



COMMERCIAL PRODUCT SPECIFICATIONS

QHA

Q-SERIES™

Standard Efficiency - R-454B - Three-Phase - 60 Hz

Bulletin No. 310940
July 2026

SEER2 - 13.4

HSPF2 - 6.7

3 to 5 Tons

Cooling Capacity - 34,000 to 56,000 Btuh

Heating Capacity - 34,000 to 57,000 Btuh

Optional Electric Heat - 5 to 23 kW

MODEL NUMBER IDENTIFICATION

Q H A 060 S 5 D N 1 Y - 01A

Model Family
Q = Light Commercial Packaged

Unit Type
H = Heat Pump

Major Design Sequence
A = 1st Generation

Nominal Cooling Capacity - Tons
036 = 3 Tons
048 = 4 Tons
060 = 5 Tons

Cooling Efficiency
S = 13.4 SEER2

Minor Revision Sequence
01A = 1st Revision

Voltage
Y = 230V - 3 phase - 60Hz
G = 460V - 3 phase - 60Hz

Minor Design Sequence
1 = 1st Revision

Heating Type
N = No Heat

Blower Type
D = Direct Drive (ECM)

Refrigerant Type
5 = R-454B

CONTENTS

MODEL NUMBER IDENTIFICATION	1
APPROVALS AND WARRANTY	2
FEATURES	3
OPTIONS / ACCESSORIES	7
SPECIFICATIONS	10
COOLING / HEATING RATINGS	11
BLOWER DATA	20
ELECTRICAL/ELECTRIC HEAT DATA	23
- 3 TON	23
- 4 TON	24
- 5 TON	24
ELECTRIC HEAT CAPACITIES	25
INSTALLATION CLEARANCES	25
WEIGHT DATA	26
- UNIT	26
- OPTIONS / ACCESSORIES	26
DIMENSIONS	27
- UNIT	27
- ACCESSORIES	28

APPROVALS AND WARRANTY

APPROVALS

- AHRI Standard 210/240 certified
- Design Certified by ETL Intertek
- Unit and components ETL, NEC and CEC bonded for grounding to meet safety standards for servicing

Note - All models meet UL 60335-2-40 Refrigerant Detector Requirements

- Optional electric heaters are ETL listed for the US and Canada and are rated and tested according to DOE test procedures and FTC labeling regulations
- All models are ASHRAE 90.1 compliant
- Seismic Certification (with Seismic Strapping Kit applied): Latest Edition of International Building Code, California Building Code, and ASCE 7-16

WARRANTY

- Compressors - Limited five years
- All other covered components - Limited one year

FEATURES

COOLING SYSTEM

R-454B Refrigerant

- Non-chlorine based
- Ozone-friendly
- Factory pre-charged

Indoor and Outdoor Coils

- Copper tube with aluminum fin coils
- Factory leak tested

Anti-Microbial Condensate Drain Pan

- Anti-Microbial additive resists growth of mold and mildew on drain pan which improves indoor air quality and reduces drain line blockage
- Insulated to reduce condensation
- Side drain connection

Drain Pan Overflow Switch

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

Outdoor Coil Fan Motor

- Weather protected heavy duty condenser fan motor
- Coated steel fan blades for long life
- Corrosion-resistant coated steel fan guard
- Internally mounted
- Totally enclosed fan motor

Four-Way Reversing Valve

- Rapid changeover of refrigerant flow direction from cooling to heating and vice versa
- Operates on pressure differential between outdoor unit and indoor coil
- Factory installed

High Pressure Switch

- Protects the system from high pressure conditions
- Automatic reset.

Loss of Charge Switch

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

Service Valves

- Fully serviceable brass valves installed in discharge & liquid lines

LOW GWP REFRIGERANT DETECTION SYSTEM (RDS)

- Complies with UL 60335-2-40 approved standard
- Required for all systems using R-454B refrigerant
- Factory installed on all units
- Consists of a leak detection sensor(s) and a mitigation control
- Ensures safe operation for systems equipped with R-454B refrigerant
- Sensor(s) monitors indoor coil area for any refrigerant leaks if they occur

- If a leak is detected the refrigerant detection system will prevent compressor and heating operation until a leak is no longer detected
- Refrigeration detection system energizes blower while a leak is detected to mitigate any concentrations of refrigerant from the unit and the system

COMPRESSOR

Scroll Compressor

- High volumetric efficiency
- Uniform suction flow
- Constant discharge flow
- Quiet operation
- Low gas pulses during compression reduces operational sound levels
- Compressor motor is internally protected from excessive current and temperature
- Compressor is installed in the unit on resilient rubber mounts for vibration free operation

Scroll Compressor Operation

- Two involute spiral scrolls matched together generate a series of crescent-shaped gas pockets between them
- During compression, one scroll remains stationary while the other scroll orbits around it
- Gas is drawn into the outer pocket, the pocket is sealed as the scroll rotates
- As the spiral movement continues, gas pockets are pushed to the center of the scrolls. Volume between the pockets is simultaneously reduced
- When the pocket reaches the center, gas is now at high pressure and is forced out of a port located in the center of the fixed scrolls
- During compression, several pockets are compressed simultaneously resulting in a smooth continuous compression cycle
- Continuous flank contact, maintained by centrifugal force, minimizes gas leakage and maximizes efficiency
- Compressor is tolerant to the effects of slugging and contaminants. If this occurs, scrolls separate, allowing liquid or contaminants to be worked toward the center and discharged
- Muffler in discharge line reduces operating sound levels

Optional Accessories

Field Installed

Compressor Crankcase Heater

- Protects against refrigerant migration that can occur during low ambient operation

Compressor Timed-Off Control

- Prevents compressor short-cycling
- Allows time for suction and discharge pressure to equalize
- Permits compressor start-up in an unloaded condition
- Automatic reset
- Five minute delay between compressor shut-off and start-up.

FEATURES

Optional Accessories (Continued)

Freezestat

- Senses suction line temperature
- Cycles compressor off when suction line temperature falls below its setpoint

Low Ambient Kit (40°F)

- Cycles the outdoor fan while allowing compressor operation in the cooling cycle
- This intermittent fan operation allows the system to operate without icing the evaporator coil and losing capacity
- Designed for use in ambient temperatures no lower than 40°F

NOTE - Crankcase heater and freezestat are recommended on compressor equipped with a low ambient kit.

CABINET

- Conditioned areas insulated with foil faced insulation to minimize heat loss and reduce operating sound levels
- Powder paint for maximum durability
- Full perimeter heavy-gauge galvanized steel base rails
- Base rails have rigging holes
- Two sides of the base rails have forklift slots
- Raised edges around duct and power entry openings in the bottom of the unit for water protection
- Easy service access
- Steel louvered panels provides complete coil protection

Airflow Choice

- Units are shipped with supply and return air duct covers installed for downflow or horizontal conversion

Electrical Inlets and Service Valves

- Field wiring inlets are located in one central area of the cabinet
- See dimension drawing
- Service valves with gauge ports are located inside the cabinet

Optional Accessories

Field Installed

Bottom Power Entry Kit

- Allows high and low voltage wiring connections through the unit base pan

Base Rail Openings Closure Kit

- Kit consists of panels and hardware to cover rigging holes and forklift slots in unit base rails

Rectangular to Round Duct Adaptor Kits

- Downflow or horizontal kits available
- Converts rectangular supply and return air openings on unit cabinet to round diameter
- Several sizes available

Tool-Less Filter Access Kit

- Converts blower access panel to two-piece design
- One panel is equipped with tool-less latches for ease filter access without removing entire blower panel

NOTE - Not for seismic-rated applications.

CONTROLS

Refrigerant Detection System (RDS) Control

- Monitors leak detection sensor
- Connections for external RDS alarm system (not furnished)
- LED for power, monitoring and sensor status
- Test/Reset button for troubleshooting

24 Volt Transformer

- 70VA transformer furnished and factory installed in control area

Field Installed

Smoke Detector

- Photoelectric type
- Installed in supply air and/or return air ducts
- Available with one sensor or two sensors

BLOWER

- Direct drive blower
- Blower wheel is statically and dynamically balanced
- Resiliently mounted
- Blower assembly easily removed for servicing

Constant Torque Blower Motor

- DC Brush less Motor
- High Efficiency Constant Torque
- ECM (Electronically Commutated Motor)
- Motor is programmed to provide constant torque at each of the selectable speeds
- Fixed blower "On" delay prevents cold air from entering system during gas heating demand
- See Blower Performance tables

INDOOR AIR QUALITY

Air Filters

- Filter rack furnished as standard
- See Specifications Table for sizes

NOTE - Filters must be field provided.

OPTIONS / ACCESSORIES

ELECTRIC HEAT (5-23 KW)

Optional Accessories

Field Installed

- Field installed internal to unit cabinet
- Available in several voltages and kW sizes
- Helix wound nichrome heating elements exposed directly in air stream
- Instant heat transfer
- Low element temperatures and long service life
- Cutoff limit control provides positive protection in case of excessive temperatures
- Factory assembled with controls installed and wired

NOTE - Field wiring for electric heat is separate from the unit power supply. A second, separate power source is required.

ECONOMIZER

Field Installed

Economizer

(Standard and High Performance Common Features)

- Convertible to downflow or horizontal
- Outdoor Air Hood is furnished
- Includes Barometric Relief Dampers with Exhaust Hood
- Barometric Relief Dampers allow relief of excess air,
- Aluminum blade dampers prevent blow back and outdoor air infiltration during off cycle
- Exhaust hood with bird screen furnished
- Single temperature control is furnished with Economizer
- Outdoor air sensor enables Economizer if the outdoor temperature is less than the setpoint of the control

Standard Economizer Features (Not for Title 24)

- Gear-driven action
- Return air and outdoor air dampers
- Plug-in connections to unit
- Nylon bearings
- Neoprene seals
- 24-volt
- Fully-modulating spring return motor

Standard Economizer Control Module

The Standard Economizer Control Module can be adjusted to operate based on outdoor air temperatures

Economizer Controls:

- Damper Minimum Position - Can be set lower than traditional minimum air requirements resulting in cost savings
- Free Cool LED - A steady green LED indicates outdoor air is suitable for free cooling

NOTE - Free Cooling runs when outdoor air temperature is lower than the set temperature on the economizer control.

NOTE: The Free Cooling default setting for outdoor air temperature sensor is 55°F.

High Performance Economizer Features

- 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
- Stainless steel bearings
- 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 2019 Building Energy Efficiency Standards. Refer to Installation Instructions for complete setup information and menu parameters available.

High Performance Economizer Control Module

- Module provides inputs and outputs to control economizer based on parameter settings
- Module automatically detects sensors by polling to determine which sensors are installed in system
- Module displays any alarm messages (fault detection and diagnostics) as an aid in troubleshooting
- Non-volatile memory retains parameter settings in case of power failure
- Keypad with four navigation buttons and LCD screen is furnished for setting economizer parameters
 - Menu Up/Exit  button returns to the main menu
 - Arrow Up  button moves to the previous or next parameter within the selected menu
 - Arrow Down  button moves to the next parameter within the selected menu
 - Select (enter)  button confirms parameter selection

OPTIONS / ACCESSORIES

ECONOMIZER (continued)

High Performance Economizer Control Module (continued)
Main Menu Structure:

- STATUS (economizer and system operation status)
- SETPOINTS (settings for various setpoint parameters)
- SYSTEM SETUP (settings/information about the system)
- ADVANCED SETUP (freeze protection, CO₂ settings, stage 3 delay, and additional calibration settings)
- CHECKOUT (damper positions)
- ALARMS (output signal that can be configured for remote alarm monitoring)

NOTE - Refer to Installation Instructions for complete setup information and menu parameters available.

Field Installed

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

OUTDOOR AIR

Field Installed

Outdoor Air Dampers - Downflow

- Single blade damper
- 0 to 25% (fixed) outdoor air adjustable
- Installs in unit
- Outdoor air hood is furnished
- Automatic model features fully modulating spring return damper motor with plug-in connection
- Manual model features a slide damper

NOTE - Maximum mixed air temperature in cooling mode is 100°F.

ROOF CURBS

Field Installed

Clip Curb (Full Perimeter)

- Interlocking tabs fasten corners together
- No tools required
- Fully gasketed around curb perimeter and supply and return openings
- Available in 8, 14, 18 and 24 inch heights
- Shipped knocked down

Adjustable Pitch Roof Curb (Full Perimeter) Standard Curb

- Fully adjustable pitch curb provides a level platform for packaged units
- Allows flexible installations on roofs with sloped or uneven angles
- Adjustable from 2/12 to 6/12 pitch
- Fully gasketed around curb perimeter and supply and return openings
- Shipped knocked down

All Clip and Adjustable Pitch Curbs

- IBC 2018 compliant
- CBC 2019 compliant
- Seismic rating - SDS 2.0g, z/h=1, Ip=1.5
- Wind rating - 240 mph (Lateral), 214 mph (Uplift)
- Maximum load rating - 800 lbs.

Adaptor Curbs (not shown)

- Adaptor curbs are locally sourced

NOTE - Please contact your Allied representative for guidance in your area.

Strapping Kit - Hurricane

- Galvanized steel .07 in. thick minimum
- Attaches unit base rails to host structure

Strapping Kit - Seismic

- Heavy-gauge galvanized steel
- Kit contains 4 brackets and mounting hardware

OPTIONS / ACCESSORIES

Item			Catalog No.	Model No.			
				QHA036	QHA048	QHA060	
COOLING SYSTEM							
Compressor Crankcase Heater 230V 3-ph			11X27	X	X	X	
Compressor Crankcase Heater 460V 3-ph			21D21	X	X	X	
Compressor Timed-Off Control			47J27	X	X	X	
Freezestat			21D23	X	X	X	
Low Ambient Kit (40°F)			21D20	X	X	X	
CABINET							
Base Rail Openings Closure Kit			21J84	X	X	X	
Square to Round Duct Adaptor Kits	Downflow	14 in. dia.	21D26	X	X	X	
		Horizontal	14 in. dia.	21D24	X	X	X
			16 in. dia.	22U78	X	X	X
			18 in. dia.	22U79	X	X	X
¹ Tool-Less Filter Access Kit			21J80	X	X	X	
CONTROLS							
Smoke Detector - Supply or Return (one sensor)			21U21	X	X	X	
Smoke Detector - Supply and Return (two sensors)			21U22	X	X	X	
ELECTRICAL							
Bottom Power Entry Kit			21J78	X	X	X	
208/230V Single Point Power Kit			28X19	X	X	X	
460V Single Point Power Kit			29X63	X	X	X	
² ELECTRIC HEAT							
5 kW	208/230V-3ph	21J30	X	X	X		
	460V-3ph	21J37	X	X	X		
10 kW	208/230V-3ph	21J33	X	X	X		
	460V-3ph	21J38	X	X	X		
15 kW	208/230V-3ph	21J34	X	X	X		
	460V-3ph	21J39	X	X	X		
20 kW	208/230V-3ph	21J35		X	X		
	460V-3ph	21J40		X	X		
23 kW	208/230V-3ph	21J36			X		
	460V-3ph	21J41			X		

¹ Not for seismic-rated applications.

² Field wiring for electric heat is separate from the unit power supply. A second, separate power source is required.

X = Field Installed

OPTIONS / ACCESSORIES

Item	Catalog No.	Model No.		
		QHA036	QHA048	QHA060
ECONOMIZER				
Standard Economizer With Outdoor Air Hood (Not for Title 24)				
Downflow or Horizontal (Includes Barometric Relief Dampers and Exhaust Hood)	21U15	X	X	X
High Performance Economizer With Outdoor Air Hood (Approved for California Title 24 Building Standards / AMCA Class 1A Certified)				
Downflow or Horizontal (Includes Barometric Relief Dampers and Exhaust Hood)	21U17	X	X	X
Economizer Controls				
Single Enthalpy Control (Standard)	21Z09	X	X	X
Single Enthalpy Control (High Performance)	11G21	X	X	X
OUTDOOR AIR				
Outdoor Air Dampers With Outdoor Air Hood				
Motorized	21U19	X	X	X
Manual	21U20	X	X	X
ROOF CURBS				
Clip Curbs				
8 in height	21J17	X	X	X
14 in height	21J19	X	X	X
18 in height	21J20	X	X	X
24 in height	21J25	X	X	X
Adjustable Pitch Roof Curb (Knock-Down Style)				
14 in height	30X49	X	X	X
Strapping Kits for Roof Curbs				
Strapping Kit - Hurricane (Slab Mount)	21J74	X	X	X
Strapping Kit - Hurricane (Rail Mount)	22G53	X	X	X
Strapping Kit - Seismic	21J75	X	X	X

X = Field Installed

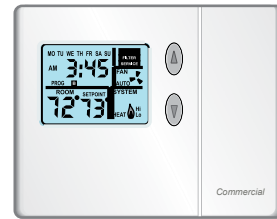
OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

CS7500 Commercial 7-Day Programmable Thermostat



- Premium Universal Thermostat
- Full Color Touchscreen Interface
- Up To 4 Heat / 3 Cool
- Built-In Sensors For Temperature and Humidity
- Remote Sensors Options For Temperature, Discharge Air, Outdoor Air
- 5-2 or 7-Day Scheduling
- Smooth Setback Recovery
- Heat/Cool Auto-Changeover
- FDD, ASHRAE, IECC Compliant

CS3000 Commercial 5-2 Day Programmable Thermostat



- Conventional Multi-Stage Thermostat
- Intuitive Display
- Push-Button Operation
- Up To 2 Heat / 2 Cool
- Built-In Temperature Sensor
- Remote Temperature Sensing
- Up to 5-2 Day Scheduling
- Smooth Setback Recovery
- Heat/Cool Auto-changeover

Description		Catalog No.
CS7500 Commercial 7-Day Programmable Thermostat		
CS7500 7-Day Thermostat		24K41
Sensors/	¹ Remote non-adjustable wall-mount 20k	47W36
Accessories	¹ Remote non-adjustable wall-mount 10k	47W37
	Remote non-adjustable discharge air (duct mount)	19L22
	Outdoor temperature sensor	X2658
CS3000 5-2 Day Programmable Thermostat		
CS3000 5-2 Day Thermostat		11Y05
Sensor/	Remote non-adjustable wall mount 10k averaging	47W37
Accessories	Thermostat wall mounting plate	X2659
Universal Thermostat Guard with Lock (clear)		
Inside Dimensions (H x W x D) 5-7/8 x 8-3/8 x 3 in.		39P21

¹ Remote wall-mount sensors can be applied in any of the following combinations:

- One Sensor - (1) 47W36
- Two Sensors - (2) 47W37
- Three Sensors - (2) 47W36 and (1) 47W37
- Four Sensors - (4) 47W36
- Five Sensors - (3) 47W36 and (2) 47W37

SPECIFICATIONS

General Data		Nominal Tonnage	3 Ton	4 Ton	5 Ton
		Model Number	QHA036S5D	QHA048S5D	QHA060S5D
		Efficiency Type	Standard	Standard	Standard
		Blower Type	Direct Drive (ECM)	Direct Drive (ECM)	Direct Drive (ECM)
Cooling Performance	Gross Cooling Capacity - Btuh		35,000	48,000	59,000
	¹ Net Cooling Capacity - Btuh		34,000	45,500	56,000
	AHRI Rated Air Flow - cfm		1200	1650	1800
	Total Unit Power - kW		3.13	3.76	4.85
	¹ SEER2		13.4	13.4	13.4
	¹ EER2		10.6	10.6	10.6
Sound Rating Number		dBA	78	79	78
Heating Performance	¹ Total High Heating Capacity - Btuh		34,000	47,000	57,000
	Total Unit Power - kW		3.12	3.75	4.83
	¹ COP		3.6	3.6	3.7
	¹ HSPF2 - Region IV		6.7	6.7	6.7
	¹ Total Low Heating Capacity - Btuh		21,000	25,800	33,600
	Total Unit Power - kW		2.84	3.52	4.2
Refrigerant Charge		¹ COP	2.1	2.3	2.2
	Refrigerant Type		R-454B	R-454B	R-454B
Electric Heat Available			5, 10, and 15 kW	5, 10, 15, and 20 kW	5, 10, 15, 20, and 23 kW
Compressor Type			Scroll (1)	Scroll (1)	Scroll (1)
Outdoor Coil	Net face area (total) - sq. ft.		33.57	33.57	37.66
	Tube diameter - in.		5/16	5/16	5/16
	Number of rows		2	2	2
	Fins per inch		22	22	22
Outdoor Coil Fan	Motor - (No.) horsepower		(1) 1/3	(1) 1/3	(1) 1/3
	Motor rpm		825	825	825
	Total Motor Input - watts		280	280	280
	Diameter - (No.) in.		(1) 24	(1) 24	(1) 24
	Number of blades		3	3	3
Indoor Coil	Net face area (total) - sq. ft.		6.75	6.75	6.75
	Tube diameter - in.		3/8	3/8	3/8
	Number of rows		3	3	3
	Fins per inch		15	15	15
	Drain connection (Number) and size - in.		(1) 3/4 in. NPT coupling		
	Expansion device type		Refrigerant Metering Orifice		Balanced Port TXV
Indoor Blower	Nominal motor HP		0.75 HP (ECM)	1.0 HP (ECM)	1.0 HP (ECM)
	Blower wheel nominal diameter x width - in.		(1) 12 x 9	(1) 12 x 9	(1) 12 x 10
² Filters	Type of filter		Disposable		
	Number and size - in.		(2) 20 x 20 x 1	(2) 20 x 20 x 1	(2) 20 x 20 x 1
Electrical characteristics			208/230V or 460V-60Hz -3ph		

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:

Cooling Ratings - 95°F outdoor air temperature and 80°F db/67°F wb entering indoor coil air.

High Temperature Heating Ratings - 47°F db/43°F wb outdoor air temperature and 70°F entering indoor coil air.

Low Temperature Heating Ratings - 17°F db/15°F wb outdoor air temperature and 70°F entering indoor coil air.

² Filters are not furnished and must be field provided.

COOLING / HEATING 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 Cooling - QHA036S5D

Entering Wet Bulb Tem- perature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																								
			85° F (29.4° C)						95° F (35° C)						105° F (40.6° C)						115° F (46.1° C)						
			Total Cool Cap.		Comp. Motor Watts Input	Sensible/Total Ratio (S/T)			Total Cool Cap.		Comp. Motor Watts Input	Sensible/Total Ratio (S/T)			Total Cool Cap.		Comp. Motor Watts Input	Sensible/Total Ratio (S/T)			Total Cool Cap.		Comp. Motor Watts Input	Sensible/Total Ratio (S/T)			
						Dry Bulb						Dry Bulb						Dry Bulb						Dry Bulb			
	cfm	L/s	kBtuh	kW		75°F 23.9°C	80°F 26.7°C	85°F 29.4°C	kBtuh	kW	75°F 23.9°C	80°F 26.7°C	85°F 29.4°C	kBtuh	kW	75°F 23.9°C	80°F 26.7°C	85°F 29.4°C	kBtuh	kW	75°F 23.9°C	80°F 26.7°C	85°F 29.4°C	kBtuh	kW	75°F 23.9°C	80°F 26.7°C
59°F (15°C)	1000	470	35.4	10.4	2250	.90	1.00	1.00	34.2	10.0	2550	.92	1.00	1.00	33.0	9.7	2880	.94	1.00	1.00	31.6	9.3	3260	.96	1.00	1.00	1.00
	1200	565	37.8	11.1	2250	.96	1.00	1.00	36.6	10.7	2550	.97	1.00	1.00	35.0	10.3	2890	1.00	1.00	1.00	33.6	9.8	3270	1.00	1.00	1.00	1.00
	1400	660	39.5	11.6	2250	1.00	1.00	1.00	38.5	11.3	2560	1.00	1.00	1.00	36.6	10.7	2900	1.00	1.00	1.00	35.2	10.3	3270	1.00	1.00	1.00	1.00
63°F (17.2°C)	1000	470	37.4	11.0	2250	.74	.87	.98	35.8	10.5	2550	.76	.89	1.00	34.0	10.0	2890	.77	.91	1.00	32.6	9.6	3260	.79	.93	1.00	1.00
	1200	565	39.0	11.4	2250	.78	.93	1.00	37.4	11.0	2550	.80	.95	1.00	35.6	10.4	2890	.82	.97	1.00	33.6	9.8	3270	.84	1.00	1.00	1.00
	1400	660	40.5	11.9	2250	.83	.98	1.00	38.5	11.3	2560	.84	1.00	1.00	36.6	10.7	2900	.87	1.00	1.00	35.2	10.3	3270	.89	1.00	1.00	1.00
67°F (19.4°C)	1000	470	39.5	11.6	2250	.60	.72	.84	38.0	11.1	2560	.60	.73	.86	36.2	10.6	2900	.62	.75	.88	34.6	10.1	3270	.63	.77	.91	
	1200	565	41.5	12.2	2250	.63	.76	.89	39.5	11.6	2560	.64	.78	.92	38.0	11.1	2900	.65	.80	.94	35.8	10.5	3270	.67	.83	.97	
	1400	660	42.5	12.5	2250	.66	.81	.95	41.0	12.0	2560	.67	.83	.97	39.0	11.4	2900	.68	.85	1.00	36.8	10.8	3280	.70	.88	1.00	
71°F (21.7°C)	1000	470	42.0	12.3	2250	.46	.58	.70	40.0	11.7	2560	.46	.59	.71	38.5	11.3	2900	.47	.61	.73	36.4	10.7	3270	.48	.62	.75	
	1200	565	44.0	12.9	2260	.49	.62	.74	42.0	12.3	2560	.49	.63	.76	40.0	11.7	2900	.48	.64	.78	37.8	11.1	3280	.49	.66	.81	
	1400	660	45.5	13.3	2260	.50	.65	.78	43.5	12.7	2560	.50	.66	.81	41.0	12.0	2900	.51	.68	.83	39.0	11.4	3280	.51	.69	.86	

3 Ton Heating - QHA036S5D

Indoor Coil Air Volume 65°F db (28°C db)		Air Temperature Entering Outdoor Coil											
		65°F (18°C)		Comp. Motor Watts Input	45°F (7°C)		Comp. Motor Watts Input	25°F (-4°C)		Comp. Motor Watts Input	5°F (-15°C)		Comp. Motor Watts Input
		Total Heating Capacity			Total Heating Capacity	Total Heating Capacity		Total Heating Capacity					
									kBtuh		kW	kBtuh	
CFM	L/s	kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW	
1050	495	49.7	14.6	2680	37.8	11.1	2480	25.9	7.6	2270	15.9	4.7	2015
1200	565	50.2	14.7	2580	38.4	11.3	2380	26.4	7.7	2170	16.4	4.8	1915
1350	635	50.7	14.9	2510	38.8	11.4	2305	26.9	7.9	2100	16.9	5.0	1845

QHA036S5 - Heating Performance

Outdoor Temperature		Compressor Motor kW Input	Total Output		COP
°F	°C		kBtuh	kW	
65	18	2.58	50.2	14.7	4.63
60	16	2.53	47.3	13.9	4.41
55	13	2.49	44.4	13.0	4.21
50	10	2.44	41.5	12.2	4
47	8	2.41	39.8	11.7	3.86
45	7	2.38	38.4	11.3	3.76
40	4	2.32	34.9	10.2	3.49
35	2	2.25	31.4	9.2	3.21
30	-1	2.21	28.9	8.5	2.98
25	-4	2.17	26.4	7.7	2.76
20	-7	2.14	23.9	7.0	2.54
17	-8	2.12	22.4	6.6	2.4
15	-9	2.1	21.3	6.2	2.29
10	-12	2.05	18.4	5.4	2.01
5	-15	1.92	16.4	4.8	1.91
0	-18	1.79	14.5	4.2	1.82
-5	-21	1.66	12.5	3.7	1.7
-10	-23	1.53	10.6	3.1	1.56
-15	-26	1.4	8.7	2.5	1.4
-20	-29	1.27	6.7	2.0	1.19

CFM	Inputs					
	Cap	Watts	Cap	Watts	Cap	Watts
	Low		Med		High	
	1050		1200		1350	
47	39248.8	2505.32	39778.91	2405.432	40245.87	2333.72
35	---	---	31367.99	2246.986	---	---
17	---	---	22411.57	2112.793	---	---

Indoor Coil Air Volume 70°F db (28°C db)		Air Temperature Entering Outdoor Coil											
		65°F (18°C)			45°F (7°C)			25°F (-4°C)			5°F (-15°C)		
		Total Heating Capacity		Comp. Motor Watts Input	Total Heating Capacity		Comp. Motor Watts Input	Total Heating Capacity		Comp. Motor Watts Input	Total Heating Capacity		Comp. Motor Watts Input
CFM	L/s	kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW	
1050	495	49.1	14.4	2850	37.5	11.0	2630	25.7	7.5	2410	15.8	4.6	2135
1200	565	49.7	14.6	2745	38.0	11.1	2530	26.2	7.7	2310	16.4	4.8	2035
1350	635	50.1	14.7	2670	38.4	11.3	2455	26.6	7.8	2235	16.8	4.9	1960

QHA036S5 - Heating Performance

Outdoor Temperature		Compressor Motor kW Input	Total Output		COP
°F	°C		kBtuh	kw	
65	18	2.75	49.7	14.6	4.35
60	16	2.7	46.8	13.7	4.16
55	13	2.64	44	12.9	3.97
50	10	2.59	41.1	12.0	3.76
47	8	2.56	39.4	11.5	3.64
45	7	2.53	38	11.1	3.55
40	4	2.46	34.6	10.1	3.29
35	2	2.39	31.1	9.1	3.03
30	-1	2.35	28.7	8.4	2.83
25	-4	2.31	26.2	7.7	2.61
20	-7	2.27	23.8	7.0	2.4
17	-8	2.25	22.3	6.5	2.28
15	-9	2.23	21.1	6.2	2.17
10	-12	2.17	18.3	5.4	1.91
5	-15	2.04	16.4	4.8	1.83
0	-18	1.9	14.4	4.2	1.73
-5	-21	1.76	12.5	3.7	1.62
-10	-23	1.62	10.6	3.1	1.49
-15	-26	1.49	8.6	2.5	1.33
-20	-29	1.35	6.7	2.0	1.14

	Inputs					
	Cap	Watts	Cap	Watts	Cap	Watts
	Low		Med		High	
CFM	1050		1200		1350	
47	38847.26	2659.991	39392.45	2557.47	39810.89	2482.295
35	---	---	31133.36	2389.15	---	---
17	---	---	22288.56	2244.56	---	---

Indoor Coil Air Volume 75°F db (28°C db)		Air Temperature Entering Outdoor Coil											
		65°F (18°C)		Comp. Motor Watts Input	45°F (7°C)		Comp. Motor Watts Input	25°F (-4°C)		Comp. Motor Watts Input	5°F (-15°C)		Comp. Motor Watts Input
		Total Heating Capacity			Total Heating Capacity			Total Heating Capacity			Total Heating Capacity		
		kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW	
CFM	L/s	kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW	
1050	495	48.5	14.2	3025	37.1	10.9	2795	25.5	7.5	2560	15.8	4.6	2265
1200	565	49.1	14.4	2920	37.6	11.0	2690	26.0	7.6	2455	16.3	4.8	2160
1350	635	49.5	14.5	2840	38.1	11.2	2610	26.5	7.8	2375	16.7	4.9	2085

QHA036S5 - Heating Performance

Outdoor Temperature		Compressor Motor kW Input	Total Output		COP
°F	°C		kBtuh	kW	
65	18	2.92	49.1	14.4	4.09
60	16	2.86	46.3	13.6	3.91
55	13	2.81	43.5	12.7	3.74
50	10	2.75	40.7	11.9	3.55
47	8	2.72	39	11.4	3.43
45	7	2.69	37.6	11.0	3.34
40	4	2.62	34.2	10.0	3.1
35	2	2.54	30.9	9.1	2.87
30	-1	2.5	28.4	8.3	2.67
25	-4	2.46	26	7.6	2.47
20	-7	2.41	23.6	6.9	2.27
17	-8	2.39	22.2	6.5	2.16
15	-9	2.36	21	6.2	2.06
10	-12	2.31	18.2	5.3	1.81
5	-15	2.16	16.3	4.8	1.74
0	-18	2.02	14.4	4.2	1.65
-5	-21	1.87	12.4	3.6	1.53
-10	-23	1.73	10.5	3.1	1.4
-15	-26	1.58	8.6	2.5	1.26
-20	-29	1.43	6.6	1.9	1.07

	Inputs					
	Cap	Watts	Cap	Watts	Cap	Watts
	Low		Med		High	
	1050		1200		1350	
CFM						
47	38450.67	2824.289	38975.43	2717.78	39403.32	2640.393
35	---	---	30858.2	2538.58	---	---
17	---	---	22154.79	2384.355	---	---

COOLING / HEATING RATINGS

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

4 Ton Cooling - QHA048S5D

Entering Wet Bulb Tem- perature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																									
			85° F (29.4° C)						95° F (35° C)						105° F (40.6° C)						115° F (46.1° C)							
			Total Cool Cap.	Comp. Motor Watts	Sensible/Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Watts	Sensible/Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Watts	Sensible/Total Ratio (S/T)			Total Cool Cap.	Comp. Motor Watts	Sensible/Total Ratio (S/T)								
					Dry Bulb					Dry Bulb					Dry Bulb					Dry Bulb								
	75°F 23.9°C	80°F 26.7°C			85°F 29.4°C	kBtuh	kW			Input	75°F 23.9°C	80°F 26.7°C			85°F 29.4°C	kBtuh	kW			Input	75°F 23.9°C	80°F 26.7°C	85°F 29.4°C	kBtuh	kW	Input	75°F 23.9°C	80°F 26.7°C
cfm	L/s	kBtuh	kW	Input	75°F 23.9°C	80°F 26.7°C	85°F 29.4°C	kBtuh	kW	Input	75°F 23.9°C	80°F 26.7°C	85°F 29.4°C	kBtuh	kW	Input	75°F 23.9°C	80°F 26.7°C	85°F 29.4°C	kBtuh	kW	Input	75°F 23.9°C	80°F 26.7°C	85°F 29.4°C			
59°F (15°C)	1300	615	44	12.9	2720	0.95	1	1	42	12.3	3090	0.97	1	1	40.5	11.9	3510	1	1	1	38.5	11.3	3980	1	1	1		
	1650	780	47.5	13.9	2730	1	1	1	45.5	13.3	3100	1	1	1	43.5	12.7	3520	1	1	1	41.5	12.2	3990	1	1	1		
	2000	945	50	14.7	2730	1	1	1	48	14.1	3110	1	1	1	46	13.5	3530	1	1	1	43.5	12.7	4000	1	1	1		
63°F (17.2°C)	1300	615	45	13.2	2720	0.78	0.92	1	43.5	12.7	3090	0.8	0.94	1	41.5	12.2	3510	0.82	0.97	1	39	11.4	3980	0.84	1	1		
	1650	780	47.5	13.9	2730	0.85	1	1	45.5	13.3	3100	0.87	1	1	43.5	12.7	3520	0.89	1	1	41.5	12.2	3990	0.93	1	1		
	2000	945	50	14.7	2730	0.92	1	1	48	14.1	3110	0.94	1	1	46	13.5	3530	0.97	1	1	43.5	12.7	4000	1	1	1		
67°F (19.4°C)	1300	615	48	14.1	2730	0.62	0.76	0.89	46	13.5	3100	0.64	0.78	0.91	43.5	12.7	3520	0.65	0.8	0.94	41	12	3990	0.66	0.82	0.97		
	1650	780	50.5	14.8	2730	0.67	0.83	0.98	48	14.1	3110	0.69	0.85	1	45.5	13.3	3530	0.7	0.88	1	43	12.6	4000	0.72	0.91	1		
	2000	945	52	15.2	2740	0.72	0.9	1	49.5	14.5	3110	0.74	0.93	1	47	13.8	3540	0.76	0.96	1	44.5	13	4010	0.78	0.99	1		
71°F (21.7°C)	1300	615	50.5	14.8	2730	0.48	0.61	0.74	48.5	14.2	3110	0.48	0.63	0.76	46	13.5	3530	0.49	0.64	0.77	43.5	12.7	4000	0.51	0.66	0.8		
	1650	780	53.5	15.7	2740	0.5	0.66	0.81	51	14.9	3110	0.51	0.68	0.83	48	14.1	3540	0.52	0.7	0.86	45.5	13.3	4010	0.54	0.72	0.89		
	2000	945	55	16.1	2740	0.53	0.72	0.88	52.5	15.4	3120	0.54	0.73	0.91	49.5	14.5	3550	0.56	0.75	0.95	47	13.8	4020	0.57	0.78	0.98		

4 Ton Heating - QHA048S5D

Indoor Coil Air Volume 65°F db (28°C db)		Air Temperature Entering Outdoor Coil											
		65°F (18°C)		Comp. Motor Watts Input	45°F (7°C)		Comp. Motor Watts Input	25°F (-4°C)		Comp. Motor Watts Input	5°F (-15°C)		Comp. Motor Watts Input
		Total Heating Capacity			Total Heating Capacity			Total Heating Capacity			Total Heating Capacity		
CFM	L/s	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW		
1500	710	59.7	17.5	2885	45	13.2	2700	30	8.8	2515	18.4	5.4	2255
1650	780	60.1	17.6	2825	45.5	13.3	2640	30.5	8.9	2455	18.9	5.5	2190
1800	850	60.6	17.8	2775	45.9	13.5	2590	30.9	9.1	2405	19.4	5.7	2145

QHA048S5 - Heating Performance

Outdoor Temperature		Compressor Motor kW Input	Total Output		COP
			kBtuh	kW	
65	18	2.83	60.1	17.6	4.84
60	16	2.78	56.6	16.6	4.61
55	13	2.74	53.1	15.6	4.38
50	10	2.69	49.5	14.5	4.13
47	8	2.67	47.4	13.9	3.98
45	7	2.64	45.5	13.3	3.85
40	4	2.58	40.7	11.9	3.51
35	2	2.52	35.9	10.5	3.15
30	-1	2.49	33.2	9.7	2.94
25	-4	2.46	30.5	8.9	2.72
20	-7	2.42	27.7	8.1	2.49
17	-8	2.4	26.1	7.6	2.36
15	-9	2.39	24.7	7.2	2.25
10	-12	2.34	21.1	6.2	1.94
5	-15	2.19	18.9	5.5	1.86
0	-18	2.04	16.7	4.9	1.77
-5	-21	1.89	14.5	4.2	1.66
-10	-23	1.74	12.3	3.6	1.53
-15	-26	1.59	10	2.9	1.36
-20	-29	1.44	7.8	2.3	1.18

	Inputs					
	Cap	Watts	Cap	Watts	Cap	Watts
	Low		Med		High	
	1500		1650		1800	
CFM						
47	46907.38	2726.685	47378.42	2665.059	47821.84	2617.269
35	---	---	35913.71	2516.105	---	---
17	---	---	26095.58	2402.265	---	---

4 Ton Heating - QHA048S5D

Indoor Coil Air Volume 70°F db (28°C db)		Air Temperature Entering Outdoor Coil											
		65°F (18°C)		Comp. Motor Watts Input	45°F (7°C)		Comp. Motor Watts Input	25°F (-4°C)		Comp. Motor Watts Input	5°F (-15°C)		Comp. Motor Watts Input
		Total Heating Capacity			Total Heating Capacity			Total Heating Capacity			Total Heating Capacity		
		kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW	
CFM	L/s	kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW	
1500	710	59.1	17.3	3075	44.6	13.1	2880	29.8	8.7	2675	18.3	5.4	2400
1650	780	59.5	17.4	3005	45.1	13.2	2810	30.3	8.9	2610	18.8	5.5	2335
1800	850	60	17.6	2955	45.5	13.3	2760	30.7	9	2560	19.3	5.7	2280

QHA048S5 - Heating Performance

Outdoor Temperature		Compressor Motor kW Input	Total Output		COP
°F	°C		kBtuh	kw	
65	18	3.01	59.5	17.4	4.56
60	16	2.96	56	16.4	4.34
55	13	2.92	52.5	15.4	4.12
50	10	2.87	49	14.4	3.89
47	8	2.84	46.9	13.7	3.75
45	7	2.81	45.1	13.2	3.63
40	4	2.75	40.4	11.8	3.32
35	2	2.68	35.7	10.5	2.98
30	-1	2.65	33	9.7	2.79
25	-4	2.61	30.3	8.9	2.58
20	-7	2.58	27.5	8.1	2.36
17	-8	2.56	25.9	7.6	2.23
15	-9	2.54	24.5	7.2	2.12
10	-12	2.49	21	6.2	1.85
5	-15	2.34	18.8	5.5	1.77
0	-18	2.18	16.6	4.9	1.68
-5	-21	2.02	14.4	4.2	1.57
-10	-23	1.86	12.2	3.6	1.45
-15	-26	1.7	10	2.9	1.3
-20	-29	1.54	7.8	2.3	1.12

	Inputs					
	Cap	Watts	Cap	Watts	Cap	Watts
	Low		Med		High	
	1500		1650		1800	
CFM						
47	46468.03	2904.286	46925.49	2838.889	47386.16	2787.868
35	---	---	35705.88	2679.738	---	---
17	---	---	25913.7	2557.874	---	---

4 Ton Heating - QHA048S5D

Indoor Coil Air Volume 75°F db (28°C db)		Air Temperature Entering Outdoor Coil											
		65°F (18°C)		Comp. Motor Watts Input	45°F (7°C)		Comp. Motor Watts Input	25°F (-4°C)		Comp. Motor Watts Input	5°F (-15°C)		Comp. Motor Watts Input
		Total Heating Capacity			Total Heating Capacity			Total Heating Capacity			Total Heating Capacity		
		kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW	
CFM	L/s	kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW	
1500	710	58.6	17.2	3275	44.2	13	3065	29.5	8.6	2850	18.1	5.3	2555
1650	780	59	17.3	3205	44.7	13.1	3000	30	8.8	2785	18.6	5.5	2485
1800	850	59.5	17.4	3150	45.1	13.2	2945	30.4	8.9	2730	19	5.6	2430

QHA048S5 - Heating Performance

Outdoor Temperature		Compressor Motor kW Input	Total Output		COP
°F	°C		kBtuh	kw	
65	18	3.21	59	17.3	4.3
60	16	3.16	55.6	16.3	4.1
55	13	3.11	52.1	15.3	3.88
50	10	3.06	48.6	14.2	3.67
47	8	3.03	46.5	13.6	3.54
45	7	3	44.7	13.1	3.43
40	4	2.93	40	11.7	3.13
35	2	2.86	35.4	10.4	2.82
30	-1	2.82	32.7	9.6	2.62
25	-4	2.79	30	8.8	2.43
20	-7	2.75	27.2	8	2.23
17	-8	2.73	25.6	7.5	2.11
15	-9	2.71	24.2	7.1	2
10	-12	2.66	20.7	6.1	1.73
5	-15	2.49	18.6	5.5	1.67
0	-18	2.32	16.4	4.8	1.58
-5	-21	2.15	14.2	4.2	1.48
-10	-23	1.98	12	3.5	1.36
-15	-26	1.81	9.9	2.9	1.23
-20	-29	1.64	7.7	2.3	1.05

	Inputs					
	Cap	Watts	Cap	Watts	Cap	Watts
	Low		Med		High	
CFM	1500		1650		1800	
47	46020.06	3093.981	46499.4	3026.077	46926.04	2971.73
35	---	---	35423.79	2855.386	---	---
17	---	---	25612.56	2725.421	---	---

COOLING / HEATING RATINGS

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

5 Ton Cooling - QHA060S5D

Entering Wet Bulb Tem- perature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85° F (29.4° C)						95° F (35° C)						105° F (40.6° C)						115° F (46.1° C)					
			Total Cool Cap.		Comp. Motor Watts	Sensible/Total Ratio (S/T)			Total Cool Cap.		Comp. Motor Watts	Sensible/Total Ratio (S/T)			Total Cool Cap.		Comp. Motor Watts	Sensible/Total Ratio (S/T)			Total Cool Cap.		Comp. Motor Watts	Sensible/Total Ratio (S/T)		
						Dry Bulb						Dry Bulb						Dry Bulb						Dry Bulb		
	cfm	L/s	kBtuh	kW		Input	75°F 23.9°C	80°F 26.7°C	85°F 29.4°C	kBtuh	kW	Input	75°F 23.9°C	80°F 26.7°C	85°F 29.4°C	kBtuh	kW	Input	75°F 23.9°C	80°F 26.7°C	85°F 29.4°C	kBtuh		kW	Input	75°F 23.9°C
59°F (15°C)	1450	685	53	15.5	3470	0.91	1	1	51	14.9	3970	0.93	1	1	49	14.4	4540	0.95	1	1	46.5	13.6	5180	0.98	1	1
	1830	865	57	16.7	3490	0.99	1	1	55	16.1	4000	1	1	1	53	15.5	4570	1	1	1	50	14.7	5220	1	1	1
	2200	1040	60.5	17.7	3520	1	1	1	58	17	4020	1	1	1	55.5	16.3	4600	1	1	1	53	15.5	5240	1	1	1
63°F (17.2°C)	1450	685	55.5	16.3	3480	0.75	0.88	1	53	15.5	3980	0.76	0.9	1	50.5	14.8	4550	0.78	0.92	1	48	14.1	5200	0.81	0.95	1
	1830	865	58.5	17.1	3510	0.81	0.96	1	56	16.4	4010	0.83	0.98	1	53	15.5	4570	0.85	1	1	50	14.7	5220	0.88	1	1
	2200	1040	60.5	17.7	3520	0.87	1	1	58	17	4020	0.89	1	1	55.5	16.3	4600	0.92	1	1	53	15.5	5240	0.95	1	1
67°F (19.4°C)	1450	685	59	17.3	3510	0.6	0.73	0.85	56	16.4	4010	0.62	0.75	0.87	53.5	15.7	4580	0.63	0.76	0.9	50.5	14.8	5220	0.64	0.79	0.92
	1830	865	61.5	18	3530	0.65	0.79	0.93	59	17.3	4030	0.66	0.81	0.96	56.5	16.6	4600	0.67	0.83	0.98	53	15.5	5240	0.69	0.86	1
	2200	1040	64	18.8	3550	0.69	0.85	1	61	17.9	4050	0.7	0.87	1	58	17	4620	0.72	0.9	1	54	15.8	5260	0.74	0.94	1
71°F (21.7°C)	1450	685	62	18.2	3530	0.47	0.59	0.71	59.5	17.4	4040	0.47	0.61	0.72	56.5	16.6	4610	0.48	0.62	0.74	53.5	15.7	5250	0.5	0.63	0.77
	1830	865	65.5	19.2	3560	0.49	0.64	0.77	62.5	18.3	4070	0.49	0.65	0.79	59	17.3	4640	0.51	0.67	0.82	56	16.4	5280	0.52	0.68	0.84
	2200	1040	67.5	19.8	3580	0.51	0.68	0.83	64	18.8	4090	0.52	0.7	0.86	61	17.9	4660	0.54	0.71	0.88	57.5	16.9	5300	0.55	0.74	0.92

5 Ton Heating - QHA060S5D

Indoor Coil Air Volume 65°F db (28°C db)		Air Temperature Entering Outdoor Coil											
		65°F (18°C)		Comp. Motor Watts Input	45°F (7°C)		Comp. Motor Watts Input	25°F (-4°C)		Comp. Motor Watts Input	5°F (-15°C)		Comp. Motor Watts Input
		Total Heating Capacity			Total Heating Capacity			Total Heating Capacity			Total Heating Capacity		
CFM	L/s	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW		
1600	755	71	20.8	4155	55.6	16.3	3815	39.9	11.7	3470	26.6	7.8	3030
1750	825	71.4	20.9	4050	56	16.4	3710	40.3	11.8	3370	26.9	7.9	2930
1900	895	71.8	21	3970	56.4	16.5	3630	40.7	11.9	3290	27.4	8	2850

QHA060S5 - Heating Performance

Outdoor Temperature		Compressor Motor kW Input	Total Output		COP
°F	°C		kBtuh	kW	
65	18	4.05	71.4	20.9	4.3
60	16	3.97	67.6	19.8	4.13
55	13	3.89	63.9	18.7	3.98
50	10	3.8	60.1	17.6	3.81
47	8	3.75	57.9	17	3.71
45	7	3.71	56	16.4	3.61
40	4	3.62	51.1	15	3.36
35	2	3.53	46.3	13.6	3.11
30	-1	3.45	43.3	12.7	2.96
25	-4	3.37	40.3	11.8	2.81
20	-7	3.29	37.2	10.9	2.64
17	-8	3.24	35.4	10.4	2.54
15	-9	3.21	33.9	9.9	2.45
10	-12	3.13	30.2	8.9	2.23
5	-15	2.93	26.9	7.9	2.12
0	-18	2.73	23.7	6.9	2.01
-5	-21	2.54	20.4	6	1.86
-10	-23	2.34	17.1	5	1.69
-15	-26	2.14	13.9	4.1	1.51
-20	-29	1.95	10.6	3.1	1.27

	Inputs					
	Cap	Watts	Cap	Watts	Cap	Watts
	Low		Med		High	
	1600		1750		1900	
CFM						
47	57543.68	3851.083	57895.35	3748.218	58354.52	3668.86
35	---	---	46306.6	3528.108	---	---
17	---	---	35420.38	3242.176	---	---

5 Ton Heating - QHA060S5D

Indoor Coil Air Volume 70°F db (28°C db)		Air Temperature Entering Outdoor Coil											
		65°F (18°C)		Comp. Motor Watts Input	45°F (7°C)		Comp. Motor Watts Input	25°F (-4°C)		Comp. Motor Watts Input	5°F (-15°C)		Comp. Motor Watts Input
		Total Heating Capacity			Total Heating Capacity			Total Heating Capacity			Total Heating Capacity		
CFM	L/s	kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW	
1600	755	70.4	20.6	4445	54.9	16.1	4080	39.2	11.5	3715	25.9	7.6	3245
1750	825	71	20.8	4340	55.5	16.3	3980	39.8	11.7	3610	26.5	7.8	3145
1900	895	71.4	20.9	4255	56	16.4	3895	40.2	11.8	3525	27	7.9	3055

QHA060S5 - Heating Performance

Outdoor Temperature		Compressor Motor kW Input	Total Output		COP
°F	°C		kBtuh	kw	
65	18	4.34	71	20.8	4.03
60	16	4.25	67.2	19.7	3.88
55	13	4.16	63.5	18.6	3.74
50	10	4.07	59.7	17.5	3.57
47	8	4.02	57.5	16.9	3.48
45	7	3.98	55.5	16.3	3.39
40	4	3.88	50.6	14.8	3.15
35	2	3.78	45.7	13.4	2.91
30	-1	3.7	42.8	12.5	2.77
25	-4	3.61	39.8	11.7	2.62
20	-7	3.53	36.8	10.8	2.47
17	-8	3.48	35	10.3	2.37
15	-9	3.45	33.5	9.8	2.29
10	-12	3.36	29.7	8.7	2.07
5	-15	3.15	26.5	7.8	1.98
0	-18	2.93	23.3	6.8	1.87
-5	-21	2.72	20.1	5.9	1.74
-10	-23	2.51	16.9	5	1.58
-15	-26	2.3	13.7	4	1.4
-20	-29	2.09	10.5	3.1	1.19

	Inputs					
	Cap	Watts	Cap	Watts	Cap	Watts
	Low		Med		High	
	1600		1750		1900	
CFM						
47	56883.72	4120.465	57476.28	4017.853	57946.1	3932.833
35	---	---	45737.46	3777.495	---	---
17	---	---	34988.95	3479.203	---	---

5 Ton Heating - QHA060S5D

Indoor Coil Air Volume 75°F db (28°C db)		Air Temperature Entering Outdoor Coil											
		65°F (18°C)		Comp. Motor Watts Input	45°F (7°C)		Comp. Motor Watts Input	25°F (-4°C)		Comp. Motor Watts Input	5°F (-15°C)		Comp. Motor Watts Input
		Total Heating Capacity			Total Heating Capacity			Total Heating Capacity			Total Heating Capacity		
CFM	L/s	kBtuh	kW		kBtuh	kW		kBtuh	kW		kBtuh	kW	
1600	755	69.8	20.5	4750	54.4	15.9	4370	38.7	11.3	3985	25.4	7.4	3485
1750	825	70.4	20.6	4645	55	16.1	4260	39.4	11.5	3875	26	7.6	3375
1900	895	70.8	20.7	4555	55.4	16.2	4170	39.7	11.6	3785	26.4	7.7	3285

QHA060S5 - Heating Performance

Outdoor Temperature		Compressor Motor kW Input	Total Output		COP
°F	°C		kBtuh	kW	
65	18	4.65	70.4	20.6	3.78
60	16	4.55	66.7	19.5	3.64
55	13	4.46	62.9	18.4	3.49
50	10	4.36	59.2	17.3	3.35
47	8	4.31	56.9	16.7	3.25
45	7	4.26	55	16.1	3.17
40	4	4.16	50.3	14.7	2.96
35	2	4.05	45.5	13.3	2.73
30	-1	3.97	42.5	12.5	2.59
25	-4	3.88	39.4	11.5	2.45
20	-7	3.79	36.3	10.6	2.3
17	-8	3.74	34.4	10.1	2.2
15	-9	3.7	32.9	9.6	2.12
10	-12	3.61	29.2	8.6	1.92
5	-15	3.38	26	7.6	1.83
0	-18	3.15	22.9	6.7	1.73
-5	-21	2.93	19.7	5.8	1.6
-10	-23	2.7	16.6	4.9	1.47
-15	-26	2.47	13.5	4	1.31
-20	-29	2.24	10.3	3	1.1

	Inputs					
	Cap	Watts	Cap	Watts	Cap	Watts
	Low		Med		High	
	1600		1750		1900	
CFM						
47	56291.09	4411.679	56921.68	4303.757	57293.47	4212.755
35	---	---	45543.25	4051.9	---	---
17	---	---	34407.58	3736.57	---	---

BLOWER DATA

QHA036S5D

Blower Tap	External Static (in.w.g.)										
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
Tap 1 (Fan Only)	Cfm	923	848	748	631	541	474	405	342	---	---
	RPM	443	496	560	623	667	707	748	788	---	---
	Watts	84	91	100	108	114	119	125	131	---	---
Tap 2 (Low Cooling)	Cfm	1488	1429	1371	1312	1250	1175	1110	1038	952	881
	RPM	676	704	734	763	794	836	873	911	951	982
	Watts	259	266	275	283	292	305	317	328	340	350
Tap 3 (High Cooling)	Cfm	1663	1612	1567	1518	1476	1424	1376	1316	1262	1193
	RPM	671	701	728	762	789	823	855	893	931	971
	Watts	322	333	343	355	366	379	390	405	419	435
1 Tap 4 (Low Electric Heat)	Cfm	1488	1429	1371	1312	1250	1175	1110	1038	952	881
	RPM	676	704	734	763	794	836	873	911	951	982
	Watts	259	266	275	283	292	305	317	328	340	350
1 Tap 5 (High Electric Heat)	Cfm	1663	1612	1567	1518	1476	1424	1376	1316	1262	1193
	RPM	671	701	728	762	789	823	855	893	931	971
	Watts	322	333	343	355	366	379	390	405	419	435

NOTE - All air data is measured external to unit with dry coil and without air filters.

¹ Taps 4 and 5 are used with Optional Electric Heat. Refer to Electric Heat nameplate for proper heat tap selection.

BLOWER DATA

QHA048S5D

Blower Tap	External Static (in.w.g.)										
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
Tap 1 (Fan Only)	Cfm	1301	1175	1053	987	904	817	715	637	579	530
	RPM	574	584	607	647	699	749	804	845	876	909
	Watts	193	177	170	177	188	197	210	218	224	231
Tap 2 (Low Cooling)	Cfm	1875	1830	1782	1734	1686	1638	1588	1536	1482	1426
	RPM	768	796	823	850	877	903	929	954	982	1011
	Watts	428	441	454	467	480	492	504	516	529	543
Tap 3 (High Cooling)	Cfm	1961	1919	1877	1838	1800	1759	1716	1676	1635	1595
	RPM	791	817	840	868	890	916	942	968	993	1020
	Watts	472	486	498	512	523	537	550	565	577	591
1 Tap 4 (Low Electric Heat)	Cfm	1875	1830	1782	1734	1686	1638	1588	1536	1482	1426
	RPM	768	796	823	850	877	903	929	954	982	1011
	Watts	428	441	454	467	480	492	504	516	529	543
1 Tap 5 (High Electric Heat)	Cfm	1961	1919	1877	1838	1800	1759	1716	1676	1635	1595
	RPM	791	817	840	868	890	916	942	968	993	1020
	Watts	472	486	498	512	523	537	550	565	577	591

NOTE - All air data is measured external to unit with dry coil and without air filters.

¹ Taps 4 and 5 are used with Optional Electric Heat. Refer to Electric Heat nameplate for proper heat tap selection.

QHA060S5D

Blower Tap	External Static (in.w.g.)										
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
Tap 1 (Fan Only)	Cfm	1401	1339	1285	1231	1177	1114	1041	978	886	811
	RPM	595	628	658	694	729	774	817	867	922	969
	Watts	212	221	227	237	246	258	269	282	297	308
Tap 2 (Low Cooling)	Cfm	1974	1926	1880	1840	1798	1756	1718	1676	1638	1596
	RPM	788	812	837	858	878	900	926	954	980	1011
	Watts	505	514	526	537	547	556	571	584	597	611
Tap 3 (High Cooling)	Cfm	2337	2302	2263	2226	2182	2147	2107	2072	2038	1992
	RPM	913	931	953	971	992	1010	1032	1044	1069	1090
	Watts	816	829	842	854	868	878	894	900	915	919
1 Tap 4 (Low Electric Heat)	Cfm	1974	1926	1880	1840	1798	1756	1718	1676	1638	1596
	RPM	788	812	837	858	878	900	926	954	980	1011
	Watts	505	514	526	537	547	556	571	584	597	611
1 Tap 5 (High Electric Heat)	Cfm	2337	2302	2263	2226	2182	2147	2107	2072	2038	1992
	RPM	913	931	953	971	992	1010	1032	1044	1069	1090
	Watts	816	829	842	854	868	878	894	900	915	919

NOTE - All air data is measured external to unit with dry coil and without air filters.

¹ Taps 4 and 5 are used with Optional Electric Heat. Refer to Electric Heat nameplate for proper heat tap selection.

BLOWER DATA

AIR RESISTANCE DATA - in. w.g.

Air Volume cfm	Wet Indoor Coil			Optional Economizer
	036	048	060	
600	0.01	0.01	---	0.02
700	0.01	0.01	0.01	0.03
800	0.01	0.01	0.01	0.04
900	0.02	0.01	0.01	0.05
1000	0.02	0.02	0.02	0.06
1100	0.02	0.02	0.02	0.07
1200	0.03	0.02	0.02	0.08
1300	0.03	0.03	0.03	0.10
1400	0.04	0.03	0.03	0.12
1500	0.05	0.04	0.03	0.13
1600	0.05	0.05	0.03	0.15
1700	0.05	0.05	0.04	0.18
1800	0.06	0.05	0.04	0.20
1900	0.06	0.06	0.04	0.21
2000	0.07	0.06	0.05	0.24

NOTE - Optional Electric Heat has no appreciable air resistance.

DUCT ADAPTER RESISTANCE DATA - in. w.g.

Air Volume cfm	Rectangular to Round Duct Adaptor Kits					
	Downflow		Horizontal			
	14 in. Diameter		14 in. Diameter		16 in. Diameter	18 in. Diameter
	36	48, 60	36	48, 60	48, 60	48, 60
600	0.05	---	0.07	---	---	---
700	0.08	0.13	0.08	0.13	---	---
800	0.10	0.17	0.12	0.16	---	---
900	0.12	0.21	0.15	0.21	---	---
1000	0.17	0.24	0.19	0.25	0.11	0.03
1100	0.18	0.30	0.23	0.30	0.11	0.03
1200	0.20	0.36	0.29	0.37	0.13	0.03
1300	0.26	0.43	0.31	0.43	0.17	0.03
1400	0.31	0.50	0.39	0.51	0.20	0.03
1500	---	0.57	---	0.57	0.21	0.05
1600	---	0.63	---	0.65	0.26	0.05
1700	---	0.71	---	0.72	0.30	0.06
1800	---	0.80	---	0.81	0.30	0.06
1900	---	0.91	---	0.90	0.40	0.06
2000	---	0.99	---	1.01	0.41	0.06

ELECTRICAL/ELECTRIC HEAT DATA

3 TON

Model No.		QHA036S5D	
¹ Voltage - 60Hz		208/230V-3ph	460V-3ph
Compressor	Rated Load Amps	12.2	5.8
	Locked Rotor Amps	102.8	50
Outdoor Fan Motor	Full Load Amps	1.8	1
Indoor Blower Motor	Horsepower	0.75	0.75
	Type	ECM	ECM
	Full Load Amps	6	3.2
² Maximum Overcurrent Protection (MOCP)		30	15
³ Minimum Circuit Ampacity (MCA)		21.95	11.9

ELECTRIC HEAT DATA

Model	Heater	Heater Circuit 240V		Heater Circuit 208V		Heater Circuit 480V		SPP Circuit 240V		SPP Circuit 208V		SPP Circuit 480V	
		³ Minimum circuit Ampacity (MCA)	² Maximum Overcurrent Protection (MOCP)	³ Minimum circuit Ampacity (MCA)	² Maximum Overcurrent Protection (MOCP)	³ Minimum circuit Ampacity (MCA)	² Maximum Overcurrent Protection (MOCP)	³ Minimum circuit Ampacity (MCA)	² Maximum Overcurrent Protection (MOCP)	³ Minimum circuit Ampacity (MCA)	² Maximum Overcurrent Protection (MOCP)	³ Minimum circuit Ampacity (MCA)	² Maximum Overcurrent Protection (MOCP)
QHA036	5 KW	19.3	20	17.3	20	11.5	15	37	45	35	40	19.42	20
	10 KW	34.3	35	30.3	35	19	20	52	60	48	50	26.94	30
	15 KW	49.4	50	43.3	45	26.6	30	67.1	70	61	70	34.45	35

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

NOTE - If Single Point Power Kit is not being used, a second, separate power source is required.

¹ 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.

ELECTRICAL/ELECTRIC HEAT DATA

4 TON

Model No.

QHA048S5D

¹ Voltage - 60Hz

		208/230V-3ph	460V-3ph
Compressor	Rated Load Amps	12.2	5.12
	Locked Rotor Amps	120.4	41
Outdoor Fan Motor	Full Load Amps	1.8	1
Indoor Blower Motor	Horsepower	1.0	1.0
	Type	ECM	ECM
	Full Load Amps	7.6	4
² Maximum Overcurrent Protection (MOCP)		Unit Only	35
³ Minimum Circuit Ampacity (MCA)		Unit Only	26.2
			11.9

ELECTRIC HEAT DATA

Model	Heater	Heater Circuit 240V		Heater Circuit 208V		Heater Circuit 480V		SPP Circuit 240V		SPP Circuit 208V		SPP Circuit 480V	
		³ Minimum circuit Ampacity (MCA)	² Maximum Overcurrent Protection (MOCP)	³ Minimum circuit Ampacity (MCA)	² Maximum Overcurrent Protection (MOCP)	³ Minimum circuit Ampacity (MCA)	² Maximum Overcurrent Protection (MOCP)	³ Minimum circuit Ampacity (MCA)	² Maximum Overcurrent Protection (MOCP)	³ Minimum circuit Ampacity (MCA)	² Maximum Overcurrent Protection (MOCP)	³ Minimum circuit Ampacity (MCA)	² Maximum Overcurrent Protection (MOCP)
QHA048	5 KW	24.5	25	22.5	25	12.5	15	41.2	50	39.2	45	19.42	20
	10 KW	39.6	40	35.6	40	20	25	56.2	60	52.2	60	26.94	30
	15 KW	54.6	60	48.6	50	27.6	30	71.3	80	65.2	70	34.45	35
	20 KW	80.6	90	71.2	80	40.6	45	97.3	100	87.8	90	47.47	50

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

NOTE - If Single Point Power Kit is not being used, a second, separate power source is required.

¹ 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.

ELECTRICAL/ELECTRIC HEAT DATA

5 TON

Model No.

QHA060S5D

¹ Voltage - 60Hz

		208/230V-3ph	460V-3ph
Compressor	Rated Load Amps	15.96	6.6
	Locked Rotor Amps	93	60
Outdoor Fan Motor	Full Load Amps	1.8	1
Indoor Blower Motor	Horsepower	1.0	1.0
	Type	ECM	ECM
	Full Load Amps	7.6	4
² Maximum Overcurrent Protection (MOCP)		Unit Only	45
³ Minimum Circuit Ampacity (MCA)		Unit Only	29.2
			13.7

ELECTRIC HEAT DATA

Model	Heater	Heater Circuit 240V		Heater Circuit 208V		Heater Circuit 480V		SPP Circuit 240V		SPP Circuit 208V		SPP Circuit 480V	
		³ Minimum circuit Ampacity (MCA)	² Maximum Overcurrent Protection (MOCP)	³ Minimum circuit Ampacity (MCA)	² Maximum Overcurrent Protection (MOCP)	³ Minimum circuit Ampacity (MCA)	² Maximum Overcurrent Protection (MOCP)	³ Minimum circuit Ampacity (MCA)	² Maximum Overcurrent Protection (MOCP)	³ Minimum circuit Ampacity (MCA)	² Maximum Overcurrent Protection (MOCP)	³ Minimum circuit Ampacity (MCA)	² Maximum Overcurrent Protection (MOCP)
QHA060	5 KW	24.5	25	20.4	25	12.5	15	44.2	50	42.2	50	21.26	25
	10 KW	39.6	40	33.4	35	20	25	59.3	60	55.3	60	28.78	30
	15 KW	54.6	60	46.5	50	27.6	30	74.3	80	68.3	70	36.29	40
	20 KW	80.6	90	69	70	40.6	45	100.3	110	90.9	100	49.31	50
	23 KW	91.3	100	78.3	80	45.9	50	111	125	100.1	110	54.65	60

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

NOTE - If Single Point Power Kit is not being used, a second, separate power source is required.

¹ 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.

ELECTRIC HEAT CAPACITIES

Input Voltage	5 kW			10 kW			15 kW			20 kW			23 kW		
	No of Stages	kW input	Btuh Output	No of Stages	kW input	Btuh Output	No of Stages	kW input	Btuh Output	No of Stages	kW input	Btuh Output	No of Stages	kW input	Btuh Output
208	1	3.8	12,800	1	7.5	25,600	1	11.2	38,400	1	17.3	59,100	1	19.9	68,000
220	1	4.2	14,300	1	8.4	28,700	1	12.6	43,000	1	18.3	62,600	1	21.1	71,900
230	1	4.6	15,700	1	9.2	31,400	1	13.8	47,000	1	19.2	65,400	1	22.0	75,200
240	1	5.0	17,100	1	10.0	34,200	1	15.0	51,200	1	20.0	68,200	1	23.0	78,500
440	1	4.2	14,300	1	8.4	28,700	1	12.6	43,000	1	18.3	62,600	1	21.1	71,900
460	1	4.6	15,700	1	9.2	31,400	1	13.8	47,000	1	19.2	65,400	1	22.0	75,200
480	1	5.0	17,100	1	10.0	34,200	1	15.0	51,200	1	20.0	68,200	1	23.0	78,500

INSTALLATION CLEARANCES

	in.	mm
Front	24	610
Right Side (blower and evaporator coil access)	24	610
Left Side (compressor access)	24	610
Back	0	0
Top	48	1219

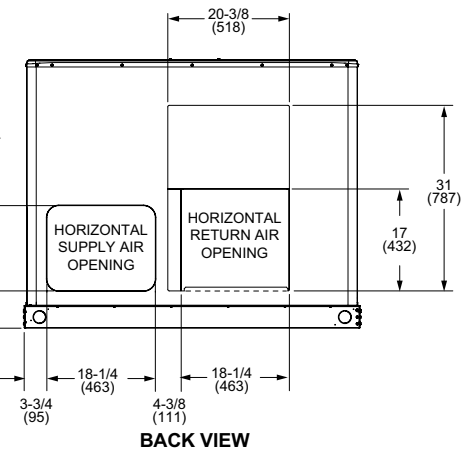
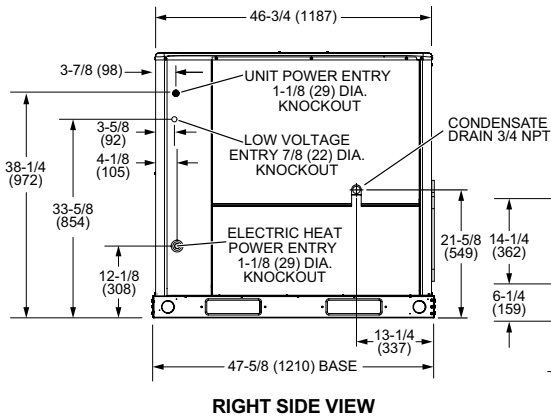
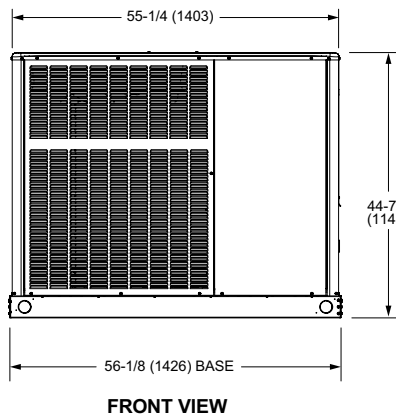
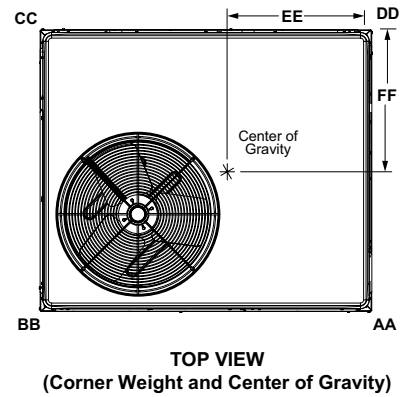
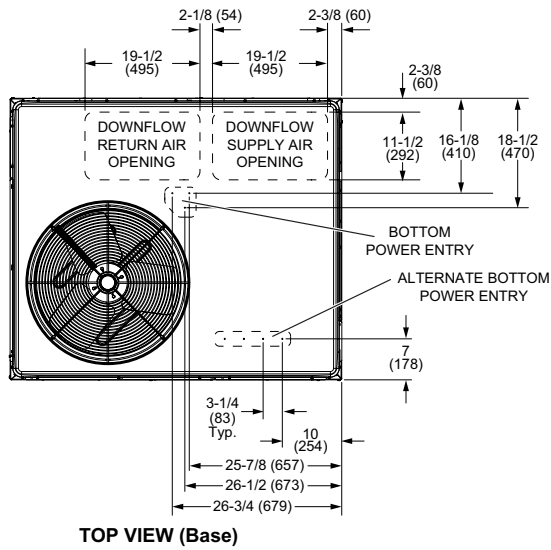
WEIGHT DATA				UNIT
Model Number	Net		Shipping	
	lbs.	kg	lbs.	kg
QHA036	505	229	515	234
QHA048	526	239	536	243
QHA060	536	243	546	248

WEIGHT DATA		OPTIONS / ACCESSORIES	
		Shipping	
		lbs.	kg
CABINET			
Tool-Less Filter Access Kit		20	9
ECONOMIZER / OUTDOOR AIR			
Economizer			
Economizer, Includes Barometric Relief Dampers and Exhaust Hood		95	43
Outdoor Air Dampers			
Motorized		35	16
Manual		28	13
ELECTRIC HEAT			
5 kW		6	3
7.5 kW		7	3
10 kW		8	4
15 kW		8	4
20 kW		8	4
23 kW		9	4
ROOF CURBS			
Clip Curbs			
8 in. height		63	29
14 in. height		77	35
18 in. height		99	45
24 in. height		132	60
Adjustable Pitch Roof Curb (Knock-Down Style), Downflow			
14 in. height		95	43
Adjustable Pitch Roof Curb (Welded), Downflow			
14 in. height		68	31

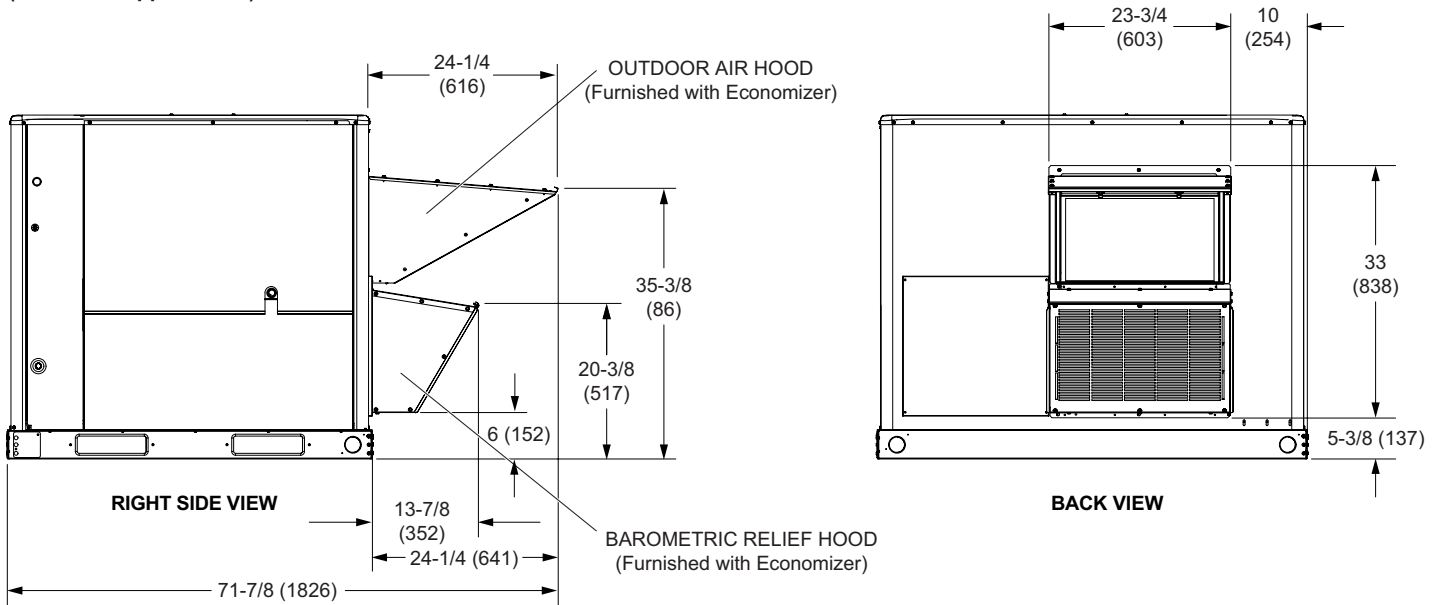
DIMENSIONS

UNIT

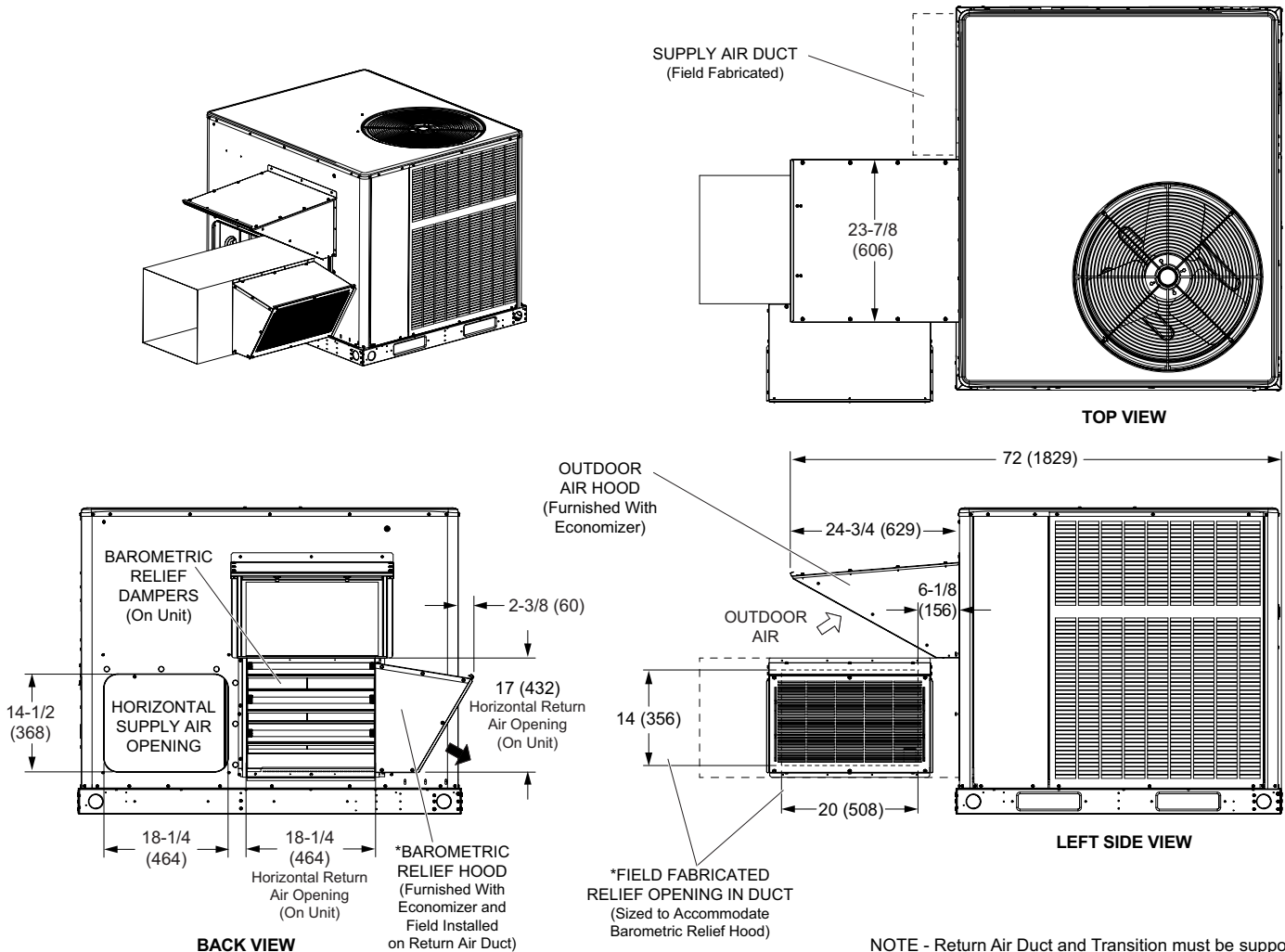
Model Number	CORNER WEIGHTS								CENTER OF GRAVITY			
	AA		BB		CC		DD		EE		FF	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm
QHA036	116	53	126	57	137	62	126	57	25.25	641	21.50	546
QHA048	120	54	132	60	143	65	131	59	25.25	641	21.50	546
QHA060	123	56	134	61	145	66	134	61	25.25	641	21.50	546



**OUTDOOR AIR HOOD DETAIL FOR OPTIONAL ECONOMIZER WITH BAROMETRIC RELIEF DAMPERS
(Downflow Applications)**

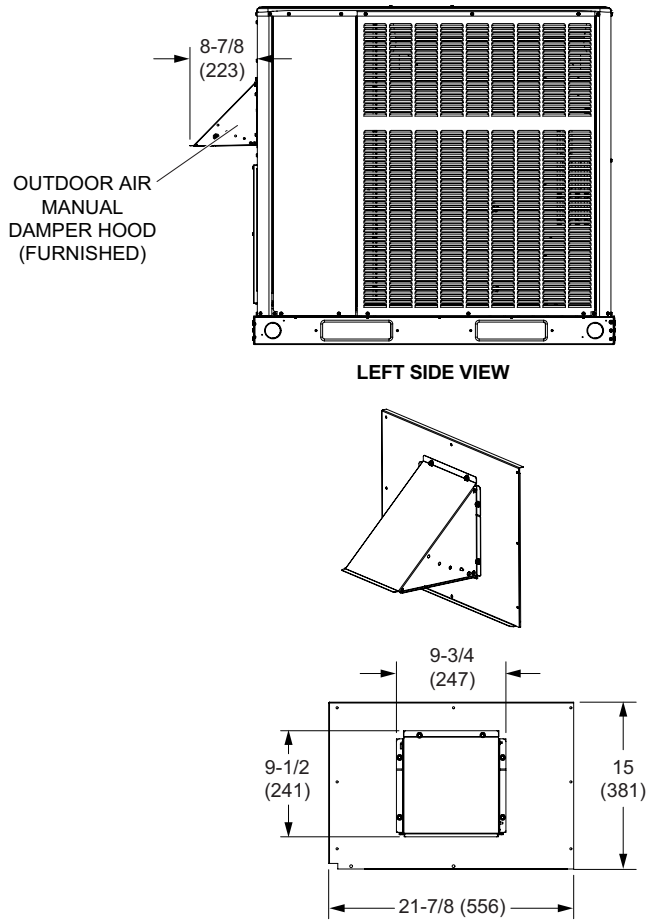


**OUTDOOR AIR HOOD DETAIL FOR OPTIONAL ECONOMIZER WITH BAROMETRIC RELIEF DAMPERS
(Horizontal Applications)**

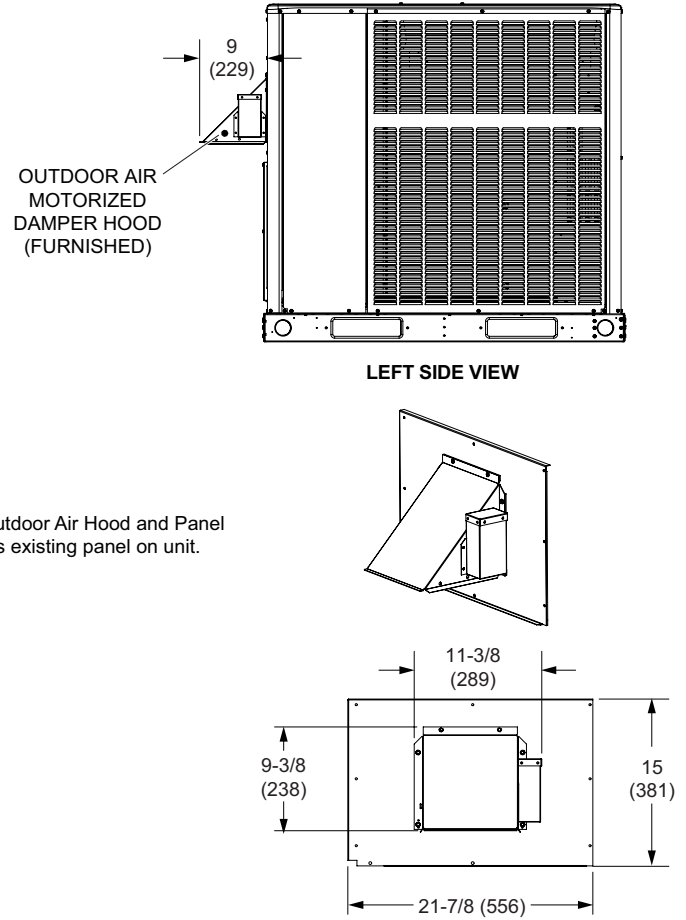


OUTDOOR AIR HOOD DETAIL FOR OPTIONAL OUTDOOR AIR DAMPERS

MANUAL OUTDOOR AIR DAMPERS

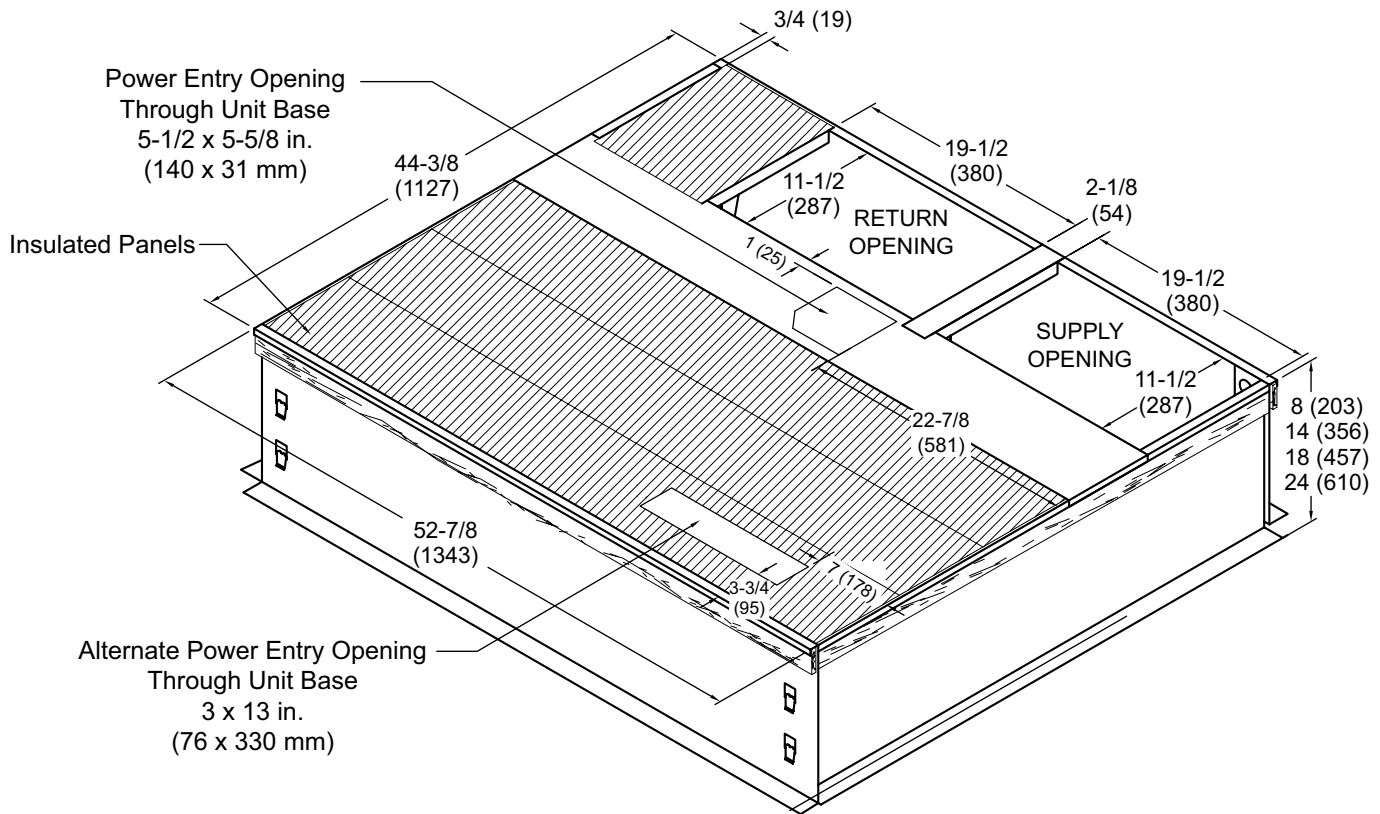


MOTORIZED OUTDOOR AIR DAMPERS



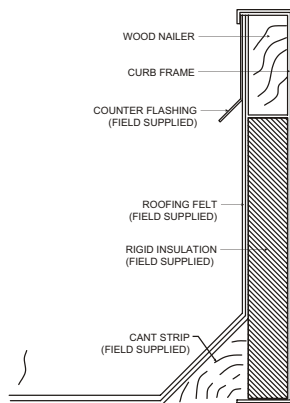
NOTE - Outdoor Air Hood and Panel replaces existing panel on unit.

CLIP CURB

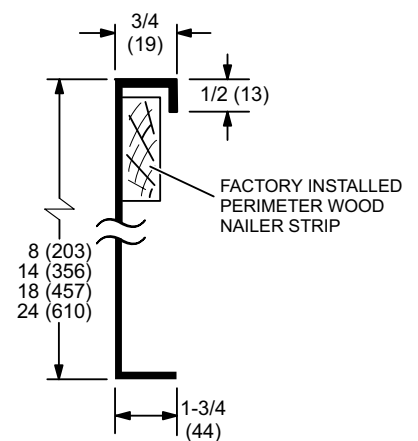


NOTE - Roof deck may be omitted within confines of curb.

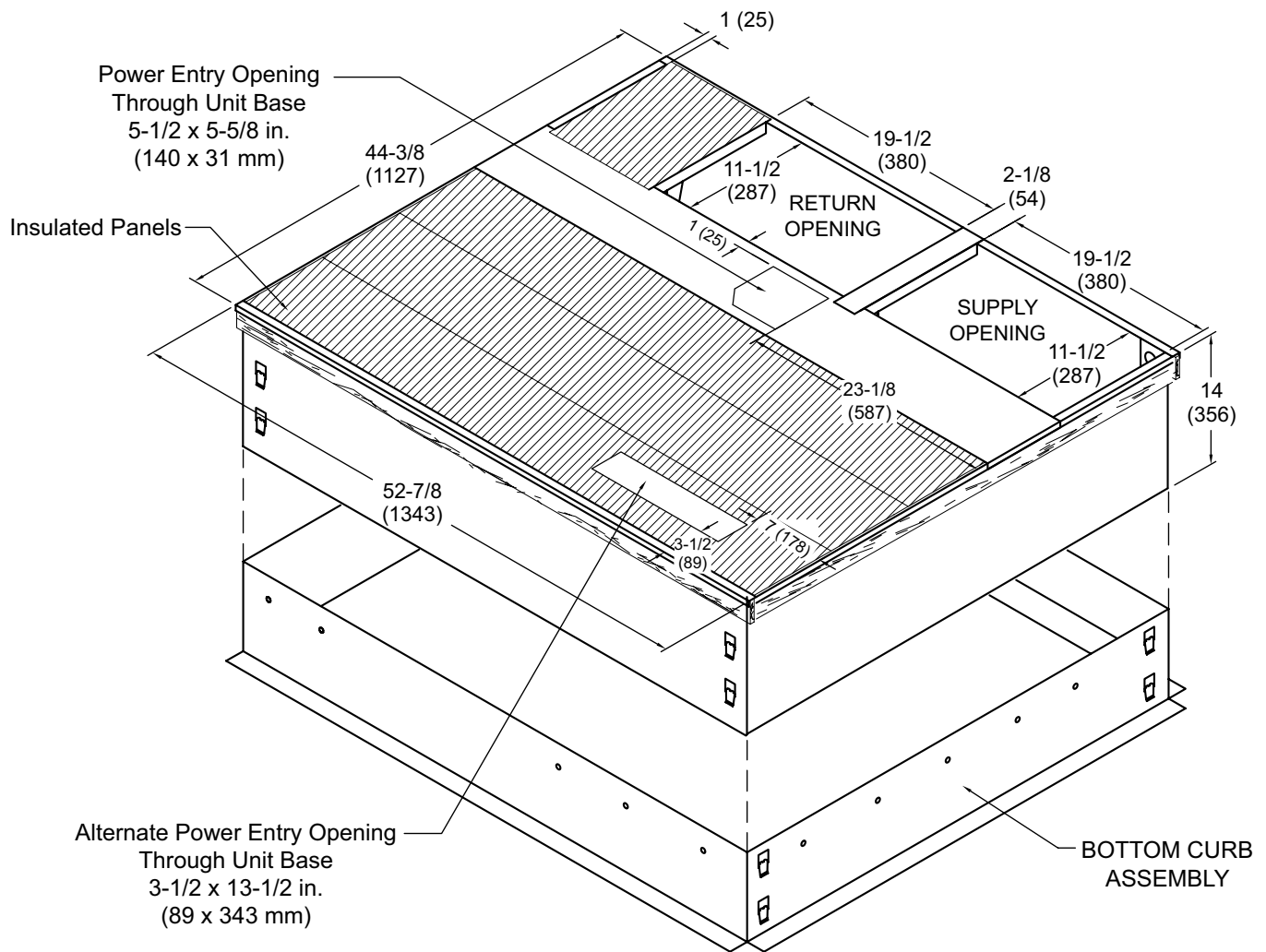
TYPICAL FLASHING DETAIL FOR ROOF CURB



DETAIL ROOF CURB

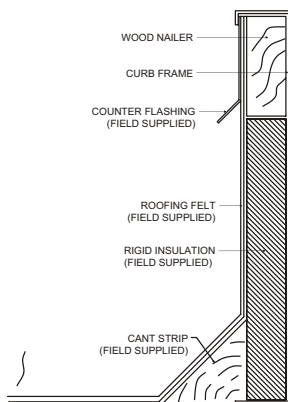


ADJUSTABLE PITCH ROOF CURB (KNOCK-DOWN STYLE)

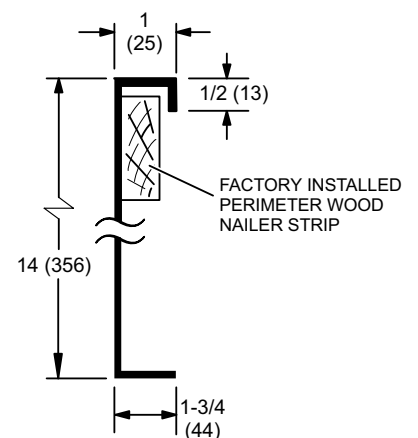


NOTE - Roof deck may be omitted within confines of curb.

TYPICAL FLASHING DETAIL FOR ROOF CURB



DETAIL ROOF CURB





ALLIEDTM
Commercial

Contact us at 1-800-448-5872

NOTE - Due to Allied Commercial ongoing commitment to quality, Specifications, Ratings and Dimensions subject to change without notice and without incurring liability. Improper installation, adjustment, alteration, service or maintenance can cause property damage or personal injury. Installation and service must be performed by a qualified installer and servicing agency.

©2026 Allied Air Enterprises