



Q-TEC™ Q24A-Q60A Air Conditioners

**GREEN REFRIGERANT
R-410A**

Cooling Capacities: 24,000 to 54,000 Btuh

The Q-TEC Series self contained packaged air conditioner is designed to be installed inside a building structure against an exterior exposed wall. Q-TEC's design provides "whisper" quiet operation with total comfort for the occupants at efficiency levels up to 24% above the federal standard. This design eliminates the need for roof-mounted equipment and outside condensing units and can meet your specific architectural requirements.

Q-TEC's "quiet technology" provides extremely low sound levels (both indoor and outdoor) by using special components and materials in the construction of the unit. By using special motors, sound insulation and other sound absorbing features, we have built an air conditioner system that is significantly quieter than typical product available today.

Q-TEC is suitable for both new construction and renovation projects for schools, modular buildings and light commercial buildings. A variety of ventilation and dehumidification options are designed to address your project's indoor air quality and dehumidification requirements.

The Q-TEC Series unique design allows all maintenance and service to be performed inside the building to facilitate multi-story installations. Access to air filters and controls is accomplished through a hinged front panel for easy accessibility. All Q-TEC Series models are built on heavy duty permanent rollers for easy installation and removal from the wall sleeve for additional service access.

Q-TEC's durable, easy to clean cabinet is aesthetically pleasing and comes standard with side and bottom trim pieces. Two types of cabinet finish are available: a durable two tone (slate and platinum) vinyl covered steel, or gray pre-painted steel.

Product Features

Scroll Compressor
The Copeland scroll compressor has been designed for increased efficiency, quieter operation with reduced shutdown noise and improved reliability for longer life. Eliminates need for crankcase heater and suction line accumulator.

Compressor Sound Reduction
Compressor is mounted on full floating base with double grommets and is equipped with discharge muffler and sound cover.

Phase Rotation Monitor
Standard on all 3-phase scroll compressors. Protects against reverse rotation if power supply is not properly connected.

Indoor Blower Motor
All models feature a variable speed (ECM) motor providing super high efficiency, low sound levels and soft start capabilities. The motor is self-adjusting to provide the proper airflow rate at high static pressure for ducted installations without user adjustment or wiring changes. Optional dehumidification circuit (hot gas reheat) provides improved dehumidification when used with humidistat.

Outdoor Fan Motor
The PSC outdoor fan motor has double oil capacity sleeve bearings and is totally enclosed for extended life.

Copper Tube/Aluminum Fin Coils
Grooved copper tubing and enhanced aluminum fins provide maximum heat transfer and high energy efficiency. Optional phenolic coated coils are available.

Cabinet
Constructed of 20 gauge pre-painted or vinyl laminated galvanized steel. Choice of either two tone vinyl finish with "slate" front panels and "platinum" cabinet for designer appearance, or gray or beige painted steel. Vinyl finish is very resistant to scratching and marring and is very easy to clean. Tamper resistant fasteners are provided for access panels. Unit includes built-in rollers for easy installation into wall sleeve and removal for service if necessary. Hinged, lockable front panel for filter service and access to primary functional electrical controls.

Insulation
Cabinet is fully insulated with foil covered, high density fiberglass insulation with sealed edge treatment and special sound deadening insulation material in the compressor section. All insulation is designed to resist mold and mildew growth and facilitate ease of cleaning.

Electrical Components
Are easily accessible for routine inspection and maintenance through front service panels. Circuit breaker standard on all 208/230V models and rotary disconnect standard on all 460V models. Circuit breaker/rotary disconnect access is through lockable access panel. Lock and key provided as standard equipment.



Electric Heat Strips
Backup electric heat strips feature automatic limit safety controls. Heater packages are factory installed for all models. See Electric Heat Table for available options.

Hot Water Coil
A plenum mounted hot water coil is available for both duct-free and ducted applications.

Air Filters
One-inch disposable panel type air filters are standard. Optional two-inch pleated and two-inch fiberglass disposable air filters are available. Optional Energy Recovery Ventilator has a separate filter for exhaust air to keep ERV clean.

Refrigerant Service Ports
Located in filter compartment for easy access.

Liquid Filter Dryer
Standard on all models.

High/Low Pressure Switch
Provides refrigerant circuit high pressure and loss of charge protection. Includes lockout circuit that is resettable from room thermostat.

Compressor Control Module
Provides short cycle protection for the compressor, which extends compressor life.

Ventilation Packages
Barometric fresh air damper standard on all units and allows up to 25% outside fresh air. Optional energy recovery ventilator can provide up to 450 CFM of outside air and exhaust through the unit while maintaining indoor comfort and humidity levels. Economizer, commercial room ventilator and blank-off plate are also available.

Diagnostic Light
System service - indicates high or low pressure switch operation for compressor protection. Located inside control panel.

Stainless Steel Drain Pans
Provides extended life of the evaporator and condenser drain pans for maximum corrosion resistance.

Side Trim Piece Extension
Provides cabinet extension between interior wall and unit when wall thickness is between 12 inches to 14 inches. This is a space up to 4". Standard feature shipped with all models. Optional trim kits for thinner walls or longer wall sleeves available.

Wall Sleeve
Constructed of 16 gauge galvanized steel, coated with epoxy primer and a baked on polyester enamel paint, which allows it to withstand 1000 hours of salt spray tests per ASTM B117-03. Required for all models. Ordered separately.

- Certified to ANSI/ARI Standard 390-2003 for SPVU (Single Package Vertical Units).
- Complies with efficiency requirements of ASHRAE/IESNA 90.1-2013.
- Intertek ETL Listed to Standard for Safety Heating and Cooling Equipment ANSI/UL 1995/CSA 22.2 No. 236-05, Fourth Edition.
- Commercial Product - Not intended for Residential application.



Bard is an
ISO Certified
Manufacturer

Capacity and Efficiency Ratings

| MODELS | Q24A2 | Q30A2 | Q36A2 | Q42A2 | Q48A2 | Q60A2 |
|-------------------------|--------|--------|--------|--------|--------|--------|
| Cooling Capacity BTUH ① | 24,000 | 29,800 | 34,600 | 40,000 | 46,000 | 54,000 |
| EER ② | 10.00 | 10.00 | 10.00 | 9.20 | 9.50 | 9.10 |

① Capacity is certified in accordance with ANSI/ARI Standard 390-2003.

② EER = Energy Efficiency Ratio and is certified in accordance with ANSI/ARI Standard 390-2003.

All ratings based on fresh air intake being 100% closed (no outside air introduction).

Specifications - 2, 2½ and 3 Ton

| MODELS | Q24A2-A | Q24A2-B | Q24A2-C | Q30A2-A | Q30A2-B | Q30A2-C | Q36A2-A | Q36A2-B | Q36A2-C |
|---|---------------------------|-------------|----------|---------------------------|-------------|----------|---------------------------|-------------|-----------|
| ELECTRICAL RATING – 60 HZ | 230/208 - 1 | 230/208 - 3 | 460 - 3 | 230/208 - 1 | 230/208 - 3 | 460 - 3 | 230/208 - 1 | 230/208 - 3 | 460 - 3 |
| Operating Voltage Range | 197-253 | | 414-506 | 197-253 | | 414-506 | 197-253 | | 414-506 |
| COMPRESSOR – CIRCUIT A | | | | | | | | | |
| Voltage | 230/208 | | 460 | 230/208 | | 460 | 230/208 | | 460 |
| Rated Load Amps | 10.5/12.2 | 6.9/8.0 | 4.9 | 12.5/14.3 | 8.0/9.2 | 5.7 | 13.6/15.2 | 8.5/9.5 | 6.0 |
| Branch Circuit Selection Current | 12.9 | 8.4 | 5.2 | 14.3 | 9.2 | 5.7 | 16.7 | 10.5 | 6.0 |
| Lock Rotor Amps | 64 | 58 | 28 | 77 | 71/71 | 38 | 79 | 73 | 38 |
| FAN MOTOR & CONDENSER | | | | | | | | | |
| Fan Motor--HP-RPM-SPD | 1/5 - 1075 - 1 | | | 1/5 - 1075 - 1 | | | 1/5 - 1075 - 1 | | |
| Fan Motor-- Volts-Amps | 230/208 - 1.6 | | 460 - .8 | 230/208 - 1.6 | | 460 - .8 | 230/208 - 1.9 | | 460 - 1.0 |
| Fan--DIA-CFM | 20" - 1600 | | | 20" - 1600 | | | 20" - 1750 | | |
| MOTOR & EVAPORATOR | | | | | | | | | |
| Blower Motor HP-SPD | 1/2 - Variable | | | 1/2 - Variable | | | 1/2 - Variable | | |
| Blower Motor--Volts-Amps | 230/208 - 1.8 | | | 230/208 - 2.7 | | | 230/208 - 3.7 | | |
| CFM Cooling & E.S.P. w/Filter (Rated-Wet Coil) | 800 @ .10 ESP | | | 1000 @ .15 ESP | | | 1200 @ .15 ESP | | |
| Filter Sizes (inches) STD. | 1 - 16x20x1 & 1 - 16x16x1 | | | 1 - 16x20x1 & 1 - 16x16x1 | | | 1 - 16x20x1 & 1 - 16x16x1 | | |
| SHIPPING WEIGHT – LBS. | 515 | 515 | 535 | 520 | 520 | 540 | 535 | 535 | 555 |

Specifications - 3½, 4 and 5 Ton

| MODELS | Q42A2-A | Q42A2-B | Q42A2-C | Q48A2-A | Q48A2-B | Q48A2-C | Q60A2-A | Q60A2-B | Q60A2-C |
|---|---------------------------|-------------|-----------|---------------------------|-------------|-----------|---------------------------|-------------|-----------|
| ELECTRICAL RATING – 60 HZ | 230/208 - 1 | 230/208 - 3 | 460 - 3 | 230/208 - 1 | 230/208 - 3 | 460 - 3 | 230/208 - 1 | 230/208 - 3 | 460 - 3 |
| Operating Voltage Range | 197-253 | | 414-506 | 197-253 | | 414-506 | 197-253 | | 414-506 |
| COMPRESSOR – CIRCUIT A | | | | | | | | | |
| Voltage | 230/208 | | 460 | 230/208 | | 460 | 230/208 | | 460 |
| Rated Load Amps | 19.0/21.2 | 12.6/14.0 | 6.5 | 18.1/21.1 | 13.1/14.7 | 6.5 | 24.6/28.6 | 14.6/17.0 | 8.5 |
| Branch Circuit Selection Current | 21.2 | 14.0 | 6.5 | 23.1 | 16.1 | 7.1 | 28.6 | 17.0 | 8.5 |
| Lock Rotor Amps | 109 | 83 | 41 | 134 | 91 | 46 | 134 | 110 | 52 |
| FAN MOTOR & CONDENSER | | | | | | | | | |
| Fan Motor--HP-RPM-SPD | 1/5 - 1075 - 1 | | | 1/3 - 1100 - 1 | | | 1/3 - 1100 - 1 | | |
| Fan Motor-- Volts-Amps | 230/208 - 1.9 | | 460 - 1.0 | 230/208 - 1.9 | | 460 - 1.0 | 230/208 - 1.9 | | 460 - 1.0 |
| Fan--DIA-CFM | 20" - 1750 | | | 20" - 1750 | | | 20" - 1750 | | |
| MOTOR & EVAPORATOR | | | | | | | | | |
| Blower Motor HP-SPD | 1/2 - Variable | | | 1/2 - Variable | | | 3/4 - Variable | | |
| Blower Motor--Volts-Amps | 230/208 - 3.7 | | | 230/208 - 3.7 | | | 230/208 - 4.9 | | |
| CFM Cooling & E.S.P. w/Filter (Rated-Wet Coil) | 1200 @ .15 ESP | | | 1400 @ .20 ESP | | | 1550 @ .20 ESP | | |
| Filter Sizes (inches) STD. | 1 - 16x20x1 & 1 - 16x16x1 | | | 1 - 16x16x1 & 1 - 16x25x1 | | | 1 - 16x16x1 & 1 - 16x25x1 | | |
| SHIPPING WEIGHT – LBS. | 550 | 550 | 570 | 610 | 610 | 630 | 625 | 625 | 645 |

Factory Built-in Electric Heat Table

| Nominal KW | At 240V ① | | | | At 208V ① | | | | At 480V ② | | | At 460V ② | | |
|---------------|-----------|--------------|---------------|--------|-----------|--------------|---------------|--------|-----------|---------------|--------|-----------|---------------|--------|
| | KW | 1-Ph Amps | 3-Ph. Amps | BTUH | KW | 1-Ph Amps | 3-Ph. Amps | BTUH | KW | 3-Ph. Amps | BTUH | KW | 3-Ph. Amps | BTUH |
| 5.0 | 5.0 | 20.8 | | 17,065 | 3.75 | 18.0 | | 12,799 | | | | | | |
| 6.0 | 6.0 | | 14.4 | 20,478 | 4.50 | | 12.5 | 15,359 | 6.0 | 7.2 | 20,478 | 5.52 | 6.9 | 18,840 |
| 9.0 | 9.0 | | 21.7 | 30,717 | 6.75 | | 18.7 | 23,038 | 9.0 | 10.8 | 30,717 | 8.28 | 10.4 | 28,260 |
| 10.0 | 10.0 | 41.7 | | 34,130 | 7.50 | 36.1 | | 25,598 | | | | | | |
| 12.0 | 12.0 | | 28.9 | 40,956 | 9.00 | | 25.0 | 30,717 | 12.0 | 14.4 | 40,956 | 11.04 | 13.9 | 37,680 |
| 15.0 | 15.0 | 62.5 | 36.1 | 51,195 | 11.25 | 54.1 | 31.2 | 38,396 | 15.0 | 18.0 | 51,195 | 13.80 | 17.3 | 47,099 |

① These electric heaters are available in 230/208V units only.

② These electric heaters are available in 480V units only.

Indoor Blower Performance

| Model | Rated ESP | ① Max. ESP | ② Rated CFM | ③ Optional CFM | ④ Continuous CFM | ⑤ Dehumidification CFM | CFM @ Max. ESP |
|--------|-----------|------------|-------------|----------------|------------------|------------------------|----------------|
| Q24A ⑥ | 0.10 | 0.5 | 800 | N/A | 800 | 800 | 700 |
| Q30A | 0.15 | 0.8 | 1000 | N/A | 1000 | 1000 | 910 |
| Q36A | 0.15 | 0.8 | 1200 | 1000 | 1000 | 1000 | 1175 |
| Q42A | 0.15 | 0.8 | 1200 | 1000 | 1000 | 1000 | 1175 |
| Q48A | 0.20 | 0.8 | 1400 | 1250 | 1100 | 1250 | 1175 |
| Q60A | 0.20 | 0.8 | 1550 | 1250 | 1100 | 1250 | 1400 |

Note: These units are equipped with a variable speed (ECM) indoor motor that automatically adjusts itself to maintain approximately the same rate of indoor airflow in both heating and cooling, dry and wet coil conditions and at both 230/208 or 460 volts.

① Max. ESP (inches WC) shown is with 1" thick disposable filter (reduced by .2 for 2" filter)

② Rated CFM (based on ducted application) for heating and cooling operation. To obtain full rated CFM on models Q36A, Q42A, Q48A and Q60A, refer to Installation Instruction supplied with unit.

③ Reduced indoor airflow option to provide lowest possible indoor air sound level. Reduces system capacity performance by approximately 2%.

④ Continuous fan CFM is the total air being circulated during continuous fan mode.

⑤ Indoor airflow during periods of high humidity when system is operating under control of optional humidistat for maximum humidity reduction.

⑥ Model Q24A -- when operating on 2nd stage heating the indoor air will increase to 1000 CFM.

Ventilation System Packages

Q-TEC models are designed to provide optional ventilation packages to meet all of your ventilation and indoor air quality requirements. All units are equipped with a barometric fresh air damper as the standard ventilation package. All ventilation packages are factory installed.

BAROMETRIC FRESH AIR DAMPER

STANDARD

The barometric fresh air damper is a standard feature on all models. It allows outside ventilation air, up to 25% of the total airflow rating of the unit, to be introduced through the air inlet openings and to be mixed with the conditioned air. The damper opens during blower operation and closes when the blower is off. Adjustable blade stops allow different amounts of outside air to be introduced into the building and can be easily locked closed if required.

BLANK OFF PLATE

OPTIONAL

A blank off plate covers the air inlet openings which restricts any outside air from entering the unit. The blank off plate should be utilized in applications where outside air is not required to be mixed with the conditioned air.

NOTE: The above vent systems are intake only without built-in exhaust capability. Building will likely require separate field installed barometric relief or mechanical exhaust elsewhere within the conditioned space. Balancing dampers in the return air grille may be required to achieve specified amount of outdoor air intake.

COMMERCIAL ROOM VENTILATOR

OPTIONAL

The built-in commercial room ventilator is internally mounted and allows outside ventilation air, up to 50% of the total airflow rating of the unit, to be introduced through the air inlet openings. It includes a built-in exhaust air damper. The commercial room ventilator (CRV) is a simple and innovative approach to improving the indoor air quality by providing fresh air intake and exhaust capability through the CRV. The damper can be easily adjusted to control the amount of fresh air supplied into the building. The CRV can be controlled by indoor blower operation or field controlled based on room occupancy. Complies with ANSI/ASHRAE Standard 62.1 "Ventilation for Acceptable Indoor Air Quality".

Two Models Available: Spring return on power loss or deactivation - Vent Option V
Power return (will not close on power loss) - Vent Option P

ENERGY RECOVERY VENTILATOR

OPTIONAL

The energy recovery ventilator (ERV) is a highly innovative approach to meeting indoor air quality ventilation requirements as established by ANSI/ASHRAE Standard 62.1. The ERV is internally mounted and allows up to 450 CFM (depending upon speed setting) of fresh air and exhaust through the unit while maintaining superior indoor comfort and humidity levels. In most cases this can be accomplished without increasing equipment sizing or operating costs. Heat transfer efficiency is up to 64% during summer and 79% during winter conditions.

The ERV consists of a unique "rotary energy recovery cassette" that provides effective sensible and latent heat transfer capabilities during summer and winter conditions. Various control schemes are addressed including limiting ventilation during building occupancy only. The ERV has a filter for the exhaust air to keep the rotary wheels clean and free of any debris introduced through the room return air grille. The intake and exhaust rates can be independently selected. Factory set on medium intake and low exhaust.

ECONOMIZER

OPTIONAL

The built-in economizer system is internally mounted behind the service door and allows outdoor air to be introduced through the air inlet openings. The amount of outdoor air varies in response to the system controls and settings defined by the end user. It includes a built-in exhaust air damper. The economizer is designed to provide "free cooling" when outside air conditions are cool and dry enough to satisfy cooling requirements without running the compressor. This in turn provides lower operating costs, while extending the life of the compressor.

Standard Features:

- One Piece Construction - Easy to install with no mechanical linkage adjustment required.
- Exhaust Air Damper - Built in with positive closed position. Provides exhaust air capability to prevent pressurization of tight buildings.
- Actuator Motor - 24 volt, power open, spring return with built in torque limiting switch.
- Proportioning Type Control - for maximum "free cooling" economy and comfort.
- Moisture Eliminator & Prefilter - permanent, washable aluminum construction.
- Enthalpy Control - adjustable to monitor outdoor temperature and humidity.
- Minimum Position Potentiometer - adjustable to control minimum damper blade position for ventilation purposes.
- Mixed Air Sensor - to monitor outside and return air to automatically modulate damper position.

Commercial Room Ventilator Performance Tables

TABLE 1

| Q24A VENTILATION MODE CFM | | | | |
|---------------------------|-----------|-----------------|-----|-----|
| Damper Position | Duct Free | Static Pressure | | |
| | | 0.1 | 0.3 | 0.5 |
| A | 125 | 120 | 100 | 75 |
| B | 135 | 130 | 115 | 100 |
| C | 165 | 160 | 160 | 140 |
| D | 255 | 255 | 235 | 195 |
| E | 375 | 320 | 290 | 265 |

TABLE 2

| Q24A COOLING & HEATING MODE CFM | | | | |
|---------------------------------|-----------|-----------------|-----|-----|
| Damper Position | Duct Free | Static Pressure | | |
| | | 0.1 | 0.3 | 0.5 |
| A | 220 | 215 | 200 | 175 |
| B | 245 | 235 | 210 | 185 |
| C | 255 | 260 | 245 | 225 |
| D | 335 | 335 | 330 | 290 |
| E | 385 | 385 | 360 | 320 |

TABLE 3

| Q30A Ventilation Mode CFM Q36A Ventilation Mode CFM Q42A Ventilation Mode CFM Q48A Ventilation Mode CFM | | | | |
|--|-----------|-----------------|-----|-----|
| Damper Position | Duct Free | Static Pressure | | |
| | | 0.1 | 0.3 | 0.5 |
| A | 140 | 135 | 125 | 120 |
| B | 180 | 170 | 160 | 160 |
| C | 220 | 210 | 205 | 195 |
| D | 315 | 315 | 315 | 290 |
| E | 410 | 400 | 385 | 380 |

TABLE 4

| Q30A COOLING & HEATING MODE CFM Q36A LOW SPEED COOLING & HEATING MODE CFM Q42A LOW SPEED COOLING & HEATING MODE CFM Q48A LOW SPEED COOLING & HEATING MODE CFM | | | | |
|--|-----------|-----------------|-----|-----|
| Damper Position | Duct Free | Static Pressure | | |
| | | 0.1 | 0.3 | 0.5 |
| A | 235 | 230 | 225 | 220 |
| B | 265 | 250 | 245 | 240 |
| C | 325 | 315 | 300 | 290 |
| D | 400 | 400 | 390 | 380 |
| E | 465 | 460 | 445 | 430 |

TABLE 5

| Q36A HIGH SPEED COOLING & HEATING MODE CFM Q42A HIGH SPEED COOLING & HEATING MODE CFM Q48A HIGH SPEED COOLING & HEATING MODE CFM | | | | |
|--|-----------|-----------------|-----|-----|
| Damper Position | Duct Free | Static Pressure | | |
| | | 0.1 | 0.3 | 0.5 |
| A | 255 | 250 | 250 | 230 |
| B | 285 | 280 | 280 | 280 |
| C | 360 | 360 | 350 | 345 |
| D | 445 | 445 | 445 | 440 |
| E | 500 | 500 | 500 | 490 |

TABLE 6

| Q60A VENTILATION MODE CFM | | | | |
|---------------------------|-----------|-----------------|-----|-----|
| Damper Position | Duct Free | Static Pressure | | |
| | | 0.1 | 0.3 | 0.5 |
| A | 185 | 185 | 180 | 180 |
| B | 215 | 215 | 210 | 200 |
| C | 290 | 290 | 280 | 275 |
| D | 370 | 370 | 365 | 350 |
| E | 465 | 465 | 455 | 445 |

TABLE 7

| Q60A COOLING & HEATING MODE CFM | | | | |
|---------------------------------|-----------|-----------------|-----|-----|
| Damper Position | Duct Free | Static Pressure | | |
| | | 0.1 | 0.3 | 0.5 |
| A | 235 | 230 | 230 | 215 |
| B | 265 | 260 | 255 | 255 |
| C | 350 | 350 | 345 | 340 |
| D | 470 | 470 | 455 | 450 |
| E | 580 | 570 | 565 | 560 |

NOTE: Ventilation airflow will increase up to 50 CFM during backup or emergency heat operation due to increased total airflow.

Energy Recovery Ventilator Performance Tables

SUMMER COOLING PERFORMANCE (INDOOR DESIGN CONDITIONS 75° DB / 62° WB)

| Ambient O.D. | VENTILATION RATE – 450 CFM 65% EFFICIENCY | | | | | | | VENTILATION RATE – 375 CFM 66% EFFICIENCY | | | | | | VENTILATION RATE – 300 CFM 67% EFFICIENCY | | | | | |
|--------------|--|-------|-------|-------|-------|------|-------|--|-------|-------|-------|------|-------|--|------|-------|-------|------|-------|
| | DB/WB | F | VLT | VLS | VLL | HRT | HRS | HRL | VLT | VLS | VLL | HRT | HRS | HRL | VLT | VLS | VLL | HRT | HRS |
| 105 | 75 | 21465 | 14580 | 6884 | 13952 | 9477 | 4475 | 17887 | 12150 | 5737 | 11805 | 8018 | 3786 | 14310 | 9720 | 4590 | 9587 | 6512 | 3075 |
| | 70 | 14580 | 14580 | 0 | 9477 | 9477 | 0 | 12150 | 12150 | 0 | 8018 | 8018 | 0 | 9720 | 9720 | 0 | 6512 | 6512 | 0 |
| | 65 | 14580 | 14580 | 0 | 9477 | 9477 | 0 | 12150 | 12150 | 0 | 8018 | 8018 | 0 | 9720 | 9720 | 0 | 6512 | 6512 | 0 |
| 100 | 80 | 31590 | 12150 | 19440 | 20533 | 7897 | 12635 | 26325 | 10125 | 16200 | 17374 | 6682 | 10692 | 21060 | 8100 | 12960 | 14110 | 5427 | 8683 |
| | 75 | 21465 | 12150 | 9314 | 13952 | 7897 | 6054 | 17887 | 10125 | 7762 | 11805 | 6682 | 5123 | 14310 | 8100 | 6210 | 9587 | 5427 | 4160 |
| | 70 | 12352 | 12150 | 202 | 8029 | 7897 | 131 | 10293 | 10125 | 168 | 6793 | 6682 | 111 | 8235 | 8100 | 135 | 5517 | 5427 | 90 |
| | 65 | 12150 | 12150 | 0 | 7897 | 7897 | 0 | 10125 | 10125 | 0 | 6682 | 6682 | 0 | 8100 | 8100 | 0 | 5427 | 5427 | 0 |
| | 60 | 12150 | 12150 | 0 | 7897 | 7897 | 0 | 10125 | 10125 | 0 | 6682 | 6682 | 0 | 8100 | 8100 | 0 | 5427 | 5427 | 0 |
| 95 | 80 | 31590 | 9720 | 21870 | 20533 | 6318 | 14215 | 26325 | 8100 | 18225 | 17374 | 5345 | 12028 | 21060 | 6480 | 14580 | 14110 | 4341 | 9768 |
| | 75 | 21465 | 9720 | 11744 | 13952 | 6318 | 7634 | 17887 | 8100 | 9787 | 11805 | 5345 | 6459 | 14310 | 6480 | 7830 | 9587 | 4341 | 5246 |
| | 70 | 12352 | 9720 | 2632 | 8029 | 6318 | 1711 | 10293 | 8100 | 2193 | 6793 | 5345 | 1447 | 8235 | 6480 | 1755 | 5517 | 4341 | 1175 |
| | 65 | 9720 | 9720 | 0 | 6318 | 6318 | 0 | 8100 | 8100 | 0 | 5345 | 5345 | 0 | 6480 | 6480 | 0 | 4341 | 4341 | 0 |
| | 60 | 9720 | 9720 | 0 | 6318 | 6318 | 0 | 8100 | 8100 | 0 | 5345 | 5345 | 0 | 6480 | 6480 | 0 | 4341 | 4341 | 0 |
| 90 | 80 | 31590 | 7290 | 24300 | 20533 | 4738 | 15794 | 26325 | 6075 | 20250 | 17374 | 4009 | 13365 | 21060 | 4860 | 16200 | 14110 | 3256 | 10854 |
| | 75 | 21465 | 7290 | 14175 | 13952 | 4738 | 9213 | 17887 | 6075 | 11812 | 11805 | 4009 | 7796 | 14310 | 4860 | 9450 | 9587 | 3256 | 6331 |
| | 70 | 12352 | 7290 | 5062 | 8029 | 4738 | 3290 | 10293 | 6075 | 4218 | 6793 | 4009 | 2784 | 8235 | 4860 | 3375 | 5517 | 3256 | 2261 |
| | 65 | 7290 | 7290 | 0 | 4738 | 4738 | 0 | 6075 | 6075 | 0 | 4009 | 4009 | 0 | 4860 | 4860 | 0 | 3256 | 3256 | 0 |
| | 60 | 7290 | 7290 | 0 | 4738 | 4738 | 0 | 6075 | 6075 | 0 | 4009 | 4009 | 0 | 4860 | 4860 | 0 | 3256 | 3256 | 0 |
| 85 | 80 | 31590 | 4860 | 26730 | 20533 | 3159 | 17374 | 26325 | 4050 | 22275 | 17374 | 2672 | 14701 | 21060 | 3240 | 17820 | 14110 | 2170 | 11939 |
| | 75 | 21465 | 4860 | 16605 | 13952 | 3159 | 10793 | 17887 | 4050 | 13837 | 11805 | 2672 | 9132 | 14310 | 3240 | 11070 | 9587 | 2170 | 7416 |
| | 70 | 12352 | 4860 | 7492 | 8029 | 3159 | 4870 | 10293 | 4050 | 6243 | 6793 | 2672 | 4120 | 8235 | 3240 | 4995 | 5517 | 2170 | 3346 |
| | 65 | 4860 | 4860 | 0 | 3159 | 3159 | 0 | 4050 | 4050 | 0 | 2672 | 2672 | 0 | 3240 | 3240 | 0 | 2170 | 2170 | 0 |
| | 60 | 4860 | 4860 | 0 | 3159 | 3159 | 0 | 4050 | 4050 | 0 | 2672 | 2672 | 0 | 3240 | 3240 | 0 | 2170 | 2170 | 0 |
| 80 | 75 | 21465 | 2430 | 19035 | 13952 | 1579 | 12372 | 17887 | 2025 | 15862 | 11805 | 1336 | 10469 | 14310 | 1620 | 12690 | 9587 | 1085 | 8502 |
| | 70 | 12352 | 2430 | 9922 | 8029 | 1579 | 6449 | 10293 | 2025 | 8268 | 6793 | 1336 | 5457 | 8235 | 1620 | 6615 | 5517 | 1085 | 4432 |
| | 65 | 4252 | 2430 | 1822 | 2764 | 1579 | 1184 | 3543 | 2025 | 1518 | 2338 | 1336 | 1002 | 2835 | 1620 | 1215 | 1899 | 1085 | 814 |
| | 60 | 2430 | 2430 | 0 | 1579 | 1579 | 0 | 2025 | 2025 | 0 | 1336 | 1336 | 0 | 1620 | 1620 | 0 | 1085 | 1085 | 0 |
| 75 | 70 | 12352 | 0 | 12352 | 8029 | 0 | 8029 | 10293 | 0 | 10293 | 6793 | 0 | 6793 | 8235 | 0 | 8235 | 5517 | 0 | 5517 |
| | 65 | 4252 | 0 | 4252 | 2764 | 0 | 2764 | 3543 | 0 | 3543 | 2338 | 0 | 2338 | 2835 | 0 | 2835 | 1899 | 0 | 1899 |
| | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

LEGEND

| | |
|-----------------------------------|--------------------------------|
| VLT = Ventilation Load – Total | HRT = Heat Recovery – Total |
| VLS = Ventilation Load – Sensible | HRS = Heat Recovery – Sensible |
| VLL = Ventilation Load – Latent | HRL = Heat Recovery – Latent |

WINTER HEATING PERFORMANCE (INDOOR DESIGN CONDITIONS 70°F DB)

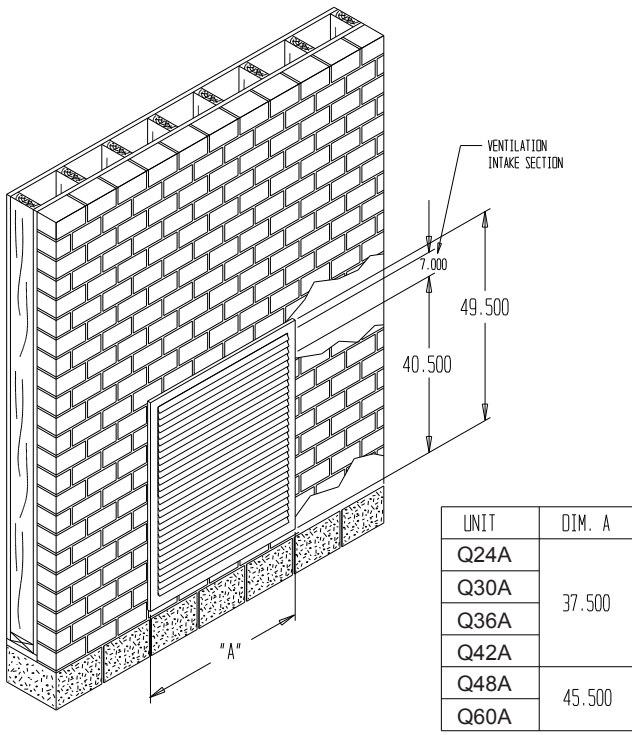
| Ambient O.D. | VENTILATION RATE | | | | | |
|--------------|---------------------------|-------|---------------------------|-------|---------------------------|-------|
| | 450 CFM 80% EFFICIENCY | | 375 CFM 81% EFFICIENCY | | 300 CFM 82% EFFICIENCY | |
| DB/°F | VLT | VLS | VLT | VLS | VLT | VLS |
| 65 | 2430 | 1944 | 2025 | 1640 | 1620 | 1328 |
| 60 | 4860 | 3888 | 4050 | 3280 | 3240 | 2656 |
| 55 | 7290 | 5832 | 6075 | 4920 | 4860 | 3985 |
| 50 | 9720 | 7776 | 8100 | 6561 | 6480 | 5313 |
| 45 | 12150 | 9720 | 10125 | 8201 | 8100 | 6642 |
| 40 | 14580 | 11664 | 12150 | 9841 | 9720 | 7970 |
| 35 | 17010 | 13608 | 14175 | 11481 | 11340 | 9298 |
| 30 | 19440 | 15552 | 16200 | 13122 | 12960 | 10627 |
| 25 | 21870 | 17496 | 18225 | 14762 | 14580 | 11955 |
| 20 | 24300 | 19440 | 20250 | 16402 | 16200 | 13284 |
| 15 | 26730 | 21384 | 22275 | 18042 | 17820 | 14612 |

LEGEND

WVL = Winter Ventilation Load
WHR = Winter Heat Recovery

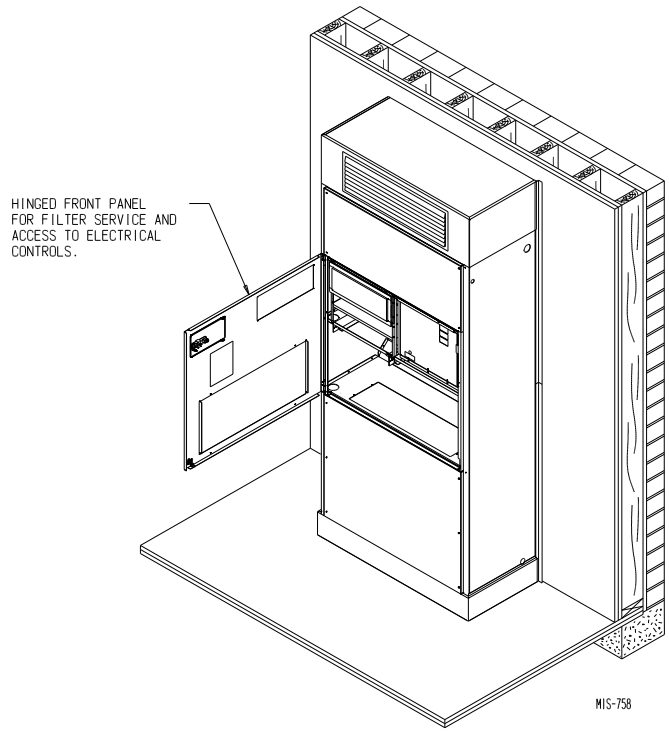
NOTE: Sensible performance only is shown for winter application.

Installation Overview

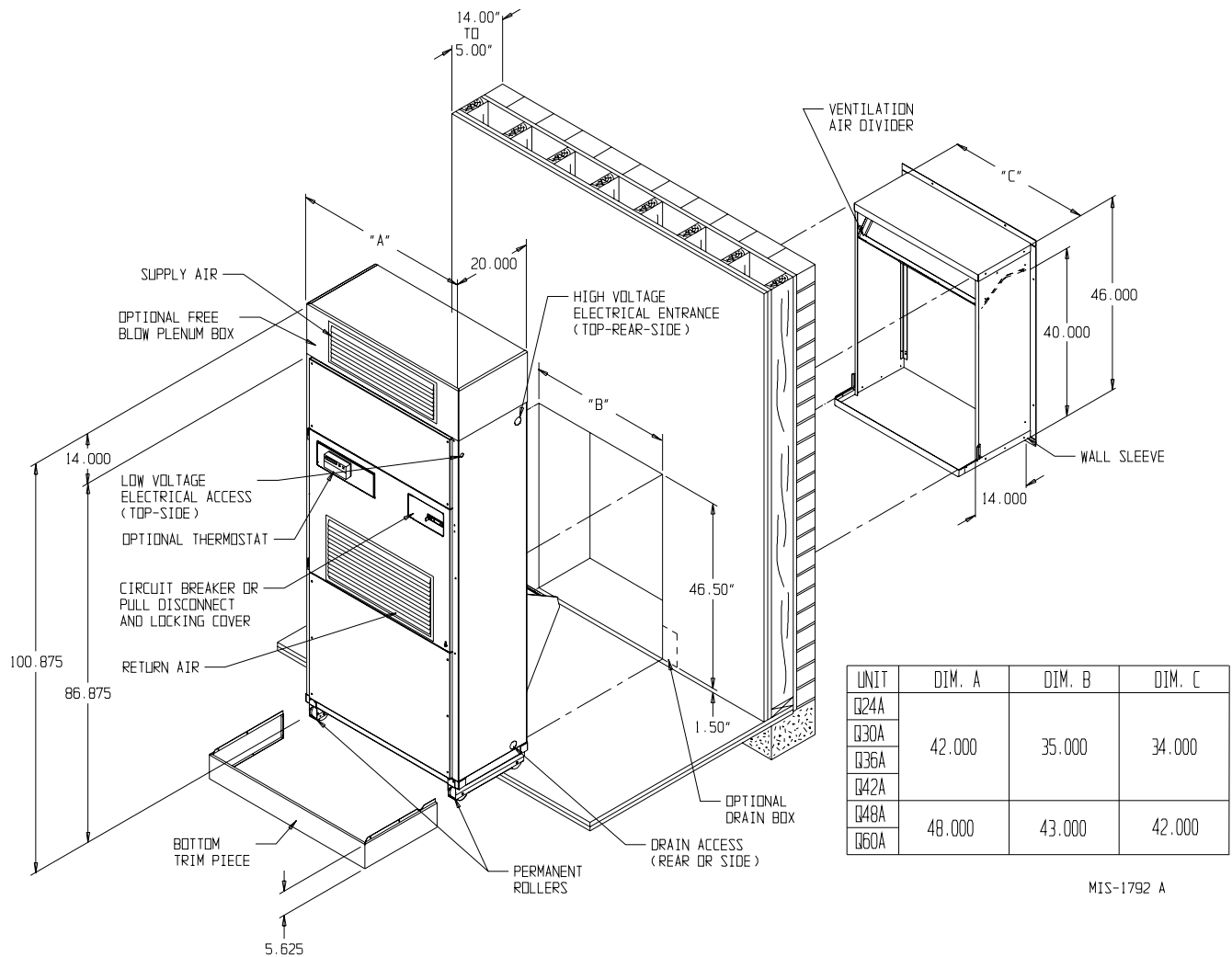


Outside louver grille

MIS-1791

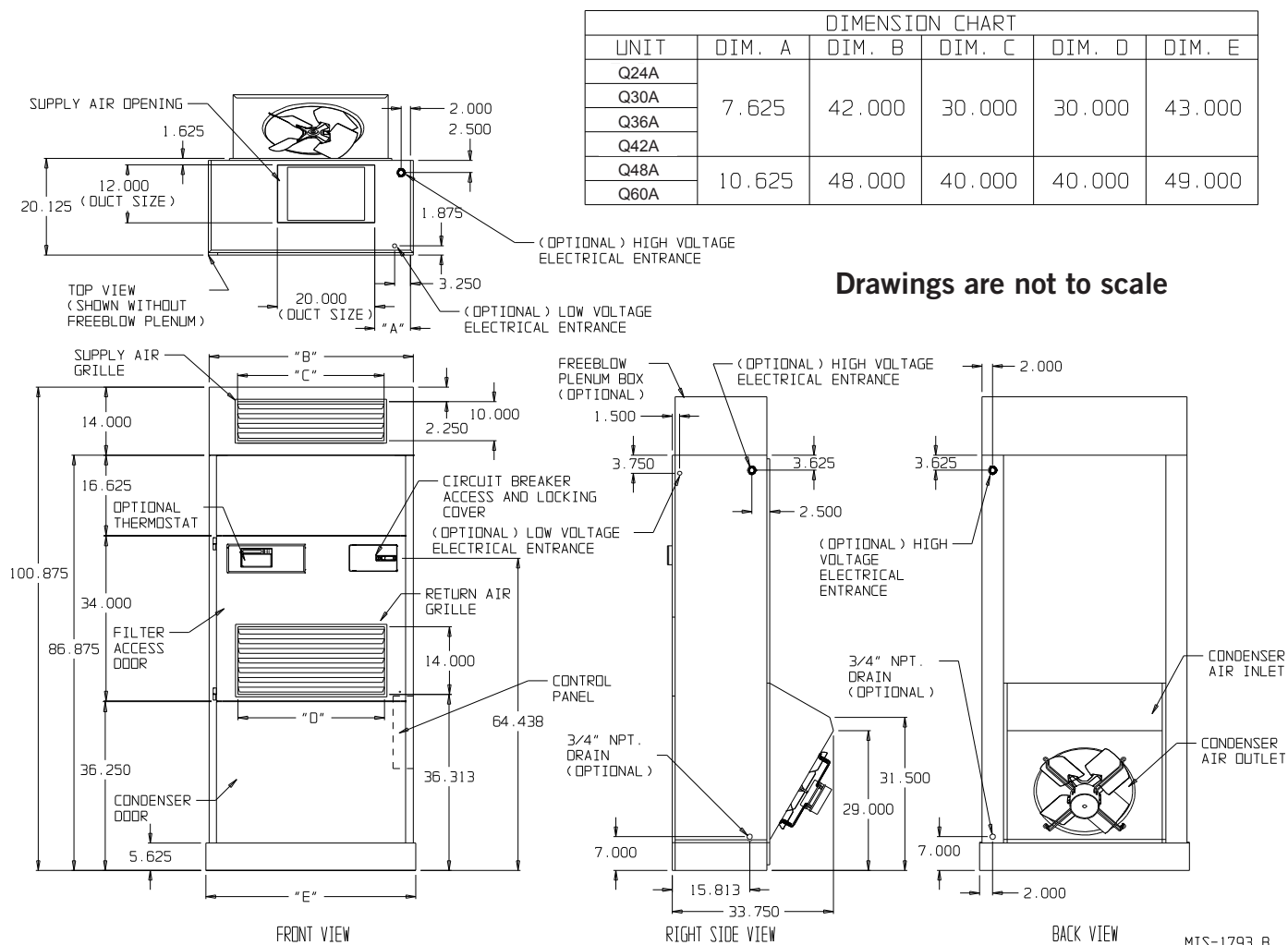


Unit installed with duct-free plenum box



MIS-1792 A

Dimensions of Basic Unit for Architectural and Installation Requirements (Nominal)



MIS-1793 B

Optional Hot Water Coil Performance-Heating Capacity @ 180°F Water & 70° Return Air

| GPM | CFM | | | | | | | | | |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 |
| 1.5 | 32,000 | 32,667 | 33,333 | 34,000 | 34,500 | 35,000 | 35,500 | 36,000 | 36,400 | 36,750 |
| 2 | 42,000 | 43,200 | 44,400 | 45,600 | 46,400 | 47,200 | 48,000 | 48,500 | 49,000 | 49,500 |
| 3 | 49,000 | 51,667 | 53,750 | 57,000 | 59,400 | 61,750 | 64,000 | 65,200 | 66,000 | 67,000 |
| 4 | 56,000 | 59,000 | 62,000 | 65,000 | 69,000 | 73,000 | 77,000 | 79,500 | 82,000 | 84,000 |
| 5 | 59,000 | 62,583 | 66,167 | 69,750 | 72,833 | 75,917 | 79,000 | 81,000 | 83,000 | 85,000 |
| 6 | 62,000 | 66,167 | 70,333 | 74,500 | 77,000 | 79,500 | 82,000 | 83,500 | 85,000 | 86,500 |
| 7 | 63,500 | 67,708 | 71,917 | 76,125 | 78,917 | 81,708 | 84,500 | 86,500 | 88,000 | 89,200 |
| 8 | 65,000 | 69,250 | 73,500 | 77,750 | 80,833 | 83,917 | 87,000 | 88,900 | 90,500 | 91,750 |
| 9 | 66,000 | 70,525 | 75,050 | 79,575 | 82,883 | 86,192 | 89,500 | 91,500 | 93,000 | 94,500 |
| 10 | 67,000 | 71,800 | 76,600 | 81,400 | 84,933 | 88,467 | 92,000 | 94,500 | 96,000 | 97,500 |

Electrical Specifications - Standard Models

| MODEL | Rated Volts & Phase | No. Field Power Circuits | Single Circuit | | | | Dual Circuit | | | | | | | |
|-----------|---------------------|--------------------------|----------------------------|---------------------------------------|-------------------------|---------------|----------------------------|--------|---|--------|-------------------------|--------|--------------------|--------|
| | | | ③ Minimum Circuit Ampacity | ① Maximum External Fuse or Ckt. Brkr. | ② Field Power Wire Size | ② Ground Wire | ③ Minimum Circuit Ampacity | | ① Maximum External Fuse or Ckt. Breaker | | ② Field Power Wire Size | | ② Ground Wire Size | |
| | | | | | | | Ckt. A | Ckt. B | Ckt. A | Ckt. B | Ckt. A | Ckt. B | Ckt. A | Ckt. B |
| Q24A2-A0Z | 230/208-1 | 1 | 22 | 30 | 10 | 10 | | | | | | | | |
| A05 | | 1 | 30 | 30 | 10 | 10 | | | | | | | | |
| A10 | | 1 | 55 | 60 | 6 | 10 | | | | | | | | |
| Q24A2-B0Z | 230/208-3 | 1 | 17 | 20 | 12 | 12 | | | | | | | | |
| B06 | | 1 | 25 | 25 | 10 | 10 | | | | | | | | |
| B09 | | 1 | 33 | 35 | 8 | 10 | | | | | | | | |
| Q24A2-C0Z | 460-3 | 1 | 10 | 15 | 14 | 14 | | | | | | | | |
| C06 | | 1 | 12 | 15 | 14 | 14 | | | | | | | | |
| C09 | | 1 | 17 | 20 | 12 | 12 | | | | | | | | |
| Q30A2-A0Z | 230/208-1 | 1 | 25 | 35 | 8 | 10 | | | | | | | | |
| A05 | | 1 | 32 | 35 | 8 | 10 | | | | | | | | |
| A10 | | 1 | 57 | 60 | 6 | 10 | | | | | | | | |
| Q30A2-B0Z | 230/208-3 | 1 | 18 | 25 | 10 | 10 | | | | | | | | |
| B06 | | 1 | 25 | 25 | 10 | 10 | | | | | | | | |
| B09 | | 1 | 34 | 35 | 8 | 10 | | | | | | | | |
| B12 | | 1 | 43 | 45 | 6 | 10 | | | | | | | | |
| Q30A2-C0Z | 460-3 | 1 | 11 | 15 | 14 | 14 | | | | | | | | |
| C06 | | 1 | 14 | 15 | 14 | 14 | | | | | | | | |
| C09 | | 1 | 18 | 20 | 12 | 12 | | | | | | | | |
| C12 | | 1 | 23 | 25 | 10 | 10 | | | | | | | | |
| Q36A2-A0Z | 230/208-1 | 1 | 29 | 45 | 8 | 10 | | | | | | | | |
| A05 | | 1 | 34 | 45 | 8 | 10 | | | | | | | | |
| A10 | | 1 | 58 | 60 | 6 | 8 | | | | | | | | |
| A15 | | 1 or 2 | 84 | 90 | 4 | 8 | 58 | 25 | 60 | 25 | 6 | 10 | 10 | 10 |
| Q36A2-B0Z | 230/208-3 | 1 | 21 | 30 | 10 | 10 | | | | | | | | |
| B06 | | 1 | 26 | 30 | 10 | 10 | | | | | | | | |
| B09 | | 1 | 35 | 35 | 8 | 10 | | | | | | | | |
| B15 | | 1 | 53 | 60 | 6 | 10 | | | | | | | | |
| Q36A2-C0Z | 460-3 | 1 | 12 | 15 | 14 | 14 | | | | | | | | |
| C06 | | 1 | 14 | 15 | 14 | 14 | | | | | | | | |
| C09 | | 1 | 18 | 20 | 12 | 12 | | | | | | | | |
| C15 | | 1 | 27 | 30 | 10 | 10 | | | | | | | | |
| Q42A2-A0Z | 230/208-1 | 1 | 35 | 50 | 8 | 10 | | | | | | | | |
| A05 | | 1 | 35 | 50 | 8 | 10 | | | | | | | | |
| A10 | | 1 | 58 | 60 | 6 | 8 | | | | | | | | |
| A15 | | 1 or 2 | 83 | 90 | 4 | 8 | 58 | 25 | 60 | 25 | 6 | 10 | 10 | 10 |
| Q42A2-B0Z | 230/208-3 | 1 | 26 | 35 | 8 | 10 | | | | | | | | |
| B06 | | 1 | 26 | 35 | 8 | 10 | | | | | | | | |
| B09 | | 1 | 35 | 35 | 8 | 10 | | | | | | | | |
| B15 | | 1 | 53 | 60 | 6 | 10 | | | | | | | | |
| Q42A2-C0Z | 460-3 | 1 | 13 | 15 | 14 | 14 | | | | | | | | |
| C06 | | 1 | 14 | 15 | 14 | 14 | | | | | | | | |
| C09 | | 1 | 18 | 20 | 12 | 12 | | | | | | | | |
| C15 | | 1 | 27 | 30 | 10 | 10 | | | | | | | | |
| Q48A2-A0Z | 230/208-1 | 1 | 37 | 50 | 8 | 10 | | | | | | | | |
| A05 | | 1 | 37 | 50 | 8 | 10 | | | | | | | | |
| A10 | | 1 | 58 | 60 | 6 | 10 | | | | | | | | |
| A15 | | 1 or 2 | 83 | 90 | 4 | 8 | 58 | 25 | 60 | 25 | 8 | 10 | 10 | 10 |
| Q48A2-B0Z | 230/208-3 | 1 | 28 | 40 | 8 | 10 | | | | | | | | |
| B06 | | 1 | 28 | 40 | 8 | 10 | | | | | | | | |
| B09 | | 1 | 35 | 40 | 8 | 10 | | | | | | | | |
| B15 | | 1 | 53 | 60 | 6 | 10 | | | | | | | | |
| Q48A2-C0Z | 460-3 | 1 | 14 | 20 | 12 | 12 | | | | | | | | |
| C06 | | 1 | 14 | 20 | 12 | 12 | | | | | | | | |
| C09 | | 1 | 18 | 20 | 12 | 12 | | | | | | | | |
| C15 | | 1 | 27 | 30 | 10 | 10 | | | | | | | | |
| Q60A2-A0Z | 230/208-1 | 1 | 45 | 60 | 8 | 10 | | | | | | | | |
| A10 | | 1 | 59 | 60 | 6 | 10 | | | | | | | | |
| A15 | | 1 or 2 | 84 | 90 | 4 | 8 | 59 | 25 | 60 | 25 | 8 | 10 | 10 | 10 |
| Q60A2-B0Z | 230/208-3 | 1 | 31 | 45 | 8 | 10 | | | | | | | | |
| B09 | | 1 | 36 | 45 | 8 | 10 | | | | | | | | |
| B15 | | 1 | 55 | 60 | 6 | 10 | | | | | | | | |
| Q60A2-C0Z | 460-3 | 1 | 16 | 20 | 12 | 12 | | | | | | | | |
| C09 | | 1 | 19 | 20 | 12 | 12 | | | | | | | | |
| C15 | | 1 | 28 | 30 | 10 | 10 | | | | | | | | |

- ① Maximum size of the time delay fuse or HACR type circuit breaker for protection of field wiring conductors.
- ② Based on 75°C copper wire. All wiring must conform to the National Electrical Code and all local codes.
- ③ These "Minimum Circuit Ampacity" values are to be used for sizing the field power conductors. Refer to the National Electric Code (latest revision), article 310 for power conductor sizing.

CAUTION: When more than one field power conductor circuit is run through one conduit, the conductors must be derated. Pay special attention to note 8 of table 310 regarding Ampacity Adjustment Factors when more than three conductors are in a raceway.

Electrical Specifications - Dehumidification Models

| MODEL | Rated Volts & Phase | No. Field Power Circuits | Single Circuit | | | | Dual Circuit | | | | | | | |
|-----------|---------------------|--------------------------|----------------------------|---------------------------------------|-------------------------|---------------|----------------------------|--------|---|--------|-------------------------|--------|--------------------|--------|
| | | | ③ Minimum Circuit Ampacity | ① Maximum External Fuse or Ckt. Brkr. | ② Field Power Wire Size | ② Ground Wire | ③ Minimum Circuit Ampacity | | ① Maximum External Fuse or Ckt. Breaker | | ② Field Power Wire Size | | ② Ground Wire Size | |
| | | | | | | | Ckt. A | Ckt. B | Ckt. A | Ckt. B | Ckt. A | Ckt. B | Ckt. A | Ckt. B |
| Q24A2DA0Z | 230/208-1 | 1 | 22 | 30 | 10 | 10 | | | | | | | | |
| A05 | | 1 | 30 | 30 | 10 | 10 | | | | | | | | |
| A10 | | 1 | 55 | 60 | 6 | 10 | | | | | | | | |
| Q24A2DB0Z | 230/208-3 | 1 | 17 | 20 | 12 | 12 | | | | | | | | |
| B06 | | 1 | 25 | 25 | 10 | 10 | | | | | | | | |
| B09 | | 1 | 33 | 35 | 8 | 10 | | | | | | | | |
| Q24A2DC0Z | 460-3 | 1 | 10 | 15 | 14 | 14 | | | | | | | | |
| C06 | | 1 | 12 | 15 | 14 | 14 | | | | | | | | |
| C09 | | 1 | 17 | 20 | 12 | 12 | | | | | | | | |
| Q30A2DA0Z | 230/208-1 | 1 | 25 | 35 | 8 | 10 | | | | | | | | |
| A05 | | 1 | 32 | 35 | 8 | 10 | | | | | | | | |
| A10 | | 1 | 57 | 60 | 6 | 10 | | | | | | | | |
| Q30A2DB0Z | 230/208-3 | 1 | 18 | 25 | 10 | 10 | | | | | | | | |
| B06 | | 1 | 25 | 25 | 10 | 10 | | | | | | | | |
| B09 | | 1 | 34 | 35 | 8 | 10 | | | | | | | | |
| B12 | | 1 | 43 | 45 | 6 | 10 | | | | | | | | |
| Q30A2DC0Z | 460-3 | 1 | 11 | 15 | 14 | 14 | | | | | | | | |
| C06 | | 1 | 14 | 15 | 14 | 14 | | | | | | | | |
| C09 | | 1 | 18 | 20 | 12 | 12 | | | | | | | | |
| C12 | | 1 | 23 | 25 | 10 | 10 | | | | | | | | |
| Q36A2DA0Z | 230/208-1 | 1 | 29 | 45 | 8 | 10 | | | | | | | | |
| A05 | | 1 | 34 | 45 | 8 | 10 | | | | | | | | |
| A10 | | 1 | 58 | 60 | 6 | 8 | | | | | | | | |
| A15 | | 1 or 2 | 84 | 90 | 4 | 8 | 58 | 25 | 60 | 25 | 6 | 10 | 10 | 10 |
| Q36A2DB0Z | 230/208-3 | 1 | 21 | 30 | 10 | 10 | | | | | | | | |
| B06 | | 1 | 26 | 30 | 10 | 10 | | | | | | | | |
| B09 | | 1 | 35 | 35 | 8 | 10 | | | | | | | | |
| B15 | | 1 | 53 | 60 | 6 | 10 | | | | | | | | |
| Q36A2DC0Z | 460-3 | 1 | 12 | 15 | 14 | 14 | | | | | | | | |
| C06 | | 1 | 14 | 15 | 14 | 14 | | | | | | | | |
| C09 | | 1 | 18 | 20 | 12 | 12 | | | | | | | | |
| C15 | | 1 | 27 | 30 | 10 | 10 | | | | | | | | |
| Q42A2DA0Z | 230/208-1 | 1 | 35 | 50 | 8 | 10 | | | | | | | | |
| A05 | | 1 | 35 | 50 | 8 | 10 | | | | | | | | |
| A10 | | 1 | 58 | 60 | 6 | 8 | | | | | | | | |
| A15 | | 1 or 2 | 83 | 90 | 4 | 8 | 58 | 25 | 60 | 25 | 6 | 10 | 10 | 10 |
| Q42A2DB0Z | 230/208-3 | 1 | 26 | 35 | 8 | 10 | | | | | | | | |
| B06 | | 1 | 26 | 35 | 8 | 10 | | | | | | | | |
| B09 | | 1 | 35 | 35 | 8 | 10 | | | | | | | | |
| B15 | | 1 | 53 | 60 | 6 | 10 | | | | | | | | |
| Q42A2DC0Z | 460-3 | 1 | 13 | 15 | 14 | 14 | | | | | | | | |
| C06 | | 1 | 14 | 15 | 14 | 14 | | | | | | | | |
| C09 | | 1 | 18 | 20 | 12 | 12 | | | | | | | | |
| C15 | | 1 | 27 | 30 | 10 | 10 | | | | | | | | |
| Q48A2DA0Z | 230/208-1 | 1 | 37 | 50 | 8 | 10 | | | | | | | | |
| A05 | | 1 | 37 | 50 | 8 | 10 | | | | | | | | |
| A10 | | 1 | 58 | 60 | 6 | 10 | | | | | | | | |
| A15 | | 1 or 2 | 83 | 90 | 4 | 8 | 58 | 25 | 60 | 25 | 8 | 10 | 10 | 10 |
| Q48A2DB0Z | 230/208-3 | 1 | 28 | 40 | 8 | 10 | | | | | | | | |
| B06 | | 1 | 28 | 40 | 8 | 10 | | | | | | | | |
| B09 | | 1 | 35 | 40 | 8 | 10 | | | | | | | | |
| B15 | | 1 | 53 | 60 | 6 | 10 | | | | | | | | |
| Q48A2DC0Z | 460-3 | 1 | 14 | 20 | 12 | 12 | | | | | | | | |
| C06 | | 1 | 14 | 20 | 12 | 12 | | | | | | | | |
| C09 | | 1 | 18 | 20 | 12 | 12 | | | | | | | | |
| C15 | | 1 | 27 | 30 | 10 | 10 | | | | | | | | |
| Q60A2DA0Z | 230/208-1 | 1 | 45 | 60 | 8 | 10 | | | | | | | | |
| A10 | | 1 | 59 | 60 | 6 | 10 | | | | | | | | |
| A15 | | 1 or 2 | 84 | 90 | 4 | 8 | 59 | 25 | 60 | 25 | 8 | 10 | 10 | 10 |
| Q60A2DB0Z | 230/208-3 | 1 | 31 | 45 | 8 | 10 | | | | | | | | |
| B09 | | 1 | 36 | 45 | 8 | 10 | | | | | | | | |
| B15 | | 1 | 55 | 60 | 6 | 10 | | | | | | | | |
| Q60A2DC0Z | 460-3 | 1 | 16 | 20 | 12 | 12 | | | | | | | | |
| C09 | | 1 | 19 | 20 | 12 | 12 | | | | | | | | |
| C15 | | 1 | 28 | 30 | 10 | 10 | | | | | | | | |

- ① Maximum size of the time delay fuse or HACR type circuit breaker for protection of field wiring conductors.
- ② Based on 75°C copper wire. All wiring must conform to the National Electrical Code and all local codes.
- ③ These "Minimum Circuit Ampacity" values are to be used for sizing the field power conductors. Refer to the National Electric Code (latest revision), article 310 for power conductor sizing.

CAUTION: When more than one field power conductor circuit is run through one conduit, the conductors must be derated. Pay special attention to note 8 of table 310 regarding Ampacity Adjustment Factors when more than three conductors are in a raceway.

Cooling Application Data - Outdoor Temperature °F ①

| Model | (DB/WB) ② | Cooling Capacity | 75°F | 80°F | 85°F | 90°F | 95°F | 100°F | 105°F | 110°F | 115°F |
|--------------|--------------|-----------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Q24A2 | 75/62 | Total Cooling Sensible Cooling | 26,600 19,300 | 24,800 18,700 | 23,400 18,100 | 22,100 17,600 | 20,900 17,200 | 20,100 16,800 | 19,400 16,600 | 19,000 16,400 | 18,600 16,200 |
| | 80/67 | Total Cooling Sensible Cooling | 28,400 18,700 | 27,000 18,300 | 25,900 17,900 | 24,900 17,600 | 24,000 17,300 | 23,400 17,100 | 22,900 17,000 | 22,600 16,900 | 22,400 16,800 |
| | 85/72 | Total Cooling Sensible Cooling | 33,900 19,200 | 31,600 18,600 | 29,800 18,000 | 28,100 17,500 | 26,700 17,000 | 25,600 16,600 | 24,700 16,200 | 24,100 15,900 | 23,600 15,500 |
| Q30A2 | 75/62 | Total Cooling Sensible Cooling | 30,600 23,200 | 29,300 22,700 | 28,200 22,200 | 27,100 21,700 | 26,000 21,200 | 25,000 20,800 | 24,000 20,300 | 23,100 19,900 | 22,100 19,400 |
| | 80/67 | Total Cooling Sensible Cooling | 32,600 22,500 | 31,900 22,200 | 31,300 22,000 | 30,600 21,700 | 29,800 21,400 | 29,100 21,100 | 28,300 20,800 | 27,500 20,500 | 26,600 20,200 |
| | 85/72 | Total Cooling Sensible Cooling | 38,900 23,100 | 37,300 22,600 | 36,000 22,100 | 34,600 21,600 | 33,100 21,000 | 31,900 20,400 | 30,500 19,900 | 29,300 19,200 | 28,000 18,600 |
| Q36A2 | 75/62 | Total Cooling Sensible Cooling | 34,900 26,800 | 33,700 26,300 | 32,500 25,900 | 31,300 25,400 | 30,200 24,900 | 29,000 24,400 | 27,800 23,800 | 26,700 23,200 | 25,500 22,700 |
| | 80/67 | Total Cooling Sensible Cooling | 37,200 26,000 | 36,700 25,800 | 36,100 25,600 | 35,400 25,400 | 34,600 25,100 | 33,800 24,800 | 32,800 24,400 | 31,800 24,000 | 30,700 23,600 |
| | 85/72 | Total Cooling Sensible Cooling | 44,300 26,700 | 42,900 26,200 | 41,500 25,700 | 40,000 25,300 | 38,500 24,600 | 37,000 24,000 | 35,400 23,300 | 33,900 22,500 | 32,300 21,800 |
| Q42A2 | 75/62 | Total Cooling Sensible Cooling | 40,400 29,500 | 39,000 29,000 | 37,600 28,500 | 36,200 27,800 | 34,800 27,300 | 33,600 26,600 | 32,300 26,000 | 31,000 25,400 | 29,800 24,700 |
| | 80/67 | Total Cooling Sensible Cooling | 43,100 28,600 | 42,500 28,400 | 41,700 28,200 | 40,900 27,800 | 40,000 27,500 | 39,100 27,100 | 38,100 26,700 | 37,000 26,200 | 35,800 25,700 |
| | 85/72 | Total Cooling Sensible Cooling | 51,400 29,300 | 49,700 28,800 | 47,900 28,400 | 46,200 27,600 | 44,500 27,000 | 42,800 26,200 | 41,100 25,500 | 39,400 24,600 | 37,600 23,700 |
| Q48A2 | 75/62 | Total Cooling Sensible Cooling | 46,900 34,400 | 45,100 33,500 | 43,300 32,700 | 41,700 31,900 | 40,100 31,200 | 38,600 30,600 | 37,200 29,800 | 35,900 29,200 | 34,700 28,700 |
| | 80/67 | Total Cooling Sensible Cooling | 50,100 33,300 | 49,100 32,800 | 48,100 32,400 | 47,100 31,900 | 46,000 31,500 | 45,000 31,100 | 43,900 30,600 | 42,800 30,200 | 41,700 29,800 |
| | 85/72 | Total Cooling Sensible Cooling | 59,700 34,100 | 57,400 33,300 | 55,300 32,600 | 53,200 31,700 | 51,100 30,900 | 49,200 30,100 | 47,300 29,200 | 45,500 28,300 | 43,800 27,500 |
| Q60A2 | 75/62 | Total Cooling Sensible Cooling | 53,400 38,500 | 52,200 38,300 | 50,800 37,800 | 49,100 37,000 | 47,000 36,000 | 44,800 34,600 | 42,200 33,100 | 39,400 31,200 | 36,400 29,000 |
| | 80/67 | Total Cooling Sensible Cooling | 57,000 37,300 | 56,900 37,500 | 56,400 37,400 | 55,500 37,000 | 54,000 36,300 | 52,200 35,200 | 49,800 33,900 | 47,000 32,200 | 43,800 30,200 |
| | 85/72 | Total Cooling Sensible Cooling | 67,900 38,200 | 66,500 38,100 | 64,800 37,600 | 62,700 36,800 | 60,000 35,600 | 57,100 34,100 | 53,700 32,300 | 50,000 30,200 | 46,000 27,800 |

① Below 65°F, unit requires a factory or field installed low ambient control.

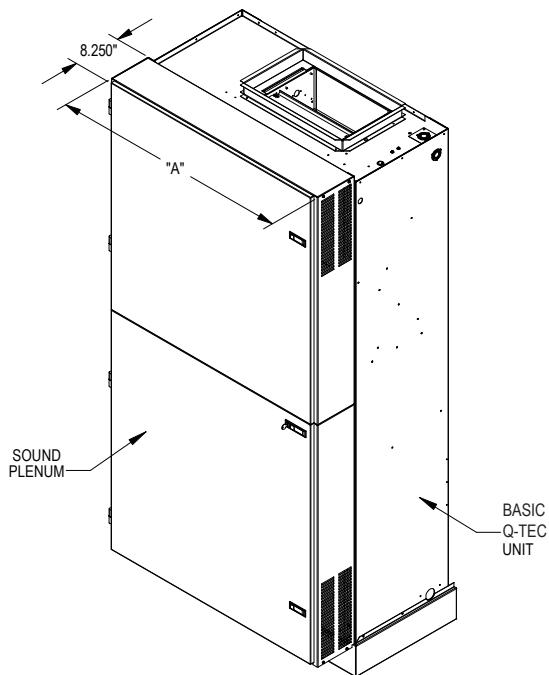
② Return air temp. °F.

QSP-Series Sound Plenum

The QSP3 - QSP5 Series Sound Plenum has been designed for use with ALL Bard Q-TEC Series units, both Generation I and Generation II systems. Installation is quick and easy with removal/replacement of six (6) existing screws from the unit cabinet. Once installed the sound plenum enhances the current quiet operation of the Q-TEC Series units, and the hinged door with cam locks provides easy access to the basic Q-TEC system. Model selection is based on equipment cabinet size and finish.

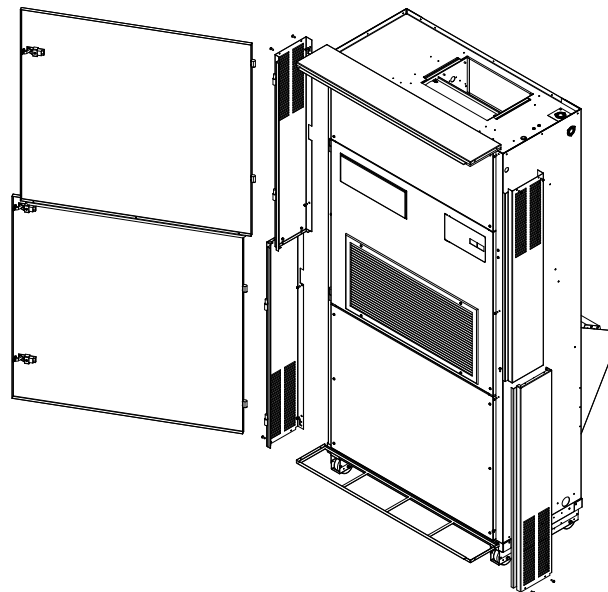
| Sound Plenum Part Number | Cabinet Finish | Equipment Selection |
|----------------------------|--|---|
| QSP3-X QSP3-4 QSP3-V | Painted Steel - Beige Painted Steel - Buckeye Gray Texture Vinyl ① | Q24A - Q42A Q24A - Q42A Q24A - Q42A |
| QSP5-X QSP5-4 QSP5-V | Painted Steel - Beige Painted Steel - Buckeye Gray Texture Vinyl ① | Q48A - Q60A Q48A - Q60A Q48A - Q60A |

① Front Panels Slate Finish, Side Panels Platinum Gray matching Q-TEC™ vinyl cabinet finishes.



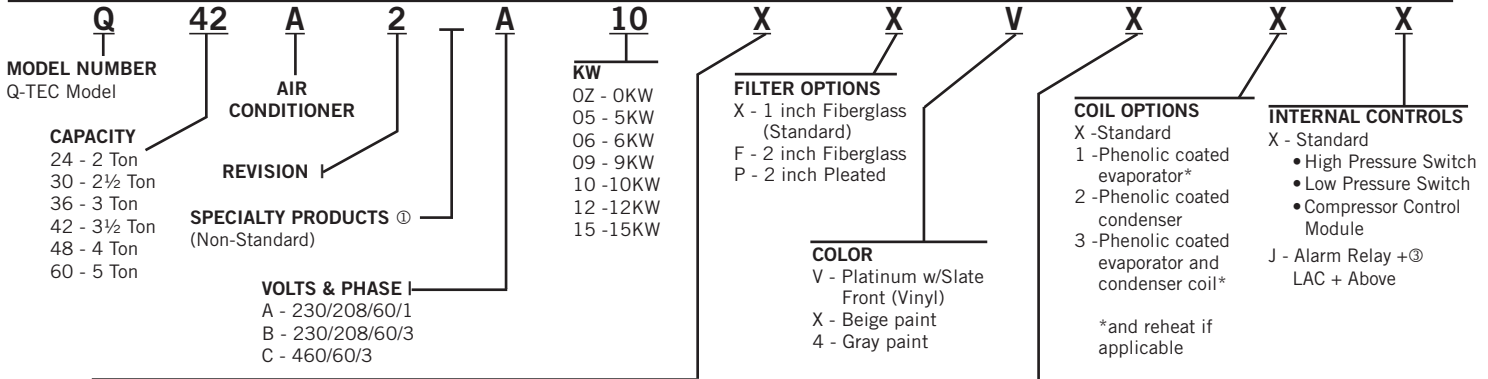
Features:

- Two Plenum Finishes To Match Unit Cabinets
 - Vinyl or Painted Steel
- Compatible With New or Existing Units
- Removable Cam Lock Hinge Doors
- Easy Unit Service Access
- Sound Absorbing Insulation
- Reduces Equipment dBA Operating Levels
 - Up to 5 dBA with Energy Recovery Ventilator option.
 - Provides general muffling of basic unit operation. Actual sound reduction may vary depending on system operating conditions and other site variables.



MIS-2267

Q-TEC Model Nomenclature



VENTILATION OPTIONS

- X - Barometric Fresh Air Damper (Standard)
- B - Blank-off Plate
- E - Economizer (Not available on dehumidification versions)
- P - Commercial Ventilator - Motorized w/Exhaust Power Return
- V - Commercial Ventilator - Motorized w/Exhaust Spring Return
- R - Energy Recovery Ventilator w/Independent Intake & Exhaust Control

CLIMATE CONTROL

STANDARD UNITS

- X - None ②
- D - Electronic/Prog ④
- H - Electronic/Prog/CO₂ ⑤
- B - CS9BE-THO (BACnet IP or Ethernet)
- C - CS9BE-THOC w/CO₂ (BACnet IP or Ethernet)

DEHUMIDIFICATION UNITS

- X - None ②
- E - Electronic/Prog/Humidistat ⑥
- I - Electronic Prog/Humidistat/CO₂ ⑥
- J - CS9BE-THO (BACnet IP or Ethernet)
- K - CS9BE-THOC w/CO₂ (BACnet IP or Ethernet)

NOTE: ① Insert "D" for dehumidification with hot gas reheat. Reference 7960-700 for complete details.

② If "X" control option is selected, then thermostat and humidistat, if applicable, or DDC control system must be field supplied.

③ Not available with "X" climate control option, and for all other climate control options is a single sensor that functions with unit mounted thermostat.

④ 8403-060 Thermostat.

⑤ 8403-060 Thermostat & 8403-067 CO₂ Controller.

Required Field Installed Accessories - One Size/Color Must Be Used For Each Installation

Outdoor Louver Grilles:

| | | |
|---------------------------------|--------------------------------|--|
| QLS2-10 (for 2 - 3½ Ton Models) | QLS4-10 (for 4 - 5 Ton Models) | Standard Clear Painted Enamel Finish |
| QLS2-20 (for 2 - 3½ Ton Models) | QLS4-20 (for 4 - 5 Ton Models) | Standard Medium Bronze Painted Enamel Finish |
| QLS2-30 (for 2 - 3½ Ton Models) | QLS4-30 (for 4 - 5 Ton Models) | Standard Dark Bronze Painted Enamel Finish |
| QLS2-** (for 2 - 3½ Ton Models) | QLS4-** (for 4 - 5 Ton Models) | Optional Finish (See Form F1974) |

Contact your Bard Sales Representative for Custom Finish Louver information

Wall Sleeves: Note - Maximum dimension in inches of wall is shown ()

| | | | | | | |
|--------------------------------|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| For all 2 through 3½ ton units | QWS42A (14") | QWS42A-16 (16") | QWS42A-19 (19") | QWS42A-20 (20") | QWS42A-23 (23") | QWS42A-30 (30") |
| For all 4 through 5 ton units | QWS48A (14") | QWS48A-16 (16") | QWS48A-19 (19") | QWS48A-20 (20") | QWS48A-23 (23") | QWS48A-30 (30") |

Optional Field Installed Accessories - Additional Items As Determined By Job Specifications

Drain Kit:

QCDS48A Rear condensate drain system allows easy removal of unit from wall sleeve. Fits all models.

NOTE: The following accessory items must be selected so that the finish (color) is matched to the Q**A model that they will be used with.

Side Trim Extension Kits: (Note: Standard Side Trim Kit supplied with unit covers space up to 4" between interior wall & back of unit.) Unit Compatibility

| | | | | |
|------------------------------|--------------------------|---------------------------|--|------------|
| QSTX42A-V-S10 Platinum vinyl | QSTX42A-4-S10 Gray paint | QSTX42A-X-S10 Beige paint | Up to 9.5" - Normally used in place of standard 4" trim pieces | All models |
| QSTX42A-V-S13 Platinum vinyl | QSTX42A-4-S13 Gray paint | QSTX42A-X-S13 Beige paint | Up to 12.5" - Normally used in place of standard 4" trim piece | All models |
| QSTX42A-V-S16 Platinum vinyl | QSTX42A-4-S16 Gray paint | QSTX42A-X-S16 Beige paint | Up to 15.5" - Normally used in place of standard 4" trim piece | All models |

Duct-Free Plenum Boxes:

| Model | Finish | Color | Options | Unit Compatibility |
|-----------|----------------|------------|-----------------------|--|
| QPB42-V | Platinum vinyl | Gray paint | QPB42-X Beige paint | Front supply, 4-way deflection grille 2 - 3½ Ton |
| QPBS42-V | Platinum vinyl | Gray paint | QPBS42-X Beige paint | Same as QPB42, plus 2-way deflection grille on each side 2 - 3½ Ton |
| QPB48-V | Platinum vinyl | Gray paint | QPB48-X Beige paint | Front supply, 4-way deflection grille 4 - 5 Ton |
| QPBS48-V | Platinum vinyl | Gray paint | QPBS48-X Beige paint | Same as QPB48, plus 2-way deflection grille on each side 4 - 5 Ton |
| QPB42-V-8 | Platinum vinyl | Gray paint | QPB42-X-8 Beige paint | Same as QPB42 and 8" Height ① 2 - 3½ Ton |
| QPB48-V-8 | Platinum vinyl | Gray paint | QPB48-X-8 Beige paint | Same as QPB48 and 8" Height ① 4 - 5 Ton |

Top Fill Systems for Finishing Plenum Boxes to Ceilings:

| Model | Finish | Color | Options | Unit Compatibility |
|-------------|----------------|------------|-------------------------|---|
| QPBX42-9-V | Platinum vinyl | Gray paint | QPBX42-9-X Beige paint | Use with QPB42 or QPBS42 (adjusts to ceilings up to 9' 6") 2 - 3½ Ton |
| QPBX42-10-V | Platinum vinyl | Gray paint | QPBX42-10-X Beige paint | Use with QPB42 or QPBS42 (adjusts to ceilings up to 10' 2") 2 - 3½ Ton |
| QPBX48-9-V | Platinum vinyl | Gray paint | QPBX48-9-X Beige paint | Use with QPB48 or QPBS48 (adjusts to ceilings up to 9' 6") 4 - 5 Ton |
| QPBX48-10-V | Platinum vinyl | Gray paint | QPBX48-10-X Beige paint | Use with QPB48 or QPBS48 (adjusts to ceilings up to 10' 2") 4 - 5 Ton |

Cabinet Extensions for Ducted Applications:

| Model | Finish | Color | Options | Unit Compatibility |
|----------|----------------|------------|----------------------|--|
| QCX10A-V | Platinum vinyl | Gray paint | QCX10A-X Beige paint | 20" height (adjusts for ceilings up to 9' 4"; add QPBX42-9 for 9'4" to 10' finished ceiling heights) 2 - 3½ Ton |
| QCX15A-V | Platinum vinyl | Gray paint | QCX15A-X Beige paint | 20" height (adjusts for ceilings up to 9' 4"; add QPBX48-9 for 9'4" to 10' finished ceiling heights) 4 - 5 Ton |

Hot Water Coils with Plenum Boxes:

| Model | Finish | Color | Options | Unit Compatibility |
|-------------|----------------|------------|-------------------------|------------------------------------|
| QPBHW42-F-V | Platinum vinyl | Gray paint | QPBHW42-F-X Beige paint | Duct-Free plenum box 2 - 3½ Ton |
| QPBHW48-F-V | Platinum vinyl | Gray paint | QPBHW48-F-X Beige paint | Duct-Free plenum box 4 - 5 Ton |
| QPBHW42-D-V | Platinum vinyl | Gray paint | QPBHW42-D-X Beige paint | Ducted plenum box 2 - 3½ Ton |
| QPBHW48-D-V | Platinum vinyl | Gray paint | QPBHW48-D-X Beige paint | Ducted plenum box 4 - 5 Ton |

NOTE: The same top fill system and cabinet extensions can be used with hot water coil plenum boxes as with standard plenum boxes.

① 8" Plenum Box height may affect sound level of supply air and unit.



Bard Manufacturing Company, Inc.
Bryan, Ohio 43506
www.bardvac.com

Due to our continuous product improvement policy, all specifications subject to change without notice.

Before purchasing this appliance, read important energy cost and efficiency information available from your retailer.

Form No.
S3411
May, 2017

Supersedes: S3411-116