OPERATING - DIRECT DRIVE

F								Ou	tdoor A	ir Tem	peratu	re Enter	ing Outo	loor C	oil						
Entering Wet	Total			65°F					75°F				8	35°F					95°F		
Bulb	Air	Total	Comp.	Sensi	ible To	Total	Total	Comp.	Sens	ible To	Total	Total	Comp.	Sensi	ble To	Total	Total	Comp.	Sens	ible To	Total
Temper-	Volume	Cool	Motor	Ra	atio (S/	T)	Cool	Motor	Ra	atio (S/	T)	Cool	Motor	Ra	atio (S/	T)	Cool	Motor	R	atio (S/	Τ)
ature		Cap.	Input	D	ry Bul	b	Cap.	Input		ry Bul	b	Сар.	Input	D	ry Bul	b	Cap.	Input		Dry Bulk	<u> </u>
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
	1080	41.9	2.8	0.48	0.62	0.75	34.9	3.0	0.45	0.60	0.75	28.8	3.3	0.38	0.56	0.75	22.1	3.7	0.27	0.52	0.76
63°F	1350	44.8	2.8	0.52	0.66	0.81	37.1	3.1	0.48	0.66	0.83	29.8	3.4	0.43	0.64	0.85	22.3	3.7	0.32	0.60	0.88
	1620	47.7	2.9	0.55	0.71	0.87	39.3	3.1	0.52	0.72	0.91	30.8	3.4	0.48	0.72	0.96	22.5	3.8	0.37	0.68	1.00
	1080	47.9	2.8	0.35	0.46	0.58	41.1	3.1	0.29	0.43	0.56	34.7	3.4	0.22	0.38	0.54	27.9	3.8	0.10	0.30	0.49
67°F	1350	50.7	2.9	0.37	0.50	0.62	43.4	3.1	0.31	0.47	0.62	36.0	3.4	0.23	0.42	0.61	28.2	3.8	0.10	0.34	0.58
	1620	53.6	3.0	0.38	0.53	0.67	45.6	3.2	0.33	0.50	0.68	37.4	3.5	0.24	0.46	0.68	28.5	3.8	0.10	0.39	0.67
	1080	53.4	2.9	0.24	0.35	0.45	46.6	3.2	0.18	0.30	0.41	40.3	3.5	0.10	0.24	0.38	33.3	3.9	-0.02	0.14	0.30
71°F	1350	56.7	3.0	0.25	0.36	0.48	49.8	3.2	0.18	0.31	0.45	42.4	3.5	0.09	0.25	0.41	34.2	3.9	-0.04	0.16	0.35
	1620	60.0	3.0	0.25	0.38	0.51	52.9	3.3	0.18	0.33	0.49	44.5	3.6	0.08	0.27	0.45	35.0	3.9	-0.06	0.17	0.40

10 TON HIGH EFFICIENCY SCH0120H4M WITH HUMIDITROL® OPERATING (1ST STAGE) - MSAV®

								Ou	tdoor A	ir Tem	peratu	re Enter	ing Outo	loor C	oil						
Entering	Total		(65°F					75°F				8	35°F					95°F		
Wet Bulb	Air	Total	Comp.	Sensi	ible To	Total	Total	Comp.	Sens	ible To	Total	Total	Comp.	Sensi	ble To	Total	Total	Comp.	Sens	ible To	Total
Temper-	Volume	Cool	Motor	Ra	atio (S/	T)	Cool	Motor	R	atio (S/	T)	Cool	Motor	Ra	tio (S/	T)	Cool	Motor	R	atio (S/	Τ)
ature		Cap.	Input		ry Bul	b	Сар.	Input		ry Bul	b	Cap.	Input		ry Bul	b	Cap.	Input		ry Bull	<u> </u>
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
	2000	46.6	2.5	.61	.78	.96	36.6	2.8	.51	.79	.97	26.6	3.1	.42	.80	.99	16.6	3.4	.32	.81	1.00
63°F	2400	47.9	2.6	.66	.87	.98	37.4	2.8	.56	.88	.99	26.9	3.1	.47	.89	.99	16.3	3.4	.38	.91	1.00
	2800	49.1	2.6	.70	.95	1.00	38.1	2.8	.62	.97	1.00	27.1	3.1	.53	.98	1.00	16.1	3.4	.44	1.00	1.00
	2000	53.2	2.6	.42	.59	.76	43.3	2.9	.30	.55	.74	33.4	3.2	.17	.50	.73	23.5	3.5	.04	.45	.71
67°F	2400	54.5	2.6	.45	.65	.80	44.1	2.9	.32	.60	.78	33.6	3.2	.19	.56	.76	23.2	3.5	.06	.51	.75
	2800	55.8	2.7	.47	.70	.83	44.8	2.9	.34	.66	.82	33.8	3.2	.20	.61	.80	22.9	3.5	.07	.57	.79
	2000	59.7	2.7	.24	.40	.57	49.9	3.0	.08	.30	.52	40.2	3.3	08	.19	.47	30.4	3.5	24	.09	.41
71°F	2400	61.1	2.7	.24	.43	.61	50.7	3.0	.07	.32	.57	40.4	3.3	10	.22	.53	30.0	3.5	27	.11	.50
	2800	62.5	2.7	.25	.45	.66	51.6	3.0	.06	.35	.63	40.6	3.3	12	.24	.60	29.6	3.5	30	.14	.58

10 TON HIGH EFFICIENCY SCH120H4E WITH HUMIDITROL® OPERATING (2ND STAGE) - MSAV®

F . 4								Ou	tdoor A	ir Tem	peratu	re Enter	ing Outo	loor C	oil						
Entering Wet	Total			65°F					75°F					35°F					95°F		
Bulb	Air	Total	Comp.	Sens	ible To	Total	Total	Comp.	Sens	ible To	Total	Total	Comp.	Sens	ible To	Total	Total	Comp.	Sens	ible To	Total
Temper-	Volume	Cool	Motor	Ra	atio (S/	T)	Cool	Motor	R	atio (S/	T)	Cool	Motor	Ra	atio (S/	T)	Cool	Motor	R	atio (S/	T)
ature		Cap.	Input		ry Bul	b	Сар.	Input		ry Bul	b	Сар.	Input		ry Bul	b	Cap.	Input		ry Bull	b
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
	3200	101.2	5.2	.62	.78	.94	86.7	5.9	.59	.78	.96	72.2	6.5	.56	.79	.98	57.6	7.2	.52	.79	1.00
63°F	4000	104.9	5.2	.67	.83	.97	89.2	5.9	.65	.85	.98	73.6	6.6	.63	.86	.99	58.0	7.2	.60	.87	1.00
	4800	108.5	5.3	.72	.89	1.00	91.8	5.9	.71	.91	1.00	75.1	6.6	.70	.94	1.00	58.3	7.2	.69	.96	1.00
	3200	112.4	5.3	.47	.61	.76	98.1	6.0	.42	.59	.76	83.8	6.6	.37	.57	.76	69.5	7.3	.32	.55	.76
67°F	4000	116.5	5.4	.49	.65	.80	100.9	6.0	.45	.64	.80	85.3	6.7	.40	.63	.80	69.8	7.3	.36	.61	.80
	4800	120.5	5.4	.52	.69	.84	103.7	6.0	.48	.69	.84	86.9	6.7	.44	.68	.84	70.0	7.3	.40	.68	.84
	3200	123.5	5.4	.31	.45	.58	109.5	6.1	.24	.40	.56	95.4	6.7	.18	.36	.54	81.4	7.4	.11	.32	.52
71°F	4000	128.0	5.5	.31	.47	.64	112.5	6.1	.25	.43	.62	97.0	6.8	.18	.39	.61	81.6	7.4	.11	.35	.60
	4800	132.5	5.5	.32	.50	.69	115.6	6.2	.25	.47	.68	98.7	6.8	.18	.43	.68	81.7	7.4	.11	.39	.68

HUMIDITROL® DEHUMIDIFICATION SYSTEM RATINGS

20 TON HIGH EFFICIENCY SCH240H4E WITH HUMIDITROL® OPERATING (1ST STAGE) - MSAV®

								Ou	tdoor A	ir Tem	peratu	re Enter	ing Outo	loor C	oil						
Entering	Total		(55°F					75°F					35°F					95°F		
Wet Bulb	Air	Total	Comp.	Sens	ible To	Total	Total	Comp.	Sens	ible To	Total	Total	Comp.	Sensi	ible To	Total	Total	Comp.	Sens	ible To	Total
Temper-	Volume	Cool	Motor	Ra	atio (S	(T)	Cool	Motor	R	atio (S/	T)	Cool	Motor	Ra	atio (S/	T)	Cool	Motor	R	atio (S/	T)
ature		Cap.	Input	D	ry Bul	b	Cap.	Input		ry Bul	b	Cap.	Input	D	ry Bul	b	Cap.	Input		ry Bull	b
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
	3200	75.3	5.5	0.49	0.71	0.92	60.9	6.0	0.42	0.65	0.88	44.2	6.6	0.28	0.58	0.88	25.6	7.2	0.01	0.49	0.88
63°F	4000	79.1	5.6	0.57	0.76	0.95	62.6	6.0	0.50	0.72	0.94	44.7	6.6	0.37	0.66	0.94	27.1	7.3	0.06	0.50	0.94
	4800	82.9	5.6	0.64	0.81	0.99	64.2	6.1	0.59	0.79	1.00	45.2	6.6	0.47	0.74	1.00	28.6	7.3	0.11	0.51	1.00
	3200	87.5	5.7	0.30	0.49	0.67	69.5	6.1	0.20	0.43	0.66	51.0	6.7	0.03	0.32	0.62	30.4	7.4	0.32	0.43	0.55
67°F	4000	88.2	5.7	0.33	0.55	0.75	69.9	6.2	0.22	0.50	0.75	51.4	6.7	0.03	0.39	0.74	32.2	7.4	0.43	0.53	0.71
	4800	94.1	5.8	0.36	0.59	0.82	72.9	6.2	0.25	0.55	0.85	52.7	6.7	0.03	0.44	0.85	37.3	7.4	0.55	0.70	0.86
	3200	101.8	5.8	0.14	0.31	0.47	84.3	6.3	0.02	0.22	0.42	66.9	6.9	0.17	0.25	0.34	45.1	7.5	0.49	0.34	0.20
71°F	4000	105.0	5.9	0.15	0.34	0.53	86.5	6.3	0.02	0.25	0.48	67.1	6.9	0.19	0.30	0.41	46.8	7.5	0.57	0.42	0.27
	4800	108.1	5.9	0.15	0.36	0.58	88.6	6.3	0.02	0.28	0.54	67.3	6.9	0.21	0.35	0.48	48.5	7.6	0.65	0.50	0.34

20 TON HIGH EFFICIENCY SCH240H4E WITH HUMIDITROL® OPERATING (2ND STAGE) - MSAV®

								Ou	tdoor A	ir Tem	peratu	re Enter	ing Outo	door C	oil						
Entering	Total		(65°F					75°F					85°F					95°F		
Wet Bulb	Air	Total	Comp.	Sens	ible To	Total	Total	Comp.	Sens	ible To	Total	Total	Comp.	Sensi	ble To	Total	Total	Comp.	Sens	ible To	Total
Temper-	Volume	Cool	Motor	Ra	atio (S/	T)	Cool	Motor	R	atio (S/	T)	Cool	Motor	Ra	atio (S/	T)	Cool	Motor	R	atio (S/	T)
ature		Сар.	Input		ry Bul	b	Сар.	Input		ry Bul	b	Cap.	Input	D	ry Bul	b	Cap.	Input		ry Bull	o
uturc	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
	6400	189.6	10.5	0.57	0.74	0.91	164.1	11.6	0.55	0.73	0.91	138.0	13.0	0.51	0.70	0.90	108.6	14.5	0.46	0.70	0.94
63°F	8000	198.4	10.7	0.62	0.79	0.95	172.4	11.7	0.61	0.78	0.94	142.9	13.0	0.58	0.76	0.93	108.8	14.5	0.57	0.76	0.95
	9600	207.1	10.9	0.68	0.83	0.99	180.6	11.7	0.67	0.83	0.98	147.8	13.0	0.66	0.81	0.97	108.9	14.5	0.67	0.82	0.97
	6400	212.2	10.7	0.39	0.55	0.72	183.7	11.9	0.34	0.53	0.71	155.8	13.2	0.28	0.49	0.71	123.2	14.8	0.18	0.45	0.72
67°F	8000	222.1	10.8	0.42	0.61	0.78	190.2	11.9	0.37	0.60	0.78	158.3	13.2	0.30	0.57	0.78	124.5	14.7	0.21	0.53	0.77
	9600	226.1	11.0	0.44	0.65	0.85	194.3	11.9	0.40	0.63	0.85	160.3	13.2	0.33	0.59	0.84	122.8	14.7	0.23	0.53	0.83
	6400	235.1	11.0	0.24	0.39	0.54	205.6	12.2	0.18	0.35	0.51	175.5	13.5	0.10	0.29	0.49	145.0	15.0	0.02	0.23	0.45
71°F	8000	242.3	11.1	0.24	0.41	0.59	213.1	12.1	0.18	0.38	0.57	179.6	13.4	0.09	0.32	0.55	145.2	14.9	0.05	0.28	0.52
	9600	249.5	11.3	0.24	0.44	0.64	220.6	12.1	0.18	0.41	0.63	183.7	13.3	0.08	0.35	0.62	145.4	14.8	0.08	0.33	0.59

SCH036H / SCH060H BLOWER PERFORMANCE NOTE - Blower Table Includes Resistance For Base Unit With Electric Heat, Wet Indoor Coil And Air Filters In Place. NOTE - MINIMUM AIR VOLUME REQUIRED FOR USE WITH OPTIONAL ELECTRIC HEAT:

SCH036H - 1020 CFM SCH060H - 1650 CFM

: •											EXT	ERNA	L STA	EXTERNAL STATIC PRESSURE	RESSL		- In. w.g.	_									
Volume	0.1	_	O	0.2	0.	0.3	0	0.4	0.5	2	9.0		0.7		0.8		6.0		1.0		7:		1.2		1.3	_	1.4
E	RPM	Vatts	RPM	Watts	RPM Watts RPM Watts RPM Watts	Watts	RPM	RPM Watts RPM Watts	RPM \	Natts	RPM Watts		RPM Watts		PM W	atts RF	Me Wa	RPM Watts RPM Watts RPM Watts	M Wat		RPM Watts		RPM Watts RPM Watts	RPM	Watts	RPM Watts	Watts
006	1214	116	1294	144	1371	170	1444	194	1513	218	1578	240 1	1640	262 10	1699 2	283 17	1754 30	303 1808	322	2 1859	341	1911	360	1962	382	2014	405
1000	1308	144	1388	171	1463	196	1534	220	1601	243	1664	266 1	1723	288 1.	1780 3	310 18	834 33	331 188	887 352	1938	373	1989	395	2040	419	2091	445
1100	1407	172	1485	198	1558	223	1627	247	1691	271	1752	294	1809	317 18	1864 3	339 19	916 36	362 196	968 385	5 2018	18 409	2068	434	2119	460	2169	489
1200	1512	201	1587	227	1657	252	1723	277	1784	301	1842	325 1	897	349 18	1950 3	373 20	2001 38	398 2051	51 423	3 2101	1 449	2150	476	2199	505	2249	536
1300	1623	232	1693	258	1759	284	1822	309	1880	335	1935	360 1	1988	386 20	2039 4	412 20	2089 43	438 2138	38 466	6 2186	36 494	2234	524	2282	554	2329	586
1400	1738	266	1803	293	1865	320	1923	347	1979	373	2031	401 2	2082	428 2	2131 4	456 21	2179 48	485 2227	27 514	4 2274	74 545	2320	575	2366	209	2411	641
1500	1855	305	1915	333	1973	361	2028	389	2080	418	2130 4	447 2	2178 4	477 2;	2226 5	507 22	2273 53	537 2318	18 568	8 2363	93 600	2408	8 632	2451	999	2495	669
1600	1973	349	2029	379	2083	408	2134	438	2183	469	2231	500 2	2277	531 2:	2323 5	563 23	2368 59	595 2412	12 627	7 2455	99 99	2497	693	2539	727	2579	762
1700	2090	399	2143	430	2193	462	2241	494	2287	526	2333 8	558 2	2377	591 2	2421 6	624 24	2464 6	658 2506)6 691	1 2547	17 725	2588	3 759	2627	794	2666	829
1800	2206	456	2255	488	2303	522	2348	222	2392	586	2436 (623 2	2478 (657 29	2520 6	691 25	2561 72	725 2601	01 760	0 2640	195	2679	830	2716	865	2753	901
1900	2321	519	2368	553	2412	588	2455	622	2498	657	2539 (692 23	2579 7	727 20	2619 7	762 26	2658 79	798 2696	96 833	3 2734	869	2770	902	2806	941	2841	978
2000	2435	589	2479	624	2521	099	2562	969	2602	731	2642 7	767	2680	803 2	2718 8	839 27	2755 87	875 2791	91 911	1 2827	27 947	2862	984	2896	1021	2931	1058
2100	2547	999	2589	701	2629	737	2668	774	2706	810	2744 8	847 2	2780	883 2	2816 9	919 28	2851 99	956 2886	36 992	2 2920	1029	9 2954	1066	2987	1103	3021	1140
2200	2659	746	2698	783	2736	820	2773	857	2809	894	2844 6	931 2	2879 (967 29	2913 10	1003 29	2947 10	1040 2980	30 1076	76 3013	1112	3046	1149	3080	1185	3113	1221
2300	2770	834	2806	871	2842	806	2877	945	2911	981	2945 1	1017	2978 1	1053 30	3010 10	1089	; ;	; ;	-	-	-	-	:	;	;	!	!
2400	2879	922	2913	962	2947	666	2980	1035	3012	1070	:	:	:	-	:	-	; ;	:	-	-	-	:	:	:	;	:	!
2500	2987	1020	3019	1055	:	:	:	;	!	:	:	-	:	-	:	; ;	;	:	-	-	-	:	:	:	;	1	!

SCH120HM BLOWER PERFORMANCE

NOTE - Blower Table Includes Resistance For Base Unit With Electric Heat, Wet Indoor Coil And Air Filters In Place. NOTE - MINIMUM AIR VOLUME REQUIRED FOR USE WITH OPTIONAL ELECTRIC HEAT - 3800 CFM. See Blower Motor / Drive Kit Table on page 35 for Motor HP and Drive Kit RPM Ranges Available.

	1.3	BHP	1.17	1.29	1.41	1.55	1.69	1.84	2.01	2.18	2.36	2.54	2.71	2.89	3.08	3.26	3.45
	7	RPM	852	863	875	888	902	918	934	951	696	987	1005	1023	1041	1060	1079
	1.2	ВНР	1.09	1.21	1.33	1.46	1.60	1.75	1.91	2.08	2.25	2.43	2.61	2.80	2.98	3.17	3.36
	_	RPM	825	835	847	859	872	887	905	919	936	954	971	686	1008	1026	1045
	1.1	ВНР	1.01	1.12	1.25	1.38	1.52	1.66	1.82	1.99	2.16	2.34	2.52	2.71	2.89	3.08	3.28
	_	RPM	797	807	818	830	843	857	871	887	903	921	938	957	975	994	1013
	1.0	ВНР	0.93	1.04	1.16	1.29	1.43	1.58	1.73	1.90	2.07	2.25	2.43	2.62	2.81	3.00	3.20
	1	RPM	767	778	789	801	813	826	841	856	872	889	906	924	943	962	981
	0.9	ВНР	0.84	0.95	1.07	1.19	1.33	1.48	1.64	1.80	1.97	2.16	2.34	2.53	2.73	2.92	3.12
<u>.</u>	0	RPM	734	745	757	692	781	795	809	824	840	856	874	892	911	930	949
EXTERNAL STATIC PRESSURE - In. w.g	0.8	ВНР	0.76	0.86	0.97	1.09	1.23	1.38	1.53	1.70	1.87	2.06	2.25	2.44	2.64	2.84	3.05
URE -	0.	RPM	269	602	721	734	747	761	775	790	806	823	841	829	878	897	917
PRESS	0.7	ВНР	0.68	0.78	0.88	1.00	1.13	1.27	1.42	1.59	1.77	1.95	2.15	2.35	2.55	2.76	2.97
PATIC I	0	RPM	658	671	683	269	711	725	740	755	771	788	806	825	844	864	884
IAL ST	9	ВНР	0.62	0.70	08.0	0.91	1.03	1.16	1.31	1.48	1.65	1.84	2.03	2.24	2.45	2.66	2.88
XTERN	9.0	RPM	617	630	644	658	673	688	703	719	735	752	770	788	808	829	850
ш	0.5	ВНР	0.55	0.63	0.72	0.82	0.93	1.06	1.20	1.36	1.53	1.71	1.91	2.12	2.34	2.56	2.78
	0.	RPM	573	586	601	616	632	649	999	682	669	715	733	751	771	791	813
	0.4	ВНР	0.48	0.56	0.65	0.74	0.85	0.97	1.10	1.24	1.4.1	1.58	1.78	1.99	2.21	2.44	2.67
	0	RPM	530	543	222	572	589	209	625	644	662	629	269	715	734	753	774
	0.3	ВНР	0.41	0.49	0.57	0.67	0.77	0.89	1.01	1.15	1.30	1.46	1.64	1.85	2.07	2.30	2.55
	0	RPM	490	505	516	530	547	564	583	603	623	643	661	089	869	717	737
	0.2	ВНР	0.33	0.42	0.50	09.0	0.70	0.81	0.93	1.07	1.21	1.36	1.53	1.71	1.92	2.15	2.39
	0	RPM	453	465	478	493	208	525	543	563	583	604	625	645	664	683	702
	-	ВНР	0.26	0.34	0.44	0.53	0.63	0.74	98.0	0.99	1.13	1.28	1.44	1.60	1.79	2.00	2.23
	0.1	RPM	418	430	444	458	473	489	206	525	545	266	587	609	629	650	699
	Volume	5	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000	4200	4400	4600	4800

 NOTE - MSAV^{\otimes} (Multi-Stage Air Volume) drive is capable of 350 - 1050 rpm.

SCH240HM BLOWER PERFORMANCE

NOTE - Blower Table Includes Resistance For Base Unit With Electric Heat, Wet Indoor Coil And Air Filters In Place.

NOTE - MINIMUM AIR VOLUME REQUIRED FOR USE WITH OPTIONAL ELECTRIC HEAT - 8000 CFM.

See Blower Motor / Drive Kit Table on page 35 for Motor HP and Drive Kit RPM Ranges Available.

		BHP	1.80	1.86	1.92	1.98	2.04	2.10	2.16	2.23	2.30	2.38	2.46	5.56	5.66	5.76	2.87	2.98	3.08	3.17	3.27	3.38	3.50	3.62	3.75	3.87	4.01	4.14	4.27	1.39	1.51	1.62	1.74	1.86	4.98	5.10	5.21	5.33	5.46	7 58
	1.3	RPM	749 1	751 1	, 23	755 1	757 2	59 2		_	_	_	_		_	783 2	_		_	_	_	_			828 3	_	_	-		861 4	868 4	874 4	880 4	886 4	892 4	868	904 5	911 5	117 5	123 4
		BHP R		7 07.	7 97			1.94 7		2.07 7			2.30 7		_		_			2.98 8	_			_		_	3.80 8	_	.05 8	_		_		.64 8	4.76 8	4.88 8	5.00 9	12 9	24 9	36 0
	1.2	RPM B	_	_	10 1.	_	_	-			_	_	_			_	_				_		_		_	_	_	-	4	-		4	4	4	_		_	74 5.	31 5.	7 2
					0 716			8 723			18 730			2 739						9 764	_					_				_	16 831	_			_				3 881	100
	1.1	M BHP	_	_	_		_	6 1.78	_		_	_	_			_	_			7 2.79	_	_	_	_	5 3.34	-	_	5 3.70	-	-	4 4.06	_	4	4	4	4	1 4.78	8 4.90	4 5.0	
		P RPM	5 677		2 680			3 686			3 693			_	_					0 727						_		_		_	_	_		0 812	_			9 838	2 84	
	1.0	A BHP	1.35	_	_	_	_	1.63		1.76	1.83	_	1.97	_		_	_	2.41		_	_	_	2.91			_		3.48		-	3.84	-			_	4	4	4	4.8	
		RPM	642		645		648	650	652		657		_		_		_	682		069	_			_		_		_		_	_	_			782	788	_		808	
	6.0	BHP	1.22	1.27	1.32	1.37	1.42	1.48	1.54	1.61	1.67	1.74	1.82	1.89	1.97	2.05	2.14	2.22	2.32	2.41	2.51	2.61	2.72	2.82	2.93	3.04	3.15	3.27	3.39	3.50	3.62	3.74	3.87	3.99	4.11	4.24	4.37	4.50	4.63	1
g.)	RPM	209	609	610	612	614	616	618	620	623	626	629	632	635	639	642	647	651	655	099	999	029	929	682	889	694	700	707	713	719	726	732	739	746	752	759	99/	773	(
In. w.	8.0	ВНР	1.10	1.15	1.19	1.24	1.29	1.34	1.40	1.46	1.53	1.59	1.66	1.73	1.81	1.88	1.96	2.05	2.13	2.23	2.33	2.43	2.53	2.64	2.74	2.85	2.96	3.08	3.19	3.31	3.43	3.55	3.67	3.80	3.93	4.06	4.19	4.32	4.45	
URE -	0	RPM	573	574	9/9	218	280	582	584	287	589	592	595	299	602	909	609	613	617	622	626	631	636	641	647	653	629	999	671	677	684	069	269	704	711	718	725	732	739	(
EXTERNAL STATIC PRESSURE - In. w.g		BHP	0.99	1.03	1.07	1.11	1.16	1.21	1.26	1.32	1.38	1.44	1.51	1.57	1.64	1.71	1.79	1.87	1.95	2.04	2.14	2.24	2.35	2.46	2.57	2.68	2.80	2.91	3.02	3.14	3.26	3.38	3.51	3.63	3.76	3.89	4.02	4.16	4.29	
	0.6	RPM	537	538	540	542	545	547	550	552	555	259	562	292	269	573	211	581	585	589	594	299	604	609	614	620	625	631	638	644	029	657	664	671	8/9	685	692	669	707	
		BHP		0.92	96.0	0.	1.04	1.09	1.13	.18	1.24	1.29	.35	14.	-48	1.54	1.62	69.	1.77	1.86	_			-	5.39	51	63	2.74	2.86	38	3.10	3.22	3.35	3.47	3.60	3.74	3.87	1.01	1.15	
		RPM E	498 (502 (505	207	510 1	513 1	_	520 /	· 	527 /	•	<u> </u>	_	· 	<u> </u>			_	266 2		_	582 2	587	593 2	-		-	618			639	646	653 3	661	999	929	
Ä		_		0.85																										_	_		_	_	_		_		66.	(
	0.5	RPM B	458 0	_	462 0	464 0	467 0	470 0	473 1		480 1	_			497 1				517 1	_	_				550 2	_		_		_		_		608 3	_	_			645 3	010
		\vdash				_		Ľ		1.00			1.12 4							1.51 5						_		_		_	_	_			_		_	3.63 6		_
	0.4	<u> </u>	_	_		_	_		_	_		_	_			_	_			_		_	_		_	-		_		-	_		_	_	_		_			
		₽	3 416	_	0 421	4 423	7 426	1 429			2 441			3 453	_	_	6 468		7 478	_	0 490				1 515	_				_		_		5 577	_	5 592	1 600	_	_	000
	0.3	M BHP	_	9 0.67	2 0.7	_		_				_	9 0.99		_	_	_		3 1.27	_	0 1.40	_			_	_		_	5 2.10	-	_	_	3 2.61		2 2.90	_	3 3.21	_	1 3.53	_
		RPM		_		375			386		3 395	_								_	7 450		9 463	_		_	_		2 505	_	5 520	_) 552			_	_	2
	0.2	1 BHP	_	0.52			0.63	0.67	0.7	0.74	0.78	0.8	0.8	0.88	0.92	0.9	0.99			1.1	1.17	1.23	1.29	1.36	1.44	7.5	1.62	1.71	1.82	-	-	_	2.3	2.4	2.60	2.76	2.91	3.08	3.25	,
		RPM		_	316			326		335	340	_	351	_		_	378							_	_	_		_	467	-		_		508			533	_		
	0.1	<u> </u>	0.33	0.37	0.40	0.44	0.48	0.51	0.55	0.59	0.62	0.66	0.69	0.73	0.76	0.80	0.83	0.86	0.89	0.92	0.96	1.00	1.04	1.08	1.14	1.20	1.27	1.35	1.45	1.55	1.67	1.80	1.93	2.08	2.23	2.39	2.56	2.73	2.91	0
	0	RPM	255	258	261	265	268	272	276	280	285	290	296	301	308	315	322	330	338	346	355	364	372	381	390	399	408	417	426	435	444	452	461	470	479	488	498	202	516	0
Air	Volume	ctm	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000	4200	4400	4600	4800	2000	5200	5400	2600	5800	0009	6200	6400	0099	0089	7000	7200	7400	2600	7800	8000	8200	8400	8600	8800	0006	9200	

MSAV® (MULTI-STAGE AIR VOLUME) BELT DRIVE KIT SPECIFICATIONS

Model No.	Nominal / Maximum - hp	Drive Kit Number	RPM Range
120	3	#3	660 - 900
120	3	#4	865 - 1080
	E	#4	520 - 685
240	5	#5	685 - 865
	7.5	#7	770 - 965

Air Volume cfm	Humiditrol Dehumidification Coil	Economizer	Filters MERV 13
036, 060 MODELS	Donamamoution Con		
800	0.00	0.04	0.05
1000	0.00	0.04	0.07
1200	0.01	0.04	0.07
1400	0.02	0.04	0.07
1600	0.03	0.04	0.07
1800	0.04	0.05	0.07
2000	0.04	0.05	0.08
120 MODEL			
2000	0.03	0.06	0.03
2500	0.04	0.11	0.05
3000	0.05	0.13	0.06
3500	0.06	0.15	0.07
4000	0.08	0.19	0.08
4500	0.10	0.22	0.09
5000	0.12	0.29	0.10
5500	0.14	0.34	0.12
6000	0.15	0.52	0.13
240 MODEL			
3000	0.02	0.00	0.00
3500	0.04	0.00	0.00
4000	0.04	0.00	0.00
4500	0.04	0.00	0.00
5000	0.04	0.00	0.00
5500	0.06	0.01	0.01
6000	0.06	0.01	0.02
6500	0.08	0.01	0.02
7000	0.08	0.02	0.03
7500	0.10	0.02	0.04
8000	0.10	0.02	0.04
8500	0.10	0.03	0.04
9000	0.12	0.04	0.04
9500	0.14	0.04	0.06

POWER EXHAUST FANS STANDARD STATIC PERFORMANCE

120 N	lodel	240 Model									
Return Air System Static Pressure	Air Volume Exhausted	Return Air System Static Pressure	Air Volume Exhausted								
in. w.g.	cfm	in. w.g.	cfm								
0.05	4085	0	10,200								
0.10	3685	0.05	9700								
0.15	3280	0.10	9200								
0.20	2880	0.15	8600								
0.25	2475	0.20	8100								
		0.25	7600								
		0.30	6900								
		0.35	6000								
		0.40	5000								
		0.45	4150								

ELECTRICA	AL DATA	١						DIRE	CT DRIVE	3 - 5 TON			
	M	odel No.			SCH036H4E		SCH060H4E						
¹ Voltage - 60h	Z		208/23	0V-3ph	460V-3ph	575V-3ph	208/23	0V-3ph	460V-3ph	575V-3ph			
Compressor	Rated Lo	ad Amps	11	.6	5.7	4	16	3.5	7.2	5.5			
	Locked Ro	tor Amps	73		38	25.6	11	10	52	38.9			
Outdoor Fan Motor(s)	Full Lo	ad Amps (total)		.3 .6)	0.3 (0.6)	0.3 (0.6)	0.7 (1.4)		0.7 (1.4)	0.7 (1.4)			
Service Outlet	115V GFI (Amps)	2	0	20	20	2	:0	20	20			
Indoor Blower	Hor	sepower	1	.5	1.5	1.5	1.5		1.5	1.5			
Motor		Type	Direct (ECM)		Direct (ECM)	Direct (ECM)	Direct	(ECM)	Direct (ECM)	Direct (ECM)			
	Full Lo	ad Amps	4	.4	2.3	2.3	4.4		2.3	2.3			
² Maximum Overcurrent Protection	l	Jnit Only	3	0	15	15	40		15	15			
³ Minimum Circuit Ampacity	l	Jnit Only	2	0	11	9	27		13	11			
ELECTRICA	AL HEAT	DATA	'			'				,			
Electric Heat V	/oltage		208V	240V	480V	575V	208V	240V	480V	575V			
² Maximum	Unit+	10 kW			20				20				
Overcurrent Protection	Electric	15 kW	445	60	30	25	445	60	30	25			
Protection	пеаі	Heat 20 kW							35				
		30 kW					490	100	50	40			
³ Minimum	Unit+	Electric 15 kW			18				18				
Circuit Ampacity	Electric Heat			51	26	21	45	51	26	21			
Ampacity	Heat	20 kW							33				
		30 kW					84	96	48	39			

 $[\]ensuremath{\mathsf{NOTE}}$ - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

 $^{^{\}rm 1}$ NOTE – Extremes of operating range are plus and minus 10% of line voltage.

² HACR type breaker or fuse.

³ Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

⁴ Factory installed circuit breaker not available.

ELECTRICAL DA						RIVE 10 TO
	M	odel No.		SCH1	20H4M	
¹ Voltage - 60hz			208/23	0V-3ph	460V-3ph	575V-3ph
Compressor 1	Rated Lo	ad Amps	1	6	7.8	5.7
	Locked Ro		11	10	52	38.9
Compressor 2	Rated Lo	ad Amps	1	6	7.8	5.7
	Locked Ro	tor Amps	11	10	52	38.9
Outdoor Fan	Full Lo	ad Amps		3	1.5	1.2
Motors (3)		(total)		6)	(3)	(2.4)
Power Exhaust (1) 0.5		ad Amps		3	1.5	1.2
Service Outlet 115V G	FI (Amps)		2	20	20	20
Indoor Blower	Hoi	rsepower		3	3	3
Motor		Туре	В	elt	Belt	Belt
	Full Lo	ad Amps	10).6	4.8	3.9
² Maximum		Unit Only	6	0	30	20
Overcurrent	With (1) 0.5 H	IP Power	7	0	30	25
Protection		Exhaust				
³ Minimum		Unit Only	5	3	26	20
Circuit	With (1) 0.5 H		5	66	27	21
Ampacity		Exhaust				
ELECTRICAL H	EAT DATA					
Electric Heat Voltage)		208V	240V	480V	600V
² Maximum	Unit+	15 kW	60	60	30	25
Overcurrent	Electric Heat	20 kW			40	
Protection		30 kW	4 100	110	60	45
		40 kW			70	
		45 kW	150	150	80	60
		60 kW	⁴ 150	175	80	70
³ Minimum	Unit+	15 kW	53	59	29	23
Circuit	Electric Heat	20 kW			37	
Ampacity		30 kW	92	104	52	41
		40 kW			67	
		45 kW	131	149	74	60
		60 kW	139	158	79	63
² Maximum	Unit+	15 kW	70	70	35	25
Overcurrent	Electric Heat	20 kW			40	
Protection	and (1) 0.5 HP	30 kW	4 100	110	60	45
	Power Exhaust	40 kW			70	
		45 kW	⁴ 150	175	80	70
		60 kW	⁴ 150	175	90	70
³ Minimum	Unit+	15 kW	57	63	31	25
Circuit	Electric Heat	20 kW			38	
Ampacity	and (1) 0.5 HP	30 kW	96	108	53	43
	Power Exhaust	40 kW			69	
		45 kW	135	153	76	61
		70 1/11	100	100	10	

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

60 kW

143

81

65

162

 $^{^{\}rm 1}\,\mbox{NOTE}$ - Extremes of operating range are plus and minus 10% of line voltage.

² HACR type breaker or fuse.

³ Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

⁴ Factory installed circuit breaker not available.

ELECTRICAL	DATA		r				BE	LT DRI	VE 2	0 TON
		Model No.				SCH2			T	
¹ Voltage - 60hz					0V-3ph			/-3ph		/-3ph
Compressor 1		oad Amps			6		7.		_	.7
		Rotor Amps	110				5		38.9	
Compressor 2		oad Amps	16 110				7.		5.	
		Rotor Amps					5		-	3.9
Compressor 3		oad Amps			6		7.			.7
		Rotor Amps			10		5			3.9
Compressor 4		Load Amps			6		7.		5.	-
0		Rotor Amps			10		5		<u> </u>	3.9
Outdoor Fan Motors (6)	Full L	oad Amps			.4			.3		1
	F	(total)			1.4)		(7.			6)
Power Exhaust (3) 0.33 HP	Full L	Load Amps			.4			.3		1
. ,	CEL (Amna)	(total)			.2)		(3.		1	3)
Service Outlet 115V Indoor Blower	· · · /	orsepower	1		0 7	.5	5	7.5	5	7.5
Motor		Full Load Amps				.5 I.2	7.6	11	6.1	9
² Maximum	- Full L	Unit Only				25	50	60	40	45
Overcurrent With (3) 0.33 HP Power		·		10		25 25	60	60	45	50
Protection	With (3) 0.33 TH T OW	CI LAHAUSI	'	10	12			00	45	30
³ Minimum		Unit Only	10	00	10)9	49	53	37	41
Circuit	With (3) 0.33 HP Pow	With (3) 0.33 HP Power Exhaust			1′	16	53	57	40	44
Ampacity	UEAT DATA									
ELECTRICAL						0.4014	40014	4001		0001
Electric Heat Volta	<u> </u>	00 1 14/	208V	240V	208V	240V	480V	480V	600V	600V
² Maximum Overcurrent	Unit+ Electric Heat	20 kW	1.440	405	405	405	50	60	45	
Protection	Licotile Heat	30 kW	4 110	125	125	125	60	60	45	50
		40 kW	4.450	475	475	475	70	80	70	70
		60 kW	4 150	175	175	175	90	90 110	70	70
		80 kW	4 225		4 225				100	100
³ Minimum	Unit+	90 kW 20 kW		250		250	125 49	125 53		
Circuit	Electric Heat						49	55		
Ampacity			100	112	100	121	55	50	11	
		30 kW	100	112	109	121	55 70	59	44	48
		40 kW					70	74		
		40 kW 60 kW	146	166	156	175	70 82	74 86	66	69
		40 kW 60 kW 80 kW	146	166 	156 	175	70 82 106	74 86 110	66	69
² Maximum	Unit+	40 kW 60 kW 80 kW 90 kW	146 209	166 238	156 218	175 247	70 82 106 118	74 86 110 123	66 95	69 98
² Maximum Overcurrent	Unit+ Electric Heat	40 kW 60 kW 80 kW 90 kW	146	166 238	156 218	175 247	70 82 106 118 60	74 86 110 123 60	66 95	69 98
	Electric Heat and (3) 0.33 HP	40 kW 60 kW 80 kW 90 kW 20 kW	146 209	166 238	156 218	175 247	70 82 106 118	74 86 110 123 60 70	66 95	69 98
Overcurrent	Electric Heat	40 kW 60 kW 80 kW 90 kW 20 kW 30 kW	146 209 4 110	166 238 125	156 218 4 125	175 247 150	70 82 106 118 60 60	74 86 110 123 60 70 80	66 95 50	69 98 60
Overcurrent	Electric Heat and (3) 0.33 HP	40 kW 60 kW 80 kW 90 kW 20 kW	146 209 4 110	166 238 125	156 218 4 125	175 247 150	70 82 106 118 60 60 80	74 86 110 123 60 70	95 50	98 60
Overcurrent	Electric Heat and (3) 0.33 HP	40 kW 60 kW 80 kW 90 kW 20 kW 30 kW 40 kW 60 kW	 146 209 4 110 175	166 238 125 175	156 218 4 125 4 175	175 247 150 200	70 82 106 118 60 60 80 90 125	74 86 110 123 60 70 80 100	 66 95 50 70	 69 98 60 80
Overcurrent	Electric Heat and (3) 0.33 HP	40 kW 60 kW 80 kW 90 kW 20 kW 30 kW 40 kW	 146 209 4 110 175	166 238 125 175	156 218 4 125 4 175 	175 247 150 200	70 82 106 118 60 60 80 90	74 86 110 123 60 70 80 100	 66 95 50 70	98 60 80
Overcurrent Protection ³ Minimum Circuit	Electric Heat and (3) 0.33 HP Power Exhaust Unit+ Electric Heat	40 kW 60 kW 80 kW 90 kW 20 kW 30 kW 40 kW 80 kW	 146 209 4 110 175 4 225	166 238 125 175 250	156 218 4 125 4 175 4 250	175 247 150 200 4 300	70 82 106 118 60 60 80 90 125 125	74 86 110 123 60 70 80 100 125	 66 95 50 70 100	69 98 60 80
Overcurrent Protection	Electric Heat and (3) 0.33 HP Power Exhaust Unit+ Electric Heat and (3) 0.33 HP	40 kW 60 kW 80 kW 90 kW 20 kW 30 kW 40 kW 60 kW 90 kW	 146 209 4 110 175 4 225	166 238 125 175 250	156 218 4 125 4 175 4 250	175 247 150 200 4 300	70 82 106 118 60 60 80 90 125 125 53	74 86 110 123 60 70 80 100 125 150	 66 95 50 70 100	69 98 60 80 110
Overcurrent Protection ³ Minimum Circuit	Electric Heat and (3) 0.33 HP Power Exhaust Unit+ Electric Heat	40 kW 60 kW 80 kW 90 kW 20 kW 30 kW 40 kW 80 kW 90 kW 20 kW	 146 209 4 110 175 4 225 109	166 238 125 175 250 121	 156 218 4 125 4 175 4 250 118	175 247 150 200 4 300 130	70 82 106 118 60 60 80 90 125 125 53 60	74 86 110 123 60 70 80 100 125 150 57 64	 66 95 50 70 100 48	69 98 60 80 110 52
Overcurrent Protection ³ Minimum Circuit	Electric Heat and (3) 0.33 HP Power Exhaust Unit+ Electric Heat and (3) 0.33 HP	40 kW 60 kW 80 kW 90 kW 20 kW 40 kW 60 kW 90 kW 20 kW 30 kW	146 209 4 110 175 4 225 109	166 238 125 175 250 121	 156 218 4 125 4 175 4 250 118	175 247 150 200 4 300 130	70 82 106 118 60 60 80 90 125 125 53 60 75	74 86 110 123 60 70 80 100 125 150 57 64 79	 66 95 50 70 100 48	69 98 60 80 110 52

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

90 kW

247

227

256

123

127

98

102

 $^{^{\}mbox{\tiny 1}}$ NOTE - Extremes of operating range are plus and minus 10% of line voltage.

² HACR type breaker or fuse.

³ Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

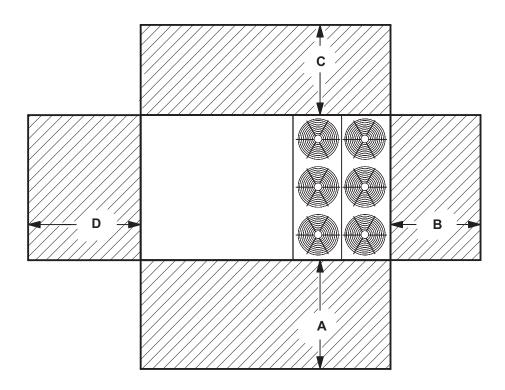
⁴ Factory installed circuit breaker not available.

OUTDOOR SOUND DATA

Unit	Octa	Octave Band Sound Power Levels dBA, re 10-12 Watts Center Frequency - HZ											
Model No.	125	250	500	1000	2000	4000	8000	Rating Number dBA					
036	55	59	63	61	57	48	39	67					
060	65	71	74	72	69	63	54	78					
120	80	79	79	76	71	65	57	89					
240	94	91	90	87	83	79	72	92					

Note - The octave sound power data does not include tonal corrections.

UNIT CLEARANCES



¹ Unit Clearance			Α		В		С		D	Тор	
			mm	in.	mm	in.	mm	in.	mm	Clearance	
Service	036, 060	48	1219	36	914	60	1524	60	1524	Unobstructed	
Clearance	120	60	1524	36	914	60	1524	60	1524	Unobstructed	
	240	72	1829	36	914	60	1524	96	2438	Unobstructed	
Minimum Operation Clearance	All	36	914	36	914	36	914	36	914	Unobstructed	

NOTE - Entire perimeter of unit base requires support when elevated above the mounting surface.

Minimum Operation Clearance - Required clearance for proper unit operation.

¹ Sound Rating Number according to AHRI Standard 270-95 or AHRI Standard 370-2001 (includes pure tone penalty). Sound Rating Number is the overall A-Weighted Sound Power Level, (LwA), dB (100 Hz to 10,000 Hz).

¹ Service Clearance - Required for removal of serviceable parts.

Model Number	N	Net					
Model Number	lbs.	kg	lbs.	kg 423 483 434 497			
SCH036 Base Unit	833	378	933	423			
SCH036 Max Unit	965	438	1065	483			
SCH060 Base Unit	856	388	956	434			
SCH060 Max Unit	995	451	1095	497			
SCH120 Base Unit	1468	666	1568	711			
SCH120 Max Unit	1699	771	1799	816			
SCH240 Base Unit	2603	1181	2703	1226			
SCH240 Max Unit	3074	1394	3174	1440			

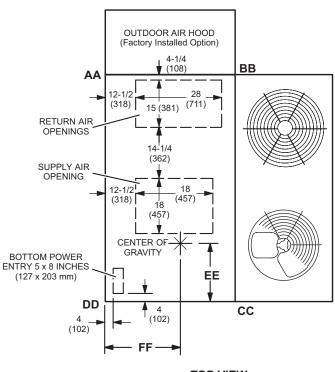
NOTE - Base Unit is NO OPTIONS.

NOTE - Max. Unit is the unit with ALL INTERNAL OPTIONS Installed. (Max Electric Heat, Economizer, Standard Static Power Exhaust Fans, Humiditrol, Controls, etc.). Does not include accessories EXTERNAL to unit.

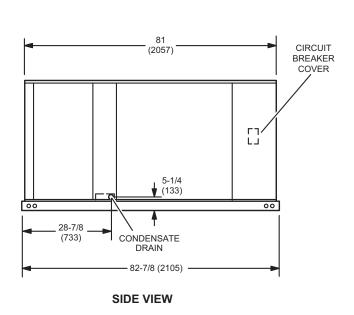
Danasis tias		Wei	ight
Description		lbs.	kg
CABINET			
Combination Coil/Hail	036 or 060	24	11
Guards	120	25	11
	240	50	23
ECONOMIZER / OUTDOOR AIR /	EXHAUST		
Economizer	036 or 060	50	23
	120	70	32
	240	138	63
Outdoor Air Dampers	240	68	31
Power Exhaust	120	28	13
	240	99	45
ELECTRIC HEAT			
Electric Heat	10 kW (036-060-120 models)	31	14
	15 kW (036-060-120 models)	31	14
	20 kW (060 and 120 models)	38	17
	30 kW (060-120 models)	38	17
	40 kW (120 models)	42	19
	45 kW (120 models)	42	19
	60 kW (120 models)	49	22
	20 kW (240 models)	59	27
	30 kW (240 models)	59	27
	40 kW (240 models)	76	34
	45 kW (240 models)	76	34
	60 kW (240 models)	76	34
	80 kW (240 models)	84	38
	90 kW (240 models)	84	38
PACKAGING			
LTL Packaging	036 or 060	90	41
(less than truck load)	120	105	48
	240	300	136
ROOF CURBS	'		
Hybrid Roof Curbs, Downflow	036 or 060	70	32
14 in. height	120	80	36
-	240	115	52
Hybrid Roof Curbs, Downflow	036 or 060	105	48
24 in. height	120	120	54
-	240	170	77
HUMIDITROL® DEHUMIDIFICAT			
Humiditrol Dehumidification Opti		27	12
(Net Weight)	120	57	26
· · · · · · · · · · · · · · · · · · ·	240	100	45

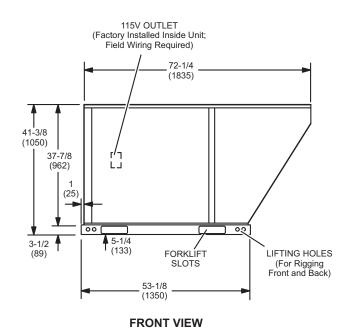
DIMENSIONS - UNI	SCH036H SCH060H											
CORNER WEIGHTS	CENTER OF GRAVITY											
Model No.	Α	Α	BB		С	CC DD		EE		FF		
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm
SCH036H Base Unit	150	68	210	95	276	125	198	90	35-3/4	908	30-7/8	784
SCH036H Max. Unit	166	75	251	114	330	150	218	99	35-3/4	908	31-7/8	810
SCH060H Base Unit	150	68	209	95	289	131	207	94	34-3/4	883	30-7/8	784
SCH060H Max. Unit	167	76	251	114	347	157	230	104	34-3/4	883	31-7/8	810

Max. Unit - The Base Unit with ALL OPTIONS Installed. (Economizer and controls)



TOP VIEW

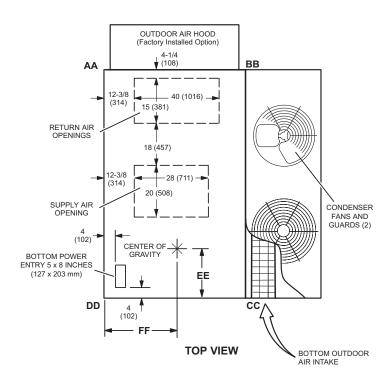


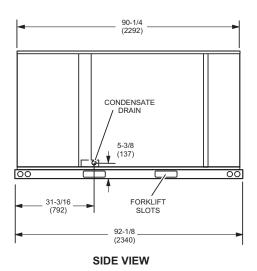


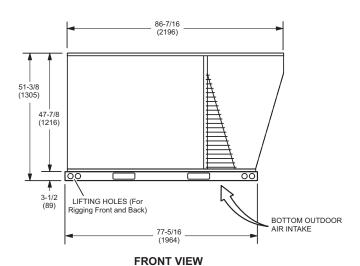
DIMENSIONS - UNIT SCH120H

CORNER WEIGHTS	CENTER OF GRAVITY											
Model No.	AA		ВВ		CC		DD		EE		FF	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm
SCH120H Base Unit	395	179	296	134	332	151	444	201	42-1/2	1080	37	940
SCH120H Max. Unit	467	212	350	159	393	178	525	238	42-1/2	1080	37	940

Max. Unit - The Base Unit with ALL OPTIONS Installed. (Economizer and controls)



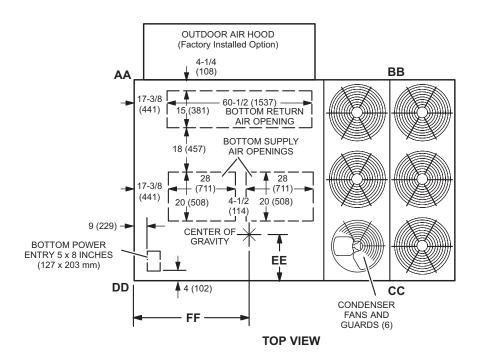


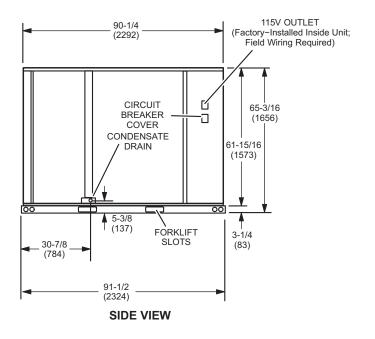


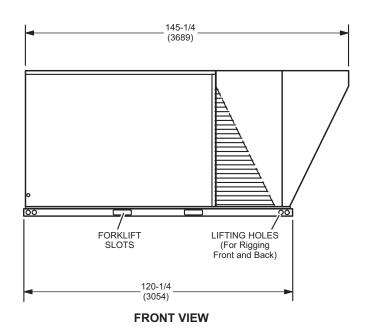
DIMENSIONS - UNIT SCH240H

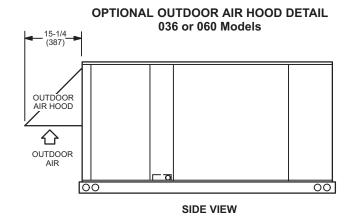
CORNER WEIGHTS	CENTER OF GRAVITY											
Model No.	AA		BB		CC		DD		EE		FF	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm
SCH240H Base Unit	533	242	551	250	772	350	747	339	38-1/8	968	61-1/4	1556
SCH240H Max. Unit	630	286	651	295	911	413	882	400	38-1/8	968	61-1/4	1556

Max. Unit - The Base Unit with ALL OPTIONS Installed. (Economizer and controls)

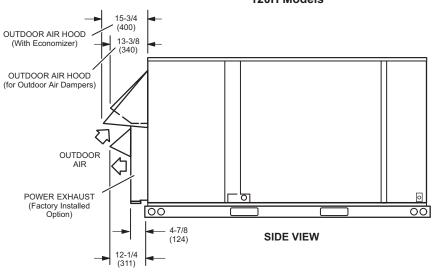


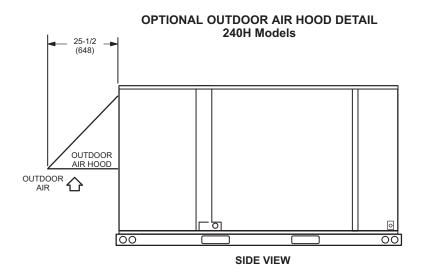




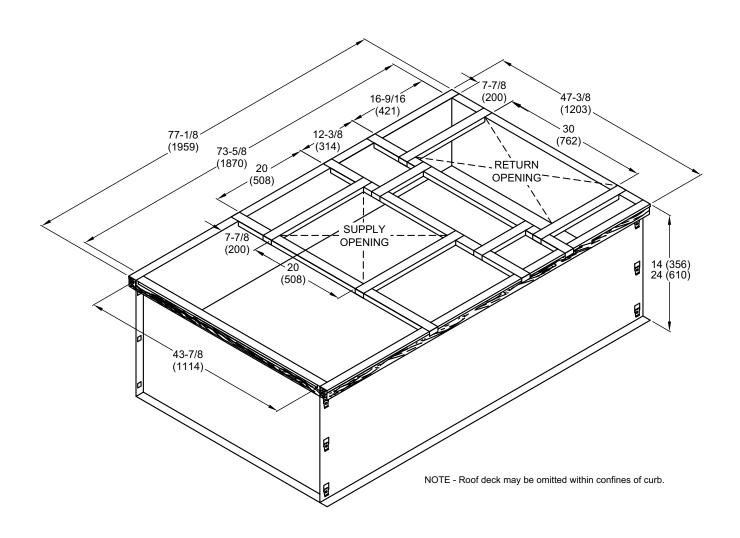


OPTIONAL OUTDOOR AIR HOOD DETAIL OPTIONAL POWER EXHAUST DETAIL 120H Models

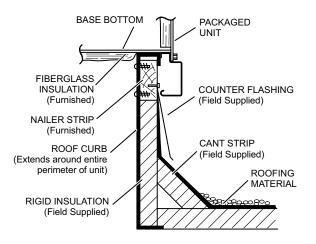




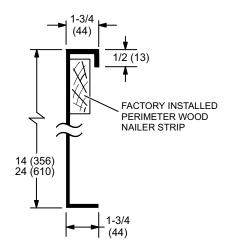
HYBRID ROOF CURBS - 036-060 MODELS - DOUBLE DUCT OPENING



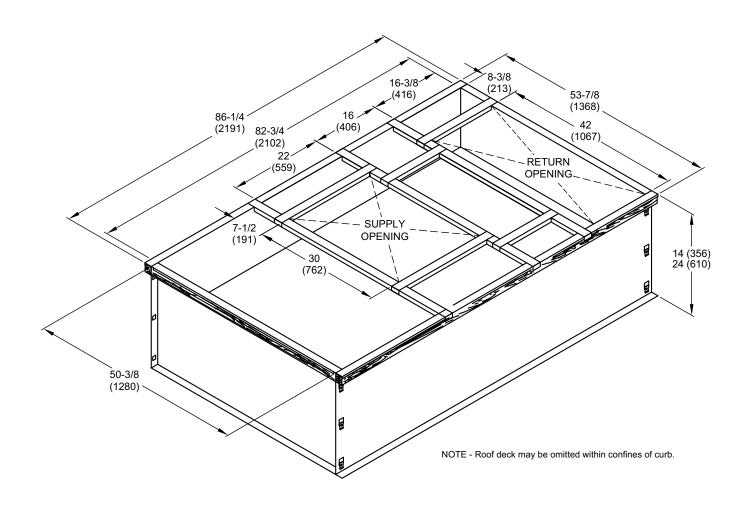
TYPICAL FLASHING DETAIL FOR ROOF CURB



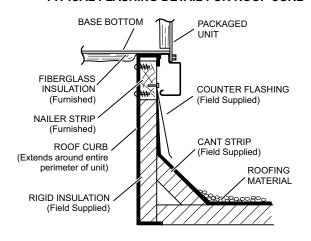
DETAIL ROOF CURB



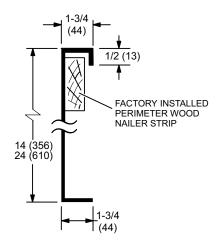
HYBRID ROOF CURBS - 120 MODEL - DOUBLE DUCT OPENING



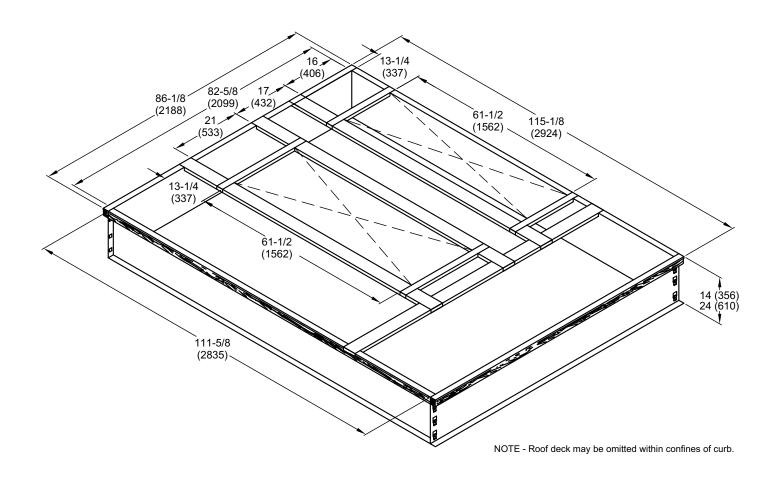
TYPICAL FLASHING DETAIL FOR ROOF CURB



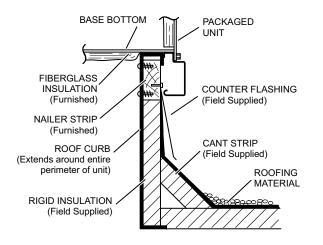
DETAIL ROOF CURB



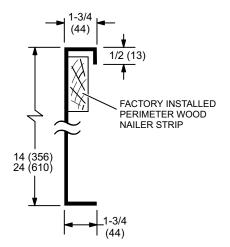
HYBRID ROOF CURBS - 240 MODEL - FULL PERIMETER - DOUBLE DUCT OPENING



TYPICAL FLASHING DETAIL FOR ROOF CURB



DETAIL ROOF CURB















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