



FAX-FAS Product Specification

DIRECT EXPANSION COMMERCIAL PACKAGED AIR-HANDLING UNITS, 6-30 TONS, 60 HZ, BUILT TO LAST, EASY TO INSTALL AND SERVICE

FAX/FAS air-handling units are the best choice for packaged air handlers. FAX/FAS units have direct-expansion coils, and FAX units come with X-Vane Fan Technology. All models offer excellent fan performance, a unique combination of indoor air quality features, and easy installation. Their versatility and state-of-the-art features provides economical performance.

Our easy-to install and economical FAX/FAS units provide reliable service and versatile packaged air-handling units satisfy design requirements with:

- Multi-position design for horizontal or vertical installation without modification.
- Standard sloped drain pans and cleanable insulation treated with an immobilized anti-microbial agent to inhibit the growth of bacteria and fungi on the insulation.
- High-static design meets a wider range of applications than competitive packaged air handler lines.
- Ultra Low Leak Economizer accessory provides ventilation air and “free” cooling with built in Fault Detection and Diagnostic (FDD) capabilities.
- Cooling coils with mechanically bonded fins provide peak heat transfer.
- Hot water coil, steam coil, and electric heat accessories are available.
- Standard factory-installed thermo-static expansion valves (TXV) with removable power element on FAX/FAS units.
- Die-formed galvanized steel casings provide durability and structural integrity. Optional paint is available.
- Upgraded unit control board with intuitive indoor fan adjustment.
- Standard 2-Speed Indoor Fan Motor system.

Easier installation and service

With the new X-Vane Axial fan system, there is no longer a need to adjust belts or pulleys as in past designs. This frees up maintenance and installation time.

The multi-position design and component layout allow for quick unit installation and operation. The DX coils have factory-installed TXVs with matching distributor nozzles. Units can be converted from horizontal to vertical operation by simply repositioning the unit. There are simple, fast plug-in connections to the standard integrated unit control board (UCB). The UCB has clearly labeled connection points to reduce installation time. Also, a large control box provides room to work and mount accessory controls.

Drain pan connections are duplicated on both sides of the unit. The filters, motor, drive, TXVs, and coil connections are easily accessed by removing a single side panel.

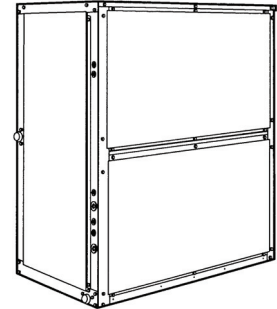
Easy to use

Our newly re-designed Unit Control Board puts all connections and troubleshooting points in one convenient place. Most low voltage connections are made to the same board and make it easy to access it. Setting up the fan is simple by an intuitive switch and rotary dial arrangement.

X-Vane Fan Technology

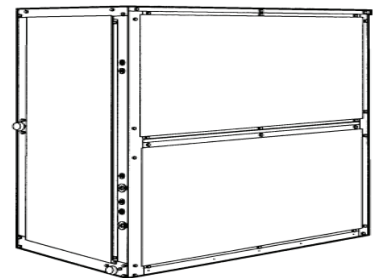
The direct drive X-Vane Fan Technology indoor fan system on FAX units uses a Vane Axial fan design and electronically commutated motors.

This new Vane Axial design over past belt drive systems has 75% fewer moving parts, uses up to 40% less energy and has no fan belts, blower bearings and shaft.



FAX072-120 unit shown

X-Vane Fan™



FAS150-336 unit shown

Table of contents

| | PAGE | | PAGE |
|---------------------------|------|------------------------------------|------|
| FEATURES/BENEFITS | 2 | FAN DATA | 28 |
| MODEL NUMBER NOMENCLATURE | 3 | ELECTRICAL DATA | 39 |
| PHYSICAL DATA | 6 | TYPICAL PIPING AND WIRING DIAGRAMS | 50 |
| OPTIONS AND ACCESSORIES | 9 | APPLICATION DATA | 55 |
| BASE UNIT DIMENSIONS | 11 | GUIDE SPECIFICATIONS — FAX | 56 |
| ACCESSORY DIMENSIONS | 16 | GUIDE SPECIFICATIONS — FAS | 59 |
| PERFORMANCE DATA | 23 | | |

Features/Benefits

Rugged dependability

Die-formed galvanized steel panels ensure structural integrity under all operating conditions. Mechanically bonded coil fins provide improved heat transfer. For FAS units, galvanized steel fan housings are securely mounted to a die-formed galvanized steel deck. Rugged pillow-block bearings (FAS) are securely fastened to the solid steel fan shaft with split collets and clamp locking devices. FAX units have spider-type bearings.

This air handling unit has thermal insulation containing an immobilized anti-microbial agent to inhibit the growth of bacteria and fungi on the insulation.

Coil flexibility

FAX/FAS air handling units have galvanized steel casings; inlet and outlet connections are on the same end.

Direct-expansion (DX) coils are designed for use with R-410A refrigerant and have copper tubes mechanically bonded to aluminum sine-wave fins. DX coils include matched, factory-installed thermostatic expansion valves (TXVs) with matching distributor nozzles.

Indoor air quality features

The unique combination of features in the FAX/FAS Series air handlers ensures that clean, fresh, conditioned air is delivered to the occupied space.

Cooling coils prevent the build-up of humidity in the room, even during part-load conditions. Unit sizes 10 tons and above feature dual-circuit face-split coils.

2 in. (51 mm) disposable filters remove dust and airborne particles from the occupied space.

Pitched drain pan can be adjusted for a right-hand or left-hand connection to provide positive drainage and prevent standing condensate.

Economizer accessory precisely controls the blend of outdoor air and room air to achieve comfort levels. When the outside air is suitable, outside air dampers can fully open to provide “free” cooling. Economizer is an Ultra Low Leak design that includes return and outside air damper leakage that meets California Title 24 section 140.4 requirements. Controller meets California Title 24 Section 120.2 Fault Detection and Diagnostic (FDD) requirements.

Economy

The FAX/FAS packaged air handlers have low initial costs, and they continue to save money by providing reduced installation expense and energy-efficient performance.

Quick installation is ensured by the multi-position design. Units can be installed in either the horizontal or vertical (upflow) configuration without modifications. All units have drain-pan connections on both sides, and pans can be pitched for right-hand or left hand operation with a simple adjustment.

Fan motors and contactors are pre-wired and TXVs are factory-installed on FAX/FAS models.

High-efficiency, precision balanced fans minimize air turbulence, surging, and unbalanced operation, thereby cutting operating expenses.

2-Speed Indoor Fan Motor System

Our 2-Speed Indoor Fan Motor system units will automatically adjust the indoor fan motor speed in sequence with the unit's cooling operation. Per ASHRAE 90.1 2010 standard section 6.4.3.10.b, during the first stage of cooling operation the fan motor (either ECM or controlled by VFD) will adjust to provide two-thirds of the total cfm established for the unit. When a call for the second stage of cooling is required, the fan motor will allow the total cfm (100%) established for the unit. During the heating mode the fan motor will allow total design cfm (100%) operation and during the ventilation mode the fan motor will allow operation to two-thirds of total cfm.

Model number nomenclature

FAX Model Number Nomenclature

| MODEL SERIES | F | A | X | 0 | 9 | 1 | H | 2 | A | A | 0 | A | U | A |
|--|-----------------------------------|---|---|---|---|---|---|---|---|----|----|----|----|----|
| Position Number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| F = R-410A Fan Coil Unit | | | | | | | | | | | | | | |
| A = Air Conditioning (Cooling Only) H = Heat Pump | | | | | | | | | | | | | | |
| | Type | | | | | | | | | | | | | |
| X = X-Vane Vane Axial Fan (VAF) | | | | | | | | | | | | | | |
| | Efficiency | | | | | | | | | | | | | |
| 072 = 6 Tons (1 circuit) 091 = 7.5 Tons (1 circuit) 120 = 10 Tons (2 circuit) | | | | | | | | | | | | | | |
| | Nominal Tonnage | | | | | | | | | | | | | |
| H = 208/230-3-60 L = 460-3-60 S = 575-3-60 | | | | | | | | | | | | | | |
| | Voltage¹ | | | | | | | | | | | | | |
| 2 = Standard Efficiency / Medium Static Motor 3 = Standard Efficiency / High Static Motor | | | | | | | | | | | | | | |
| | Fan Motor Options | | | | | | | | | | | | | |
| A = Al/Cu | | | | | | | | | | | | | | |
| | Coil Options | | | | | | | | | | | | | |
| A = Standard DX Coil | | | | | | | | | | | | | | |
| | Type of Coil | | | | | | | | | | | | | |
| 0 = X-Vane Two-Speed Fan | | | | | | | | | | | | | | |
| | Fan Motor Speed Controller | | | | | | | | | | | | | |
| A = Standard — Unpainted B = Painted Cabinet | | | | | | | | | | | | | | |
| | Painted Cabinet Options | | | | | | | | | | | | | |
| U = Unit Control Board (UCB) Electromechanical Controls | | | | | | | | | | | | | | |
| | Controls | | | | | | | | | | | | | |
| A = Standard | | | | | | | | | | | | | | |
| | Packaging | | | | | | | | | | | | | |

¹ There are no multi-voltage units with the 2-Speed Vane Axial Fan (VAF), as the motors are dedicated voltage.

Model number nomenclature (cont)

FAS Model Number Nomenclature

| MODEL SERIES | F | A | S | 1 | 5 | 0 | H | A | A | A | 2 | A | U | A |
|---|------------------------------------|---|---|---|---|---|---|---|---|----|----|----|----|----|
| Position Number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| F = R-410A Fan Coil Unit | | | | | | | | | | | | | | |
| A = Air Conditioning (Cooling Only) H = Heat Pump (size 180 only) | Type | | | | | | | | | | | | | |
| S = Standard Efficiency | Efficiency | | | | | | | | | | | | | |
| 150 = 12.5 Tons (2 circuit) (FAS units only) 180 = 15 Tons (2 circuit) | Nominal Tonnage | | | | | | | | | | | | | |
| H = 208/230-3-60 L = 460-3-60 S = 575-3-60 | Voltage¹ | | | | | | | | | | | | | |
| A = Standard Static Standard Efficiency Motor / Standard Drive B = High (Alternate) Static Standard or High Efficiency Motor / High Drive ² | Fan Motor Options | | | | | | | | | | | | | |
| A = Al/Cu | Indoor Coil | | | | | | | | | | | | | |
| A = Standard Coil (FAS, DX (Direct Expansion) coil; FHS, heat pump coil) | Coil Type | | | | | | | | | | | | | |
| 2 = Two Speed Fan Controller (VFD) | Indoor Fan Speed Controller | | | | | | | | | | | | | |
| A = None (unpainted) B = Painted cabinet | Painted Cabinet Options | | | | | | | | | | | | | |
| U = Electromechanical Unit Control Board | Controls | | | | | | | | | | | | | |
| A = Standard | Packaging | | | | | | | | | | | | | |

¹ There are no multi-voltage units with the optional 2-speed indoor fan motor / VFD controller. VFD controllers are dedicated voltage devices for 208/230v, 460v, and 575v.

² For FAS, standard efficiency on size 150, voltages 208-230v and 460v. High efficiency on size 180, as well as size 150, 575v. For FHS, high efficiency only.

| MODEL SERIES | F | A | S | 2 | 4 | 0 | H | A | A | A | 2 | A | U | A |
|---|------------------------------------|---|---|---|---|---|---|---|---|----|----|----|----|----|
| Position Number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| F = R-410A Fan Coil Unit | | | | | | | | | | | | | | |
| A = Air Conditioning (Cooling Only) H = Heat Pump (size 240 only) | Type | | | | | | | | | | | | | |
| S = Standard Efficiency | Efficiency | | | | | | | | | | | | | |
| 240 = 20 Tons (2 circuit) 300 = 25 Tons (2 circuit; FAS units only) 336 = 30 Tons (2 circuit; FAS units only) | Nominal Tonnage | | | | | | | | | | | | | |
| H = 208/230-3-60 L = 460-3-60 S = 575-3-60 | Voltage¹ | | | | | | | | | | | | | |
| A = Standard Static High Efficiency Motor / Standard Static Drive B = High Static Standard or High Efficiency Motor / High Static Drive ² | Fan Motor Options | | | | | | | | | | | | | |
| A = Al/Cu | Indoor Coil | | | | | | | | | | | | | |
| A = Standard Coil (DX for FAS; Heat Pump for FHS) | Coil Type | | | | | | | | | | | | | |
| 2 = Two-Speed Indoor Fan Motor Controller (VFD) | Indoor Fan Speed Controller | | | | | | | | | | | | | |
| A = Standard, Unpainted B = Painted Cabinet | Painted Cabinet Options | | | | | | | | | | | | | |
| U = Electromechanical Unit Control Board | Controls | | | | | | | | | | | | | |
| A = Standard | Packaging | | | | | | | | | | | | | |

¹ There are no multi-voltage units with the 2-speed indoor fan motor / VFD controller. VFD controllers are dedicated voltage.

² For FAS, size 336 is designated standard motor, high static drive. Not offered on 575v. For FHS, size 240 is offered with standard motor, high static drive.

Model number nomenclature (cont)

FAX — 2-Speed Motors

| POSITION 8 | MOTOR DESCRIPTION | VOLTAGE | UNIT SIZE | | |
|---------------|---------------------------------|---------|-----------|-----|-----|
| | | | 072 | 091 | 120 |
| 2 | Standard/Medium Static (X-Vane) | All | X | X | X |
| 3 | High Static (X-Vane) | All | X | X | X |

FAS — 2-Speed Motors

| POSITION 8 | MOTOR DESCRIPTION | VOLTAGE | UNIT SIZE | | | | |
|---------------|---|--------------------------|-----------|-----|-----|-----|------------------|
| | | | 150 | 180 | 240 | 300 | 336 ^a |
| A | Standard Efficiency Motor / Standard Static | All | X | X | — | — | — |
| | High Efficiency Motor / Standard Static | All | — | — | X | X | X |
| B | Standard Efficiency Motor / High Static | 208/23-3-60 460-3-60 | X | — | — | — | — |
| | High Efficiency Motor / High Static | 208/230-3-60 460-3-60 | — | X | X | X | X |
| | | 575-3-60 | X | X | X | X | X |

NOTE(S):

a. Size 336 is designated standard motor and high static drive.

Physical data

FAX/FAS 6-30 Ton Direct Expansion with R-410A Refrigerant Units

| UNIT | FAX072 | FAX091 | FAX120 | FAS150 | FAS180 | FAS240 | FAS300 | FAS336 |
|--|--|------------------------------|------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| NOMINAL CAPACITY (Tons) | 6 | 7-1/2 | 10 | 12-1/2 | 15 | 20 | 25 | 30 |
| OPERATING WEIGHT (lb) | | | | | | | | |
| Base Unit with TXV (4 Row) | 399 | 404 | 425 | 695 | 713 | 730 | 1050 | 1062 |
| Plenum | 175 | 175 | 175 | 225 | 225 | 225 | 325 | 325 |
| Economizer | 185 | 185 | 185 | 340 | 340 | 340 | 340 | 340 |
| Hot Water Coil ^a | 195 | 195 | 195 | 285 | 285 | 285 | 345 | 345 |
| Steam Coil ^a | 215 | 215 | 215 | 340 | 340 | 340 | 405 | 405 |
| FANS | | | | | | | | |
| Qty...Diam. (in.) | 1...23 | 1...23 | 1...23 | 2...15 | 2...15 | 2...15 | 2...18 | 2...18 |
| Nominal Airflow (cfm) | 2,400 | 3,000 | 4,000 | 5,000 | 6,000 | 8,000 | 10,000 | 12,000 |
| Airflow Range (cfm) | 1,800-3,000 | 2,250-3,750 | 3,000-5,000 | 3,750-6,250 | 4,500-7,500 | 6,000-10,000 | 7,500-12,500 | 9,000-15,000 |
| Nominal Motor hp (Standard Motor) ^{b,c} | | | | | | | | |
| 208/230-3-60 and 460-3-60 | 2.4 | 2.4 | 2.4 | 2.9 | 3.7 | 5.0 | 7.5 | 10.0 |
| 575-3-60 | 2.4 | 2.4 | 2.4 | 3.0 | 3.0 | 5.0 | 7.5 | 10.0 |
| Motor Speed (rpm) | | | | | | | | |
| 208/230-3-60 and 460-3-60 | 2000 | 2000 | 2000 | 1725 | 1725 | 1760 | 1760 | 1755 |
| 575-3-60 | 2000 | 2000 | 2000 | 1725 | 1725 | 1745 | 1755 | 1755 |
| REFRIGERANT^d | R-410A | R-410A | R-410A | R-410A | R-410A | R-410A | R-410A | R-410A |
| Shipping Charge (lb) | Nitrogen Purge | Nitrogen Purge | Nitrogen Purge | Nitrogen Purge | Nitrogen Purge | Nitrogen Purge | Nitrogen Purge | Nitrogen Purge |
| Metering Device | TXV | TXV | TXV | TXV | TXV | TXV | TXV | TXV |
| Operating Charge (lb) (approx per circuit) | 3.0 | 3.0 | 1.5/1.5 | 2.0/2.0 | 2.5/2.5 | 3.5/3.5 | 4.5/4.5 | 5.0/5.0 |
| DIRECT-EXPANSION COIL | Enhanced Copper Tubes, Aluminum Sine-Wave Fins | | | | | | | |
| Max Working Pressure (psig) | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 |
| Material | Al / Cu | Al / Cu | Al / Cu | Al / Cu | Al / Cu | Al / Cu | Al / Cu | Al / Cu |
| Coil Type | RTPF | RTPF | RTPF | RTPF | RTPF | RTPF | RTPF | RTPF |
| Face Area (sq ft) | 6.67 | 8.33 | 10.01 | 13.25 | 17.67 | 19.88 | 24.86 | 29.83 |
| No. of Splits | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| Split Type...Percentage | — | — | Face...50/50 | Face...50/50 | Face...50/50 | Face...50/50 | Face...50/50 | Face...50/50 |
| No. of Circuits per Split | 12 | 15 | 9 | 12 | 16 | 18 | 20 | 24 |
| Rows...Fins/in. | 4...15 | 4...15 | 4...15 | 4...15 | 4...15 | 4...15 | 4...15 | 4...15 |
| STEAM COIL^a | | | | | | | | |
| Max Working Press. (psig at 260°F) | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Total Face Area (sq ft) | 6.67 | 6.67 | 6.67 | 13.33 | 13.33 | 13.33 | 15.0 | 15.0 |
| Rows...Fins/in. | 1...9 | 1...9 | 1...9 | 1...10 | 1...10 | 1...10 | 1...10 | 1...10 |
| HOT WATER COIL^a | | | | | | | | |
| Max Working Pressure (psig) | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 |
| Total Face Area (sq ft) | 6.67 | 6.67 | 6.67 | 13.33 | 13.33 | 13.33 | 15.0 | 15.0 |
| Rows...Fins/in. | 2...8.5 | 2...8.5 | 2...8.5 | 2...8.5 | 2...8.5 | 2...8.5 | 2...12.5 | 2...12.5 |
| Water Volume | | | | | | | | |
| (gal) | 8.3 | 8.3 | 8.3 | 13.9 | 13.9 | 13.9 | 14.3 | 14.3 |
| (ft ³) | 1.1 | 1.1 | 1.1 | 1.85 | 1.85 | 1.85 | 1.90 | 1.90 |
| PIPING CONNECTIONS | | | | | | | | |
| Quantity...Size (in.) | | | | | | | | |
| DX Coil — Suction (ODF) | 1...1-1/8 | 1...1-1/8 | 2...1-1/8 | 2...1-1/8 | 2...1-1/8 | 2...1-1/8 | 2...1-3/8 | 2...1-3/8 |
| DX Coil — Liquid Refrig (ODF) | 1...5/8 | 1...5/8 | 2...5/8 | 2...5/8 | 2...5/8 | 2...5/8 | 2...5/8 | 2...5/8 |
| Steam Coil, In (MPT) | 1...2-1/2 | 1...2-1/2 | 1...2-1/2 | 1...2-1/2 | 1...2-1/2 | 1...2-1/2 | 1...2-1/2 | 1...2-1/2 |
| Steam Coil, Out (MPT) | 1...1-1/2 | 1...1-1/2 | 1...1-1/2 | 1...1-1/2 | 1...1-1/2 | 1...1-1/2 | 1...1-1/2 | 1...1-1/2 |
| Hot Water Coil, In (MPT) | 1...1-1/2 | 1...1-1/2 | 1...1-1/2 | 1...2 | 1...2 | 1...2 | 1...2 | 1...2 |
| Hot Water Coil, Out (MPT) | 1...1-1/2 | 1...1-1/2 | 1...1-1/2 | 1...2 | 1...2 | 1...2 | 1...2 | 1...2 |
| Condensate (PVC) | 1...5/8 ODM / 1-1/4 IDF | 1...5/8 ODM / 1-1/4 IDF | 1...5/8 ODM / 1-1/4 IDF | 1...5/8 ODM / 1-1/4 IDF | 1...5/8 ODM / 1-1/4 IDF | 1...5/8 ODM / 1-1/4 IDF | 1...5/8 ODM / 1-1/4 IDF | 1...5/8 ODM / 1-1/4 IDF |
| FILTERS | Throwaway — Factory-Supplied | Throwaway — Factory-Supplied | Throwaway — Factory-Supplied | Throwaway — Factory-Supplied | Throwaway — Factory-Supplied | Throwaway — Factory-Supplied | Throwaway — Factory-Supplied | Throwaway — Factory-Supplied |
| Quantity...Size (in.) | 4...16 x 24 x 2 | 4...16 x 24 x 2 | 4...16 x 24 x 2 | 4...16 x 20 x 2 4...16 x 24 x 2 | 4...16 x 20 x 2 4...16 x 24 x 2 | 4...16 x 20 x 2 4...16 x 24 x 2 | 4...20 x 24 x 2 4...20 x 25 x 2 | 4...20 x 24 x 2 4...20 x 25 x 2 |
| Access Location | Right or Left Side | Right or Left Side | Right or Left Side | Right or Left Side | Right or Left Side | Right or Left Side | Right or Left Side | Right or Left Side |

NOTE(S):

- a. Field-installed accessory only.
- b. FAX units are medium static option.
- c. Refer to Alternate Fan Motor Data table for alternate motor data (page 7).
- d. Units are shipped without refrigerant charge.

Physical data (cont)

FAX Fan Motor Data Standard Motor — Direct Drive Two Speed Motor

| UNIT | FAX072 | FAX091 | FAX120 |
|----------------------------------|--------|--------|--------|
| 230-3-60, 460-3-60, and 575-3-60 | | | |
| Speed (rpm) | 2000 | 2000 | 2000 |
| Hp | 2.4 | 2.4 | 2.4 |

Motor Efficiency FAX — Direct Drive Two Speed Motor

| MOTOR hp | MOTOR EFFICIENCY | |
|----------|------------------|--|
| 2.4 | 85.0% | |
| 3.0 | 85.0% | |

| WEIGHTS | MEDIUM | HIGH |
|----------------------|--------|------|
| Motor hp | 2.4 | 3.0 |
| Motor Weight (lb) | 23.8 | 53.7 |
| Assembly Weight (lb) | 56.4 | 85.6 |

FAS Fan Motor Data — Two Speed Standard Motor

| UNIT | FAS150 | FAS180 | FAS240 | FAS300 | FAS336 |
|---------------------------|--------|--------|--------|--------|--------|
| 208/230-3-60 and 460-3-60 | | | | | |
| Speed (rpm) | 1735 | 1750 | 1755 | 1760 | 1755 |
| Hp | 2.9 | 3.7 | 5.0 | 7.5 | 10.0 |
| Frame (NEMA) | 56HY | 56HY | 184T | S213T | S215T |
| Shaft Dia (in.) | 7/8 | 7/8 | 1-1/8 | 1-3/8 | 1-3/8 |
| 575-3-60 | | | | | |
| Speed (rpm) | 1710 | 1710 | 1755 | 1750 | 1755 |
| Hp | 3.7 | 3.7 | 5.0 | 7.5 | 10.0 |
| Frame (NEMA) | 56HY | 56HY | 184T | S213T | S215T |
| Shaft Dia (in.) | 7/8 | 7/8 | 1-1/8 | 1-3/8 | 1-3/8 |

LEGEND

NEMA — National Electrical Manufacturers Association (U.S.A.)

FAS Fan Motor Data — Two Speed Alternate Motor

| UNIT | FAS150 | FAS180 | FAS240 | FAS300 | FAS336 |
|---------------------------|--------|--------|--------|--------|--------|
| 208/230-3-60 and 460-3-60 | | | | | |
| Speed (rpm) | 1750 | 1755 | 1760 | 1755 | 1755 |
| Hp | 3.7 | 5.0 | 7.5 | 10.0 | 10.0 |
| Frame (NEMA) | 56HY | 184T | S213T | S215T | S215T |
| Shaft Dia (in.) | 7/8 | 1-1/8 | 1-3/8 | 1-3/8 | 1-3/8 |
| 575-3-60 | | | | | |
| Speed (rpm) | 1755 | 1755 | 1750 | 1755 | 1755 |
| Hp | 5.0 | 5.0 | 7.5 | 10.0 | 10.0 |
| Frame (NEMA) | 184T | 184T | S213T | S213T | S215T |
| Shaft Dia (in.) | 1-1/8 | 1-1/8 | 1-3/8 | 1-3/8 | 1-3/8 |

LEGEND

NEMA — National Electrical Manufacturers Association (U.S.A.)

Motor Efficiency FAS — Two Speed Motor

| MOTOR hp | EPACT MINIMUM | MOTOR EFFICIENCY |
|----------|---------------|------------------|
| 2.9 | — | 86.5% |
| 3.7 | — | 83.6% |
| 5.0 | 89.5% | 89.5% |
| 7.5 | 91.7% | 91.7% |
| 10.0 | 91.7% | 91.7% |

LEGEND

EPACT — Energy Policy and Conservation Act of 1992 (U.S.A)

Physical data (cont)

Standard Static Data, 60 Hz

| UNIT | FAS150 | FAS180 | FAS240 | FAS300 | FAS336 |
|--|-------------|-------------|------------|----------------------|----------------------|
| MOTOR DRIVE | | | | | |
| Motor Pulley Pitch Diameter (in.) | 2.8-3.8 | 2.8-3.8 | 3.7-4.7 | 4.3-5.3 | 4.3-5.3 |
| Pulley Factory Setting Full Turns Open | 2.5 | 2.5 | 3.0 | 3.0 | 3.0 |
| FAN DRIVE | | | | | |
| Pulley Pitch Dia (in.) | 9.0 | 9.0 | 9.4 | 11.0 | 11.0 |
| Pulley Bore (in.) | 1-7/16 | 1-7/16 | 1-7/16 | 1-15/16 | 1-15/16 |
| Belt No. — Section | 1—A | 1—A | 1—B | 2—B ^a | 2—B ^a |
| Belt Pitch (in.) | 42.3 | 42.3 | 41.8 | (2) 42.8 (2) 43.8 | (2) 42.8 (2) 43.8 |
| FAN SPEEDS (rpm) | | | | | |
| Factory Settings | 632 | 632 | 771 | 752 | 752 |
| Range | 537-728 | 537-728 | 679-863 | 682-841 | 674-831 |
| Max Allowable Speed (rpm) | 1200 | 1200 | 1200 | 1100 | 1100 |
| Change per 1/2 turn of Movable Motor Pulley Flange | 19.1 | 19.1 | 15.3 | 13.1 | 13.1 |
| MAX FULL TURNS FROM CLOSED POSITION | 5 | 5 | 6 | 6 | 6 |
| SHAFTS CENTER DISTANCE (in.) | 10.44-12.32 | 10.44-12.32 | 9.12-10.99 | 6.67-9.43 | 6.67-9.43 |

NOTE(S):

a. Four belts shipped with unit. Use correct set of 2 belts sized according to the pulley setting.

High Static Data, 60 Hz

| UNIT | FAS150 | FAS180 | FAS240 | FAS300 | FAS336 |
|--|--------------------------|------------|------------------------|-----------|-----------|
| MOTOR DRIVE | | | | | |
| Motor Pulley Pitch Diameter (in.) | 3.7-4.7 | 4.3-5.3 | 4.3-5.3 | 4.3-5.3 | 4.3-5.3 |
| Pulley Factory Setting Full Turns Open | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| FAN DRIVE | | | | | |
| Pulley Pitch Dia (in.) | 7.4 | 7.9 | 7.4 | 8.6 | 8.6 |
| Pulley Bore (in.) | 1-7/16 | 1-7/16 | 1-7/16 | 1-15/16 | 1-15/16 |
| Belt No. — Section | 1—B | 1—B | 2—B | 2—B | 2—B |
| Belt Pitch (in.) | 39.8 | 39.8 | 36.8 | 37.8 | 37.8 |
| FAN SPEEDS (rpm) | | | | | |
| Factory Setting | 979 | 1060 | 1118 | 1024 | 1024 |
| Range | 873-1096 | 950-1171 | 1014-1200 ^a | 873-1075 | 873-1075 |
| Max Allowable Speed (rpm) | 1200 | 1200 | 1200 | 1100 | 1100 |
| Change per 1/2 Turn of Movable Motor Pulley Flange | 19.4 | 18.4 | 19.4 | 16.7 | 16.7 |
| MAX FULL TURNS FROM CLOSED POSITION | 6 | 6 | 6 | 6 | 6 |
| SHAFTS CENTER DISTANCE (in.) | 10.44-12.32 ^b | 9.16-10.99 | 8.16-10.02 | 6.67-9.43 | 6.67-9.43 |

NOTE(S):

a. It is possible to adjust drive so that fan speed exceeds maximum allowable. DO NOT exceed 1200 rpm.

b. 575-v unit has a center distance of 9.16-10.99.

Options and accessories

| ITEM | FACTORY-INSTALLED OPTION | FIELD-INSTALLED ACCESSORY |
|-------------------------------------|--------------------------|---------------------------|
| Alternate Drive (FAS only) | X | |
| Alternate Fan Motor (FAS only) | X | |
| CO ₂ Sensors | | X |
| Condensate Drain Trap | | X |
| Discharge Duct Adapter (FAX only) | | X |
| Discharge Plenum | | X |
| EconoMi\$er IV Standard Leak | | X |
| EconoMi\$er X Ultra Low Leak — FDD | | X |
| Electric Heater | | X |
| Hot Water Heating Coils (2 row) | | X |
| Optional VFD Display Kit (FAS only) | | X |
| Overhead Suspension Package | | X |
| Pre-Painted Units | X | |
| Return Air Grille | | X |
| Steam Heating Coil (1 row) | | X |

Factory-installed options

Alternate fan motors and drives (FAS only)

Alternate fan motors and drives are available to provide the widest possible range of performance.

Pre-painted steel units

Pre-painted units are available from the factory for applications that require painted units. Units are painted with American Sterling Gray color.

Field-installed accessories

Optional VFD display Kit (FAS only)

There is an optional VFD display kit offered (as an accessory) for FAS units to allow the user to troubleshoot any VFD faults in the field after start-up.

NOTE: Do not use the VFD display kit to adjust the frequency and voltage in the VFD to required performance requirements. This could lead to decreased life of the motor and VFD.

Two-row hot water coils

Two-row hot water coils have copper tubes mechanically bonded to aluminum plate fins and non-ferrous headers.

One-row steam coil

One-row steam coils have copper tubes and aluminum fins.

The Inner Distributing Tube (IDT) design provides uniform temperatures across the coil face. The steam coil has a broad operating pressure range; up to 20 psi (138 kPag) at 260°F (126°C). The IDT steam coils are especially suited to applications where sub-freezing air enters the unit.

Electric heater

Electric heaters are available as factory-supplied, field-installed accessories for nominal 240v, 480v, and 575v, 3-phase, 60 Hz units. Electric heaters are ETL (U.S.A.) and ETL, Canada, agency-approved. They have single-point power wiring. The heater assembly includes contactors with 24-v coils, power wiring, 24-v control wiring

terminal blocks, and a hinged access panel. Electric heaters should not be used with an air discharge plenum.

Economizers — temperature dry bulb controlled

Ultra Low Leak — EconoMi\$er X

This economizer accessory comes with solid-state W7220 controller, gear-driven, modulating damper, and spring return actuator. It is supply/outdoor air sensors, and CO₂ sensor compatible, for use in electro-mechanical controls only. It also includes return and outside air damper leakage that meets California Title 24 section 140.4 requirements. Controller meets California Title 24 Section 120.2 Fault Detection and Diagnostic (FDD) requirements. Also meets AMCA Class 1A economizer damper test standards and labeling.

Standard — EconoMi\$er IV

The standard economizer accessory comes with gear driven damper blades and a W7212 controller (use p/n 1176668 sensor for enthalpy control).

Discharge plenum

Discharge plenum directs the air discharge directly into the occupied space; integral horizontal and vertical louvers enable redirection of airflow. This accessory is available unpainted or painted. Field assembly is required (only applicable for vertical application).

Return-air grille

The return-air grille provides a protective barrier over the return-air opening and gives a finished appearance to units installed in the occupied space. This accessory is available unpainted or painted.

Overhead suspension package

The overhead suspension package includes necessary brackets to support units in horizontal ceiling installations.

CO₂ sensors

CO₂ sensors can be used in conjunction with the economizer accessory to help meet indoor air quality requirements. The sensor signals the economizer to open when the CO₂ level in the space exceeds the set point. A field-installed programmable thermostat can be used to override the sensor if the outside-air temperature is too high or too low.

Condensate drain trap

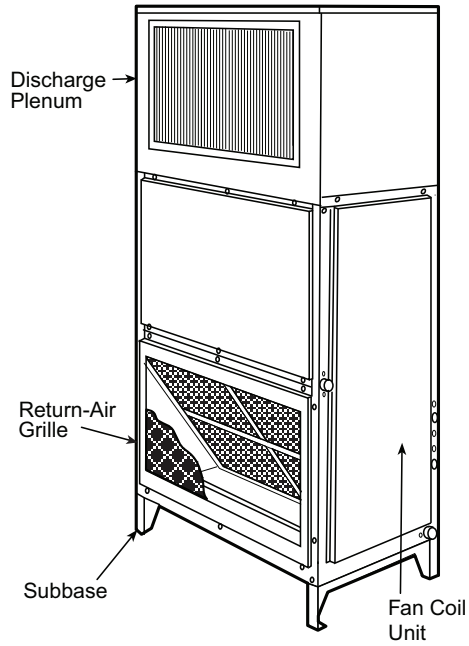
The condensate drain trap includes an overflow shutoff switch that can be wired to turn off the unit if the trap becomes plugged. Kit also includes a wire harness that can be connected to an alarm if desired. The transparent trap is designed for easy service and maintenance.

Discharge duct adapter

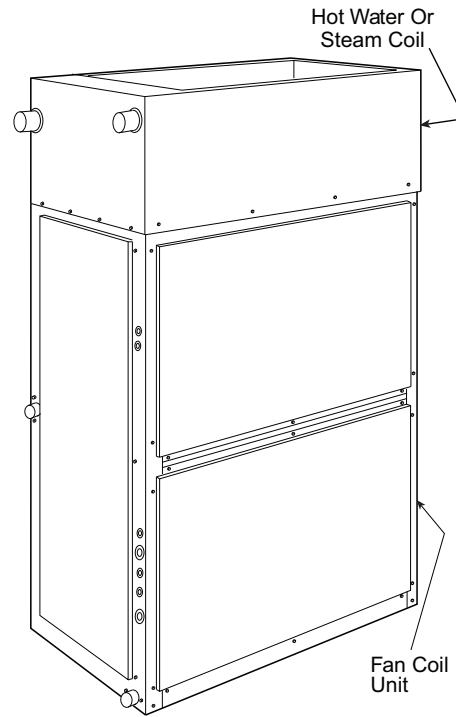
This accessory is required for replacements using FAX units with or without electric heat. It is not required for new installations or when using steam coil, hot water coil, or discharge plenum accessories.

Options and accessories (cont)

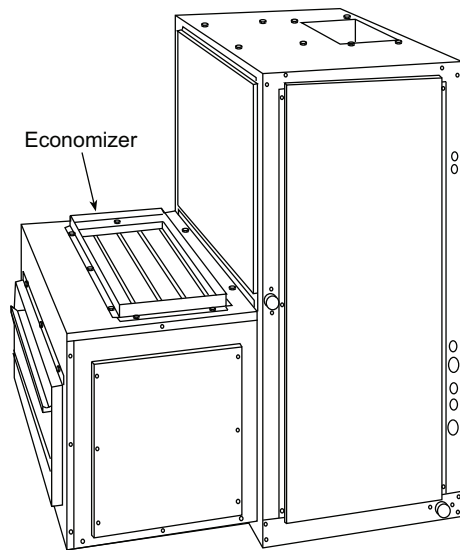
**FAX/FAS with Discharge Plenum
Return-Air Grille and Subbase**



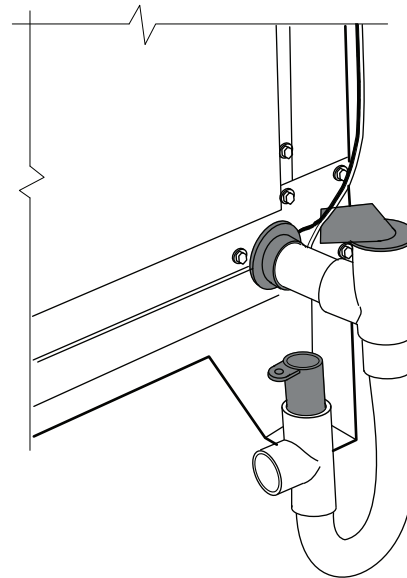
FAX/FAS with Hot Water or Steam Coil



FAX/FAS with Economizer



FAX/FAS with Condensate Trap



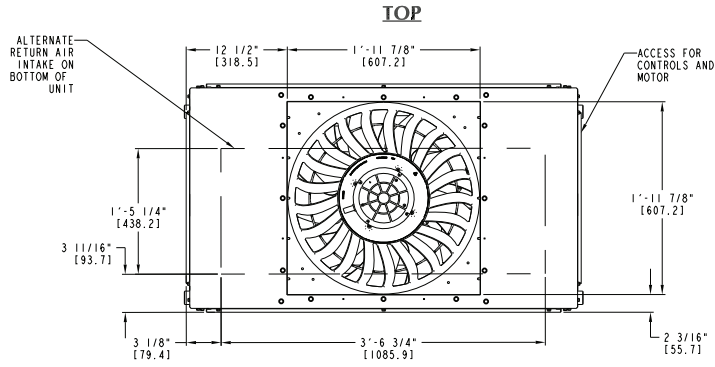
FAX072-120

| UNIT | UNIT WEIGHT (W/TXV) |
|--------|---------------------|
| FAX072 | 399 lbs [181 kg] |
| FAX090 | 404 lbs [183 kg] |
| FAX120 | 425 lbs [193 kg] |
| FHX072 | 381 lbs [173 kg] |
| FHX090 | 385 lbs [175 kg] |
| FHX120 | 427 lbs [194 kg] |



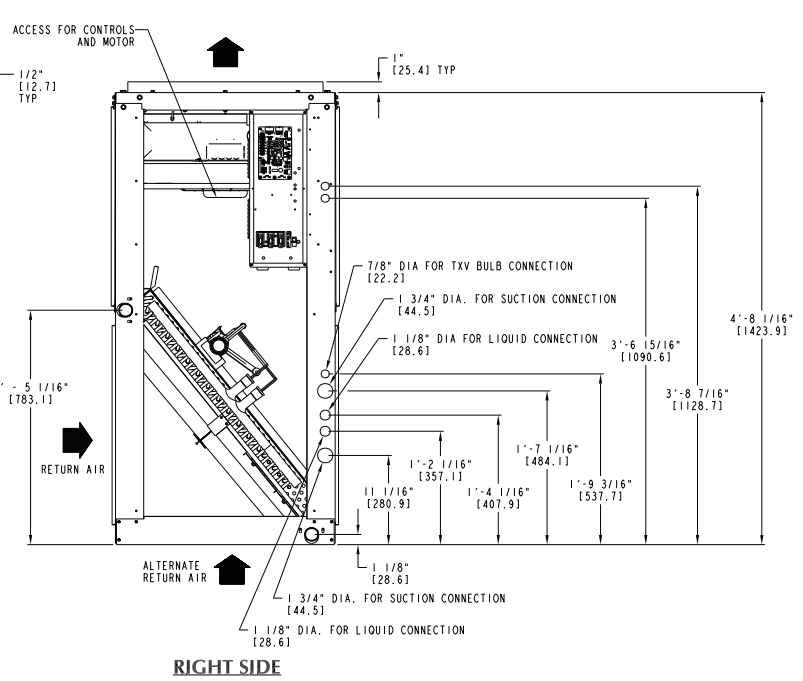
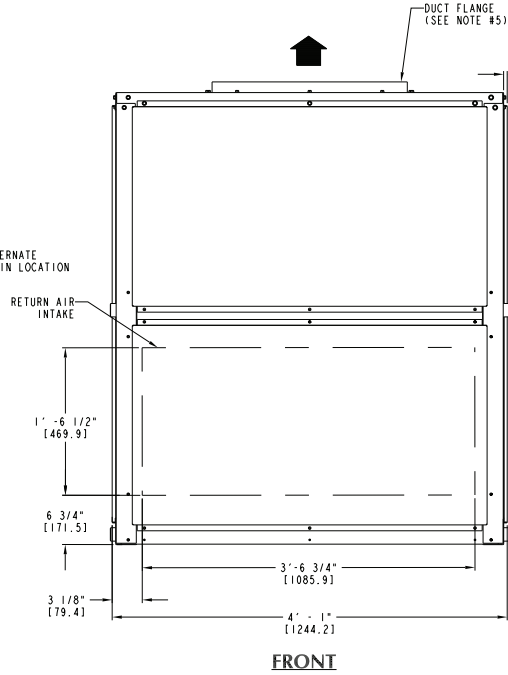
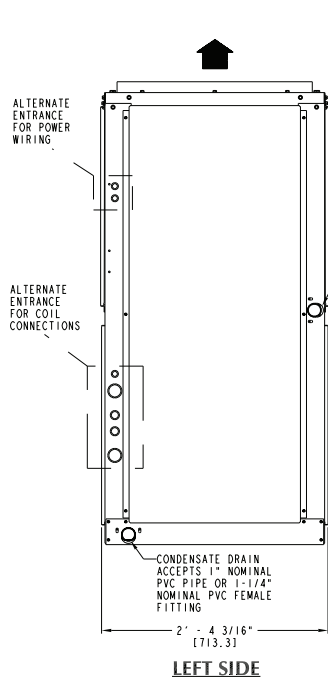
THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT WRITTEN CONSENT.

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PARTY PERFORMANCE OR ACCEPTANCE OF CONTRACT.



- NOTES:
 1. DIMENSIONS IN [] ARE IN MILLIMETERS.
 2. DIRECTIONS OF AIRFLOW.
 3. RECOMMENDED CLEARANCE:
 REAR: 2 ft 6 in. [762 mm]
 FRONT: 2 ft 6 in. [762 mm]
 RIGHT SIDE: 2 ft 6 in. [762 mm]
 LEFT SIDE: 2 ft 6 in. [762 mm]
 LOCAL CODES OR JURISDICTION MAY PREVAIL.
 4. LIQUID PIPING NOT SUPPLIED BY CARRIER.
 5. DUCT FLANGE IS FACTORY SUPPLIED AND FIELD INSTALLED.

| ACCESSORY | SEE DRAWING |
|---------------------|-------------|
| DISCHARGE PLENUM | 4ORM500996 |
| ECONOMIZER | 4ORM500999 |
| STEAM COIL | 4ORM500999 |
| HOT WATER COIL | 4ORM500999 |
| RETURN AIR GRILLE | 4ORM500996 |
| OVERHEAD SUSPENSION | 4ORM500996 |
| SUBBASE | 4ORM500996 |



| ITC CLASSIFICATION | SHEET | DATE | SUPERCEDES | FAN COIL UNITS | 40RU000675 | REV |
|--------------------|--------|----------|------------|----------------------------|------------|-----|
| U.S. ECCN: NSR | 1 OF 2 | 10/31/22 | - | FAX / FHX -072 / 090 / 120 | | - |

FAS150-240

| UNIT | UNIT WEIGHT (W/TXV) |
|--------|---------------------|
| FAS150 | 695 lbs [316 kg] |
| FAS180 | 713 lbs [323 kg] |
| FAS240 | 730 lbs [332 kg] |
| FHS180 | 713 lbs [323 kg] |
| FHS240 | 720 lbs [327 kg] |



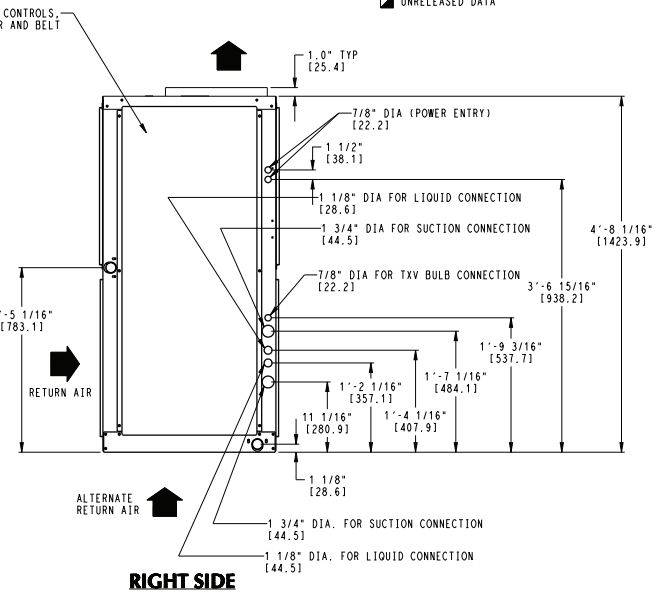
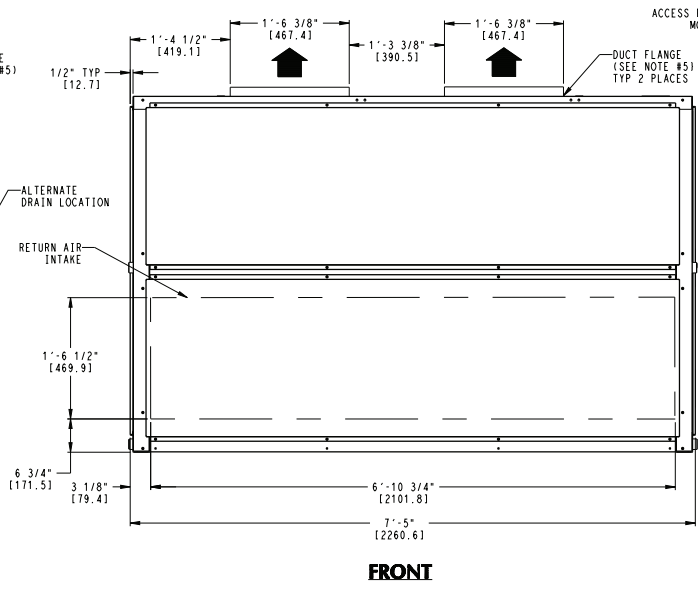
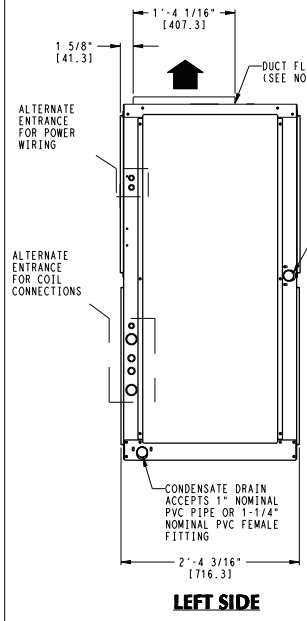
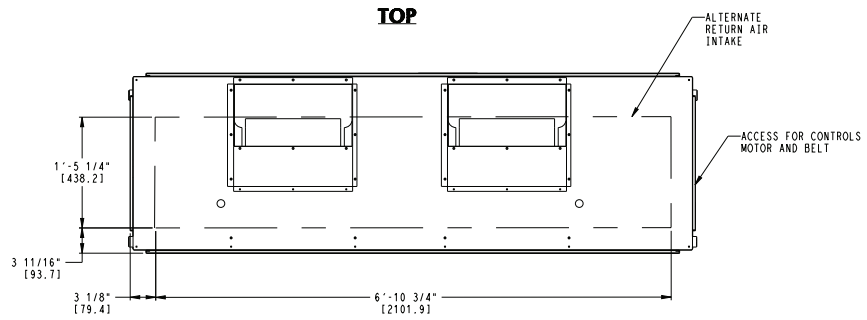
THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT WRITTEN CONSENT.

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT.

- NOTES:
1. DIMENSIONS IN [] ARE IN MILLIMETERS.
 2. DIRECTIONS OF AIRFLOW.
 3. RECOMMENDED CLEARANCE:
 REAR: 2 ft 6 in. [762 mm]
 FRONT: 2 ft 6 in. [762 mm]
 RIGHT SIDE: 2 ft 6 in. [762 mm]
 LEFT SIDE: 2 ft 6 in. [762 mm]
 LOCAL CODES OR JURISDICTION MAY PREVAIL.
 4. LIQUID PIPING NOT SUPPLIED BY CARRIER.
 5. DUCT FLANGE IS FACTORY SUPPLIED AND FIELD INSTALLED.

| ACCESSORY | SEE DRAWING |
|---|-------------|
| DISCHARGE PLENUM | 40RMS00997 |
| ECONOMIZER | 40RMS01000 |
| STEAM COIL | 40RMS01000 |
| HOT WATER COIL | 40RMS01000 |
| RETURN AIR GRILLE | 40RMS00997 |
| OVERHEAD SUSPENSION | 40RMS00997 |
| SUBBASE | 40RMS00997 |
| ELECTRIC HEAT <input checked="" type="checkbox"/> | 40RMS01002 |

UNRELEASED DATA



| ITC CLASSIFICATION | SHEET | DATE | SUPERCEDES | FAN COIL UNITS | 40RU500100 | REV |
|--------------------|--------|----------|------------|-----------------------------|------------|-----|
| U.S. ECCN:NSR | 1 OF 2 | 07/14/21 | 03/16/18 | FAS / FHS - 150 / 180 / 240 | | E |

FAS300/336



THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT WRITTEN CONSENT.

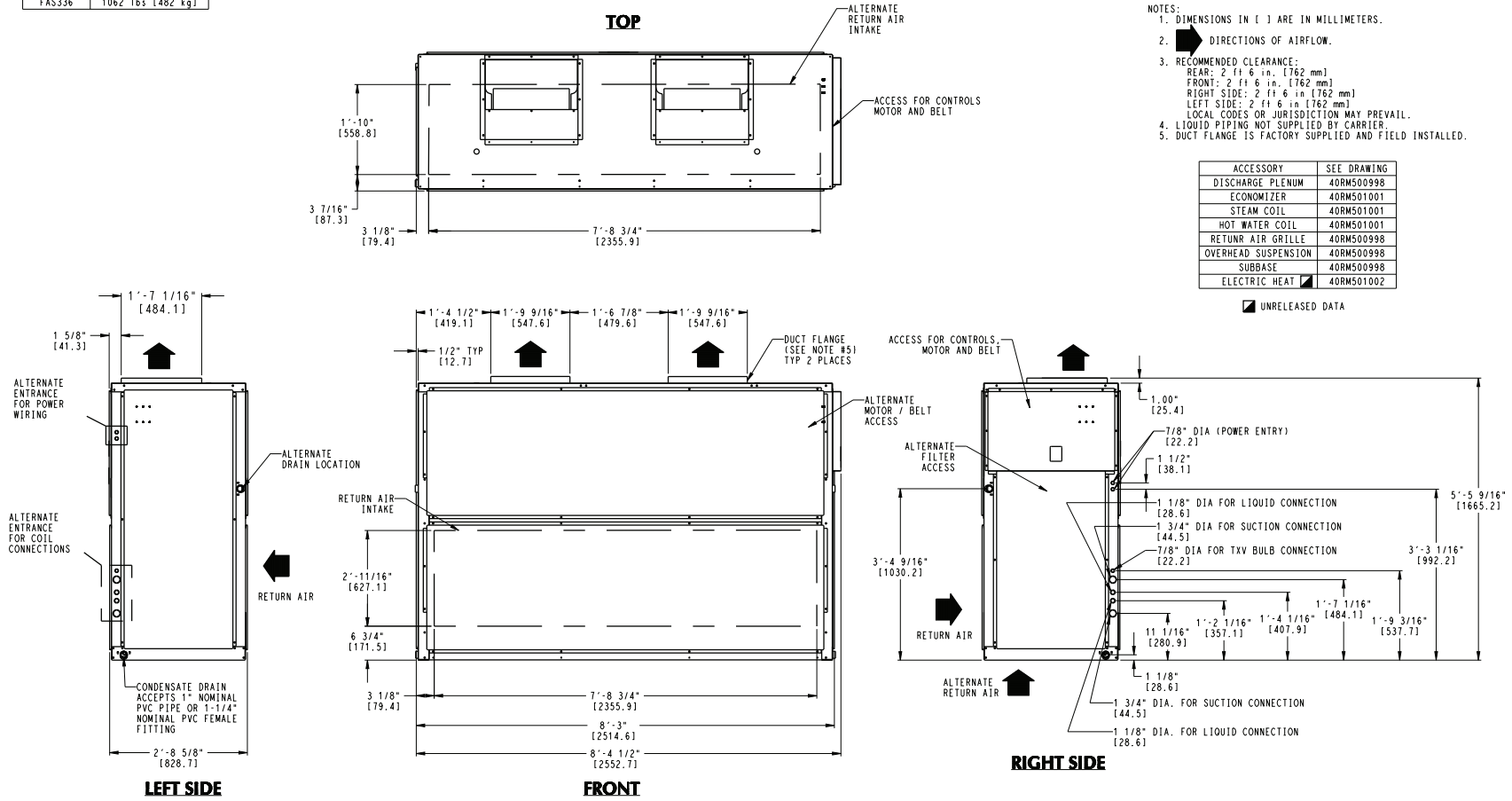
SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT.

| UNIT | UNIT WEIGHT (W/TXV) |
|--------|---------------------|
| FAS300 | 1050 lbs [477 kg] |
| FAS336 | 1062 lbs [482 kg] |

- NOTES:
1. DIMENSIONS IN [] ARE IN MILLIMETERS.
 2. DIRECTIONS OF AIRFLOW.
 3. RECOMMENDED CLEARANCE:
 REAR: 2 ft 6 in. [762 mm]
 FRONT: 2 ft 6 in. [762 mm]
 RIGHT SIDE: 2 ft 6 in. [762 mm]
 LEFT SIDE: 2 ft 6 in. [762 mm]
 LOCAL CODES OR JURISDICTION MAY PREVAIL.
 4. LIQUID PIPING NOT SUPPLIED BY CARRIER.
 5. DUCT FLANGE IS FACTORY SUPPLIED AND FIELD INSTALLED.

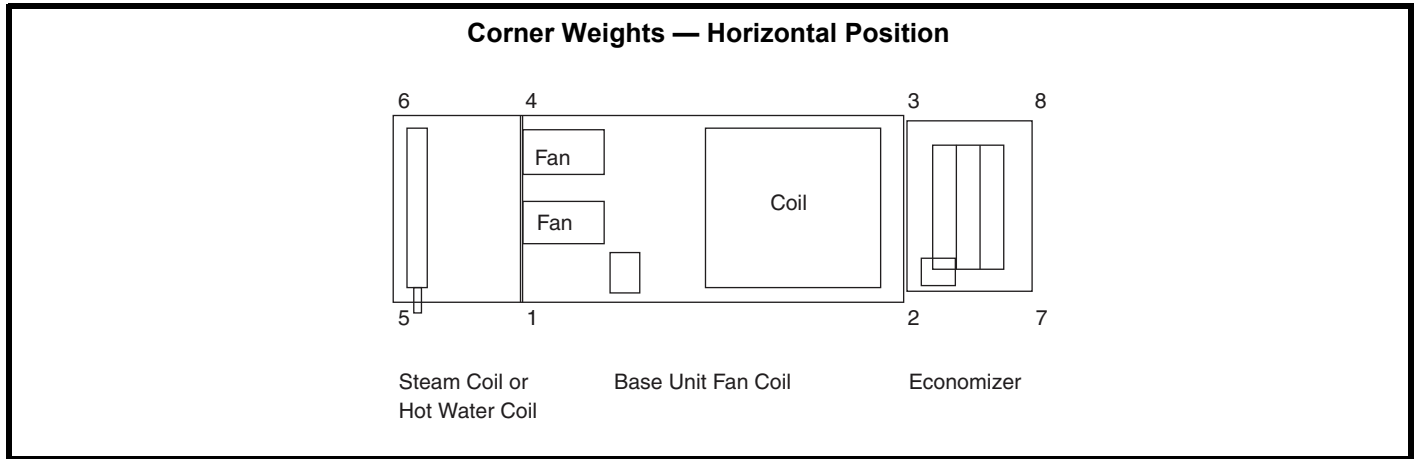
| ACCESSORY | SEE DRAWING |
|---|-------------|
| DISCHARGE PLENUM | 40RMS00998 |
| ECONOMIZER | 40RMS01001 |
| STEAM COIL | 40RMS01001 |
| HOT WATER COIL | 40RMS01001 |
| RETURN AIR GRILLE | 40RMS00998 |
| OVERHEAD SUSPENSION | 40RMS00998 |
| SUBBASE | 40RMS00998 |
| ELECTRIC HEAT <input checked="" type="checkbox"/> | 40RMS01002 |

UNRELEASED DATA



| ITC CLASSIFICATION | SHEET | DATE | SUPERCEDES | FAN COIL UNITS | 40RU500101 | REV |
|--------------------|--------|----------|------------|-----------------|------------|-----|
| U.S. ECCN:NSR | 1 OF 2 | 07/14/21 | 03/16/18 | FAS - 300 / 336 | | E |

Base unit dimensions (cont)



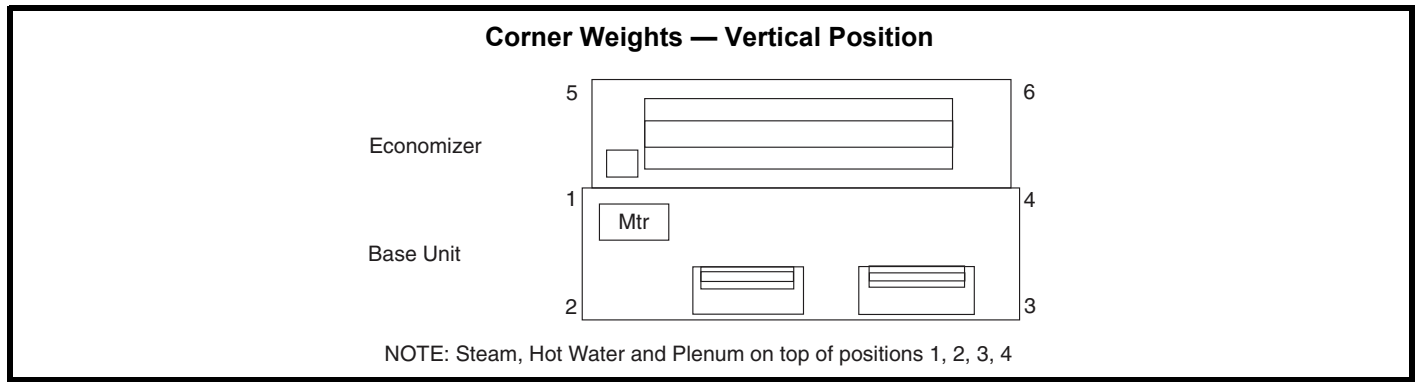
FAX/FAS Horizontal Position

| UNIT SIZE | UNIT OR ACCESSORY NAME | | UNIT OR ACCESSORY WEIGHT (lb) | CORNER NUMBER (Weight in lb) | | | | | | | |
|------------------------------|------------------------|-----|-------------------------------|------------------------------|-------|-------|-------|-------|-------|-------|-------|
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| FAX072 | Fan Coil Base Unit | | 399 | 109.3 | 106.1 | 90.6 | 93.4 | — | — | — | — |
| FAX091 | Fan Coil Base Unit | | 404 | 110.7 | 107.5 | 91.7 | 94.5 | — | — | — | — |
| FAX120 | Fan Coil Base Unit | | 425 | 116.4 | 113.0 | 96.5 | 99.4 | — | — | — | — |
| FAX 072, 091, 120 | Steam Coil | Add | 215 | 40.2 | — | — | 40.6 | 66.5 | 67.5 | — | — |
| | Hot Water Coil | Add | 195 | 35.9 | — | — | 36.7 | 60.4 | 62.0 | — | — |
| | Economizer | Add | 185 | — | 36.8 | 35.7 | — | — | — | 56.8 | 55.1 |
| | Eco + Steam Coil | Add | 400 | 38.8 | 38.6 | 37.4 | 39.2 | 64.2 | 65.2 | 59.5 | 57.7 |
| | Eco + Hw Coil | Add | 380 | 36.9 | 35.8 | 34.6 | 37.7 | 62.1 | 63.8 | 55.1 | 53.4 |
| FAS150 | Fan Coil Base Unit | | 695 | 224.0 | 177.7 | 129.8 | 163.7 | — | — | — | — |
| FAS180 | Fan Coil Base Unit | | 713 | 229.8 | 182.3 | 133.2 | 167.9 | — | — | — | — |
| FAS240 | Fan Coil Base Unit | | 730 | 235.6 | 186.4 | 136.5 | 171.5 | — | — | — | — |
| FAS 150-240 | Steam Coil | Add | 340 | 61.4 | — | — | 62.0 | 107.8 | 108.8 | — | — |
| | Hot Water Coil | Add | 285 | 51.7 | — | — | 51.3 | 91.5 | 90.6 | — | 102.0 |
| | Economizer | Add | 340 | — | 66.9 | 62.0 | — | — | — | 109.8 | 97.1 |
| | Eco + Steam Coil | Add | 680 | 64.4 | 63.7 | 59.0 | 65.0 | 113.0 | 114.1 | 104.5 | 87.8 |
| | Eco + Hw Coil | Add | 625 | 60.0 | 57.6 | 53.4 | 59.5 | 106.2 | 105.1 | 94.6 | — |
| FAS300 | Fan Coil Base Unit | | 1050 | 338.4 | 268.5 | 196.1 | 247.2 | — | — | — | — |
| FAS336 | Fan Coil Base Unit | | 1062 | 342.4 | 271.6 | 198.3 | 249.7 | — | — | — | — |
| FAS 300, 336 | Steam Coil | Add | 405 | 73.2 | — | — | 73.8 | 128.4 | 129.6 | — | — |
| | Hot Water Coil | Add | 345 | 62.6 | — | — | 62.1 | 110.7 | 109.6 | — | — |
| | Economizer | Add | 450 | — | 88.5 | 82.0 | — | — | — | 145.3 | 134.2 |
| | Eco + Steam Coil | Add | 855 | 80.6 | 80.1 | 74.1 | 81.6 | 142.0 | 143.4 | 131.3 | 122 |
| | Eco + Hw Coil | Add | 795 | 76.8 | 73.7 | 68.2 | 75.7 | 135.0 | 133.6 | 120.3 | 111.7 |

LEGEND

ECO — Economizer
HW — Hot Water

Base unit dimensions (cont)



FAX/FAS Vertical Position

| UNIT SIZE | UNIT OR ACCESSORY NAME | | UNIT OR ACCESSORY WEIGHT (lb) | CORNER NUMBER (Weight in lb) | | | | | |
|---------------------|------------------------|-----|-------------------------------|------------------------------|-------|-------|-------|-------|-------|
| | | | | 1 | 2 | 3 | 4 | 5 | 6 |
| FAX072 | Fan Coil Base Unit | | 399 | 100.5 | 114.9 | 98.0 | 85.8 | — | — |
| FAX091 | Fan Coil Base Unit | | 404 | 101.7 | 116.3 | 99.1 | 86.9 | — | — |
| FAX120 | Fan Coil Base Unit | | 425 | 107.6 | 122.3 | 108.0 | 87.1 | — | — |
| FAX 072-120 | Steam Coil | Add | 215 | 54.1 | 54.1 | 53.4 | 53.4 | — | — |
| | Hot Water Coil | Add | 195 | 49.4 | 49.4 | 48.1 | 48.1 | — | — |
| | Plenum | Add | 175 | 50.8 | 36.7 | 36.7 | 50.8 | — | — |
| | Economizer | Add | 195 | 38.9 | — | — | 37.1 | 59.9 | 58.3 |
| | Eco + Steam Coil | Add | 410 | 93.0 | 53.4 | 52.6 | 91.1 | 61.0 | 59.1 |
| | Eco + Hw Coil | Add | 390 | 88.9 | 52.3 | 50.9 | 86.5 | 56.7 | 54.9 |
| FAS150 | Fan Coil Base Unit | | 695 | 191.2 | 210.5 | 153.8 | 139.5 | — | — |
| FAS180 | Fan Coil Base Unit | | 713 | 196.2 | 216.0 | 157.8 | 143.1 | — | — |
| FAS 150, 180 | Steam Coil | Add | 340 | 85.4 | 85.4 | 84.6 | 84.6 | — | — |
| | Hot Water Coil | Add | 285 | 70.9 | 70.9 | 71.6 | 71.6 | — | — |
| | Plenum | Add | 225 | 72.5 | 40.0 | 40.0 | 72.5 | — | — |
| | Economizer | Add | 340 | 66.5 | — | — | 62.0 | 109.5 | 102.0 |
| | Eco + Steam Coil | Add | 680 | 153.0 | 89.1 | 88.7 | 147.7 | 104.5 | 97.0 |
| | Eco + Hw Coil | Add | 625 | 139.9 | 82.5 | 83.3 | 136.7 | 94.7 | 87.9 |

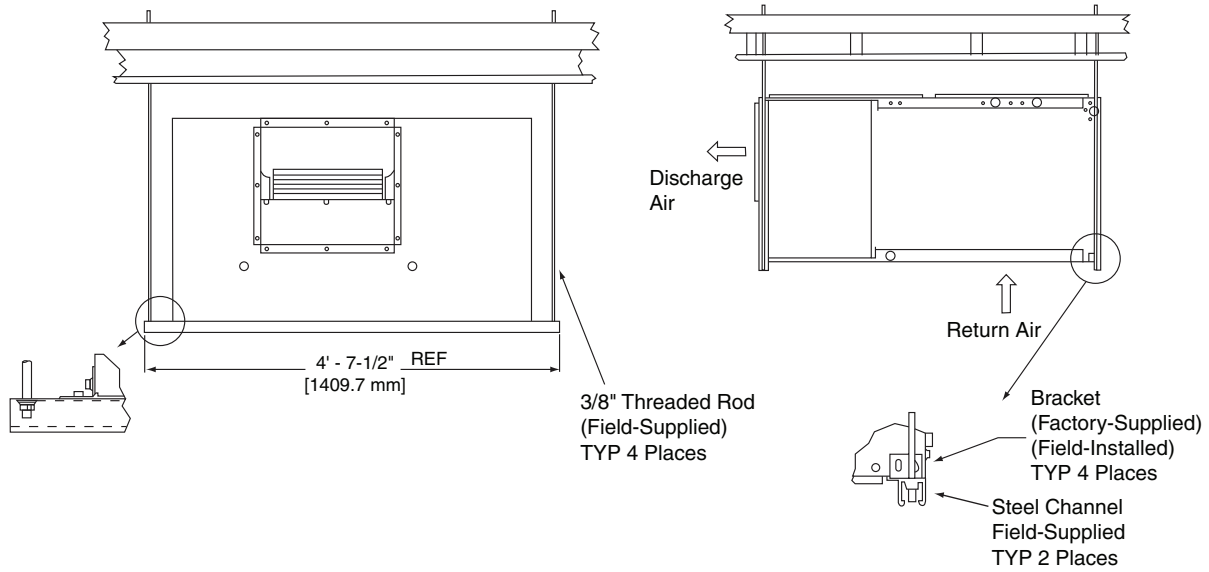
LEGEND

ECO — Economizer
HW — Hot Water

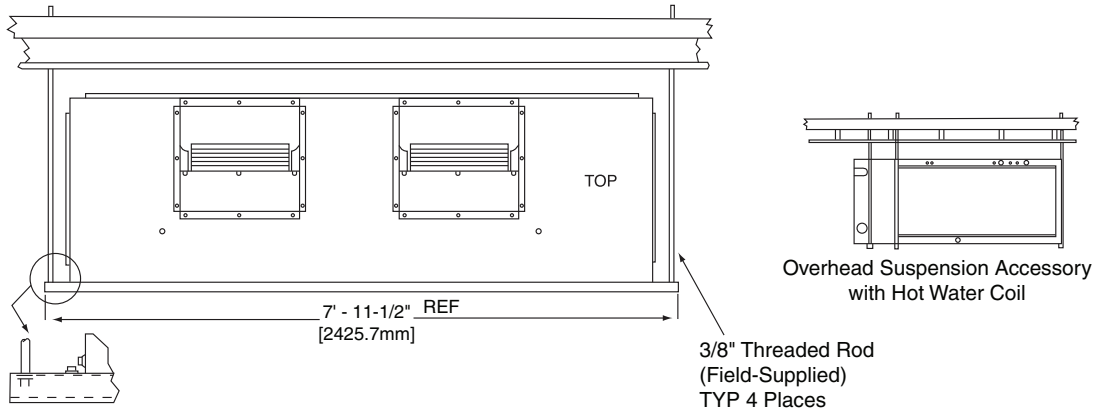
Accessory dimensions

Overhead Suspension Accessory

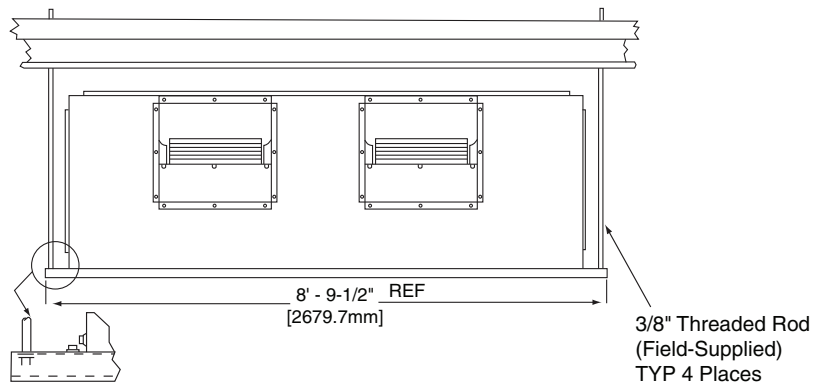
6-10 Ton Units (Front)



12.5-20 Ton Units (Front)



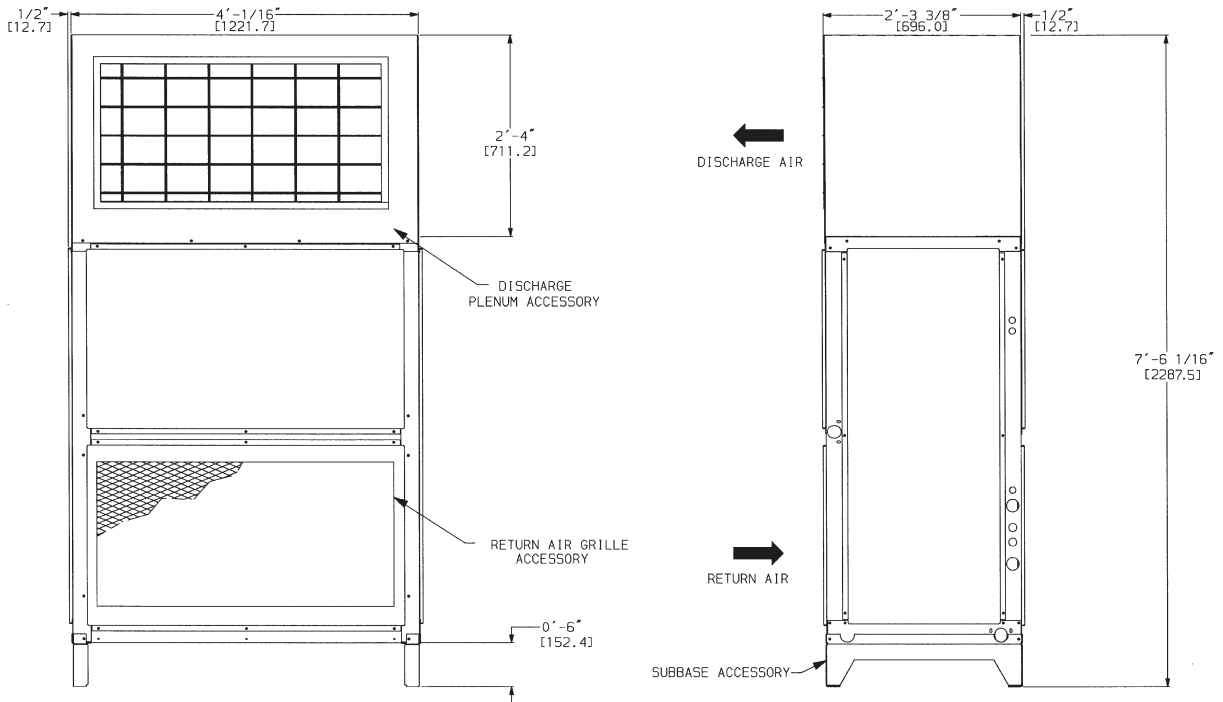
25-30 Ton Units (Front)



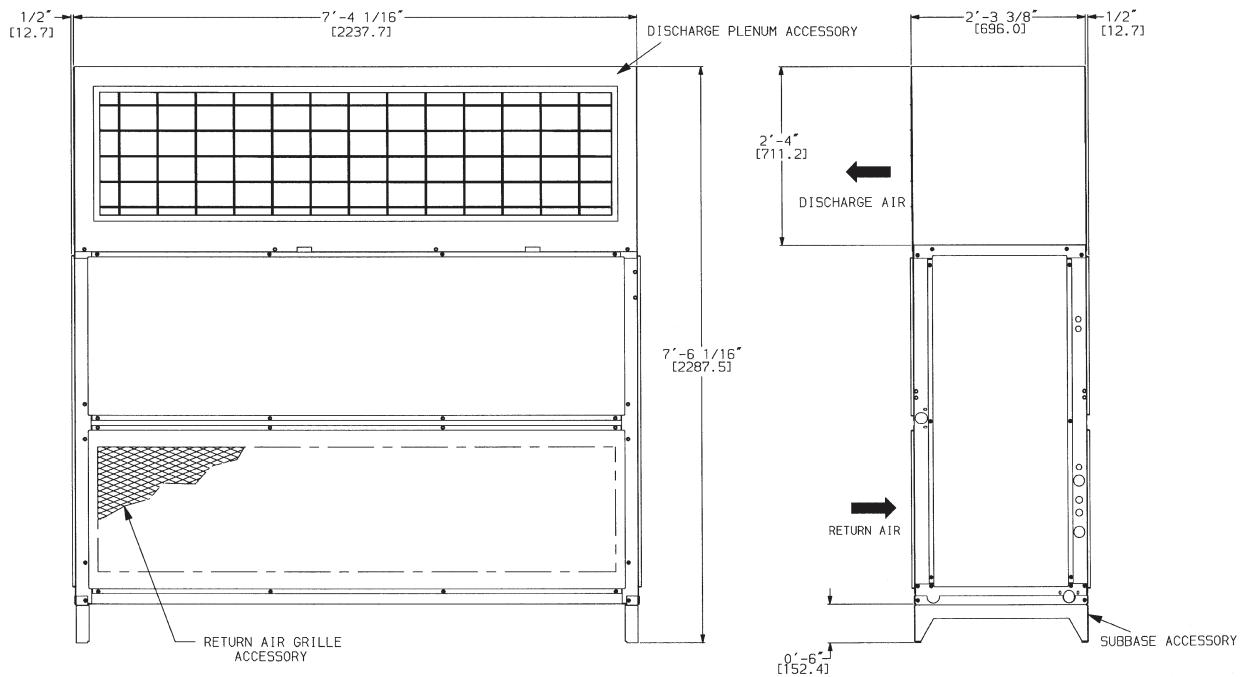
Accessory dimensions (cont)

Plenum, Return-Air Grille, and Subbase Accessories — FAX072-120, FAS150-240

6-10 Ton Units



12.5-20 Ton Units

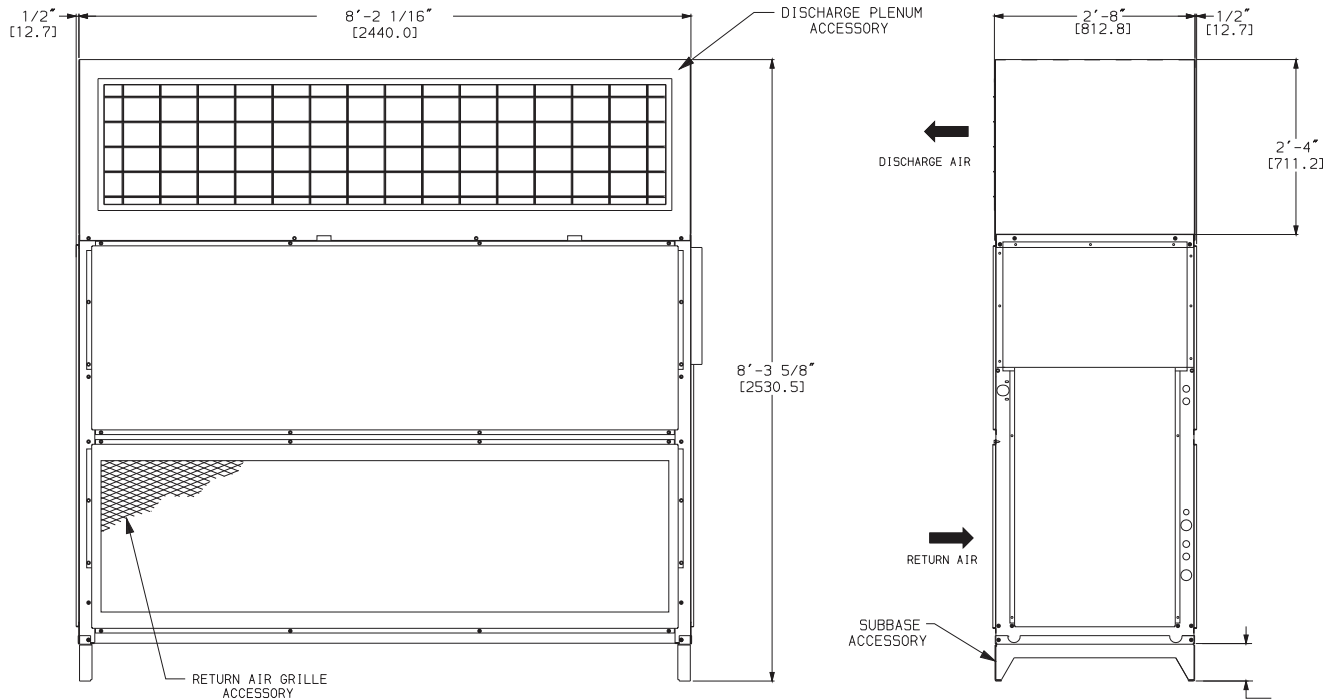


NOTE: Dimensions in [] are millimeters.

Accessory dimensions (cont)

Plenum, Return-Air Grille, and Subbase Accessories — FAS300/336

25-30 Ton Units

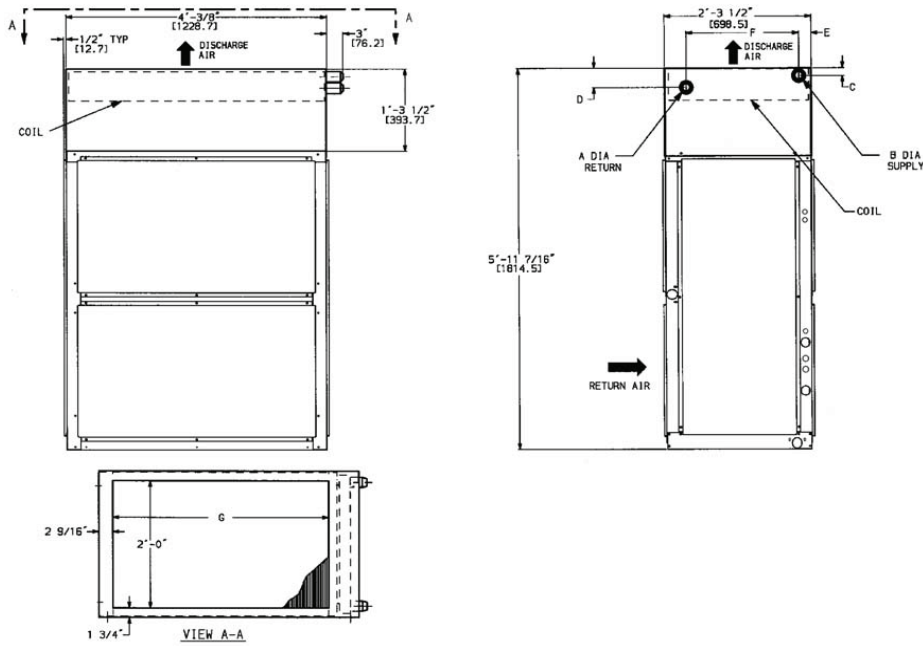


NOTE: Dimensions in [] are millimeters.

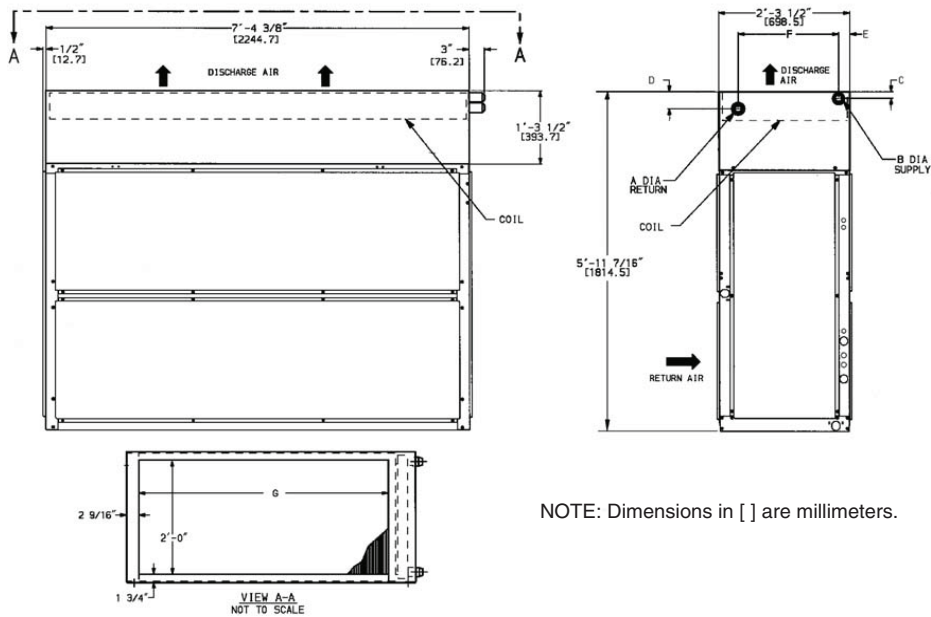
Accessory dimensions (cont)

Hot Water and Steam Coil Accessories — FAX072-120, FAS150-240

6-10 Ton Units



12.5-20 Ton Units



NOTE: Dimensions in [] are millimeters.

FAX072-120

| DIMENSIONS | HOT WATER COIL | STEAM COIL |
|------------|--------------------|-------------------|
| A | 1-1/2" MPT [38.1] | 1-1/2" MPT [38.1] |
| B | 1-1/2" MPT [38.1] | 2-1/2" MPT [63.5] |
| C | 2-3/8" [60.3] | 3-1/8" [79.4] |
| D | 4-7/8" [123.8] | 3-1/8" [79.4] |
| E | 2-1/8" [54.0] | 4-9/16" [115.8] |
| F | 1'-11-1/4" [590.6] | 1'-9" [584.2] |
| G | 3'-4" [1016.0] | 3'-4" [1016.0] |

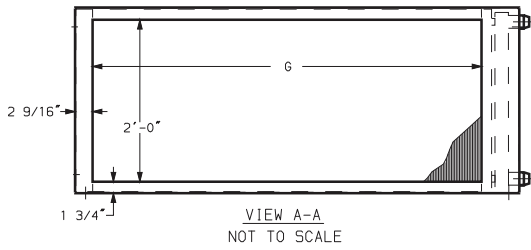
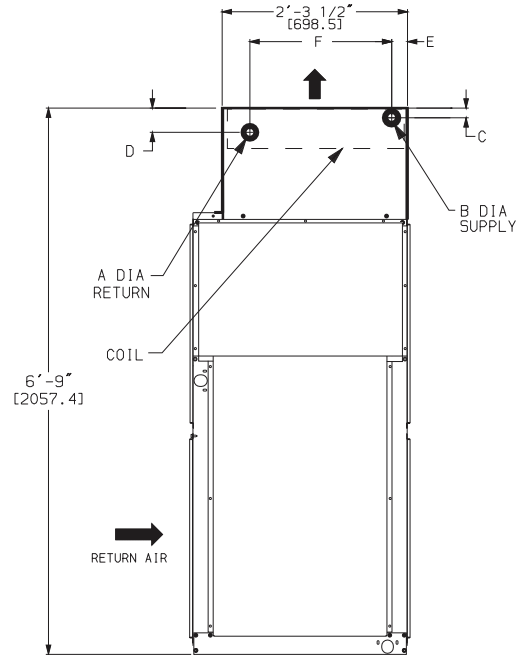
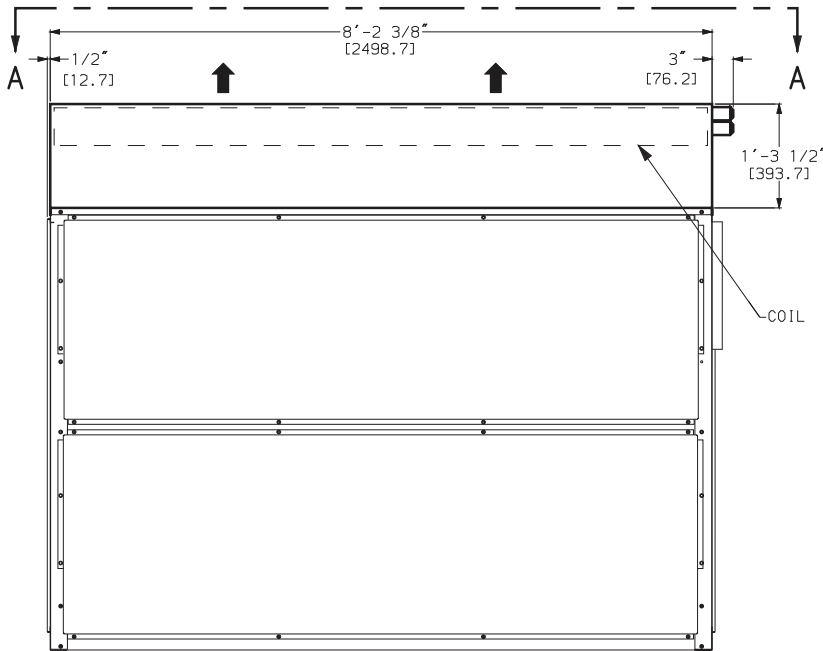
FAS150-240

| DIMENSIONS | HOT WATER COIL | STEAM COIL |
|------------|--------------------|-------------------|
| A | 2" MPT [50.8] | 1-1/2" MPT [38.1] |
| B | 2" MPT [50.8] | 2-1/2" MPT [63.5] |
| C | 2-3/8" [60.3] | 3-1/8" [79.4] |
| D | 4-7/8" [123.8] | 3-1/8" [79.4] |
| E | 2-1/8" [54.0] | 4-9/16" [115.8] |
| F | 1'-11-1/4" [590.6] | 1'-9" [584.2] |
| G | 6'-8" [2032.0] | 3'-4" [2032.0] |

Accessory dimensions (cont)

Hot Water and Steam Coil Accessories — FAS300-336

25-30 Ton Units



NOTE: Dimensions in [] are millimeters.

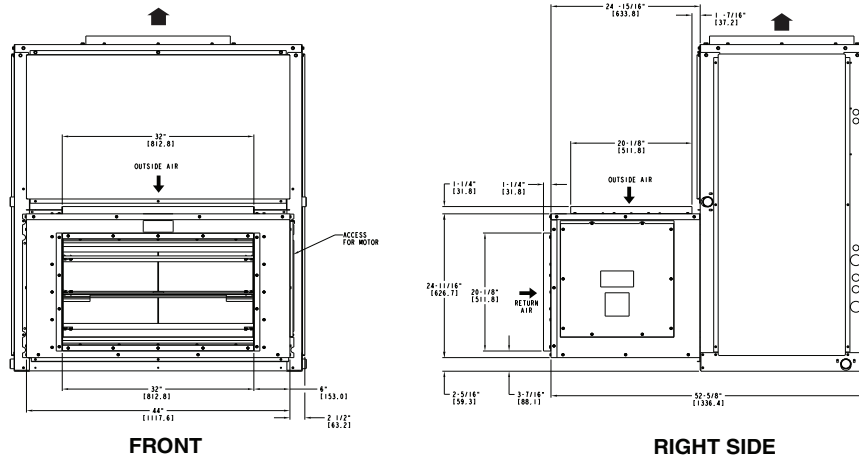
FAS300-336

| DIMENSIONS | HOT WATER COIL | STEAM COIL |
|------------|--------------------|-------------------|
| A | 2" MPT [50.8] | 1-1/2" MPT [38.1] |
| B | 2" MPT [50.8] | 2-1/2" MPT [63.5] |
| C | 2-3/8" [60.3] | 3-1/8" [9.4] |
| D | 4-7/8" [123.8] | 3-1/8" [79.4] |
| E | 2-1/8" [54.0] | 4-9/16" [115.8] |
| F | 1'-11-1/4" [590.6] | 1'-9" [584.2] |
| G | 7'-6" [2286.0] | 7'-6" [2286.0] |

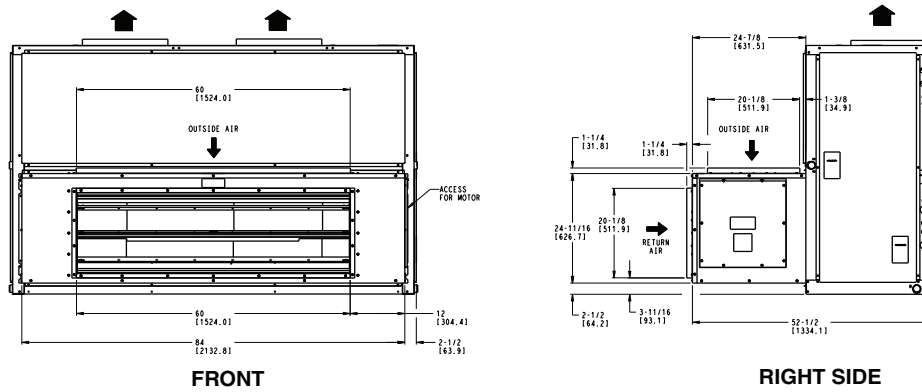
Accessory dimensions (cont)

Economizer Accessory — FAX072-120, FAS150-336

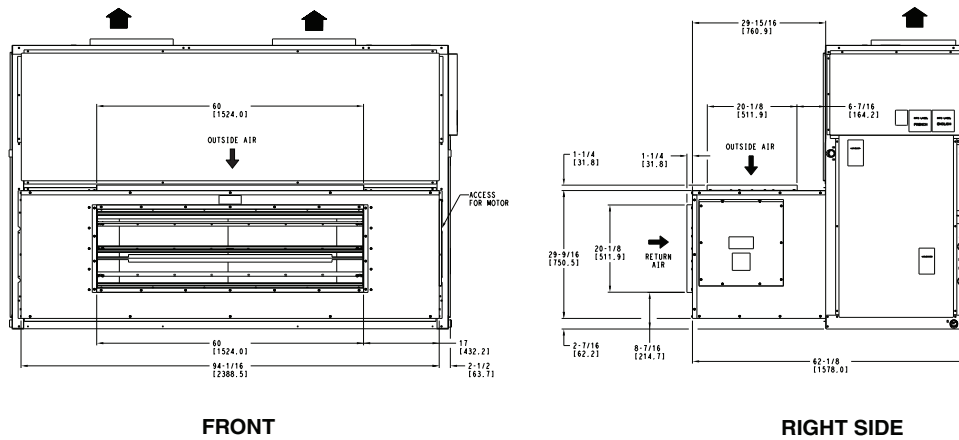
6-10 Ton Units



12.5-20 Ton Units



25-30 Ton Units



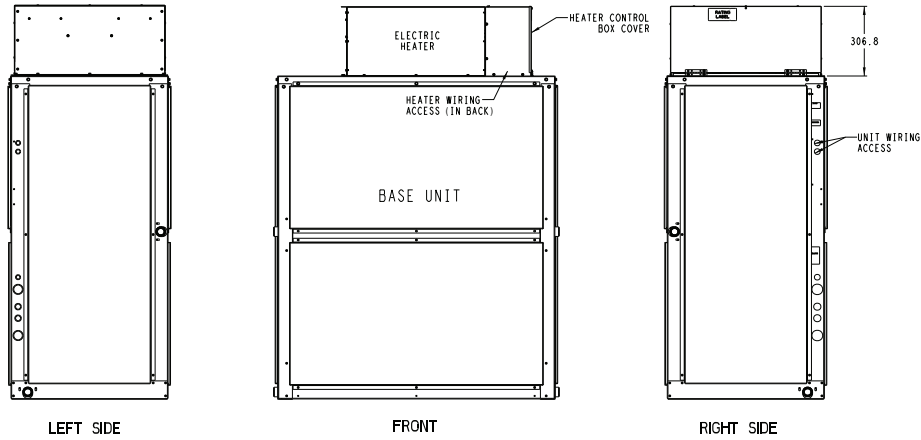
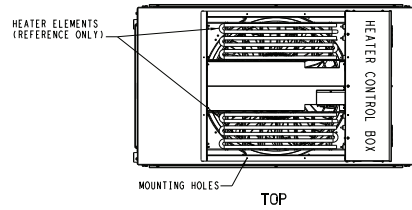
NOTES:

1. For horizontal unit applications, economizer can be attached to end of unit opposite duct connections.
2. Dimensions in [] are in millimeters.

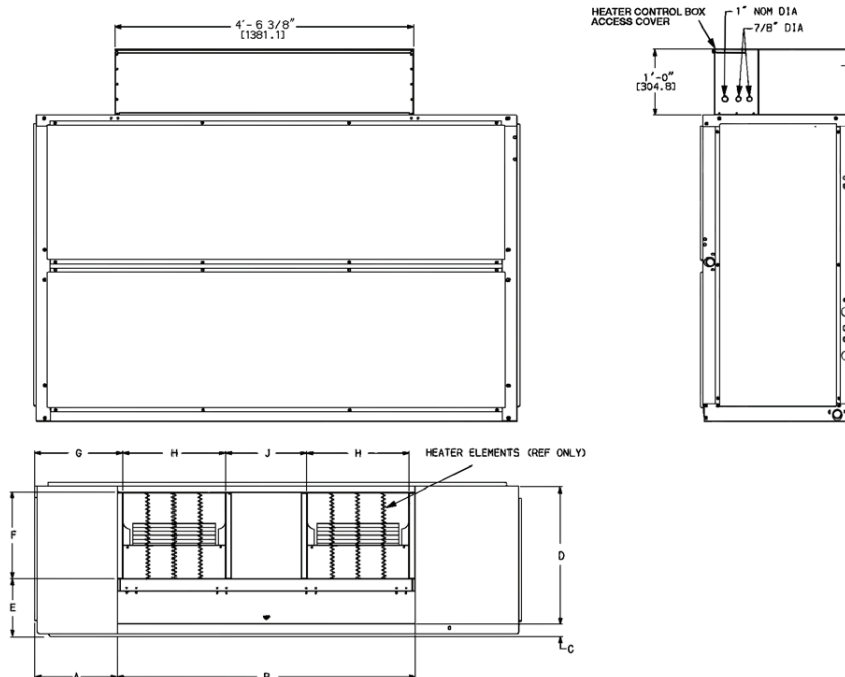
Accessory dimensions (cont)

Electric Heater Accessory — Sizes 072-336

6-10 Ton Units



12.5-30 Ton Units



| FAS UNIT SIZE | A | B | C | D | E | F | G | H | J |
|---------------|------------------------|-------------------------|-------------------|-------------------------|----------------------|--------------------|-------------------------|------------------------|-------------------------|
| 150-240 | 1' - 3-1/4" [387.4] | 4' - 6" [1381.1] | 2-5/16" [58.7] | 2' - 1-1/4" [641.4] | 10-5/8" [269.9] | 1' - 4" [406.4] | 1' - 4-5/16" [414.3] | 1' - 6-3/4" [476.3] | 1' - 7/8" [327.0] |
| 300, 336 | 1' - 3-3/8" [390.5] | 5' - 4-7/8" [1636.8] | 2-1/16" [52.4] | 2' - 6-3/16" [766.8] | 1' - 1/4" [311.2] | 1' - 7" [482.6] | 1' - 4-5/16" [414.3] | 1' - 10" [558.8] | 1' - 4-7/16" [417.1] |

NOTE: Dimensions in [] are in millimeters.

Performance data

FAX072-120 Cooling Capacities^{a,b,c,d,e}

| UNIT FAX | EVAPORATOR AIR | | COIL REFRIGERANT TEMP (°F) ^f | | | | | | | | | |
|-------------|------------------|-------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | Airflow (cfm) | Ewb (°F) | 30 | | 35 | | 40 | | 45 | | 50 | |
| | | | TC | SHC | TC | SHC | TC | SHC | TC | SHC | TC | SHC |
| 072 | 1,800 | 72 | 124 | 60 | 113 | 55 | 101 | 49 | 87 | 43 | 71 | 37 |
| | | 67 | 104 | 64 | 93 | 59 | 81 | 53 | 67 | 47 | 52 | 40 |
| | | 62 | 86 | 68 | 75 | 62 | 63 | 56 | 49 | 49 | 42 | 42 |
| | 2,400 | 72 | 143 | 69 | 131 | 64 | 117 | 58 | 101 | 52 | 83 | 44 |
| | | 67 | 121 | 76 | 108 | 70 | 94 | 64 | 78 | 57 | 60 | 50 |
| | | 62 | 101 | 83 | 88 | 76 | 73 | 69 | 60 | 60 | 51 | 51 |
| | 3,000 | 72 | 158 | 77 | 144 | 71 | 129 | 65 | 111 | 58 | 92 | 51 |
| | | 67 | 134 | 86 | 121 | 80 | 105 | 73 | 87 | 66 | 67 | 58 |
| | | 62 | 113 | 95 | 98 | 88 | 82 | 80 | 70 | 70 | 59 | 59 |
| 091 | 2,250 | 72 | 155 | 75 | 141 | 68 | 126 | 61 | 108 | 54 | 89 | 46 |
| | | 67 | 130 | 80 | 116 | 73 | 101 | 66 | 83 | 59 | 64 | 51 |
| | | 62 | 108 | 85 | 94 | 78 | 78 | 70 | 62 | 62 | 52 | 52 |
| | 3,000 | 72 | 179 | 86 | 164 | 80 | 146 | 72 | 126 | 64 | 103 | 56 |
| | | 67 | 151 | 95 | 136 | 88 | 118 | 80 | 98 | 71 | 75 | 62 |
| | | 62 | 126 | 103 | 110 | 95 | 92 | 86 | 76 | 76 | 64 | 64 |
| | 3,750 | 72 | 197 | 96 | 180 | 89 | 161 | 82 | 139 | 73 | 115 | 63 |
| | | 67 | 168 | 108 | 151 | 100 | 131 | 92 | 109 | 82 | 84 | 72 |
| | | 62 | 141 | 119 | 122 | 110 | 103 | 100 | 87 | 87 | 74 | 74 |
| 120 | 3,000 | 72 | 200 | 96 | 182 | 88 | 161 | 79 | 138 | 70 | 113 | 60 |
| | | 67 | 168 | 104 | 150 | 96 | 130 | 86 | 107 | 76 | 83 | 66 |
| | | 62 | 140 | 112 | 121 | 102 | 101 | 92 | 82 | 82 | 69 | 69 |
| | 4,000 | 72 | 228 | 111 | 208 | 102 | 185 | 93 | 159 | 83 | 130 | 71 |
| | | 67 | 194 | 124 | 174 | 114 | 150 | 104 | 124 | 93 | 96 | 81 |
| | | 62 | 162 | 135 | 141 | 124 | 119 | 113 | 99 | 99 | 84 | 84 |
| | 5,000 | 72 | 250 | 123 | 228 | 114 | 204 | 105 | 175 | 94 | 143 | 81 |
| | | 67 | 214 | 140 | 192 | 130 | 166 | 119 | 138 | 107 | 106 | 94 |
| | | 62 | 179 | 155 | 156 | 143 | 133 | 130 | 113 | 113 | 96 | 96 |

NOTE(S):

- a. Ratings based on approximately 15°F superheat leaving coil.
- b. Direct interpolation is permissible. Do not extrapolate.
- c. Dashes indicate coil loading limits are exceeded.
- d. Evaporator fan heat not deducted from ratings.
- e. See dry and wet bulb formulas below.
- f. SHC is based on 80°F db temperature of air entering evaporator coil.

Dry and Wet Bulb Formulas:

$$\text{Leaving db} = \text{entering db} - \frac{\text{sensible heat capacity (Btuh)}}{1.1 \times \text{cfm}}$$

$$\text{Leaving wb} = \text{wet-bulb temperature corresponding to enthalpy of air leaving coil (h}_{\text{wb}})$$

$$h_{\text{wb}} = h_{\text{ewb}} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

where h_{wb} = enthalpy of air entering coil

LEGEND

- db** — Dry Bulb Temperature (°F)
- SHC** — Sensible Heat Capacity (1000 Btuh)
- TC** — Total Capacity (1000 Btuh)
- wb** — Wet Bulb Temperature (°F)

Performance data (cont)

FAS150-336 Cooling Capacities^{a,b,c,d,e}

| UNIT FAS | EVAPORATOR AIR | | COIL REFRIGERANT TEMP (°F) ^f | | | | | | | | | |
|-------------|------------------|-------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | AIRFLOW (cfm) | Ewb (°F) | 30 | | 35 | | 40 | | 45 | | 50 | |
| | | | TC | SHC | TC | SHC | TC | SHC | TC | SHC | TC | SHC |
| 150 | 3,750 | 72 | 251 | 121 | 228 | 110 | 202 | 99 | 173 | 87 | 140 | 74 |
| | | 67 | 210 | 129 | 187 | 118 | 161 | 106 | 133 | 94 | 102 | 81 |
| | | 62 | 174 | 138 | 150 | 126 | 125 | 113 | 100 | 100 | 84 | 84 |
| | 5,000 | 72 | 289 | 139 | 263 | 128 | 233 | 116 | 200 | 103 | 162 | 88 |
| | | 67 | 244 | 154 | 218 | 141 | 188 | 128 | 155 | 114 | 119 | 99 |
| | | 62 | 203 | 167 | 176 | 153 | 146 | 138 | 121 | 121 | 102 | 102 |
| 6,250 | 72 | 319 | 155 | 290 | 143 | 258 | 131 | 221 | 116 | 180 | 101 | |
| | 67 | 271 | 174 | 242 | 161 | 209 | 147 | 172 | 132 | 133 | 115 | |
| | 62 | 226 | 192 | 196 | 177 | 164 | 160 | 139 | 139 | 118 | 118 | |
| 180 | 4,500 | 72 | 310 | 150 | 281 | 136 | 249 | 122 | 214 | 108 | 174 | 92 |
| | | 67 | 260 | 160 | 231 | 145 | 199 | 131 | 165 | 116 | 127 | 100 |
| | | 62 | 215 | 169 | 186 | 154 | 154 | 138 | 121 | 121 | 102 | 102 |
| | 6,000 | 72 | 361 | 175 | 329 | 161 | 292 | 145 | 250 | 128 | 205 | 110 |
| | | 67 | 304 | 191 | 271 | 175 | 235 | 159 | 194 | 141 | 149 | 122 |
| | | 62 | 254 | 206 | 220 | 189 | 183 | 170 | 149 | 149 | 125 | 125 |
| 7,500 | 72 | 401 | 196 | 366 | 181 | 325 | 164 | 280 | 146 | 229 | 127 | |
| | 67 | 340 | 218 | 304 | 201 | 263 | 183 | 218 | 164 | 167 | 143 | |
| | 62 | 285 | 239 | 247 | 220 | 206 | 197 | 172 | 172 | 145 | 145 | |
| 240 | 6,000 | 72 | 408 | 197 | 372 | 180 | 331 | 162 | 272 | 141 | 232 | 123 |
| | | 67 | 344 | 213 | 307 | 195 | 266 | 176 | 220 | 156 | 169 | 135 |
| | | 62 | 286 | 227 | 248 | 208 | 207 | 188 | 164 | 164 | 139 | 139 |
| | 8,000 | 72 | 470 | 228 | 429 | 210 | 382 | 191 | 329 | 170 | 269 | 147 |
| | | 67 | 399 | 253 | 357 | 233 | 309 | 212 | 256 | 189 | 197 | 166 |
| | | 62 | 333 | 275 | 290 | 254 | 242 | 230 | 202 | 202 | 170 | 170 |
| 10,000 | 72 | 516 | 253 | 471 | 235 | 421 | 215 | 363 | 192 | 297 | 168 | |
| | 67 | 440 | 287 | 395 | 266 | 343 | 244 | 284 | 219 | 220 | 193 | |
| | 62 | 369 | 317 | 322 | 294 | 271 | 266 | 232 | 232 | 196 | 196 | |
| 300 | 7,500 | 72 | 470 | 226 | 428 | 208 | 379 | 187 | 328 | 167 | 270 | 144 |
| | | 67 | 395 | 246 | 354 | 227 | 307 | 205 | 255 | 183 | 197 | 159 |
| | | 62 | 329 | 265 | 287 | 244 | 240 | 221 | 193 | 193 | 163 | 163 |
| | 10,000 | 72 | 535 | 260 | 487 | 240 | 434 | 219 | 376 | 196 | 310 | 171 |
| | | 67 | 454 | 291 | 407 | 269 | 354 | 246 | 295 | 221 | 228 | 194 |
| | | 62 | 380 | 320 | 332 | 296 | 279 | 268 | 235 | 235 | 199 | 199 |
| 12,500 | 72 | 583 | 287 | 531 | 267 | 475 | 245 | 412 | 221 | 341 | 194 | |
| | 67 | 499 | 329 | 448 | 306 | 390 | 282 | 325 | 255 | 252 | 225 | |
| | 62 | 420 | 367 | 367 | 341 | 310 | 310 | 269 | 269 | 228 | 228 | |
| 336 | 9,000 | 72 | 564 | 271 | 513 | 249 | 456 | 225 | 394 | 200 | 324 | 173 |
| | | 67 | 476 | 296 | 425 | 272 | 368 | 246 | 306 | 220 | 236 | 191 |
| | | 62 | 395 | 319 | 344 | 293 | 288 | 265 | 231 | 231 | 195 | 195 |
| | 12,500 | 72 | 642 | 312 | 584 | 288 | 521 | 263 | 451 | 235 | 372 | 205 |
| | | 67 | 545 | 349 | 489 | 323 | 425 | 295 | 353 | 265 | 273 | 233 |
| | | 62 | 456 | 383 | 398 | 355 | 334 | 322 | 281 | 281 | 238 | 238 |
| 15,000 | 72 | 699 | 345 | 637 | 320 | 570 | 294 | 495 | 265 | 410 | 233 | |
| | 67 | 598 | 394 | 537 | 367 | 468 | 338 | 390 | 306 | 303 | 270 | |
| | 62 | 503 | 440 | 440 | 409 | 371 | 371 | 322 | 322 | 273 | 273 | |

NOTE(S):

- Ratings based on approximately 15°F superheat leaving coil.
- Direct interpolation is permissible. Do not extrapolate.
- Dashes indicate coil loading limits are exceeded.
- Evaporator fan heat not deducted from ratings.
- See dry and wet bulb formulas below.
- SHC is based on 80°F db temperature of air entering evaporator coil.

Dry and Wet Bulb Formulas:

$$\text{Leaving db} = \text{entering db} - \frac{\text{sensible heat capacity (Btuh)}}{1.1 \times \text{cfm}}$$

$$\text{Leaving wb} = \text{wet-bulb temperature corresponding to enthalpy of air leaving coil (h}_{wb}\text{)}$$

$$h_{wb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

where h_{wb} = enthalpy of air entering coil

LEGEND

- db** — Dry Bulb Temperature (°F)
- SHC** — Sensible Heat Capacity (1000 Btuh)
- TC** — Total Capacity (1000 Btuh)
- wb** — Wet Bulb Temperature (°F)

Performance data (cont)

Hydronic Heating Capacities^{a,b,c}

| UNIT | AIRFLOW | 1-ROW STEAM ^d | | 2-ROW HOT WATER COIL ^e | | | |
|--------|---------|--------------------------|-----|-----------------------------------|-----|------------------|-----|
| | | Cap. | Ldb | Cap. | Ldb | Water Flow (Gpm) | PD |
| FAX072 | 1,800 | 146 | 134 | 156.0 | 140 | 15.6 | 3.4 |
| | 2,400 | 173 | 126 | 183.0 | 131 | 18.3 | 4.3 |
| | 3,000 | 209 | 123 | 206.0 | 124 | 20.6 | 5.2 |
| FAX091 | 2,250 | 168 | 129 | 174.0 | 133 | 17.4 | 4.0 |
| | 3,000 | 209 | 123 | 206.0 | 124 | 20.6 | 5.2 |
| | 3,750 | 240 | 117 | 238.0 | 118 | 23.8 | 6.5 |
| FAX120 | 3,000 | 209 | 123 | 299.0 | 152 | 29.9 | 5.0 |
| | 4,000 | 243 | 115 | 275.0 | 124 | 27.5 | 6.6 |
| | 5,000 | 279 | 111 | 316.0 | 119 | 31.6 | 8.2 |
| FAS150 | 3,750 | 370 | 150 | 362.0 | 149 | 36.2 | 4.2 |
| | 5,000 | 425 | 137 | 409.0 | 136 | 40.9 | 5.1 |
| | 6,250 | 465 | 128 | 456.0 | 128 | 45.6 | 6.0 |
| FAS180 | 4,500 | 402 | 141 | 412.0 | 145 | 41.2 | 4.5 |
| | 6,000 | 458 | 129 | 471.0 | 133 | 47.1 | 5.5 |
| | 7,500 | 479 | 118 | 529.0 | 125 | 52.9 | 6.6 |
| FAS240 | 6,000 | 458 | 129 | 506.0 | 138 | 50.6 | 5.1 |
| | 8,000 | 487 | 115 | 584.0 | 128 | 58.4 | 6.3 |
| | 10,000 | 499 | 105 | 652.0 | 120 | 65.2 | 7.5 |
| FAS300 | 7,500 | 511 | 122 | 649.0 | 140 | 64.9 | 5.7 |
| | 10,000 | 575 | 112 | 752.0 | 130 | 75.2 | 7.1 |
| | 12,500 | 626 | 106 | 842.0 | 122 | 84.2 | 8.5 |
| FAS336 | 9,000 | 560 | 117 | 735.0 | 136 | 73.5 | 6.2 |
| | 12,000 | 621 | 107 | 850.0 | 126 | 85.0 | 7.8 |
| | 15,000 | 670 | 101 | 950.0 | 119 | 95.0 | 9.3 |

NOTE(S):

- a. Maximum operating limits for heating coils: 20 psig at 260°F.
- b. See leaving dry bulb formula below.
- c. See Heating Correction Factors table.
- d. Based on 5 psig steam, 60° F entering-air temperature. All steam coils are non-freeze type.
- e. Based on 200° F entering water, 20° F water temperature drop, 60° F entering-air temperature.

Leaving dry bulb formula:

$$\text{Leaving db} = \text{ent db (°F)} + \frac{\text{Capacity (Btuh)}}{1.1 \times \text{cfm}}$$

LEGEND

- Cap. — Capacity (Btuh in 1000)
- Ldb — Leaving Air Dry Bulb Temp (°F)
- PD — Pressure Drop (ft water)

Heating Correction Factors

| HOT WATER COIL | | | | | | |
|----------------------|--------------------------|--------------------------|------|------|------|------|
| Water Temp Drop (°F) | Entering Water Temp (°F) | Entering Water Temp (°F) | | | | |
| | | 40 | 50 | 60 | 70 | 80 |
| 10 | 140 | 0.72 | 0.64 | 0.57 | 0.49 | 0.41 |
| | 160 | 0.89 | 0.81 | 0.74 | 0.66 | 0.58 |
| | 180 | 1.06 | 0.98 | 0.90 | 0.83 | 0.75 |
| | 200 | 1.22 | 1.15 | 1.07 | 1.00 | 0.92 |
| | 220 | 1.39 | 1.32 | 1.24 | 1.17 | 1.09 |
| 20 | 140 | 0.64 | 0.57 | 0.49 | 0.41 | 0.33 |
| | 160 | 0.81 | 0.74 | 0.66 | 0.58 | 0.51 |
| | 180 | 0.98 | 0.91 | 0.83 | 0.75 | 0.68 |
| | 200 | 1.15 | 1.08 | 1.00 | 0.93 | 0.85 |
| 30 | 220 | 1.32 | 1.25 | 1.17 | 1.10 | 1.02 |
| | 140 | 0.56 | 0.49 | 0.41 | 0.33 | 0.24 |
| | 160 | 0.74 | 0.66 | 0.58 | 0.51 | 0.43 |
| | 180 | 0.91 | 0.83 | 0.76 | 0.68 | 0.60 |
| 30 | 200 | 1.08 | 1.00 | 0.93 | 0.85 | 0.78 |
| | 220 | 1.25 | 1.18 | 1.10 | 1.03 | 0.95 |

| STEAM COIL | | | | | |
|-----------------------|-------------------------------|------|------|------|------|
| STEAM PRESSURE (psig) | Entering-Air Temperature (°F) | | | | |
| | 40 | 50 | 60 | 70 | 80 |
| 0 | 1.06 | 0.98 | 0.91 | 0.85 | 0.78 |
| 2 | 1.09 | 1.02 | 0.95 | 0.89 | 0.82 |
| 5 | 1.13 | 1.06 | 1.00 | 0.93 | 0.87 |

NOTE: Multiply capacity is given in the Hydronic Heating Capacities table by the correction factor for conditions at which unit is actually operating. Correct leaving-air temperature using formula in Note b of Hydronic Heating Capacities table.

Performance data (cont)

Duct Sound Power Levels (Lw)^{a,b,c}

| MODEL | SIZE | CFM | db(A) | OCTAVE BAND CENTER FREQUENCY (Hz) | | | | | | |
|-------|------|--------|-------|-----------------------------------|-------|------|------|------|------|------|
| | | | | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 |
| FAX | 072 | 2,400 | 86.3 | 93.2 | 89.2 | 85.2 | 84.2 | 80.2 | 78.2 | 74.2 |
| | 091 | 3,000 | 88.3 | 95.3 | 91.3 | 87.3 | 86.3 | 82.3 | 80.3 | 76.3 |
| | 120 | 4,000 | 91.6 | 98.6 | 94.6 | 90.6 | 89.6 | 85.6 | 83.6 | 79.6 |
| FAS | 150 | 5,000 | 91.1 | 97.3 | 93.3 | 89.3 | 90.3 | 84.3 | 82.3 | 78.3 |
| | 180 | 6,000 | 92.7 | 98.9 | 94.9 | 90.9 | 91.9 | 85.9 | 83.9 | 79.9 |
| | 240 | 8,000 | 96.4 | 102.6 | 98.6 | 94.6 | 95.6 | 89.6 | 87.6 | 83.6 |
| | 300 | 10,000 | 96.2 | 102.5 | 98.5 | 94.5 | 95.5 | 89.5 | 87.5 | 83.5 |
| | 336 | 12,000 | 98.5 | 104.7 | 100.7 | 96.7 | 97.7 | 91.7 | 89.7 | 85.7 |

NOTE(S):

- a. The estimated sound power levels are based upon the ASHRAE calculation approach from the ASHRAE 1987 HVAC Systems and Applications handbook, Chapter 52.
- b. Since this data is calculated, these sound power levels may be different than the actual sound power levels.
- c. The acoustic center of the unit is located at the geometric center of the unit.

LEGEND

ASHRAE — American Society of Heating, Refrigerating and Air Conditioning
 HVAC — Heating, Ventilation and Air Conditioning

Factory-Supplied Filter Pressure Drops

| UNIT | AIRFLOW (cfm) | PRESSURE DROP (in. wg) |
|--------|---------------|------------------------|
| FAX072 | 1,400 | 0.05 |
| | 2,400 | 0.08 |
| | 3,000 | 0.11 |
| FAX091 | 2,250 | 0.07 |
| | 3,000 | 0.11 |
| | 3,750 | 0.15 |
| FAX120 | 3,000 | 0.11 |
| | 4,000 | 0.17 |
| | 5,000 | 0.23 |
| FAS150 | 3,750 | 0.06 |
| | 5,000 | 0.10 |
| | 6,250 | 0.13 |
| FAS180 | 4,500 | 0.08 |
| | 6,000 | 0.12 |
| | 7,500 | 0.17 |
| FAS240 | 6,000 | 0.12 |
| | 8,000 | 0.19 |
| | 10,000 | 0.26 |
| FAS300 | 7,500 | 0.15 |
| | 10,000 | 0.22 |
| | 12,500 | 0.30 |
| FAS336 | 9,000 | 0.19 |
| | 12,000 | 0.29 |
| | 15,000 | 0.40 |

Accessory Plenum Air Throw Data (ft)^a

| UNIT | AIRFLOW (cfm) | VANE DEFLECTION | | |
|--------|---------------|-----------------|---------|-----|
| | | Straight | 21-1/2° | 45° |
| FAX072 | 2,400 | 39 | 33 | 24 |
| FAX091 | 3,000 | 45 | 38 | 28 |
| FAX120 | 4,000 | 55 | 46 | 33 |
| FAS150 | 5,000 | 45 | 38 | 28 |
| FAS180 | 6,000 | 50 | 43 | 31 |
| FAS240 | 8,000 | 60 | 51 | 37 |
| FAS300 | 10,000 | 76 | 65 | 47 |
| FAS336 | 12,000 | 85 | 72 | 52 |

NOTE(S):

- a. Throw distances shown are for 75 fpm terminal velocity. Use the multipliers below to determine throw values for other terminal velocities.

| TERMINAL VELOCITY (fpm) | THROW FACTOR |
|-------------------------|--------------|
| 50 | x 1.50 |
| 100 | x 0.75 |
| 150 | x 0.50 |

Performance data (cont)

Accessory Pressure Drop — in. wg

| UNIT | AIRFLOW (Cfm) | DISCHARGE PLENUM | RETURN AIR GRILLE | HOT WATER | STEAM | ELECTRIC | ECONOMIZER |
|--------|---------------|------------------|-------------------|-----------|-------|----------|------------|
| FAX072 | 1,800 | 0.06 | 0.01 | 0.10 | 0.10 | 0.04 | 0.05 |
| | 2,400 | 0.10 | 0.01 | 0.16 | 0.16 | 0.06 | 0.07 |
| | 3,000 | 0.14 | 0.02 | 0.23 | 0.23 | 0.10 | 0.09 |
| FAX091 | 2,250 | 0.09 | 0.01 | 0.15 | 0.15 | 0.06 | 0.06 |
| | 3,000 | 0.14 | 0.02 | 0.23 | 0.23 | 0.10 | 0.09 |
| | 3,750 | 0.21 | 0.03 | 0.35 | 0.35 | 0.15 | 0.15 |
| FAX120 | 3,000 | 0.14 | 0.02 | 0.23 | 0.23 | 0.10 | 0.09 |
| | 4,000 | 0.22 | 0.04 | 0.37 | 0.37 | 0.17 | 0.17 |
| | 5,000 | 0.32 | 0.06 | 0.53 | 0.53 | 0.26 | 0.28 |
| FAS150 | 3,750 | 0.07 | 0.01 | 0.11 | 0.11 | 0.04 | 0.05 |
| | 5,000 | 0.12 | 0.02 | 0.17 | 0.17 | 0.07 | 0.07 |
| | 6,250 | 0.17 | 0.02 | 0.25 | 0.25 | 0.11 | 0.11 |
| FAS180 | 4,500 | 0.10 | 0.01 | 0.15 | 0.15 | 0.06 | 0.06 |
| | 6,000 | 0.16 | 0.02 | 0.23 | 0.23 | 0.10 | 0.09 |
| | 7,500 | 0.23 | 0.03 | 0.33 | 0.33 | 0.15 | 0.15 |
| FAS240 | 6,000 | 0.16 | 0.02 | 0.23 | 0.23 | 0.10 | 0.09 |
| | 8,000 | 0.26 | 0.04 | 0.37 | 0.37 | 0.17 | 0.17 |
| | 10,000 | 0.37 | 0.06 | 0.53 | 0.53 | 0.26 | 0.28 |
| FAS300 | 7,500 | 0.15 | 0.02 | 0.28 | 0.28 | 0.09 | 0.06 |
| | 10,000 | 0.24 | 0.03 | 0.44 | 0.44 | 0.16 | 0.09 |
| | 12,500 | 0.34 | 0.05 | 0.63 | 0.63 | 0.24 | 0.14 |
| FAS336 | 9,000 | 0.20 | 0.03 | 0.37 | 0.37 | 0.13 | 0.08 |
| | 12,000 | 0.32 | 0.05 | 0.59 | 0.59 | 0.22 | 0.14 |
| | 15,000 | 0.46 | 0.07 | 0.85 | 0.85 | 0.34 | 0.21 |

Fan data

GENERAL FAN PERFORMANCE NOTES

1. Interpolation is permissible. Do not extrapolate.
2. External static pressure is the static pressure difference between the return duct and the supply duct plus the static pressure caused by any FIOPs or accessories.
3. Tabular data accounts for pressure loss due to clean filters, unit casing, wet coils, and highest gas heat exchanger (when gas heat unit).
4. Factory options and accessories may effect static pressure losses. Selection software is available, through your salesperson, to help you select the best motor/drive combination for your application.
5. The fan performance tables offer motor/drive recommendations. In cases when two motor/drive combinations would work, we recommend the lower horsepower option.
6. For information on the electrical properties of our motors, please see the Electrical Data section of this book.
7. For more information on the performance limits of our motors, see the Application Data section of this book.
8. The EPACT (Energy Policy Act of 1992, U.S.A.) regulates energy requirements for specific types of indoor fan motors. Motors regulated by EPACT include any general purpose, T-frame (three-digit, 143 and larger), single-speed, foot mounted, polyphase, squirrel cage induction motors of NEMA (National Electrical Manufacturers Association) design A and B, manufactured for use in the United States. Ranging from 1 to 200 Hp, these continuous-duty motors operate on 230 and 460 volt, 60 Hz power. If a motor does not fit into these specifications, the motor does not have to be replaced by an EPACT compliant energy-efficient motor. Variable-speed motors are exempt from EPACT compliance requirements.

Fan data (cont)

FAX072 Fan Data (rpm - bhp)

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (in. wg) | | | | | | | | | |
|------|---|------|------|------|------|------|------|------|------|------|
| | 0.2 | | 0.4 | | 0.6 | | 0.8 | | 1.0 | |
| | rpm | bhp | rpm | bhp | rpm | bhp | rpm | bhp | rpm | bhp |
| 1800 | 788 | 0.18 | 942 | 0.31 | 1081 | 0.48 | 1202 | 0.67 | 1308 | 0.88 |
| 1950 | 828 | 0.20 | 973 | 0.34 | 1107 | 0.52 | 1227 | 0.71 | 1333 | 0.92 |
| 2100 | 870 | 0.23 | 1005 | 0.37 | 1134 | 0.55 | 1252 | 0.75 | 1358 | 0.97 |
| 2250 | 914 | 0.26 | 1040 | 0.41 | 1163 | 0.59 | 1278 | 0.80 | 1383 | 1.02 |
| 2400 | 958 | 0.30 | 1077 | 0.45 | 1194 | 0.63 | 1305 | 0.84 | 1409 | 1.07 |
| 2550 | 1004 | 0.34 | 1115 | 0.50 | 1226 | 0.68 | 1334 | 0.89 | 1435 | 1.13 |
| 2700 | 1050 | 0.39 | 1155 | 0.55 | 1261 | 0.74 | 1364 | 0.95 | 1462 | 1.18 |
| 2850 | 1097 | 0.44 | 1197 | 0.60 | 1297 | 0.79 | 1395 | 1.01 | 1491 | 1.25 |
| 3000 | 1144 | 0.50 | 1239 | 0.66 | 1334 | 0.86 | 1429 | 1.08 | 1521 | 1.32 |

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (in. wg) | | | | | | | | | |
|------|---|------|------|------|------|------|------|------|------|------|
| | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2.0 | |
| | rpm | bhp | rpm | bhp | rpm | bhp | rpm | bhp | rpm | bhp |
| 1800 | 1403 | 1.09 | 1491 | 1.32 | 1571 | 1.55 | 1647 | 1.79 | 1718 | 2.04 |
| 1950 | 1429 | 1.14 | 1517 | 1.38 | 1598 | 1.62 | 1674 | 1.87 | 1745 | 2.13 |
| 2100 | 1454 | 1.20 | 1542 | 1.44 | 1624 | 1.69 | 1700 | 1.95 | 1772 | 2.21 |
| 2250 | 1479 | 1.25 | 1568 | 1.50 | 1650 | 1.76 | 1726 | 2.02 | 1799 | 2.30 |
| 2400 | 1504 | 1.31 | 1593 | 1.57 | 1675 | 1.83 | 1752 | 2.11 | 1825 | 2.39 |
| 2550 | 1529 | 1.37 | 1618 | 1.64 | 1700 | 1.91 | 1777 | 2.19 | 1850 | 2.48 |
| 2700 | 1555 | 1.44 | 1643 | 1.70 | 1725 | 1.98 | 1802 | 2.27 | 1875 | 2.57 |
| 2850 | 1582 | 1.50 | 1668 | 1.78 | 1750 | 2.06 | 1827 | 2.36 | 1900 | 2.66 |
| 3000 | 1610 | 1.58 | 1695 | 1.86 | 1775 | 2.14 | 1852 | 2.45 | 1925 | 2.76 |

Medium Static 788-1695 rpm, 1.86 max bhp

High Static 788-1925 rpm, 2.76 max bhp

FAX072 Medium Static Fan Data (rpm - VDC)

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (in. wg) | | | | | | | | | |
|------|---|-----|------|-----|------|-----|------|-----|------|-----|
| | 0.2 | | 0.4 | | 0.6 | | 0.8 | | 1.0 | |
| | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc |
| 1800 | 788 | 3.8 | 942 | 4.6 | 1081 | 5.3 | 1202 | 5.9 | 1308 | 6.4 |
| 1950 | 828 | 4.0 | 973 | 4.7 | 1107 | 5.4 | 1227 | 6.0 | 1333 | 6.6 |
| 2100 | 870 | 4.2 | 1005 | 4.9 | 1134 | 5.5 | 1252 | 6.2 | 1358 | 6.7 |
| 2250 | 914 | 4.4 | 1040 | 5.1 | 1163 | 5.7 | 1278 | 6.3 | 1383 | 6.8 |
| 2400 | 958 | 4.6 | 1077 | 5.3 | 1194 | 5.9 | 1305 | 6.4 | 1409 | 7.0 |
| 2550 | 1004 | 4.9 | 1115 | 5.4 | 1226 | 6.0 | 1334 | 6.6 | 1435 | 7.1 |
| 2700 | 1050 | 5.1 | 1155 | 5.7 | 1261 | 6.2 | 1364 | 6.7 | 1462 | 7.2 |
| 2850 | 1097 | 5.4 | 1197 | 5.9 | 1297 | 6.4 | 1395 | 6.9 | 1491 | 7.4 |
| 3000 | 1144 | 5.6 | 1239 | 6.1 | 1334 | 6.6 | 1429 | 7.1 | 1521 | 7.5 |

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (in. wg) | | | | | | | | | |
|------|---|-----|------|-----|-----|-----|-----|-----|-----|-----|
| | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2.0 | |
| | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc |
| 1800 | 1403 | 6.9 | 1491 | 7.4 | — | — | — | — | — | — |
| 1950 | 1429 | 7.1 | 1517 | 7.5 | — | — | — | — | — | — |
| 2100 | 1454 | 7.2 | 1542 | 7.6 | — | — | — | — | — | — |
| 2250 | 1479 | 7.3 | 1568 | 7.8 | — | — | — | — | — | — |
| 2400 | 1504 | 7.4 | 1593 | 7.9 | — | — | — | — | — | — |
| 2550 | 1529 | 7.6 | 1618 | 8.0 | — | — | — | — | — | — |
| 2700 | 1555 | 7.7 | 1643 | 8.2 | — | — | — | — | — | — |
| 2850 | 1582 | 7.9 | 1668 | 8.3 | — | — | — | — | — | — |
| 3000 | 1610 | 8.0 | 1695 | 8.4 | — | — | — | — | — | — |

Medium Static 788-1695 rpm

Fan data (cont)

FAX072 High Static Fan Data (rpm - VDC)

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (in. wg) | | | | | | | | | |
|------|---|-----|------|-----|------|-----|------|-----|------|-----|
| | 0.2 | | 0.4 | | 0.6 | | 0.8 | | 1.0 | |
| | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc |
| 1800 | 788 | 3.5 | 942 | 4.2 | 1081 | 4.8 | 1202 | 5.4 | 1308 | 5.9 |
| 1950 | 828 | 3.7 | 973 | 4.3 | 1107 | 5.0 | 1227 | 5.5 | 1333 | 6.0 |
| 2100 | 870 | 3.9 | 1005 | 4.5 | 1134 | 5.1 | 1252 | 5.6 | 1358 | 6.1 |
| 2250 | 914 | 4.1 | 1040 | 4.6 | 1163 | 5.2 | 1278 | 5.7 | 1383 | 6.2 |
| 2400 | 958 | 4.3 | 1077 | 4.8 | 1194 | 5.4 | 1305 | 5.9 | 1409 | 6.3 |
| 2550 | 1004 | 4.5 | 1115 | 5.0 | 1226 | 5.5 | 1334 | 6.0 | 1435 | 6.5 |
| 2700 | 1050 | 4.7 | 1155 | 5.2 | 1261 | 5.7 | 1364 | 6.1 | 1462 | 6.6 |
| 2850 | 1097 | 4.9 | 1197 | 5.4 | 1297 | 5.8 | 1395 | 6.3 | 1491 | 6.7 |
| 3000 | 1144 | 5.1 | 1239 | 5.6 | 1334 | 6.0 | 1429 | 6.4 | 1521 | 6.9 |

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (in. wg) | | | | | | | | | |
|------|---|-----|------|-----|------|-----|------|-----|------|-----|
| | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2.0 | |
| | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc |
| 1800 | 1403 | 6.3 | 1491 | 6.7 | 1571 | 7.1 | 1647 | 7.4 | 1718 | 7.8 |
| 1950 | 1429 | 6.4 | 1517 | 6.8 | 1598 | 7.2 | 1674 | 7.6 | 1745 | 7.9 |
| 2100 | 1454 | 6.6 | 1542 | 7.0 | 1624 | 7.3 | 1700 | 7.7 | 1772 | 8.0 |
| 2250 | 1479 | 6.7 | 1568 | 7.1 | 1650 | 7.5 | 1726 | 7.8 | 1799 | 8.1 |
| 2400 | 1504 | 6.8 | 1593 | 7.2 | 1675 | 7.6 | 1752 | 7.9 | 1825 | 8.3 |
| 2550 | 1529 | 6.9 | 1618 | 7.3 | 1700 | 7.7 | 1777 | 8.0 | 1850 | 8.4 |
| 2700 | 1555 | 7.0 | 1643 | 7.4 | 1725 | 7.8 | 1802 | 8.2 | 1875 | 8.5 |
| 2850 | 1582 | 7.1 | 1668 | 7.5 | 1750 | 7.9 | 1827 | 8.3 | 1900 | 8.6 |
| 3000 | 1610 | 7.3 | 1695 | 7.7 | 1775 | 8.0 | 1852 | 8.4 | 1925 | 8.7 |

High Static 788-1925 rpm

Fan data (cont)

FAX091 Fan Data (rpm - bhp)

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (in. wg) | | | | | | | | | |
|------|---|------|------|------|------|------|------|------|------|------|
| | 0.2 | | 0.4 | | 0.6 | | 0.8 | | 1.0 | |
| | rpm | bhp | rpm | bhp | rpm | bhp | rpm | bhp | rpm | bhp |
| 2250 | 884 | 0.23 | 1009 | 0.37 | 1131 | 0.54 | 1247 | 0.74 | 1354 | 0.95 |
| 2440 | 937 | 0.27 | 1053 | 0.42 | 1168 | 0.59 | 1279 | 0.79 | 1383 | 1.01 |
| 2625 | 991 | 0.32 | 1099 | 0.47 | 1206 | 0.64 | 1311 | 0.84 | 1412 | 1.07 |
| 2815 | 1048 | 0.37 | 1149 | 0.53 | 1249 | 0.70 | 1348 | 0.90 | 1445 | 1.13 |
| 3000 | 1103 | 0.43 | 1199 | 0.59 | 1293 | 0.77 | 1386 | 0.97 | 1478 | 1.20 |
| 3190 | 1161 | 0.50 | 1252 | 0.66 | 1340 | 0.85 | 1428 | 1.05 | 1516 | 1.28 |
| 3375 | 1218 | 0.57 | 1304 | 0.74 | 1388 | 0.93 | 1471 | 1.14 | 1554 | 1.37 |
| 3565 | 1277 | 0.66 | 1359 | 0.83 | 1438 | 1.02 | 1517 | 1.24 | 1596 | 1.47 |
| 3750 | 1335 | 0.75 | 1413 | 0.93 | 1489 | 1.13 | 1564 | 1.34 | 1639 | 1.58 |

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (in. wg) | | | | | | | | | |
|------|---|------|------|------|------|------|------|------|------|------|
| | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2.0 | |
| | rpm | bhp | rpm | bhp | rpm | bhp | rpm | bhp | rpm | bhp |
| 2250 | 1452 | 1.18 | 1542 | 1.43 | 1625 | 1.68 | 1703 | 1.94 | 1776 | 2.21 |
| 2440 | 1480 | 1.25 | 1570 | 1.50 | 1653 | 1.76 | 1731 | 2.03 | 1805 | 2.31 |
| 2625 | 1507 | 1.31 | 1597 | 1.57 | 1680 | 1.83 | 1759 | 2.11 | 1833 | 2.40 |
| 2815 | 1537 | 1.38 | 1625 | 1.64 | 1708 | 1.91 | 1787 | 2.20 | 1861 | 2.50 |
| 3000 | 1568 | 1.45 | 1654 | 1.72 | 1736 | 2.00 | 1814 | 2.29 | 1888 | 2.60 |
| 3190 | 1602 | 1.54 | 1685 | 1.80 | 1765 | 2.09 | 1842 | 2.39 | 1916 | 2.70 |
| 3375 | 1636 | 1.62 | 1717 | 1.90 | 1795 | 2.18 | 1871 | 2.49 | 1944 | 2.81 |
| 3565 | 1675 | 1.73 | 1752 | 2.00 | 1828 | 2.29 | 1902 | 2.60 | 1973 | 2.92 |
| 3750 | 1714 | 1.83 | 1788 | 2.11 | 1862 | 2.41 | 1933 | 2.71 | 2003 | 3.04 |

Medium Static 884-1788 rpm, 1.84 max bhp

High Static 884-2003 rpm, 2.70 max bhp

FAX091 Medium Static Fan Data (rpm - VDC)

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (in. wg) | | | | | | | | | |
|------|---|-----|------|-----|------|-----|------|-----|------|-----|
| | 0.2 | | 0.4 | | 0.6 | | 0.8 | | 1.0 | |
| | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc |
| 2250 | 884 | 4.3 | 1009 | 4.9 | 1131 | 5.5 | 1247 | 6.1 | 1354 | 6.7 |
| 2440 | 937 | 4.5 | 1053 | 5.1 | 1168 | 5.7 | 1279 | 6.3 | 1383 | 6.8 |
| 2625 | 991 | 4.8 | 1099 | 5.4 | 1206 | 5.9 | 1311 | 6.5 | 1412 | 7.0 |
| 2815 | 1048 | 5.1 | 1149 | 5.6 | 1249 | 6.1 | 1348 | 6.6 | 1445 | 7.1 |
| 3000 | 1103 | 5.4 | 1199 | 5.9 | 1293 | 6.4 | 1386 | 6.8 | 1478 | 7.3 |
| 3190 | 1161 | 5.7 | 1252 | 6.2 | 1340 | 6.6 | 1428 | 7.1 | 1516 | 7.5 |
| 3375 | 1218 | 6.0 | 1304 | 6.4 | 1388 | 6.9 | 1471 | 7.3 | 1554 | 7.7 |
| 3565 | 1277 | 6.3 | 1359 | 6.7 | 1438 | 7.1 | 1517 | 7.5 | 1596 | 7.9 |
| 3750 | 1335 | 6.6 | 1413 | 7.0 | 1489 | 7.4 | 1564 | 7.8 | 1639 | 8.1 |

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (in. wg) | | | | | | | | | |
|------|---|-----|------|-----|-----|-----|-----|-----|-----|-----|
| | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2.0 | |
| | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc |
| 2250 | 1452 | 7.2 | 1542 | 7.6 | — | — | — | — | — | — |
| 2440 | 1480 | 7.3 | 1570 | 7.8 | — | — | — | — | — | — |
| 2625 | 1507 | 7.5 | 1597 | 7.9 | — | — | — | — | — | — |
| 2815 | 1537 | 7.6 | 1625 | 8.1 | — | — | — | — | — | — |
| 3000 | 1568 | 7.8 | 1654 | 8.2 | — | — | — | — | — | — |
| 3190 | 1602 | 8.0 | 1685 | 8.4 | — | — | — | — | — | — |
| 3375 | 1636 | 8.1 | 1717 | 8.5 | — | — | — | — | — | — |
| 3565 | 1675 | 8.3 | 1752 | 8.7 | — | — | — | — | — | — |
| 3750 | 1714 | 8.5 | 1788 | 8.9 | — | — | — | — | — | — |

Medium Static 884-1788 rpm

Fan data (cont)

FAX091 High Static Fan Data (rpm - VDC)

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (in. wg) | | | | | | | | | |
|------|---|-----|------|-----|------|-----|------|-----|------|-----|
| | 0.2 | | 0.4 | | 0.6 | | 0.8 | | 1.0 | |
| | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc |
| 2250 | 884 | 3.9 | 1009 | 4.5 | 1131 | 5.1 | 1247 | 5.6 | 1354 | 6.1 |
| 2440 | 937 | 4.2 | 1053 | 4.7 | 1168 | 5.2 | 1279 | 5.7 | 1383 | 6.2 |
| 2625 | 991 | 4.4 | 1099 | 4.9 | 1206 | 5.4 | 1311 | 5.9 | 1412 | 6.4 |
| 2815 | 1048 | 4.7 | 1149 | 5.1 | 1249 | 5.6 | 1348 | 6.1 | 1445 | 6.5 |
| 3000 | 1103 | 4.9 | 1199 | 5.4 | 1293 | 5.8 | 1386 | 6.2 | 1478 | 6.7 |
| 3190 | 1161 | 5.2 | 1252 | 5.6 | 1340 | 6.0 | 1428 | 6.4 | 1516 | 6.8 |
| 3375 | 1218 | 5.5 | 1304 | 5.9 | 1388 | 6.3 | 1471 | 6.6 | 1554 | 7.0 |
| 3565 | 1277 | 5.7 | 1359 | 6.1 | 1438 | 6.5 | 1517 | 6.8 | 1596 | 7.2 |
| 3750 | 1335 | 6.0 | 1413 | 6.4 | 1489 | 6.7 | 1564 | 7.1 | 1639 | 7.4 |

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (in. wg) | | | | | | | | | |
|------|---|-----|------|-----|------|-----|------|-----|------|-----|
| | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2.0 | |
| | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc |
| 2250 | 1452 | 6.5 | 1542 | 7.0 | 1625 | 7.3 | 1703 | 7.7 | 1776 | 8.0 |
| 2440 | 1480 | 6.7 | 1570 | 7.1 | 1653 | 7.5 | 1731 | 7.8 | 1805 | 8.2 |
| 2625 | 1507 | 6.8 | 1597 | 7.2 | 1680 | 7.6 | 1759 | 8.0 | 1833 | 8.3 |
| 2815 | 1537 | 6.9 | 1625 | 7.3 | 1708 | 7.7 | 1787 | 8.1 | 1861 | 8.4 |
| 3000 | 1568 | 7.1 | 1654 | 7.5 | 1736 | 7.9 | 1814 | 8.2 | 1888 | 8.6 |
| 3190 | 1602 | 7.2 | 1685 | 7.6 | 1765 | 8.0 | 1842 | 8.3 | 1916 | 8.7 |
| 3375 | 1636 | 7.4 | 1717 | 7.8 | 1795 | 8.1 | 1871 | 8.5 | 1944 | 8.8 |
| 3565 | 1675 | 7.6 | 1752 | 7.9 | 1828 | 8.3 | 1902 | 8.6 | 1973 | 9.0 |
| 3750 | 1714 | 7.8 | 1788 | 8.1 | 1862 | 8.4 | 1933 | 8.8 | 2003 | 9.1 |

High Static 884-2003 rpm

Fan data (cont)

FAX120 Fan Data (rpm - bhp)

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (in. wg) | | | | | | | | | |
|------|---|------|------|------|------|------|------|------|------|------|
| | 0.2 | | 0.4 | | 0.6 | | 0.8 | | 1.0 | |
| | rpm | bhp | rpm | bhp | rpm | bhp | rpm | bhp | rpm | bhp |
| 3000 | 1080 | 0.40 | 1175 | 0.55 | 1268 | 0.72 | 1361 | 0.92 | 1453 | 1.14 |
| 3250 | 1154 | 0.48 | 1243 | 0.64 | 1329 | 0.81 | 1415 | 1.01 | 1501 | 1.24 |
| 3500 | 1229 | 0.57 | 1312 | 0.74 | 1393 | 0.92 | 1473 | 1.13 | 1553 | 1.35 |
| 3750 | 1305 | 0.68 | 1384 | 0.86 | 1459 | 1.04 | 1534 | 1.25 | 1609 | 1.48 |
| 4000 | 1381 | 0.80 | 1456 | 0.99 | 1527 | 1.18 | 1598 | 1.40 | 1668 | 1.63 |
| 4250 | 1458 | 0.94 | 1529 | 1.13 | 1597 | 1.34 | 1664 | 1.56 | 1730 | 1.79 |
| 4500 | 1535 | 1.09 | 1603 | 1.29 | 1668 | 1.50 | 1731 | 1.73 | 1794 | 1.97 |
| 4750 | 1613 | 1.26 | 1678 | 1.47 | 1740 | 1.69 | 1800 | 1.92 | 1860 | 2.17 |
| 5000 | 1691 | 1.45 | 1753 | 1.67 | 1813 | 1.90 | 1870 | 2.14 | 1927 | 2.39 |

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (in. wg) | | | | | | | | | |
|------|---|------|------|------|------|------|------|------|------|------|
| | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2.0 | |
| | rpm | bhp | rpm | bhp | rpm | bhp | rpm | bhp | rpm | bhp |
| 3000 | 1543 | 1.38 | 1629 | 1.64 | 1712 | 1.91 | 1791 | 2.20 | 1866 | 2.50 |
| 3250 | 1586 | 1.48 | 1668 | 1.74 | 1748 | 2.02 | 1825 | 2.31 | 1899 | 2.62 |
| 3500 | 1632 | 1.59 | 1711 | 1.86 | 1787 | 2.14 | 1862 | 2.44 | 1935 | 2.75 |
| 3750 | 1683 | 1.73 | 1757 | 1.99 | 1830 | 2.28 | 1902 | 2.58 | 1972 | 2.89 |
| 4000 | 1738 | 1.88 | 1807 | 2.14 | 1877 | 2.43 | 1945 | 2.73 | 2013 | 3.05 |
| 4250 | 1795 | 2.04 | 1861 | 2.31 | 1927 | 2.60 | 1992 | 2.90 | — | — |
| 4500 | 1856 | 2.23 | 1918 | 2.50 | 1980 | 2.79 | 2042 | 3.09 | — | — |
| 4750 | 1919 | 2.43 | 1977 | 2.71 | 2036 | 3.00 | — | — | — | — |
| 5000 | 1983 | 2.66 | 2039 | 2.94 | — | — | — | — | — | — |

Medium Static 1080-1918 rpm, 2.50 max bhp

High Static 1080-2013 rpm, 3.09 max bhp

FAX120 Medium Static Fan Data (rpm - VDC)

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (in. wg) | | | | | | | | | |
|------|---|-----|------|-----|------|-----|------|-----|------|-----|
| | 0.2 | | 0.4 | | 0.6 | | 0.8 | | 1.0 | |
| | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc |
| 3000 | 1080 | 5.3 | 1175 | 5.8 | 1268 | 6.2 | 1361 | 6.7 | 1453 | 7.2 |
| 3250 | 1154 | 5.6 | 1243 | 6.1 | 1329 | 6.5 | 1415 | 7.0 | 1501 | 7.4 |
| 3500 | 1229 | 6.0 | 1312 | 6.5 | 1393 | 6.9 | 1473 | 7.3 | 1553 | 7.7 |
| 3750 | 1305 | 6.4 | 1384 | 6.8 | 1459 | 7.2 | 1534 | 7.6 | 1609 | 8.0 |
| 4000 | 1381 | 6.8 | 1456 | 7.2 | 1527 | 7.6 | 1598 | 7.9 | 1668 | 8.3 |
| 4250 | 1458 | 7.2 | 1529 | 7.6 | 1597 | 7.9 | 1664 | 8.3 | 1730 | 8.6 |
| 4500 | 1535 | 7.6 | 1603 | 8.0 | 1668 | 8.3 | 1731 | 8.6 | 1794 | 8.9 |
| 4750 | 1613 | 8.0 | 1678 | 8.3 | 1740 | 8.7 | 1800 | 9.0 | 1860 | 9.3 |
| 5000 | 1691 | 8.4 | 1753 | 8.7 | 1813 | 9.0 | 1870 | 9.3 | 1927 | 9.6 |

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (in. wg) | | | | | | | | | |
|------|---|-----|------|-----|-----|-----|-----|-----|-----|-----|
| | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2.0 | |
| | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc |
| 3000 | 1543 | 7.6 | 1629 | 8.1 | — | — | — | — | — | — |
| 3250 | 1586 | 7.9 | 1668 | 8.3 | — | — | — | — | — | — |
| 3500 | 1632 | 8.1 | 1711 | 8.5 | — | — | — | — | — | — |
| 3750 | 1683 | 8.4 | 1757 | 8.8 | — | — | — | — | — | — |
| 4000 | 1738 | 8.7 | 1807 | 9.0 | — | — | — | — | — | — |
| 4250 | 1795 | 8.9 | 1861 | 9.3 | — | — | — | — | — | — |
| 4500 | 1856 | 9.3 | 1918 | 9.6 | — | — | — | — | — | — |
| 4750 | 1919 | 9.6 | — | — | — | — | — | — | — | — |
| 5000 | — | — | — | — | — | — | — | — | — | — |

Medium Static 1080-1918 rpm

Fan data (cont)

FAX120 High Static Fan Data (rpm - VDC)

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (in. wg) | | | | | | | | | |
|------|---|-----|------|-----|------|-----|------|-----|------|-----|
| | 0.2 | | 0.4 | | 0.6 | | 0.8 | | 1.0 | |
| | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc |
| 3000 | 1080 | 4.8 | 1175 | 5.3 | 1268 | 5.7 | 1361 | 6.1 | 1453 | 6.6 |
| 3250 | 1154 | 5.2 | 1243 | 5.6 | 1329 | 6.0 | 1415 | 6.4 | 1501 | 6.8 |
| 3500 | 1229 | 5.5 | 1312 | 5.9 | 1393 | 6.3 | 1473 | 6.6 | 1553 | 7.0 |
| 3750 | 1305 | 5.9 | 1384 | 6.2 | 1459 | 6.6 | 1534 | 6.9 | 1609 | 7.3 |
| 4000 | 1381 | 6.2 | 1456 | 6.6 | 1527 | 6.9 | 1598 | 7.2 | 1668 | 7.5 |
| 4250 | 1458 | 6.6 | 1529 | 6.9 | 1597 | 7.2 | 1664 | 7.5 | 1730 | 7.8 |
| 4500 | 1535 | 6.9 | 1603 | 7.2 | 1668 | 7.5 | 1731 | 7.8 | 1794 | 8.1 |
| 4750 | 1613 | 7.3 | 1678 | 7.6 | 1740 | 7.9 | 1800 | 8.2 | 1860 | 8.4 |
| 5000 | 1691 | 7.7 | 1753 | 7.9 | 1813 | 8.2 | 1870 | 8.5 | 1927 | 8.7 |

| CFM | AVAILABLE EXTERNAL STATIC PRESSURE (in. wg) | | | | | | | | | |
|------|---|-----|------|-----|------|-----|------|-----|------|-----|
| | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2.0 | |
| | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc | rpm | Vdc |
| 3000 | 1543 | 7.0 | 1629 | 7.4 | 1712 | 7.7 | 1791 | 8.1 | 1866 | 8.5 |
| 3250 | 1586 | 7.2 | 1668 | 7.5 | 1748 | 7.9 | 1825 | 8.3 | 1899 | 8.6 |
| 3500 | 1632 | 7.4 | 1711 | 7.7 | 1787 | 8.1 | 1862 | 8.4 | 1935 | 8.8 |
| 3750 | 1683 | 7.6 | 1757 | 8.0 | 1830 | 8.3 | 1902 | 8.6 | 1972 | 8.9 |
| 4000 | 1738 | 7.9 | 1807 | 8.2 | 1877 | 8.5 | 1945 | 8.8 | 2013 | 9.1 |
| 4250 | 1795 | 8.1 | 1861 | 8.4 | 1927 | 8.7 | 1992 | 9.0 | — | — |
| 4500 | 1856 | 8.4 | 1918 | 8.7 | 1980 | 9.0 | 2042 | 9.3 | — | — |
| 4750 | 1919 | 8.7 | 1977 | 9.0 | 2036 | 9.2 | — | — | — | — |
| 5000 | 1983 | 9.0 | 2039 | 9.3 | — | — | — | — | — | — |

High Static 1080-2013 rpm

Fan data (cont)

Standard Fan, FAS150-336, 0.0-1.2 in. wg ESP, 60 Hz — English^{a,b}

| UNIT | AIRFLOW (Cfm) | EXTERNAL STATIC PRESSURE (in. wg) ^c | | | | | | | | | | | | | |
|--------|---------------|--|-------------|-------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|--------------|
| | | 0.0 | | 0.2 | | 0.4 | | 0.6 | | 0.8 | | 1.0 | | 1.2 | |
| | | Rpm | Bhp | Rpm | Bhp | Rpm | Bhp | Rpm | Bhp | Rpm | Bhp | Rpm | Bhp | Rpm | Bhp |
| FAS150 | 3750 | 410 | 0.43 | 467 | 0.55 | 567 | 0.83 | 649 | 1.12 | 721 | 1.41 | <u>788</u> | <u>1.72</u> | <u>851</u> | <u>2.05</u> |
| | 4300 | 455 | 0.62 | 504 | 0.74 | 599 | 1.05 | 679 | 1.38 | <u>748</u> | <u>1.70</u> | <u>811</u> | <u>2.04</u> | <u>871</u> | <u>2.39</u> |
| | 5000 | 514 | 0.92 | 556 | 1.06 | 641 | 1.39 | 718 | 1.76 | <u>786</u> | <u>2.14</u> | <u>847</u> | <u>2.52</u> | <u>903</u> | <u>2.91</u> |
| | 5700 | 575 | 1.32 | 612 | 1.47 | 686 | 1.82 | <u>759</u> | <u>2.23</u> | <u>825</u> | <u>2.66</u> | <u>884</u> | <u>3.09</u> | <u>939</u> | <u>3.52</u> |
| | 6250 | 624 | 1.71 | 657 | 1.87 | 725 | 2.24 | <u>793</u> | <u>2.66</u> | <u>856</u> | <u>3.12</u> | <u>915</u> | <u>3.59</u> | <u>969</u> | <u>4.06</u> |
| FAS180 | 4500 | 437 | 0.61 | 483 | 0.72 | 576 | 1.01 | 660 | 1.35 | <u>732</u> | <u>1.69</u> | <u>797</u> | <u>2.03</u> | <u>856</u> | <u>2.38</u> |
| | 5300 | 499 | 0.95 | 538 | 1.07 | 617 | 1.37 | 696 | 1.74 | <u>767</u> | <u>2.13</u> | <u>830</u> | <u>2.53</u> | <u>888</u> | <u>2.94</u> |
| | 6000 | 555 | 1.34 | 590 | 1.48 | 659 | 1.79 | <u>730</u> | <u>2.17</u> | <u>798</u> | <u>2.59</u> | <u>860</u> | <u>3.04</u> | <u>918</u> | <u>3.49</u> |
| | 6800 | 620 | 1.91 | 651 | 2.06 | 712 | 2.39 | <u>774</u> | <u>2.78</u> | <u>836</u> | <u>3.22</u> | <u>896</u> | <u>3.71</u> | <u>952</u> | <u>4.21</u> |
| FAS240 | 7500 | 677 | 2.52 | 706 | 2.69 | <u>761</u> | <u>3.04</u> | <u>817</u> | <u>3.44</u> | <u>873</u> | <u>3.89</u> | <u>929</u> | <u>4.39</u> | <u>984</u> | <u>4.93</u> |
| | 6,000 | 542 | 1.29 | 577 | 1.42 | 646 | 1.72 | 716 | 2.09 | 785 | 2.51 | 849 | 2.95 | <u>907</u> | <u>3.40</u> |
| | 7,000 | 620 | 1.99 | 652 | 2.15 | 711 | 2.48 | 771 | 2.85 | 831 | 3.28 | <u>890</u> | <u>3.76</u> | <u>947</u> | <u>4.27</u> |
| | 8,000 | 700 | 2.92 | 728 | 3.10 | 781 | 3.46 | 833 | 3.85 | <u>885</u> | <u>4.29</u> | <u>938</u> | <u>4.78</u> | <u>990</u> | <u>5.32</u> |
| | 9,000 | 781 | 4.10 | 806 | 4.30 | 854 | 4.71 | <u>900</u> | <u>5.13</u> | <u>946</u> | <u>5.58</u> | <u>993</u> | <u>6.08</u> | <u>1039</u> | <u>6.62</u> |
| FAS300 | 10,000 | 862 | 5.56 | <u>885</u> | <u>5.79</u> | <u>929</u> | <u>6.24</u> | <u>971</u> | <u>6.70</u> | <u>1012</u> | <u>7.18</u> | <u>1054</u> | <u>7.69</u> | <u>1096</u> | <u>8.24</u> |
| | 7,500 | 476 | 1.39 | 510 | 1.58 | 579 | 1.99 | 644 | 2.40 | 701 | 2.81 | 752 | 3.29 | 804 | 3.96 |
| | 8,750 | 545 | 2.14 | 574 | 2.35 | 633 | 2.81 | 691 | 3.29 | 747 | 3.77 | 797 | 4.25 | <u>842</u> | <u>4.76</u> |
| | 10,000 | 615 | 3.12 | 641 | 3.36 | 692 | 3.87 | 743 | 4.41 | 794 | 4.96 | <u>843</u> | <u>5.51</u> | <u>888</u> | <u>6.05</u> |
| | 11,250 | 685 | 4.37 | 709 | 4.64 | 754 | 5.20 | 800 | 5.79 | <u>845</u> | <u>6.40</u> | <u>891</u> | <u>7.02</u> | <u>935</u> | <u>7.64</u> |
| FAS336 | 12,500 | 756 | 5.92 | 778 | 6.22 | 819 | 6.83 | 860 | 7.47 | <u>901</u> | <u>8.14</u> | <u>942</u> | <u>8.83</u> | <u>983</u> | <u>9.52</u> |
| | 9,000 | 539 | 2.18 | 569 | 2.39 | 626 | 2.85 | 683 | 3.34 | 739 | 3.83 | 791 | 4.32 | <u>837</u> | <u>4.82</u> |
| | 10,500 | 620 | 3.37 | 646 | 3.62 | 695 | 4.13 | 744 | 4.68 | 793 | 5.25 | <u>842</u> | <u>5.83</u> | <u>888</u> | <u>6.41</u> |
| | 12,000 | 701 | 4.94 | 724 | 5.22 | 769 | 5.80 | 811 | 6.40 | <u>854</u> | <u>7.04</u> | <u>897</u> | <u>7.69</u> | <u>940</u> | <u>8.36</u> |
| | 13,500 | 783 | 6.95 | 804 | 7.27 | <u>844</u> | <u>7.91</u> | <u>883</u> | <u>8.57</u> | <u>920</u> | <u>9.26</u> | <u>958</u> | <u>9.97</u> | <u>996</u> | <u>10.71</u> |
| 15,000 | <u>865</u> | <u>9.45</u> | <u>884</u> | <u>9.81</u> | <u>921</u> | <u>10.52</u> | <u>956</u> | <u>11.24</u> | <u>991</u> | <u>11.98</u> | <u>1025</u> | <u>12.75</u> | <u>1059</u> | <u>13.54</u> | |

NOTE(S):

- a. Maximum allowable fan speed is 1200 rpm for all sizes.
- b. Fan performance is based on deductions for wet coil, clean 2 in. filters, and unit casing. See table below for factory-supplied filter pressure drop.
- c. **Bold** indicates field-supplied drive is required.
Plain type indicates standard motor and standard drive.
Underlining indicates a different motor and drive combination other than the standard motor and standard drive combination is required.

Factory-Supplied Pressure Drop — English

LEGEND

| UNIT | AIRFLOW (Cfm) | PRESSURE DROP (in. wg) |
|--------|---------------|------------------------|
| FAS150 | 3,750 | 0.06 |
| | 5,000 | 0.10 |
| | 6,250 | 0.13 |
| FAS180 | 4,500 | 0.08 |
| | 6,000 | 0.12 |
| | 7,500 | 0.17 |
| FAS240 | 6,000 | 0.12 |
| | 8,000 | 0.19 |
| | 10,000 | 0.26 |
| FAS300 | 7,500 | 0.15 |
| | 10,000 | 0.22 |
| | 12,500 | 0.30 |
| FAS336 | 9,000 | 0.19 |
| | 12,000 | 0.29 |
| | 15,000 | 0.40 |

- Bhp** — Brake Horsepower Input to Fan
- ESP** — External Static Pressure

Fan data (cont)

Standard Fan, FAS150-336, 1.4-2.4 in. wg ESP, 60 Hz — English^{a,b}

| UNIT | AIRFLOW (Cfm) | EXTERNAL STATIC PRESSURE (in. wg) ^c | | | | | | | | | | | |
|--------|---------------|--|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|-------------|-------------|-------------|
| | | 1.4 | | 1.6 | | 1.8 | | 2.0 | | 2.2 | | 2.4 | |
| | | Rpm | Bhp | Rpm | Bhp | Rpm | Bhp | Rpm | Bhp | Rpm | Bhp | Rpm | Bhp |
| FAS150 | 3750 | <u>912</u> | <u>2.39</u> | <u>971</u> | <u>2.76</u> | <u>1028</u> | <u>3.14</u> | <u>1083</u> | <u>3.54</u> | 1135 | 3.95 | 1185 | 4.36 |
| | 4300 | <u>928</u> | <u>2.75</u> | <u>982</u> | <u>3.13</u> | <u>1036</u> | <u>3.53</u> | <u>1087</u> | <u>3.94</u> | 1138 | 4.37 | 1187 | 4.81 |
| | 5000 | <u>956</u> | <u>3.30</u> | <u>1007</u> | <u>3.71</u> | <u>1056</u> | <u>4.13</u> | 1104 | 4.56 | 1151 | 5.00 | 1196 | 5.46 |
| | 5700 | <u>990</u> | <u>3.96</u> | <u>1039</u> | <u>4.40</u> | <u>1086</u> | <u>4.85</u> | 1130 | 5.31 | 1174 | 5.78 | — | — |
| | 6250 | <u>1019</u> | <u>4.54</u> | <u>1067</u> | <u>5.02</u> | 1112 | 5.50 | 1156 | 5.99 | 1198 | 6.49 | — | — |
| FAS180 | 4500 | <u>912</u> | <u>2.75</u> | <u>967</u> | <u>3.12</u> | <u>1019</u> | <u>3.52</u> | <u>1070</u> | <u>3.92</u> | <u>1120</u> | <u>4.35</u> | <u>1168</u> | <u>4.79</u> |
| | 5300 | <u>942</u> | <u>3.34</u> | <u>992</u> | <u>3.76</u> | <u>1041</u> | <u>4.18</u> | <u>1088</u> | <u>4.61</u> | <u>1134</u> | <u>5.06</u> | 1179 | 5.52 |
| | 6000 | <u>971</u> | <u>3.95</u> | <u>1020</u> | <u>4.40</u> | <u>1067</u> | <u>4.86</u> | <u>1112</u> | <u>5.33</u> | <u>1156</u> | <u>5.81</u> | 1198 | 6.29 |
| | 6800 | <u>1005</u> | <u>4.72</u> | <u>1054</u> | <u>5.23</u> | <u>1101</u> | <u>5.75</u> | <u>1145</u> | <u>6.27</u> | 1187 | 6.79 | — | — |
| | 7500 | <u>1036</u> | <u>5.48</u> | <u>1084</u> | <u>6.04</u> | <u>1131</u> | <u>6.61</u> | 1174 | 7.17 | — | — | — | — |
| FAS240 | 6,000 | <u>961</u> | <u>3.86</u> | <u>1011</u> | <u>4.31</u> | <u>1058</u> | <u>4.77</u> | <u>1104</u> | <u>5.24</u> | <u>1147</u> | <u>5.71</u> | — | — |
| | 7,000 | <u>1000</u> | <u>4.79</u> | <u>1050</u> | <u>5.32</u> | <u>1097</u> | <u>5.85</u> | <u>1142</u> | <u>6.38</u> | <u>1184</u> | <u>6.91</u> | — | — |
| | 8,000 | <u>1041</u> | <u>5.88</u> | <u>1090</u> | <u>6.47</u> | <u>1137</u> | <u>7.07</u> | <u>1181</u> | <u>7.67</u> | — | — | — | — |
| | 9,000 | <u>1086</u> | <u>7.21</u> | <u>1133</u> | <u>7.82</u> | <u>1178</u> | <u>8.47</u> | — | — | — | — | — | — |
| | 10,000 | <u>1138</u> | <u>8.83</u> | <u>1180</u> | <u>9.46</u> | — | — | — | — | — | — | — | — |
| FAS300 | 7,500 | <u>874</u> | <u>5.33</u> | <u>897</u> | <u>5.91</u> | <u>940</u> | <u>6.80</u> | <u>990</u> | <u>7.50</u> | — | — | — | — |
| | 8,750 | <u>886</u> | <u>5.36</u> | <u>930</u> | <u>6.31</u> | <u>982</u> | <u>7.32</u> | <u>1020</u> | <u>8.10</u> | — | — | — | — |
| | 10,000 | <u>930</u> | <u>6.60</u> | <u>969</u> | <u>7.00</u> | <u>1007</u> | <u>7.89</u> | <u>1045</u> | <u>8.71</u> | — | — | — | — |
| | 11,250 | <u>976</u> | <u>8.25</u> | <u>1014</u> | <u>8.86</u> | <u>1051</u> | <u>9.49</u> | 1086 | 10.17 | — | — | — | — |
| | 12,500 | <u>1023</u> | <u>10.20</u> | <u>1061</u> | <u>10.88</u> | 1097 | 11.56 | — | — | — | — | — | — |
| FAS336 | 9,000 | <u>881</u> | <u>5.37</u> | <u>923</u> | <u>6.03</u> | <u>967</u> | <u>6.89</u> | <u>1020</u> | <u>8.25</u> | — | — | — | — |
| | 10,500 | <u>930</u> | <u>6.97</u> | <u>970</u> | <u>7.55</u> | <u>1008</u> | <u>8.17</u> | <u>1045</u> | <u>8.86</u> | — | — | — | — |
| | 12,000 | <u>981</u> | <u>9.02</u> | <u>1021</u> | <u>9.67</u> | — | — | — | — | — | — | — | — |
| | 13,500 | <u>1035</u> | <u>11.45</u> | — | — | — | — | — | — | — | — | — | — |
| | 15,000 | — | — | — | — | — | — | — | — | — | — | — | — |

NOTE(S):

- a. Maximum allowable fan speed is 1200 rpm for all sizes.
- b. Fan performance is based on deductions for wet coil, clean 2 in. filters, and unit casing. See table below for factory-supplied filter pressure drop.
- c. **Bold** indicates field-supplied drive is required.
Plain type indicates standard motor and standard drive.
Underlining indicates a different motor and drive combination other than the standard motor and standard drive combination is required.

Factory-Supplied Pressure Drop — English

| UNIT | AIRFLOW (Cfm) | PRESSURE DROP (in. wg) |
|--------|---------------|------------------------|
| FAS150 | 3,750 | 0.06 |
| | 5,000 | 0.10 |
| | 6,250 | 0.13 |
| FAS180 | 4,500 | 0.08 |
| | 6,000 | 0.12 |
| | 7,500 | 0.17 |
| FAS240 | 6,000 | 0.12 |
| | 8,000 | 0.19 |
| | 10,000 | 0.26 |
| FAS300 | 7,500 | 0.15 |
| | 10,000 | 0.22 |
| | 12,500 | 0.30 |
| FAS336 | 9,000 | 0.19 |
| | 12,000 | 0.29 |
| | 15,000 | 0.40 |

LEGEND

- Bhp** — Brake Horsepower Input to Fan
- ESP** — External Static Pressure

Fan data (cont)

Standard Fan, FAS150-336, 0-300 Pa ESP, 60 Hz — SI^{a,b}

| UNIT | AIRFLOW (L/s) | EXTERNAL STATIC PRESSURE (Pa) ^c | | | | | | | | | | | | | |
|--------|---------------|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| | | 0 | | 50 | | 100 | | 150 | | 200 | | 250 | | 300 | |
| | | r/s | kW | r/s | kW | r/s | kW | r/s | kW | r/s | kW | r/s | kW | r/s | kW |
| FAS150 | 1770 | 6.84 | 0.32 | 7.78 | 0.41 | 9.46 | 0.62 | 10.82 | 0.83 | 12.02 | 1.05 | <u>13.13</u> | <u>1.28</u> | <u>14.19</u> | <u>1.53</u> |
| | 2030 | 7.58 | 0.46 | 8.40 | 0.55 | 9.98 | 0.78 | 11.31 | 1.03 | <u>12.47</u> | <u>1.27</u> | <u>13.52</u> | <u>1.52</u> | <u>14.51</u> | <u>1.78</u> |
| | 2360 | 8.57 | 0.69 | 9.27 | 0.79 | 10.68 | 1.04 | 11.96 | 1.31 | <u>13.09</u> | <u>1.60</u> | <u>14.11</u> | <u>1.88</u> | <u>15.05</u> | <u>2.17</u> |
| | 2690 | 9.59 | 0.99 | 10.20 | 1.10 | 11.44 | 1.36 | <u>12.64</u> | <u>1.66</u> | <u>13.74</u> | <u>1.98</u> | <u>14.74</u> | <u>2.30</u> | <u>15.65</u> | <u>2.63</u> |
| | 2950 | 10.40 | 1.28 | 10.96 | 1.39 | 12.09 | 1.67 | <u>13.21</u> | <u>1.98</u> | <u>14.27</u> | <u>2.33</u> | <u>15.25</u> | <u>2.68</u> | <u>16.15</u> | <u>3.03</u> |
| FAS180 | 2120 | 7.28 | 0.45 | 8.05 | 0.54 | 9.60 | 0.75 | 11.00 | 1.00 | <u>12.21</u> | <u>1.26</u> | <u>13.28</u> | <u>1.15</u> | <u>14.27</u> | <u>1.78</u> |
| | 2500 | 8.32 | 0.71 | 8.97 | 0.80 | 10.29 | 1.02 | 11.59 | 1.30 | <u>12.78</u> | <u>1.59</u> | <u>13.84</u> | <u>1.89</u> | <u>14.80</u> | <u>2.19</u> |
| | 2830 | 9.25 | 1.00 | 9.83 | 1.10 | 10.99 | 1.33 | <u>12.16</u> | <u>1.62</u> | <u>13.29</u> | <u>1.93</u> | <u>14.34</u> | <u>2.27</u> | <u>15.30</u> | <u>2.60</u> |
| | 3210 | 10.33 | 1.42 | 10.85 | 1.54 | 11.87 | 1.78 | <u>12.90</u> | <u>2.07</u> | <u>13.93</u> | <u>2.40</u> | <u>14.93</u> | <u>2.76</u> | <u>15.87</u> | <u>3.14</u> |
| FAS240 | 3540 | 11.29 | 1.88 | 11.77 | 2.01 | <u>12.69</u> | <u>2.27</u> | <u>13.62</u> | <u>2.56</u> | <u>14.56</u> | <u>2.90</u> | <u>15.49</u> | <u>3.27</u> | <u>16.40</u> | <u>3.67</u> |
| | 2830 | 9.03 | 0.96 | 9.62 | 1.06 | 10.77 | 1.28 | 11.93 | 1.56 | 13.08 | 1.87 | 14.15 | 2.20 | <u>15.12</u> | <u>2.54</u> |
| | 3300 | 10.33 | 1.48 | 10.87 | 1.60 | 11.85 | 1.85 | 12.85 | 2.13 | 13.85 | 2.45 | <u>14.83</u> | <u>2.80</u> | <u>15.78</u> | <u>3.18</u> |
| | 3780 | 11.67 | 2.18 | 12.13 | 2.31 | 13.02 | 2.58 | 13.88 | 2.87 | <u>14.75</u> | <u>3.20</u> | <u>15.63</u> | <u>3.56</u> | <u>16.50</u> | <u>3.97</u> |
| | 4250 | 13.02 | 3.06 | 13.43 | 3.21 | 14.23 | 3.51 | <u>15.00</u> | <u>3.83</u> | <u>15.77</u> | <u>4.16</u> | <u>16.55</u> | <u>4.53</u> | <u>17.32</u> | <u>4.94</u> |
| FAS300 | 4720 | 14.37 | 4.15 | <u>14.75</u> | <u>4.32</u> | <u>15.48</u> | <u>4.65</u> | <u>16.18</u> | <u>5.00</u> | <u>16.87</u> | <u>5.35</u> | <u>17.57</u> | <u>5.73</u> | <u>18.27</u> | <u>6.14</u> |
| | 3540 | 7.93 | 1.04 | 8.50 | 1.18 | 9.65 | 1.48 | 10.73 | 1.79 | 11.68 | 2.10 | 12.53 | 2.45 | 13.40 | 2.95 |
| | 4130 | 9.08 | 1.60 | 9.57 | 1.75 | 10.55 | 2.10 | 11.52 | 2.45 | 12.45 | 2.81 | 13.28 | 3.17 | <u>14.03</u> | <u>3.55</u> |
| | 4720 | 10.25 | 2.33 | 10.68 | 2.51 | 11.53 | 2.89 | 12.38 | 3.29 | 13.23 | 3.70 | <u>14.05</u> | <u>4.11</u> | <u>14.80</u> | <u>4.51</u> |
| | 5310 | 11.42 | 3.26 | 11.82 | 3.46 | 12.57 | 3.88 | 13.33 | 4.32 | <u>14.08</u> | <u>4.77</u> | <u>14.85</u> | <u>5.23</u> | <u>15.58</u> | <u>5.70</u> |
| FAS336 | 5900 | 12.60 | 4.41 | 12.97 | 4.64 | 13.65 | 5.09 | <u>14.33</u> | <u>5.57</u> | <u>15.02</u> | <u>6.07</u> | <u>15.70</u> | <u>6.58</u> | <u>16.38</u> | <u>7.10</u> |
| | 4250 | 8.98 | 1.63 | 9.48 | 1.78 | 10.43 | 2.13 | 11.38 | 2.49 | 12.32 | 2.86 | 13.18 | 3.22 | <u>13.95</u> | <u>3.59</u> |
| | 4960 | 10.33 | 2.51 | 10.77 | 2.70 | 11.58 | 3.08 | 12.40 | 3.49 | 13.22 | 3.91 | <u>14.03</u> | <u>4.35</u> | <u>14.80</u> | <u>4.78</u> |
| | 5660 | 11.68 | 3.68 | 12.07 | 3.89 | 12.82 | 4.33 | 13.52 | 4.77 | <u>14.23</u> | <u>5.25</u> | <u>14.95</u> | <u>5.73</u> | <u>15.67</u> | <u>6.23</u> |
| | 6370 | 13.05 | 5.18 | 13.40 | 5.42 | <u>14.07</u> | <u>5.90</u> | <u>14.72</u> | <u>6.39</u> | <u>15.33</u> | <u>6.91</u> | <u>15.97</u> | <u>7.43</u> | <u>16.60</u> | <u>7.99</u> |
| 7080 | <u>14.42</u> | <u>7.05</u> | <u>14.73</u> | <u>7.32</u> | <u>15.35</u> | <u>7.84</u> | <u>15.93</u> | <u>8.38</u> | <u>16.52</u> | <u>8.93</u> | <u>17.08</u> | <u>9.51</u> | <u>17.65</u> | <u>10.10</u> | |

NOTE(S):

- a. Maximum allowable fan speed is 20 r/s for all sizes.
- b. Fan performance is based on deductions for wet coil, clean 51 mm filters, and unit casing. See table below for factory-supplied filter pressure drop.
- c. **Bold** indicates field-supplied drive is required.
Plain type indicates standard motor and standard drive.
Underlining indicates a different motor and drive combination other than the standard motor and standard drive combination is required.

Factory-Supplied Pressure Drop — SI

LEGEND

ESP — External Static Pressure

| UNIT | AIRFLOW (L/s) | PRESSURE DROP (Pa) |
|--------|---------------|--------------------|
| FAS150 | 1750 | 15 |
| | 2350 | 24 |
| | 3950 | 33 |
| FAS180 | 2100 | 20 |
| | 2800 | 30 |
| | 3500 | 42 |
| FAS240 | 2900 | 32 |
| | 3800 | 47 |
| | 4700 | 64 |
| FAS300 | 3500 | 36 |
| | 4700 | 55 |
| | 5900 | 76 |
| FAS336 | 4250 | 47 |
| | 5650 | 71 |
| | 7050 | 98 |

Fan data (cont)

Standard Fan, FAS150-336, 350-600 Pa ESP, 60 Hz — SI^{a,b}

| UNIT | AIRFLOW (L/s) | EXTERNAL STATIC PRESSURE (Pa) ^c | | | | | | | | | | | |
|--------|---------------|--|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| | | 350 | | 400 | | 450 | | 500 | | 550 | | 600 | |
| | | r/s | kW | r/s | kW | r/s | kW | r/s | kW | r/s | kW | r/s | kW |
| FAS150 | 1770 | <u>15.21</u> | 1.78 | <u>16.19</u> | <u>2.06</u> | <u>17.13</u> | <u>2.34</u> | <u>18.04</u> | <u>2.64</u> | 18.91 | 2.94 | 19.75 | 3.25 |
| | 2030 | <u>15.46</u> | <u>2.05</u> | <u>16.37</u> | <u>2.33</u> | <u>17.26</u> | <u>2.63</u> | <u>18.12</u> | <u>2.94</u> | 18.96 | 3.26 | 19.78 | 3.59 |
| | 2360 | <u>15.94</u> | 2.46 | <u>16.78</u> | <u>2.77</u> | <u>17.60</u> | 3.08 | 18.40 | 3.40 | 19.18 | 3.73 | 19.94 | 4.07 |
| | 2690 | <u>16.51</u> | 2.95 | <u>17.32</u> | <u>3.28</u> | <u>18.09</u> | 3.62 | 18.84 | 3.96 | 19.57 | 4.31 | — | — |
| | 2950 | <u>16.99</u> | <u>3.39</u> | <u>17.78</u> | <u>3.74</u> | 18.54 | 4.10 | 19.26 | 4.47 | 19.96 | 4.84 | — | — |
| FAS180 | 2120 | <u>15.21</u> | <u>2.05</u> | <u>16.11</u> | <u>2.33</u> | <u>16.98</u> | <u>2.62</u> | <u>17.83</u> | <u>2.93</u> | <u>18.66</u> | <u>3.24</u> | <u>19.47</u> | <u>3.57</u> |
| | 2500 | <u>15.93</u> | <u>2.49</u> | <u>16.54</u> | <u>2.80</u> | <u>17.35</u> | <u>3.12</u> | <u>18.14</u> | <u>3.44</u> | <u>18.90</u> | <u>3.77</u> | 19.64 | 4.11 |
| | 2830 | <u>16.18</u> | <u>2.94</u> | <u>17.01</u> | <u>3.28</u> | <u>17.79</u> | <u>3.63</u> | <u>18.54</u> | <u>3.97</u> | <u>19.27</u> | <u>4.33</u> | 19.97 | 4.69 |
| | 3210 | <u>16.75</u> | <u>3.52</u> | <u>17.57</u> | <u>3.90</u> | <u>18.34</u> | <u>4.29</u> | <u>19.08</u> | <u>4.67</u> | 19.78 | 5.06 | — | — |
| | 3540 | <u>17.26</u> | 4.09 | <u>18.07</u> | 4.50 | <u>18.84</u> | 4.93 | 19.57 | 5.35 | — | — | — | — |
| FAS240 | 2830 | <u>16.02</u> | <u>2.88</u> | <u>16.85</u> | <u>3.21</u> | <u>17.63</u> | <u>3.56</u> | <u>18.40</u> | <u>3.91</u> | <u>19.12</u> | <u>4.26</u> | — | — |
| | 3300 | <u>16.67</u> | <u>3.57</u> | <u>17.50</u> | <u>3.97</u> | <u>18.28</u> | <u>4.36</u> | <u>19.03</u> | <u>4.76</u> | <u>19.73</u> | <u>5.15</u> | — | — |
| | 3780 | <u>17.35</u> | 4.38 | <u>18.17</u> | <u>4.82</u> | <u>18.95</u> | <u>5.27</u> | <u>19.68</u> | <u>5.72</u> | — | — | — | — |
| | 4250 | <u>18.10</u> | <u>5.38</u> | <u>18.88</u> | <u>5.83</u> | <u>19.63</u> | <u>6.32</u> | — | — | — | — | — | — |
| | 4720 | <u>18.97</u> | 6.58 | <u>19.67</u> | <u>7.05</u> | — | — | — | — | — | — | — | — |
| FAS300 | 3540 | <u>14.57</u> | 3.97 | <u>14.95</u> | 4.41 | <u>15.67</u> | 5.07 | <u>16.50</u> | 5.59 | — | — | — | — |
| | 4130 | <u>14.77</u> | <u>4.00</u> | <u>15.50</u> | <u>4.71</u> | <u>16.37</u> | <u>5.46</u> | <u>17.00</u> | <u>6.04</u> | — | — | — | — |
| | 4720 | <u>15.50</u> | <u>4.92</u> | <u>16.15</u> | <u>5.22</u> | <u>16.78</u> | <u>5.88</u> | <u>17.42</u> | <u>6.50</u> | — | — | — | — |
| | 5310 | <u>16.27</u> | <u>6.15</u> | <u>16.90</u> | <u>6.61</u> | <u>17.52</u> | <u>7.08</u> | 18.10 | 7.58 | — | — | — | — |
| | 5900 | <u>17.05</u> | <u>7.61</u> | <u>17.68</u> | <u>8.11</u> | 18.28 | 8.62 | — | — | — | — | — | — |
| FAS336 | 4250 | <u>14.68</u> | 4.00 | <u>15.38</u> | 4.50 | <u>16.12</u> | 5.14 | <u>17.00</u> | 6.15 | — | — | — | — |
| | 4960 | <u>15.50</u> | 5.20 | <u>16.17</u> | 5.63 | <u>16.80</u> | <u>6.09</u> | <u>17.42</u> | <u>6.61</u> | — | — | — | — |
| | 5660 | <u>16.35</u> | <u>6.73</u> | <u>17.02</u> | <u>7.21</u> | — | — | — | — | — | — | — | — |
| | 6370 | <u>17.25</u> | <u>8.54</u> | — | — | — | — | — | — | — | — | — | — |
| | 7080 | — | — | — | — | — | — | — | — | — | — | — | — |

NOTE(S):

- a. Maximum allowable fan speed is 20 r/s for all sizes.
- b. Fan performance is based on deductions for wet coil, clean 51 mm filters, and unit casing. See table below for factory-supplied filter pressure drop.
- c. **Bold** indicates field-supplied drive is required.
Plain type indicates standard motor and standard drive.
Underlining indicates a different motor and drive combination other than the standard motor and standard drive combination is required.

Factory-Supplied Pressure Drop — SI

LEGEND

ESP — External Static Pressure

| UNIT | AIRFLOW (L/s) | PRESSURE DROP (Pa) |
|--------|---------------|--------------------|
| FAS150 | 1750 | 15 |
| | 2350 | 24 |
| | 3950 | 33 |
| FAS180 | 2100 | 20 |
| | 2800 | 30 |
| | 3500 | 42 |
| FAS240 | 2900 | 32 |
| | 3800 | 47 |
| | 4700 | 64 |
| FAS300 | 3500 | 36 |
| | 4700 | 55 |
| | 5900 | 76 |
| FAS336 | 4250 | 47 |
| | 5650 | 71 |
| | 7050 | 98 |

Electrical data

FAX072-120, FAS150-336, Electrical Data, Two-Speed Motors

| UNIT ^{a,b} | NOMINAL V-PH-Hz ^c | IFM TYPE | UNIT VOLTAGE LIMITS | | FAN MOTOR | | | POWER SUPPLY ^d | |
|---------------------|---------------------------------|-------------|---------------------|------|-----------|------|------------------|----------------------------------|--|
| | | | Min. | Max. | Hp | kW | FLA ^e | Minimum Circuit Amps (MCA) | Maximum Overcurrent Protection (MOCP) |
| FAX072 | 208/230-3-60 | MED | 187 | 253 | 2.4 | 1.76 | 6.4/5.8 | 8/8 | 15/15 |
| | | HIGH | 187 | 253 | 3.0 | 2.24 | 7.5/6.7 | 10/9 | 15/15 |
| | 460-3-60 | MED | 414 | 506 | 2.4 | 1.76 | 3.0 | 4 | 15 |
| | | HIGH | 414 | 506 | 3.0 | 2.24 | 3.5 | 5 | 15 |
| | 575-3-60 | MED | 518 | 632 | 2.4 | 1.76 | 2.5 | 4 | 15 |
| | | HIGH | 518 | 632 | 3.0 | 2.24 | 3.0 | 4 | 15 |
| FAX091 | 208/230-3-60 | MED | 187 | 253 | 2.4 | 1.76 | 6.4/5.8 | 8/8 | 15/15 |
| | | HIGH | 187 | 253 | 3.0 | 2.24 | 7.5/6.7 | 10/9 | 15/15 |
| | 460-3-60 | MED | 414 | 506 | 2.4 | 1.76 | 3.0 | 4 | 15 |
| | | HIGH | 414 | 506 | 3.0 | 2.24 | 3.5 | 5 | 15 |
| | 575-3-60 | MED | 518 | 632 | 2.4 | 1.76 | 2.5 | 4 | 15 |
| | | HIGH | 518 | 632 | 3.0 | 2.24 | 3.0 | 4 | 15 |
| FAX120 | 208/230-3-60 | MED | 187 | 253 | 2.4 | 1.76 | 6.4/5.8 | 8/8 | 15/15 |
| | | HIGH | 187 | 253 | 3.0 | 2.24 | 7.5/6.7 | 10/9 | 15/15 |
| | 460-3-60 | MED | 414 | 506 | 2.4 | 1.76 | 3.0 | 4 | 15 |
| | | HIGH | 414 | 506 | 3.0 | 2.24 | 3.5 | 5 | 15 |
| | 575-3-60 | MED | 518 | 632 | 2.4 | 1.76 | 2.5 | 4 | 15 |
| | | HIGH | 518 | 632 | 3.0 | 2.24 | 3.0 | 4 | 15 |
| FAS150 | 208/230-3-60 | STD | 187 | 253 | 2.9 | 2.16 | 8.6 | 11 | 15 |
| | | HIGH | 187 | 253 | 3.7 | 2.76 | 10.8 | 14 | 20 |
| | 460-3-60 | STD | 414 | 506 | 2.9 | 2.16 | 3.8 | 5 | 15 |
| | | HIGH | 414 | 506 | 3.7 | 2.76 | 4.9 | 7 | 15 |
| | 575-3-60 | STD | 518 | 632 | 3.7 | 2.76 | 4.5 | 6 | 15 |
| | | HIGH | 518 | 632 | 5.0 | 3.73 | 8.0 | 10 | 15 |
| FAS180 | 208/230-3-60 | STD | 187 | 253 | 3.7 | 2.76 | 10.8 | 14 | 20 |
| | | HIGH | 187 | 253 | 5.0 | 3.73 | 18.0 | 23 | 40 |
| | 460-3-60 | STD | 414 | 506 | 3.7 | 2.76 | 4.9 | 7 | 15 |
| | | HIGH | 414 | 506 | 5.0 | 3.73 | 9.1 | 12 | 20 |
| | 575-3-60 | STD | 518 | 632 | 3.7 | 2.76 | 4.5 | 6 | 15 |
| | | HIGH | 518 | 632 | 5.0 | 3.73 | 8.0 | 10 | 15 |
| FAS240 | 208/230-3-60 | STD | 187 | 253 | 5.0 | 3.73 | 18.0 | 23 | 40 |
| | | HIGH | 187 | 253 | 7.5 | 5.60 | 23.5 | 30 | 50 |
| | 460-3-60 | STD | 414 | 506 | 5.0 | 3.73 | 9.1 | 12 | 20 |
| | | HIGH | 414 | 506 | 7.5 | 5.60 | 15.0 | 19 | 30 |
| | 575-3-60 | STD | 518 | 632 | 5.0 | 3.73 | 8.0 | 10 | 15 |
| | | HIGH | 518 | 632 | 7.5 | 5.60 | 10.0 | 13 | 20 |

Electrical data (cont)

FAX072-120, FAS150-336, Electrical Data, Two-Speed Motors (cont)

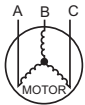
| UNIT ^{a,b} | NOMINAL V-PH-Hz ^c | IFM TYPE | UNIT VOLTAGE LIMITS | | FAN MOTOR | | | POWER SUPPLY ^d | |
|---------------------|------------------------------|----------|---------------------|------|-----------|------|------------------|----------------------------|---------------------------------------|
| | | | Min. | Max. | Hp | kW | FLA ^e | Minimum Circuit Amps (MCA) | Maximum Overcurrent Protection (MOCP) |
| FAS300 | 208/230-3-60 | STD | 187 | 253 | 7.5 | 5.60 | 23.5 | 30 | 50 |
| | | HIGH | 187 | 253 | 10.0 | 7.46 | 32.0 | 40 | 70 |
| | 460-3-60 | STD | 414 | 506 | 7.5 | 5.60 | 15.0 | 19 | 30 |
| | | HIGH | 414 | 506 | 10.0 | 7.46 | 16.0 | 20 | 35 |
| | 575-3-60 | STD | 518 | 632 | 7.5 | 5.60 | 10.0 | 13 | 20 |
| | | HIGH | 518 | 632 | 10.0 | 7.46 | 13.0 | 17 | 25 |
| FAS336 | 208/230-3-60 | STD | 187 | 253 | 10.0 | 7.46 | 32.0 | 40 | 70 |
| | | HIGH | 187 | 253 | 10.0 | 7.46 | 32.0 | 40 | 70 |
| | 460-3-60 | STD | 414 | 506 | 10.0 | 7.46 | 16.0 | 20 | 35 |
| | | HIGH | 414 | 506 | 10.0 | 7.46 | 16.0 | 20 | 35 |
| | 575-3-60 | STD | 518 | 632 | 10.0 | 7.46 | 13.0 | 17 | 25 |
| | | HIGH | 518 | 632 | 10.0 | 7.46 | 13.0 | 17 | 25 |

NOTE(S):

- Unbalanced 3-Phase Supply Voltage: Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the formula in the example below to determine the percentage of voltage imbalance.
- Installation with Accessory Electric Heaters: Size the Field Power Wiring between the heater TB1 and the FAS indoor fan motor per NEC Article 430-28 (1) or (2) (depends on length of conduit between heater enclosure and FAX/FAS power entry location). Install wires in field-installed conduit.
- Motors are designed for satisfactory operation within 10% of normal voltage shown. Voltages should not exceed the limits shown in the Voltage Limits column.
- Minimum circuit amps (MCA) and MOCP values are calculated in accordance with The NEC, Article 440.
- Motor FLA values are established in accordance with Underwriters' Laboratories (UL), Standard 1995.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

Example: Supply voltage is 230-3-60



AB = 224 v
BC = 231 v
AC = 226 v

$$\text{Average Voltage} = \frac{(224 + 231 + 226)}{3} = \frac{681}{3} = 227$$

Determine maximum deviation from average voltage.

(AB) 227-224 = 3 v

(BC) 231-227 = 4 v

(AC) 227-226 = 1 v

Maximum deviation is 4 v.

Determine percent of voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{4}{227} = 1.78\%$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

LEGEND

- FLA** — Full Load Amps
- MCA** — Minimum Circuit Amps
- MOCP** — Maximum Overcurrent Protection

Electric data (cont)

Legend and Notes for Electrical Heater Data tables, pages 42-49.

LEGEND

- FLA** — Full Load Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection (Amps)

NOTES:

1. Electrical resistance heaters are rated at 240v, 480v, 575v. To determine heater capacity (kW) at unit nameplate multiply the 240v, 480v, or 575v capacity (kW) by the factor shown in the table below for the unit voltage.
2. The following equation converts kW of heat energy to Btuh: kW x 3412 = Btuh.
3. Heater contactor coils are 24v and require 8va holding current.
4. Electric heaters are tested and UL approved at maximum total external static pressure of 1.9 in. wg.

| HEATER RATING VOLTAGE | ACTUAL HEATER VOLTAGE AT SITE | | | | | | | | | | |
|-----------------------|-------------------------------|-------|-------|-----|-------|------|-------|-----|-------|-----|-------|
| | 200 | 208 | 230 | 240 | 400 | 440 | 460 | 480 | 550 | 575 | 600 |
| 240 | 0.694 | 0.751 | 0.918 | 1 | — | — | — | — | — | — | — |
| 480 | — | — | — | — | 0.694 | 0.84 | 0.918 | 1 | — | — | — |
| 575 | — | — | — | — | — | — | — | — | 0.915 | 1 | 1.089 |

FAX072-120, 60 Hz Electrical Heater Data

| UNIT | NOMINAL VOLTS | IFM TYPE | UNIT VOLTAGE | | FAN MOTOR (QTY 1) | | | ELECTRIC HEATER(S) | | | | | | POWER SUPPLY ^a | | | |
|---------|---------------|----------|--------------|-----|-------------------|------|---------|--------------------|----------------|----------------|----------------------|-----------|-----------|---------------------------|------------------------|---------------------------------------|-------|
| | | | Range | | hp | kW | FLA | CAELHEAT ****00 | Heater Voltage | Nom. Cap. (kW) | Actual Capacity (kW) | | | FLA (Full Load Amps) | MCA (Minimum Ckt Amps) | MOCP (Maximum Overcurrent Protection) | |
| | | | Min | Max | | | | | | | Stage 1 | Stage 2 | Total | | | | |
| FAX072 | 208/230 | Med | 187 | 253 | 2.4 | 1.76 | 6.4/5.8 | 050A | 208/240 | 5 | 3.8/5.0 | — | 3.8/5.0 | 10.4/12.0 | 21.0/22.3 | 25/25 | |
| | | | 187 | 253 | 2.4 | 1.76 | 6.4/5.8 | 052A | 208/240 | 10 | 7.5/10.0 | — | 7.5/10.0 | 20.8/24.1 | 34.0/37.4 | 35/40 | |
| | | | 187 | 253 | 2.4 | 1.76 | 6.4/5.8 | 055A | 208/240 | 15 | 11.3/15.0 | — | 11.3/15.0 | 31.3/36.1 | 47.1/52.4 | 50/60 | |
| | | | 187 | 253 | 2.4 | 1.76 | 6.4/5.8 | 058A | 208/240 | 25 | 11.3/15.0 | 7.5/10.0 | 18.8/25.0 | 52.1/60.1 | 73.1/82.4 | 80/90 | |
| | | High | 187 | 253 | 3.0 | 2.24 | 7.5/6.7 | 050A | 208/240 | 5 | 3.8/5.0 | — | 3.8/5.0 | 10.4/12.0 | 22.4/23.4 | 25/25 | |
| | | | 187 | 253 | 3.0 | 2.24 | 7.5/6.7 | 052A | 208/240 | 10 | 7.5/10.0 | — | 7.5/10.0 | 20.8/24.1 | 35.4/38.5 | 40/40 | |
| | | | 187 | 253 | 3.0 | 2.24 | 7.5/6.7 | 055A | 208/240 | 15 | 11.3/15.0 | — | 11.3/15.0 | 31.3/36.1 | 48.5/53.5 | 50/60 | |
| | | | 187 | 253 | 3.0 | 2.24 | 7.5/6.7 | 058A | 208/240 | 25 | 11.3/15.0 | 7.5/10.0 | 18.8/25.0 | 52.1/60.1 | 74.5/83.5 | 80/90 | |
| | 460 | Med | 414 | 506 | 2.4 | 1.76 | 3.0 | 051A | 480 | 5 | 5.0 | — | 5.0 | 6.0 | 11.3 | 15 | |
| | | | 414 | 506 | 2.4 | 1.76 | 3.0 | 053A | 480 | 10 | 10.0 | — | 10.0 | 12.0 | 18.8 | 20 | |
| | | | 414 | 506 | 2.4 | 1.76 | 3.0 | 056A | 480 | 15 | 15.0 | — | 15.0 | 18.0 | 26.3 | 30 | |
| | | | 414 | 506 | 2.4 | 1.76 | 3.0 | 059A | 480 | 25 | 15.0 | 10.0 | 25.0 | 30.1 | 41.4 | 50 | |
| | | High | 414 | 506 | 3.0 | 2.24 | 3.5 | 051A | 480 | 5 | 5.0 | — | 5.0 | 6.0 | 11.9 | 15 | |
| | | | 414 | 506 | 3.0 | 2.24 | 3.5 | 053A | 480 | 10 | 10.0 | — | 10.0 | 12.0 | 19.4 | 20 | |
| | | | 414 | 506 | 3.0 | 2.24 | 3.5 | 056A | 480 | 15 | 15.0 | — | 15.0 | 18.0 | 26.9 | 30 | |
| | | | 414 | 506 | 3.0 | 2.24 | 3.5 | 059A | 480 | 25 | 15.0 | 10.0 | 25.0 | 30.1 | 42.0 | 50 | |
| | 575 | Med | 518 | 632 | 2.4 | 1.76 | 2.5 | 064A | 575 | 5 | 5.0 | — | 5.0 | 4.8 | 9.1 | 15 | |
| | | | 518 | 632 | 2.4 | 1.76 | 2.5 | 054A | 575 | 10 | 10.0 | — | 10.0 | 9.6 | 15.1 | 20 | |
| | | | 518 | 632 | 2.4 | 1.76 | 2.5 | 057A | 575 | 15 | 15.0 | — | 15.0 | 14.4 | 21.1 | 25 | |
| | | | 518 | 632 | 2.4 | 1.76 | 2.5 | 060A | 575 | 25 | 15.0 | 10.0 | 25.0 | 24.1 | 33.3 | 35 | |
| | | High | 518 | 632 | 3.0 | 2.24 | 3.0 | 064A | 575 | 5 | 5.0 | — | 5.0 | 4.8 | 9.8 | 15 | |
| | | | 518 | 632 | 3.0 | 2.24 | 3.0 | 054A | 575 | 10 | 10.0 | — | 10.0 | 9.6 | 15.8 | 20 | |
| | | | 518 | 632 | 3.0 | 2.24 | 3.0 | 057A | 575 | 15 | 15.0 | — | 15.0 | 14.4 | 21.8 | 25 | |
| | | | 518 | 632 | 3.0 | 2.24 | 3.0 | 060A | 575 | 25 | 15.0 | 10.0 | 25.0 | 24.1 | 33.9 | 35 | |
| | FAX091 | 208/230 | Med | 187 | 253 | 2.4 | 1.76 | 6.4/5.8 | 050A | 208/240 | 5 | 3.8/5.0 | — | 3.8/5.0 | 10.4/12.0 | 21.0/22.3 | 25/25 |
| | | | | 187 | 253 | 2.4 | 1.76 | 6.4/5.8 | 052A | 208/240 | 10 | 7.5/10.0 | — | 7.5/10.0 | 20.8/24.1 | 34.0/37.4 | 35/40 |
| | | | | 187 | 253 | 2.4 | 1.76 | 6.4/5.8 | 055A | 208/240 | 15 | 11.3/15.0 | — | 11.3/15.0 | 31.3/36.1 | 47.1/52.4 | 50/60 |
| | | | | 187 | 253 | 2.4 | 1.76 | 6.4/5.8 | 058A | 208/240 | 25 | 11.3/15.0 | 7.5/10.0 | 18.8/25.0 | 52.1/60.1 | 73.1/82.4 | 80/90 |
| High | | | 187 | 253 | 2.4 | 1.76 | 6.4/5.8 | 061A | 208/240 | 32 | 12.0/16.0 | 12.0/16.0 | 24.0/32.0 | 66.7/77.0 | 91.4/103.5 | 100/110 | |
| | | | 187 | 253 | 3.0 | 2.24 | 7.5/6.7 | 050A | 208/240 | 5 | 3.8/5.0 | — | 3.8/5.0 | 10.4/12.0 | 22.4/23.4 | 25/25 | |
| | | | 187 | 253 | 3.0 | 2.24 | 7.5/6.7 | 052A | 208/240 | 10 | 7.5/10.0 | — | 7.5/10.0 | 20.8/24.1 | 35.4/38.5 | 40/40 | |
| | | | 187 | 253 | 3.0 | 2.24 | 7.5/6.7 | 055A | 208/240 | 15 | 11.3/15.0 | — | 11.3/15.0 | 31.3/36.1 | 48.5/53.5 | 50/60 | |
| 208/230 | | High | 187 | 253 | 3.0 | 2.24 | 7.5/6.7 | 058A | 208/240 | 25 | 11.3/15.0 | 7.5/10.0 | 18.8/25.0 | 52.1/60.1 | 74.5/83.5 | 80/90 | |
| | | | 187 | 253 | 3.0 | 2.24 | 7.5/6.7 | 061A | 208/240 | 32 | 12.0/16.0 | 12.0/16.0 | 24.0/32.0 | 66.7/77.0 | 92.8/104.6 | 100/110 | |

Specifications subject to change without notice.

FAX072-120, 60 Hz Electrical Heater Data (cont)

Electrical data (cont)

| UNIT | NOMINAL VOLTS | IFM TYPE | UNIT VOLTAGE | | FAN MOTOR (QTY 1) | | | ELECTRIC HEATER(S) | | | | | | POWER SUPPLY ^a | | |
|---------------|---------------|----------|--------------|-----|-------------------|------|---------|--------------------|----------------|----------------|----------------------|-----------|-----------|---------------------------|------------------------|---------------------------------------|
| | | | Range | | hp | kW | FLA | CAELHEAT ****00 | Heater Voltage | Nom. Cap. (kW) | Actual Capacity (kW) | | | FLA (Full Load Amps) | MCA (Minimum Ckt Amps) | MOCP (Maximum Overcurrent Protection) |
| | | | Min | Max | | | | | | | Stage 1 | Stage 2 | Total | | | |
| FAX091 (cont) | 460 | Med | 414 | 506 | 2.4 | 1.76 | 3.0 | 051A | 480 | 5 | 5.0 | — | 5.0 | 6.0 | 11.3 | 15 |
| | | | 414 | 506 | 2.4 | 1.76 | 3.0 | 053A | 480 | 10 | 10.0 | — | 10.0 | 12.0 | 18.8 | 20 |
| | | | 414 | 506 | 2.4 | 1.76 | 3.0 | 056A | 480 | 15 | 15.0 | — | 15.0 | 18.0 | 26.3 | 30 |
| | | | 414 | 506 | 2.4 | 1.76 | 3.0 | 059A | 480 | 25 | 15.0 | 10.0 | 25.0 | 30.1 | 41.4 | 50 |
| | | | 414 | 506 | 2.4 | 1.76 | 3.0 | 062A | 480 | 35 | 20.0 | 15.0 | 35.0 | 42.1 | 56.4 | 60 |
| | | High | 414 | 506 | 3.0 | 2.24 | 3.5 | 051A | 480 | 5 | 5.0 | — | 5.0 | 6.0 | 11.9 | 15 |
| | | | 414 | 506 | 3.0 | 2.24 | 3.5 | 053A | 480 | 10 | 10.0 | — | 10.0 | 12.0 | 19.4 | 20 |
| | | | 414 | 506 | 3.0 | 2.24 | 3.5 | 056A | 480 | 15 | 15.0 | — | 15.0 | 18.0 | 26.9 | 30 |
| | | | 414 | 506 | 3.0 | 2.24 | 3.5 | 059A | 480 | 25 | 15.0 | 10.0 | 25.0 | 30.1 | 42.0 | 50 |
| | 575 | Med | 414 | 506 | 3.0 | 2.24 | 3.5 | 062A | 480 | 35 | 20.0 | 15.0 | 35.0 | 42.1 | 57.0 | 60 |
| | | | 518 | 632 | 2.4 | 1.76 | 2.5 | 064A | 575 | 5 | 5.0 | — | 5.0 | 4.8 | 9.1 | 15 |
| | | | 518 | 632 | 2.4 | 1.76 | 2.5 | 054A | 575 | 10 | 10.0 | — | 10.0 | 9.6 | 15.1 | 20 |
| | | | 518 | 632 | 2.4 | 1.76 | 2.5 | 057A | 575 | 15 | 15.0 | — | 15.0 | 14.4 | 21.1 | 25 |
| | | | 518 | 632 | 2.4 | 1.76 | 2.5 | 060A | 575 | 25 | 15.0 | 10.0 | 25.0 | 24.1 | 33.3 | 35 |
| | | High | 518 | 632 | 2.4 | 1.76 | 2.5 | 063A | 575 | 35 | 20.0 | 15.0 | 35.0 | 33.7 | 45.3 | 50 |
| | | | 518 | 632 | 3.0 | 2.24 | 3.0 | 064A | 575 | 5 | 5.0 | — | 5.0 | 4.8 | 9.8 | 15 |
| | | | 518 | 632 | 3.0 | 2.24 | 3.0 | 054A | 575 | 10 | 10.0 | — | 10.0 | 9.6 | 15.8 | 20 |
| | | | 518 | 632 | 3.0 | 2.24 | 3.0 | 057A | 575 | 15 | 15.0 | — | 15.0 | 14.4 | 21.8 | 25 |
| FAX120 | 208/230 | Med | 518 | 632 | 3.0 | 2.24 | 3.0 | 060A | 575 | 25 | 15.0 | 10.0 | 25.0 | 24.1 | 33.9 | 35 |
| | | | 518 | 632 | 3.0 | 2.24 | 3.0 | 063A | 575 | 35 | 20.0 | 15.0 | 35.0 | 33.7 | 45.9 | 50 |
| | | | 187 | 253 | 2.4 | 1.76 | 6.4/5.8 | 050A | 208/240 | 5 | 3.8/5.0 | — | 3.8/5.0 | 10.4/12.0 | 21.0/22.3 | 25/25 |
| | | | 187 | 253 | 2.4 | 1.76 | 6.4/5.8 | 052A | 208/240 | 10 | 7.5/10.0 | — | 7.5/10.0 | 20.8/24.1 | 34.0/37.4 | 35/40 |
| | | High | 187 | 253 | 2.4 | 1.76 | 6.4/5.8 | 055A | 208/240 | 15 | 11.3/15.0 | — | 11.3/15.0 | 31.3/36.1 | 47.1/52.4 | 50/60 |
| | | | 187 | 253 | 2.4 | 1.76 | 6.4/5.8 | 058A | 208/240 | 25 | 11.3/15.0 | 7.5/10.0 | 18.8/25.0 | 52.1/60.1 | 73.1/82.4 | 80/90 |
| | | | 187 | 253 | 2.4 | 1.76 | 6.4/5.8 | 061A | 208/240 | 32 | 12.0/16.0 | 12.0/16.0 | 24.0/32.0 | 66.7/77.0 | 91.4/103.5 | 100/110 |
| | | | 187 | 253 | 3.0 | 2.24 | 7.5/6.7 | 050A | 208/240 | 5 | 3.8/5.0 | — | 3.8/5.0 | 10.4/12.0 | 22.4/23.4 | 25/25 |
| | 460 | Med | 187 | 253 | 3.0 | 2.24 | 7.5/6.7 | 052A | 208/240 | 10 | 7.5/10.0 | — | 7.5/10.0 | 20.8/24.1 | 35.4/38.5 | 40/40 |
| | | | 187 | 253 | 3.0 | 2.24 | 7.5/6.7 | 055A | 208/240 | 15 | 11.3/15.0 | — | 11.3/15.0 | 31.3/36.1 | 48.5/53.5 | 50/60 |
| | | | 187 | 253 | 3.0 | 2.24 | 7.5/6.7 | 058A | 208/240 | 25 | 11.3/15.0 | 7.5/10.0 | 18.8/25.0 | 52.1/60.1 | 74.5/83.5 | 80/90 |
| | | | 187 | 253 | 3.0 | 2.24 | 7.5/6.7 | 061A | 208/240 | 32 | 12.0/16.0 | 12.0/16.0 | 24.0/32.0 | 66.7/77.0 | 92.8/104.6 | 100/110 |
| 460 | Med | 414 | 506 | 2.4 | 1.76 | 3.0 | 051A | 480 | 5 | 5.0 | — | 5.0 | 6.0 | 11.3 | 15 | |
| | | 414 | 506 | 2.4 | 1.76 | 3.0 | 053A | 480 | 10 | 10.0 | — | 10.0 | 12.0 | 18.8 | 20 | |
| | | 414 | 506 | 2.4 | 1.76 | 3.0 | 056A | 480 | 15 | 15.0 | — | 15.0 | 18.0 | 26.3 | 30 | |
| | | 414 | 506 | 2.4 | 1.76 | 3.0 | 059A | 480 | 25 | 15.0 | 10.0 | 25.0 | 30.1 | 41.4 | 50 | |
| | High | 414 | 506 | 2.4 | 1.76 | 3.0 | 062A | 480 | 35 | 20.0 | 15.0 | 35.0 | 42.1 | 56.4 | 60 | |
| | | 414 | 506 | 3.0 | 2.24 | 3.5 | 051A | 480 | 5 | 5.0 | — | 5.0 | 6.0 | 11.9 | 15 | |
| | | 414 | 506 | 3.0 | 2.24 | 3.5 | 053A | 480 | 10 | 10.0 | — | 10.0 | 12.0 | 19.4 | 20 | |
| | | 414 | 506 | 3.0 | 2.24 | 3.5 | 056A | 480 | 15 | 15.0 | — | 15.0 | 18.0 | 26.9 | 30 | |
| 460 | High | 414 | 506 | 3.0 | 2.24 | 3.5 | 059A | 480 | 25 | 15.0 | 10.0 | 25.0 | 30.1 | 42.0 | 50 | |
| | | 414 | 506 | 3.0 | 2.24 | 3.5 | 062A | 480 | 35 | 20.0 | 15.0 | 35.0 | 42.1 | 57.0 | 60 | |
| | | 414 | 506 | 3.0 | 2.24 | 3.5 | 059A | 480 | 25 | 15.0 | 10.0 | 25.0 | 30.1 | 42.0 | 50 | |
| | | 414 | 506 | 3.0 | 2.24 | 3.5 | 062A | 480 | 35 | 20.0 | 15.0 | 35.0 | 42.1 | 57.0 | 60 | |

FAX072-120, 60 Hz Electrical Heater Data (cont)

| UNIT | NOMINAL VOLTS | IFM TYPE | UNIT VOLTAGE | | FAN MOTOR (QTY 1) | | | ELECTRIC HEATER(S) | | | | | | POWER SUPPLY ^a | | |
|------------------|---------------|----------|--------------|-----|-------------------|------|-----|--------------------|-------------------|----------------------|----------------------|---------|-------|----------------------------|------------------------------|--|
| | | | Range | | hp | kW | FLA | CAELHEAT ****00 | Heater Voltage | Nom. Cap. (kW) | Actual Capacity (kW) | | | FLA (Full Load Amps) | MCA (Minimum Ckt Amps) | MOCP (Maximum Overcurrent Protection) |
| | | | Min | Max | | | | | | | Stage 1 | Stage 2 | Total | | | |
| FAX120 (cont) | 575 | Med | 518 | 632 | 2.4 | 1.76 | 2.5 | 064A | 575 | 5 | 5.0 | — | 5.0 | 4.8 | 9.1 | 15 |
| | | | 518 | 632 | 2.4 | 1.76 | 2.5 | 054A | 575 | 10 | 10.0 | — | 10.0 | 9.6 | 15.1 | 20 |
| | | | 518 | 632 | 2.4 | 1.76 | 2.5 | 057A | 575 | 15 | 15.0 | — | 15.0 | 14.4 | 21.1 | 25 |
| | | | 518 | 632 | 2.4 | 1.76 | 2.5 | 060A | 575 | 25 | 15.0 | 10.0 | 25.0 | 24.1 | 33.3 | 35 |
| | | | 518 | 632 | 2.4 | 1.76 | 2.5 | 063A | 575 | 35 | 20.0 | 15.0 | 35.0 | 33.7 | 45.3 | 50 |
| | | High | 518 | 632 | 3.0 | 2.24 | 3.0 | 064A | 575 | 5 | 5.0 | — | 5.0 | 4.8 | 9.8 | 15 |
| | | | 518 | 632 | 3.0 | 2.24 | 3.0 | 054A | 575 | 10 | 10.0 | — | 10.0 | 9.6 | 15.8 | 20 |
| | | | 518 | 632 | 3.0 | 2.24 | 3.0 | 057A | 575 | 15 | 15.0 | — | 15.0 | 14.4 | 21.8 | 25 |
| | | | 518 | 632 | 3.0 | 2.24 | 3.0 | 060A | 575 | 25 | 15.0 | 10.0 | 25.0 | 24.1 | 33.9 | 35 |
| | | | 518 | 632 | 3.0 | 2.24 | 3.0 | 063A | 575 | 35 | 20.0 | 15.0 | 35.0 | 33.7 | 45.9 | 50 |

NOTE(S):

a. MCA and MOCP Values shown are for single-point connection of electric heat accessory and air handler.

FAS150-336, 60 Hz Electrical Heater Data

| UNIT | NOM. VOLTS | IFM TYPE | UNIT VOLTAGE | | FAN MOTOR (QTY 1) | | | ELECTRIC HEATER(S) | | | | | | POWER SUPPLY ^a | | |
|--------|------------|----------|--------------|-----|-------------------|------|------|--------------------|----------------|----------------|----------------------|---------|---------|---------------------------|------------------------|---------------------------------------|
| | | | Range | | hp | kW | FLA | CAEL HEAT ****00 | Heater Voltage | Nom. Cap. (kW) | Actual Capacity (kW) | | | FLA (Full Load Amps) | MCA (Minimum Ckt Amps) | MOCP (Maximum Overcurrent Protection) |
| | | | Min | Max | | | | | | | Stage 1 | Stage 2 | Total | | | |
| FAS150 | 208/230 | STD | 187 | 253 | 2.9 | 2.16 | 8.6 | 016A | 208/240 | 10 | 7.5/10 | — | 7.5/10 | 20.8/24.1 | 36.8/40.9 | 40/50 |
| | | | 187 | 253 | 2.9 | 2.16 | 8.6 | 019A | 208/240 | 20 | 15/20 | — | 15/20 | 41.7/48.1 | 62.9/70.9 | 70/80 |
| | | | 187 | 253 | 2.9 | 2.16 | 8.6 | 022A | 208/240 | 30 | 15/20 | 7.5/10 | 22.5/30 | 62.5/72.2 | 88.9/101 | 90/110 |
| | | | 187 | 253 | 2.9 | 2.16 | 8.6 | 025A | 208/240 | 50 | 22.6/30 | 15/20 | 37.6/50 | 104.2/120.3 | 141/161.1 | 150/175 |
| | | HIGH | 187 | 253 | 3.7 | 2.76 | 10.8 | 016A | 208/240 | 10 | 7.5/10 | — | 7.5/10 | 20.8/24.1 | 39.5/43.6 | 40/50 |
| | | | 187 | 253 | 3.7 | 2.76 | 10.8 | 019A | 208/240 | 20 | 15/20 | — | 15/20 | 41.7/48.1 | 65.6/73.6 | 70/80 |
| | | | 187 | 253 | 3.7 | 2.76 | 10.8 | 022A | 208/240 | 30 | 15/20 | 7.5/10 | 22.5/30 | 62.5/72.2 | 91.6/103.8 | 100/110 |
| | | | 187 | 253 | 3.7 | 2.76 | 10.8 | 025A | 208/240 | 50 | 22.6/30 | 15/20 | 37.6/50 | 104.2/120.3 | 143.8/163.9 | 150/175 |
| | 460 | STD | 414 | 506 | 2.9 | 2.16 | 3.8 | 017A | 480 | 10 | 10 | — | 10 | 12 | 19.8 | 20 |
| | | | 414 | 506 | 2.9 | 2.16 | 3.8 | 020A | 480 | 20 | 20 | — | 20 | 23.9 | 34.6 | 35 |
| | | | 414 | 506 | 2.9 | 2.16 | 3.8 | 023A | 480 | 30 | 20 | 10 | 30 | 36.1 | 49.9 | 50 |
| | | | 414 | 506 | 2.9 | 2.16 | 3.8 | 026A | 480 | 50 | 30 | 20 | 50 | 60.1 | 79.9 | 80 |
| | | HIGH | 414 | 506 | 3.7 | 2.76 | 4.9 | 017A | 480 | 10 | 10 | — | 10 | 12 | 21.1 | 25 |
| | | | 414 | 506 | 3.7 | 2.76 | 4.9 | 020A | 480 | 20 | 20 | — | 20 | 23.9 | 36 | 40 |
| | | | 414 | 506 | 3.7 | 2.76 | 4.9 | 023A | 480 | 30 | 20 | 10 | 30 | 36.1 | 51.3 | 60 |
| | | | 414 | 506 | 3.7 | 2.76 | 4.9 | 026A | 480 | 50 | 30 | 20 | 50 | 60.1 | 81.3 | 90 |
| | 575 | STD | 518 | 632 | 3.7 | 2.76 | 4.5 | 018A | 575 | 10 | 10 | — | 10 | 10 | 18.1 | 20 |
| | | | 518 | 632 | 3.7 | 2.76 | 4.5 | 021A | 575 | 20 | 20 | — | 20 | 20.1 | 30.8 | 35 |
| | | | 518 | 632 | 3.7 | 2.76 | 4.5 | 024A | 575 | 30 | 20 | 10 | 30 | 30.1 | 43.3 | 50 |
| | | | 518 | 632 | 3.7 | 2.76 | 4.5 | 027A | 575 | 50 | 30 | 20 | 50 | 50.2 | 68.4 | 70 |
| | | HIGH | 518 | 632 | 5.0 | 3.73 | 8.0 | 018A | 575 | 10 | 10 | — | 10 | 10 | 22.5 | 25 |
| | | | 518 | 632 | 5.0 | 3.73 | 8.0 | 021A | 575 | 20 | 20 | — | 20 | 20.1 | 35.1 | 40 |
| | | | 518 | 632 | 5.0 | 3.73 | 8.0 | 024A | 575 | 30 | 20 | 10 | 30 | 30.1 | 47.6 | 50 |
| | | | 518 | 632 | 5.0 | 3.73 | 8.0 | 027A | 575 | 50 | 30 | 20 | 50 | 50.2 | 72.8 | 80 |

FAS150-336, 60 Hz Electrical Heater Data (cont)

| UNIT | NOM. VOLTS | IFM TYPE | UNIT VOLTAGE | | FAN MOTOR (QTY 1) | | | ELECTRIC HEATER(S) | | | | | | POWER SUPPLY ^a | | |
|--------|------------|----------|--------------|-----|-------------------|------|------|--------------------|----------------|----------------|----------------------|---------|---------|---------------------------|------------------------|---------------------------------------|
| | | | Range | | hp | kW | FLA | CAEL HEAT ****00 | Heater Voltage | Nom. Cap. (kW) | Actual Capacity (kW) | | | FLA (Full Load Amps) | MCA (Minimum Ckt Amps) | MOCP (Maximum Overcurrent Protection) |
| | | | Min | Max | | | | | | | Stage 1 | Stage 2 | Total | | | |
| FAS180 | 208/230 | STD | 187 | 253 | 3.7 | 2.76 | 10.8 | 016A | 208/240 | 10 | 7.5/10 | — | 7.5/10 | 20.8/24.1 | 39.5/43.6 | 40/50 |
| | | | 187 | 253 | 3.7 | 2.76 | 10.8 | 019A | 208/240 | 20 | 15/20 | — | 15/20 | 41.7/48.1 | 65.6/73.6 | 70/80 |
| | | | 187 | 253 | 3.7 | 2.76 | 10.8 | 022A | 208/240 | 30 | 15/20 | 7.5/10 | 22.5/30 | 62.5/72.2 | 91.6/103.8 | 100/110 |
| | | | 187 | 253 | 3.7 | 2.76 | 10.8 | 025A | 208/240 | 50 | 22.6/30 | 15/20 | 37.6/50 | 104.2/120.3 | 143.8/163.9 | 150/175 |
| | | HIGH | 187 | 253 | 5.0 | 3.73 | 18.0 | 016A | 208/240 | 10 | 7.5/10 | — | 7.5/10 | 20.8/24.1 | 48.5/52.6 | 50/60 |
| | | | 187 | 253 | 5.0 | 3.73 | 18.0 | 019A | 208/240 | 20 | 15/20 | — | 15/20 | 41.7/48.1 | 74.6/82.6 | 80/90 |
| | | | 187 | 253 | 5.0 | 3.73 | 18.0 | 022A | 208/240 | 30 | 15/20 | 7.5/10 | 22.5/30 | 62.5/72.2 | 100.6/112.8 | 110/125 |
| | | | 187 | 253 | 5.0 | 3.73 | 18.0 | 025A | 208/240 | 50 | 22.6/30 | 15/20 | 37.6/50 | 104.2/120.3 | 152.8/172.9 | 175/175 |
| | 460 | STD | 414 | 506 | 3.7 | 2.76 | 4.9 | 017A | 480 | 10 | 10 | — | 10 | 12 | 21.1 | 25 |
| | | | 414 | 506 | 3.7 | 2.76 | 4.9 | 020A | 480 | 20 | 20 | — | 20 | 23.9 | 36 | 40 |
| | | | 414 | 506 | 3.7 | 2.76 | 4.9 | 023A | 480 | 30 | 20 | 10 | 30 | 36.1 | 51.3 | 60 |
| | | | 414 | 506 | 3.7 | 2.76 | 4.9 | 026A | 480 | 50 | 30 | 20 | 50 | 60.1 | 81.3 | 90 |
| | | HIGH | 414 | 506 | 5.0 | 3.73 | 9.1 | 017A | 480 | 10 | 10 | — | 10 | 12 | 26.4 | 30 |
| | | | 414 | 506 | 5.0 | 3.73 | 9.1 | 020A | 480 | 20 | 20 | — | 20 | 23.9 | 41.3 | 50 |
| | | | 414 | 506 | 5.0 | 3.73 | 9.1 | 023A | 480 | 30 | 20 | 10 | 30 | 36.1 | 56.5 | 60 |
| | | | 414 | 506 | 5.0 | 3.73 | 9.1 | 026A | 480 | 50 | 30 | 20 | 50 | 60.1 | 86.5 | 90 |
| | 575 | STD | 518 | 632 | 3.7 | 2.76 | 4.5 | 018A | 575 | 10 | 10 | — | 10 | 10 | 18.1 | 20 |
| | | | 518 | 632 | 3.7 | 2.76 | 4.5 | 021A | 575 | 20 | 20 | — | 20 | 20.1 | 30.8 | 35 |
| | | | 518 | 632 | 3.7 | 2.76 | 4.5 | 024A | 575 | 30 | 20 | 10 | 30 | 30.1 | 43.3 | 50 |
| | | | 518 | 632 | 3.7 | 2.76 | 4.5 | 027A | 575 | 50 | 30 | 20 | 50 | 50.2 | 68.4 | 70 |
| | | HIGH | 518 | 632 | 5.0 | 3.73 | 8.0 | 018A | 575 | 10 | 10 | — | 10 | 10 | 22.5 | 25 |
| | | | 518 | 632 | 5.0 | 3.73 | 8.0 | 021A | 575 | 20 | 20 | — | 20 | 20.1 | 35.1 | 40 |
| | | | 518 | 632 | 5.0 | 3.73 | 8.0 | 024A | 575 | 30 | 20 | 10 | 30 | 30.1 | 47.6 | 50 |
| | | | 518 | 632 | 5.0 | 3.73 | 8.0 | 027A | 575 | 50 | 30 | 20 | 50 | 50.2 | 72.8 | 80 |

FAS150-336, 60 Hz Electrical Heater Data (cont)

Electrical data (cont)

| UNIT | NOM. VOLTS | IFM TYPE | UNIT VOLTAGE | | FAN MOTOR (QTY 1) | | | ELECTRIC HEATER(S) | | | | | | POWER SUPPLY ^a | | |
|--------|------------|----------|--------------|-----|-------------------|------|------|--------------------|----------------|----------------|----------------------|---------|---------|---------------------------|------------------------|---------------------------------------|
| | | | Range | | hp | kW | FLA | CAEL HEAT ****00 | Heater Voltage | Nom. Cap. (kW) | Actual Capacity (kW) | | | FLA (Full Load Amps) | MCA (Minimum Ckt Amps) | MOCP (Maximum Overcurrent Protection) |
| | | | Min | Max | | | | | | | Stage 1 | Stage 2 | Total | | | |
| FAS240 | 208/230 | STD | 187 | 253 | 5.0 | 3.73 | 18.0 | 016A | 208/240 | 10 | 7.5/10 | — | 7.5/10 | 20.8/24.1 | 48.5/52.6 | 50/60 |
| | | | 187 | 253 | 5.0 | 3.73 | 18.0 | 019A | 208/240 | 20 | 15/20 | — | 15/20 | 41.7/48.1 | 74.6/82.6 | 80/90 |
| | | | 187 | 253 | 5.0 | 3.73 | 18.0 | 022A | 208/240 | 30 | 15/20 | 7.5/10 | 22.5/30 | 62.5/72.2 | 100.6/112.8 | 110/125 |
| | | | 187 | 253 | 5.0 | 3.73 | 18.0 | 025A | 208/240 | 50 | 22.6/30 | 15/20 | 37.6/50 | 104.2/120.3 | 152.8/172.9 | 175/175 |
| | | HIGH | 187 | 253 | 7.5 | 5.60 | 23.5 | 016A | 208/240 | 10 | 7.5/10 | — | 7.5/10 | 20.8/24.1 | 55.4/59.5 | 60/60 |
| | | | 187 | 253 | 7.5 | 5.60 | 23.5 | 019A | 208/240 | 20 | 15/20 | — | 15/20 | 41.7/48.1 | 81.5/89.5 | 90/90 |
| | | | 187 | 253 | 7.5 | 5.60 | 23.5 | 022A | 208/240 | 30 | 15/20 | 7.5/10 | 22.5/30 | 62.5/72.2 | 107.5/119.6 | 110/125 |
| | | | 187 | 253 | 7.5 | 5.60 | 23.5 | 025A | 208/240 | 50 | 22.6/30 | 15/20 | 37.6/50 | 104.2/120.3 | 159.6/179.8 | 175/200 |
| | 460 | STD | 414 | 506 | 5.0 | 3.73 | 9.1 | 017A | 480 | 10 | 10 | — | 10 | 12 | 26.4 | 30 |
| | | | 414 | 506 | 5.0 | 3.73 | 9.1 | 020A | 480 | 20 | 20 | — | 20 | 23.9 | 41.3 | 50 |
| | | | 414 | 506 | 5.0 | 3.73 | 9.1 | 023A | 480 | 30 | 20 | 10 | 30 | 36.1 | 56.5 | 60 |
| | | | 414 | 506 | 5.0 | 3.73 | 9.1 | 026A | 480 | 50 | 30 | 20 | 50 | 60.1 | 86.5 | 90 |
| | | HIGH | 414 | 506 | 7.5 | 5.60 | 15.0 | 017A | 480 | 10 | 10 | — | 10 | 12 | 33.8 | 35 |
| | | | 414 | 506 | 7.5 | 5.60 | 15.0 | 020A | 480 | 20 | 20 | — | 20 | 23.9 | 48.6 | 50 |
| | | | 414 | 506 | 7.5 | 5.60 | 15.0 | 023A | 480 | 30 | 20 | 10 | 30 | 36.1 | 63.9 | 70 |
| | | | 414 | 506 | 7.5 | 5.60 | 15.0 | 026A | 480 | 50 | 30 | 20 | 50 | 60.1 | 93.9 | 100 |
| | 575 | STD | 518 | 632 | 5.0 | 3.73 | 8.0 | 018A | 575 | 10 | 10 | — | 10 | 10 | 22.5 | 25 |
| | | | 518 | 632 | 5.0 | 3.73 | 8.0 | 021A | 575 | 20 | 20 | — | 20 | 20.1 | 35.1 | 40 |
| | | | 518 | 632 | 5.0 | 3.73 | 8.0 | 024A | 575 | 30 | 20 | 10 | 30 | 30.1 | 47.6 | 50 |
| | | | 518 | 632 | 5.0 | 3.73 | 8.0 | 027A | 575 | 50 | 30 | 20 | 50 | 50.2 | 72.8 | 80 |
| | | HIGH | 518 | 632 | 7.5 | 5.60 | 10.0 | 018A | 575 | 10 | 10 | — | 10 | 10 | 25 | 25 |
| | | | 518 | 632 | 7.5 | 5.60 | 10.0 | 021A | 575 | 20 | 20 | — | 20 | 20.1 | 37.6 | 40 |
| | | | 518 | 632 | 7.5 | 5.60 | 10.0 | 024A | 575 | 30 | 20 | 10 | 30 | 30.1 | 50.1 | 60 |
| | | | 518 | 632 | 7.5 | 5.60 | 10.0 | 027A | 575 | 50 | 30 | 20 | 50 | 50.2 | 75.3 | 80 |

FAS150-336, 60 Hz Electrical Heater Data (cont)

| UNIT | NOM. VOLTS | IFM TYPE | UNIT VOLTAGE | | FAN MOTOR (QTY 1) | | | ELECTRIC HEATER(S) | | | | | | POWER SUPPLY ^a | | |
|--------|------------|----------|--------------|-----|-------------------|------|------|--------------------|----------------|----------------|----------------------|---------|---------|---------------------------|------------------------|---------------------------------------|
| | | | Range | | hp | kW | FLA | CAEL HEAT ****00 | Heater Voltage | Nom. Cap. (kW) | Actual Capacity (kW) | | | FLA (Full Load Amps) | MCA (Minimum Ckt Amps) | MOCP (Maximum Overcurrent Protection) |
| | | | Min | Max | | | | | | | Stage 1 | Stage 2 | Total | | | |
| FAS300 | 208/230 | STD | 187 | 253 | 7.5 | 5.60 | 23.5 | 028A | 208/240 | 20 | 15/20 | — | 15/20 | 41.7/48.1 | 81.5/89.5 | 90/90 |
| | | | 187 | 253 | 7.5 | 5.60 | 23.5 | 031A | 208/240 | 40 | 15/20 | 15/20 | 30/40 | 83.4/96.2 | 133.6/149.6 | 150/150 |
| | | | 187 | 253 | 7.5 | 5.60 | 23.5 | 034A | 208/240 | 50 | 22.6/30 | 15/20 | 37.6/50 | 104.3/120.3 | 159.8/179.8 | 175/200 |
| | | | 187 | 253 | 7.5 | 5.60 | 23.5 | 037A | 208/240 | 70 | 30/40 | 22.6/30 | 52.6/70 | 145.9/168.4 | 211.8/239.9 | 225/250 |
| | | HIGH | 187 | 253 | 10.0 | 7.46 | 32.0 | 028A | 208/240 | 20 | 15/20 | — | 15/20 | 41.7/48.1 | 92.1/100.1 | 100/110 |
| | | | 187 | 253 | 10.0 | 7.46 | 32.0 | 031A | 208/240 | 40 | 15/20 | 15/20 | 30/40 | 83.4/96.2 | 144.3/160.3 | 150/175 |
| | | | 187 | 253 | 10.0 | 7.46 | 32.0 | 034A | 208/240 | 50 | 22.6/30 | 15/20 | 37.6/50 | 104.3/120.3 | 170.4/190.4 | 175/200 |
| | | | 187 | 253 | 10.0 | 7.46 | 32.0 | 037A | 208/240 | 70 | 30/40 | 22.6/30 | 52.6/70 | 145.9/168.4 | 222.4/250.5 | 225/275 |
| | 460 | STD | 414 | 506 | 7.5 | 5.60 | 15.0 | 029A | 480 | 20 | 20 | — | 20 | 24.1 | 48.9 | 50 |
| | | | 414 | 506 | 7.5 | 5.60 | 15.0 | 032A | 480 | 40 | 20 | 20 | 40 | 48.1 | 78.9 | 80 |
| | | | 414 | 506 | 7.5 | 5.60 | 15.0 | 035A | 480 | 50 | 30 | 20 | 50 | 60.1 | 93.9 | 100 |
| | | | 414 | 506 | 7.5 | 5.60 | 15.0 | 038A | 480 | 70 | 40 | 30 | 70 | 84.2 | 124 | 125 |
| | | HIGH | 414 | 506 | 10.0 | 7.46 | 16.0 | 029A | 480 | 20 | 20 | — | 20 | 24.1 | 50.1 | 60 |
| | | | 414 | 506 | 10.0 | 7.46 | 16.0 | 032A | 480 | 40 | 20 | 20 | 40 | 48.1 | 80.1 | 90 |
| | | | 414 | 506 | 10.0 | 7.46 | 16.0 | 035A | 480 | 50 | 30 | 20 | 50 | 60.1 | 95.1 | 100 |
| | | | 414 | 506 | 10.0 | 7.46 | 16.0 | 038A | 480 | 70 | 40 | 30 | 70 | 84.2 | 125.3 | 150 |
| | 575 | STD | 518 | 632 | 7.5 | 5.60 | 10.0 | 030A | 575 | 20 | 20 | — | 20 | 20.1 | 37.6 | 40 |
| | | | 518 | 632 | 7.5 | 5.60 | 10.0 | 033A | 575 | 40 | 20 | 20 | 40 | 40.2 | 62.8 | 70 |
| | | | 518 | 632 | 7.5 | 5.60 | 10.0 | 036A | 575 | 50 | 30 | 20 | 50 | 50.2 | 75.3 | 80 |
| | | | 518 | 632 | 7.5 | 5.60 | 10.0 | 039A | 575 | 70 | 40 | 30 | 70 | 70.3 | 100.4 | 110 |
| | | HIGH | 518 | 632 | 10.0 | 7.46 | 13.0 | 030A | 575 | 20 | 20 | — | 20 | 20.1 | 41.4 | 50 |
| | | | 518 | 632 | 10.0 | 7.46 | 13.0 | 033A | 575 | 40 | 20 | 20 | 40 | 40.2 | 66.5 | 70 |
| | | | 518 | 632 | 10.0 | 7.46 | 13.0 | 036A | 575 | 50 | 30 | 20 | 50 | 50.2 | 79 | 80 |
| | | | 518 | 632 | 10.0 | 7.46 | 13.0 | 039A | 575 | 70 | 40 | 30 | 70 | 70.3 | 104.1 | 110 |

FAS150-336, 60 Hz Electrical Heater Data (cont)

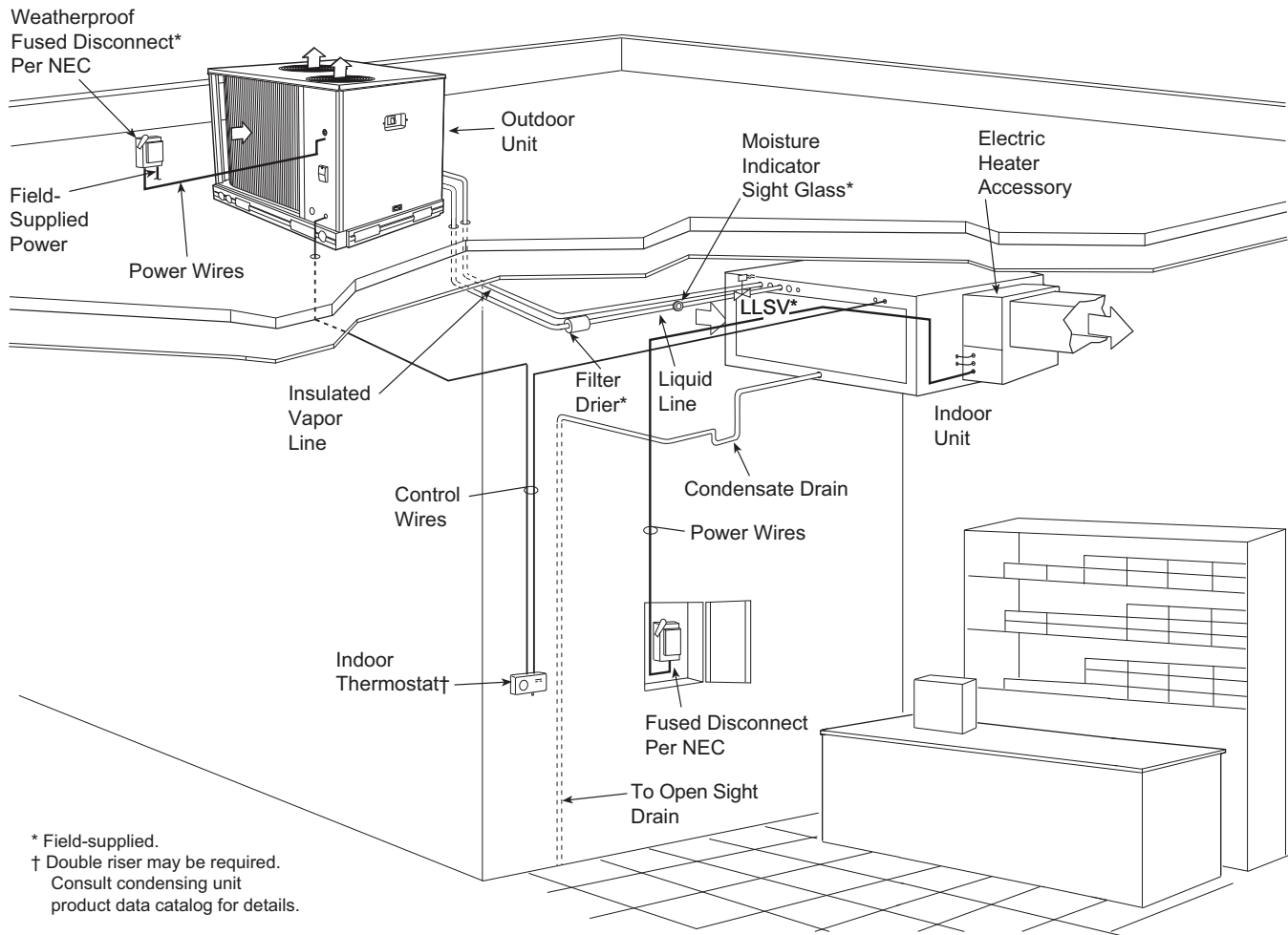
Electrical data (cont)

| UNIT | NOM. VOLTS | IFM TYPE | UNIT VOLTAGE | | FAN MOTOR (QTY 1) | | | ELECTRIC HEATER(S) | | | | | | POWER SUPPLY ^a | | |
|--------|------------|----------|--------------|-----|-------------------|------|------|--------------------|----------------|----------------|----------------------|---------|---------|---------------------------|------------------------|---------------------------------------|
| | | | Range | | hp | kW | FLA | CAEL HEAT ****00 | Heater Voltage | Nom. Cap. (kW) | Actual Capacity (kW) | | | FLA (Full Load Amps) | MCA (Minimum Ckt Amps) | MOCP (Maximum Overcurrent Protection) |
| | | | Min | Max | | | | | | | Stage 1 | Stage 2 | Total | | | |
| FAS336 | 208/230 | STD | 187 | 253 | 10.0 | 7.46 | 32.0 | 028A | 208/240 | 20 | 15/20 | — | 15/20 | 41.7/48.1 | 92.1/100.1 | 100/110 |
| | | | 187 | 253 | 10.0 | 7.46 | 32.0 | 031A | 208/240 | 40 | 15/20 | 15/20 | 30/40 | 83.4/96.2 | 144.3/160.3 | 150/175 |
| | | | 187 | 253 | 10.0 | 7.46 | 32.0 | 034A | 208/240 | 50 | 22.6/30 | 15/20 | 37.6/50 | 104.3/120.3 | 170.4/190.4 | 175/200 |
| | | | 187 | 253 | 10.0 | 7.46 | 32.0 | 037A | 208/240 | 70 | 30/40 | 22.6/30 | 52.6/70 | 145.9/168.4 | 222.4/250.5 | 225/275 |
| | | HIGH | 187 | 253 | 10.0 | 7.46 | 32.0 | 028A | 208/240 | 20 | 15/20 | — | 15/20 | 41.7/48.1 | 92.1/100.1 | 100/110 |
| | | | 187 | 253 | 10.0 | 7.46 | 32.0 | 031A | 208/240 | 40 | 15/20 | 15/20 | 30/40 | 83.4/96.2 | 144.3/160.3 | 150/175 |
| | | | 187 | 253 | 10.0 | 7.46 | 32.0 | 034A | 208/240 | 50 | 22.6/30 | 15/20 | 37.6/50 | 104.3/120.3 | 170.4/190.4 | 175/200 |
| | | | 187 | 253 | 10.0 | 7.46 | 32.0 | 037A | 208/240 | 70 | 30/40 | 22.6/30 | 52.6/70 | 145.9/168.4 | 222.4/250.5 | 225/275 |
| | 460 | STD | 414 | 506 | 10.0 | 7.46 | 16.0 | 029A | 480 | 20 | 20 | — | 20 | 24.1 | 50.1 | 60 |
| | | | 414 | 506 | 10.0 | 7.46 | 16.0 | 032A | 480 | 40 | 20 | 20 | 40 | 48.1 | 80.1 | 90 |
| | | | 414 | 506 | 10.0 | 7.46 | 16.0 | 035A | 480 | 50 | 30 | 20 | 50 | 60.1 | 95.1 | 100 |
| | | | 414 | 506 | 10.0 | 7.46 | 16.0 | 038A | 480 | 70 | 40 | 30 | 70 | 84.2 | 125.3 | 150 |
| | | HIGH | 414 | 506 | 10.0 | 7.46 | 16.0 | 029A | 480 | 20 | 20 | — | 20 | 24.1 | 50.1 | 60 |
| | | | 414 | 506 | 10.0 | 7.46 | 16.0 | 032A | 480 | 40 | 20 | 20 | 40 | 48.1 | 80.1 | 90 |
| | | | 414 | 506 | 10.0 | 7.46 | 16.0 | 035A | 480 | 50 | 30 | 20 | 50 | 60.1 | 95.1 | 100 |
| | | | 414 | 506 | 10.0 | 7.46 | 16.0 | 038A | 480 | 70 | 40 | 30 | 70 | 84.2 | 125.3 | 150 |
| | 575 | STD | 518 | 632 | 10.0 | 7.46 | 13.0 | 030A | 575 | 20 | 20 | — | 20 | 20.1 | 41.4 | 50 |
| | | | 518 | 632 | 10.0 | 7.46 | 13.0 | 033A | 575 | 40 | 20 | 20 | 40 | 40.2 | 66.5 | 70 |
| | | | 518 | 632 | 10.0 | 7.46 | 13.0 | 036A | 575 | 50 | 30 | 20 | 50 | 50.2 | 79 | 80 |
| | | | 518 | 632 | 10.0 | 7.46 | 13.0 | 039A | 575 | 70 | 40 | 30 | 70 | 70.3 | 104.1 | 110 |
| | | HIGH | 518 | 632 | 10.0 | 7.46 | 13.0 | 030A | 575 | 20 | 20 | — | 20 | 20.1 | 41.4 | 50 |
| | | | 518 | 632 | 10.0 | 7.46 | 13.0 | 033A | 575 | 40 | 20 | 20 | 40 | 40.2 | 66.5 | 70 |
| | | | 518 | 632 | 10.0 | 7.46 | 13.0 | 036A | 575 | 50 | 30 | 20 | 50 | 50.2 | 79 | 80 |
| | | | 518 | 632 | 10.0 | 7.46 | 13.0 | 039A | 575 | 70 | 40 | 30 | 70 | 70.3 | 104.1 | 110 |

NOTE(S):
a. MCA and MOCP values apply to both standard and alternate factory supplied motors.

Typical piping and wiring diagrams

Horizontal Installation — FAX/FAS



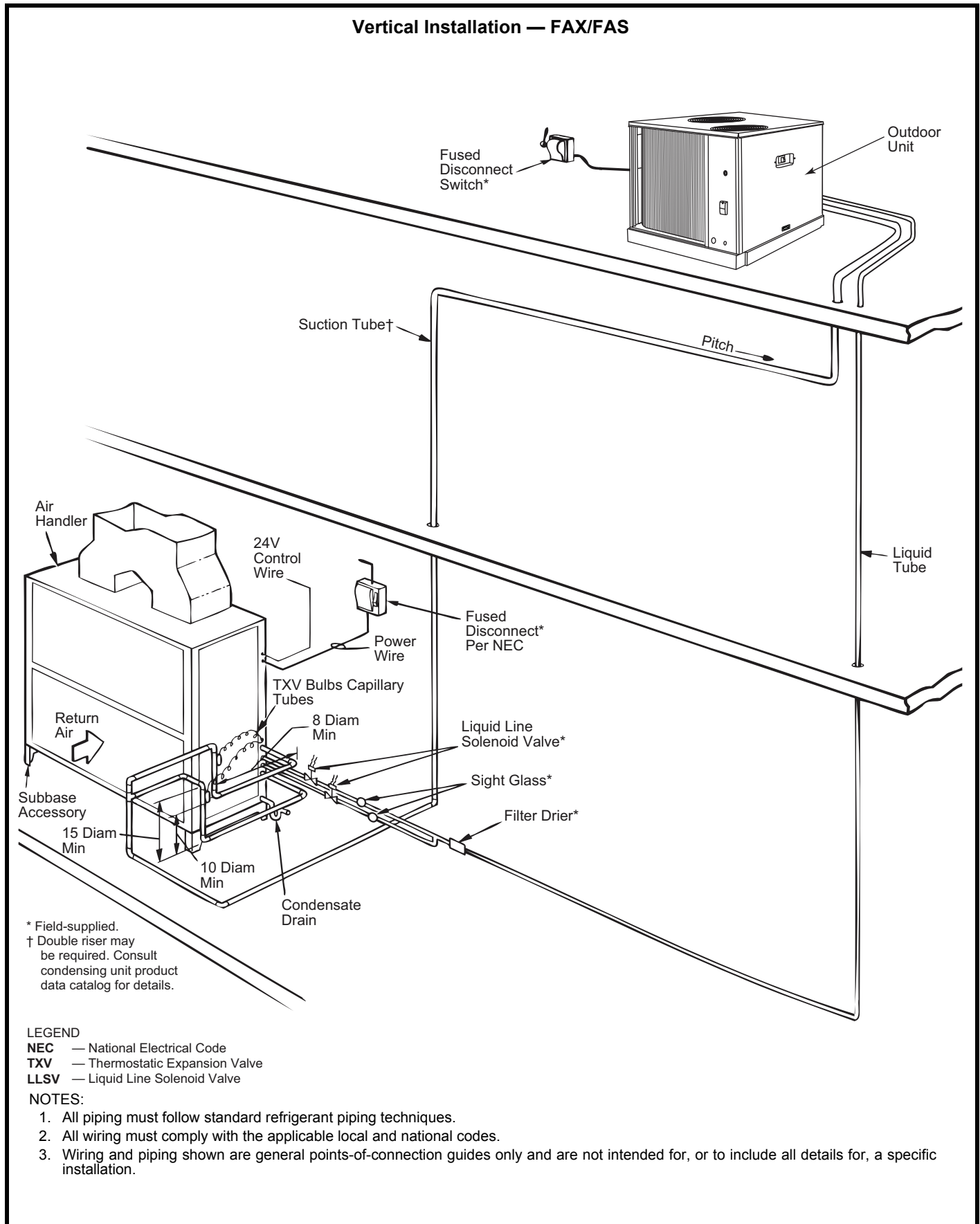
LEGEND

NEC — National Electrical Code
TXV — Thermostatic Expansion Valve

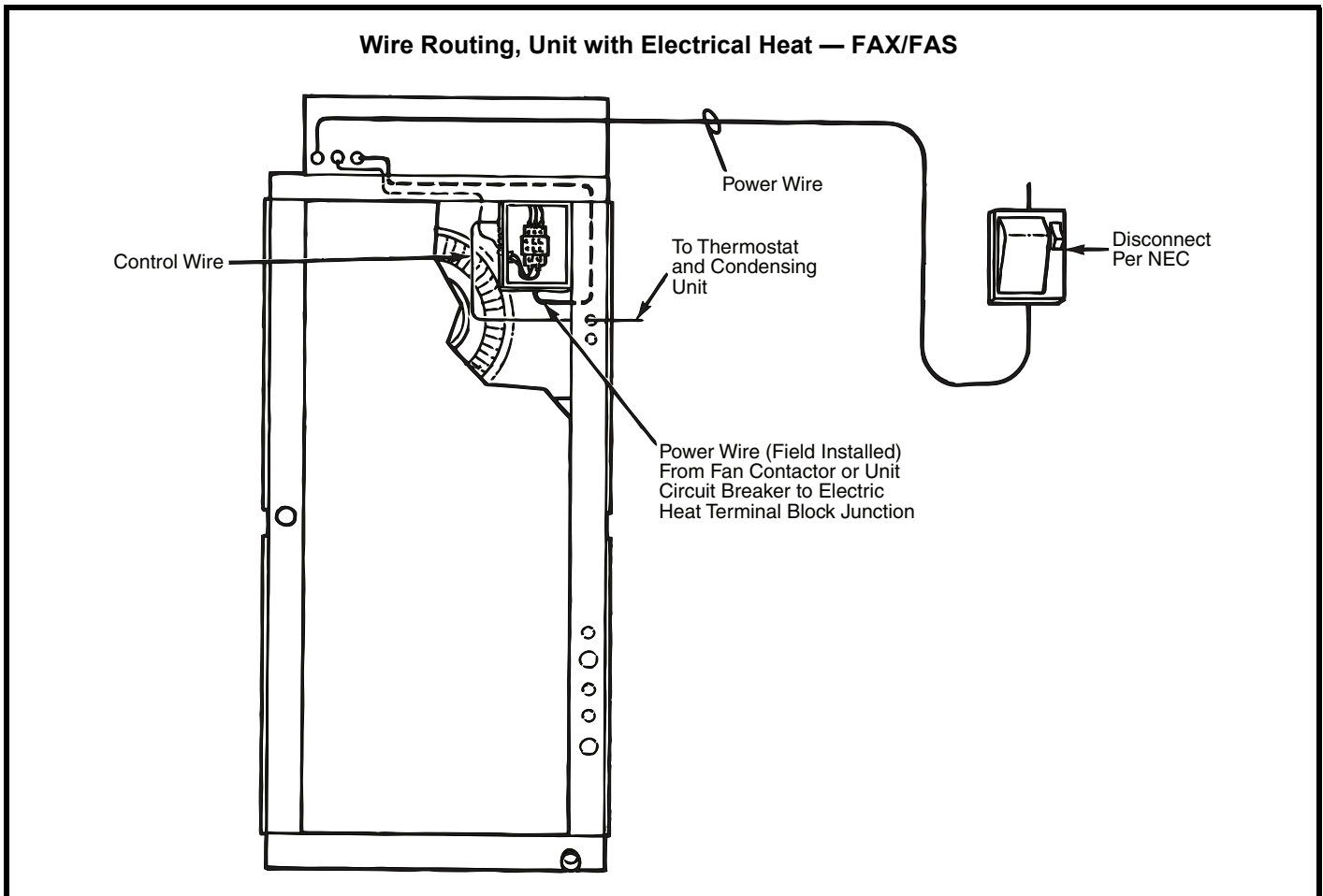
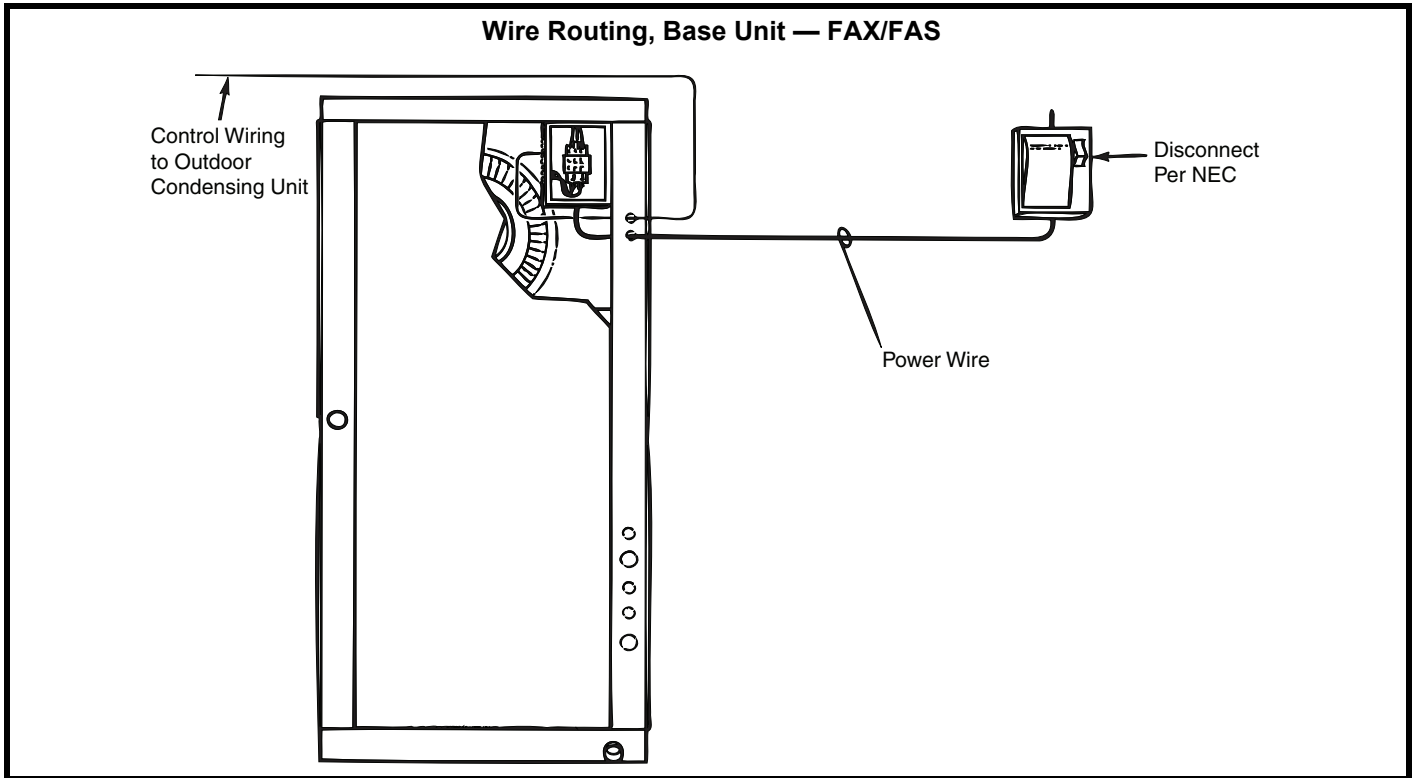
NOTES:

1. All piping must follow standard refrigerant piping techniques.
2. All wiring must comply with the applicable local and national codes.
3. Wiring and piping shown are general points-of-connection guides only and are not intended for, or to include all details for, a specific installation.
4. Liquid line solenoid valve (solenoid drop control) is recommended to prevent refrigerant migration to the compressor.
5. Internal factory-supplied TXVs not shown.

Typical piping and wiring diagrams (cont)



Typical piping and wiring diagrams (cont)



Typical piping and wiring diagrams (cont)

Unit Wiring Diagram — FAX072-120

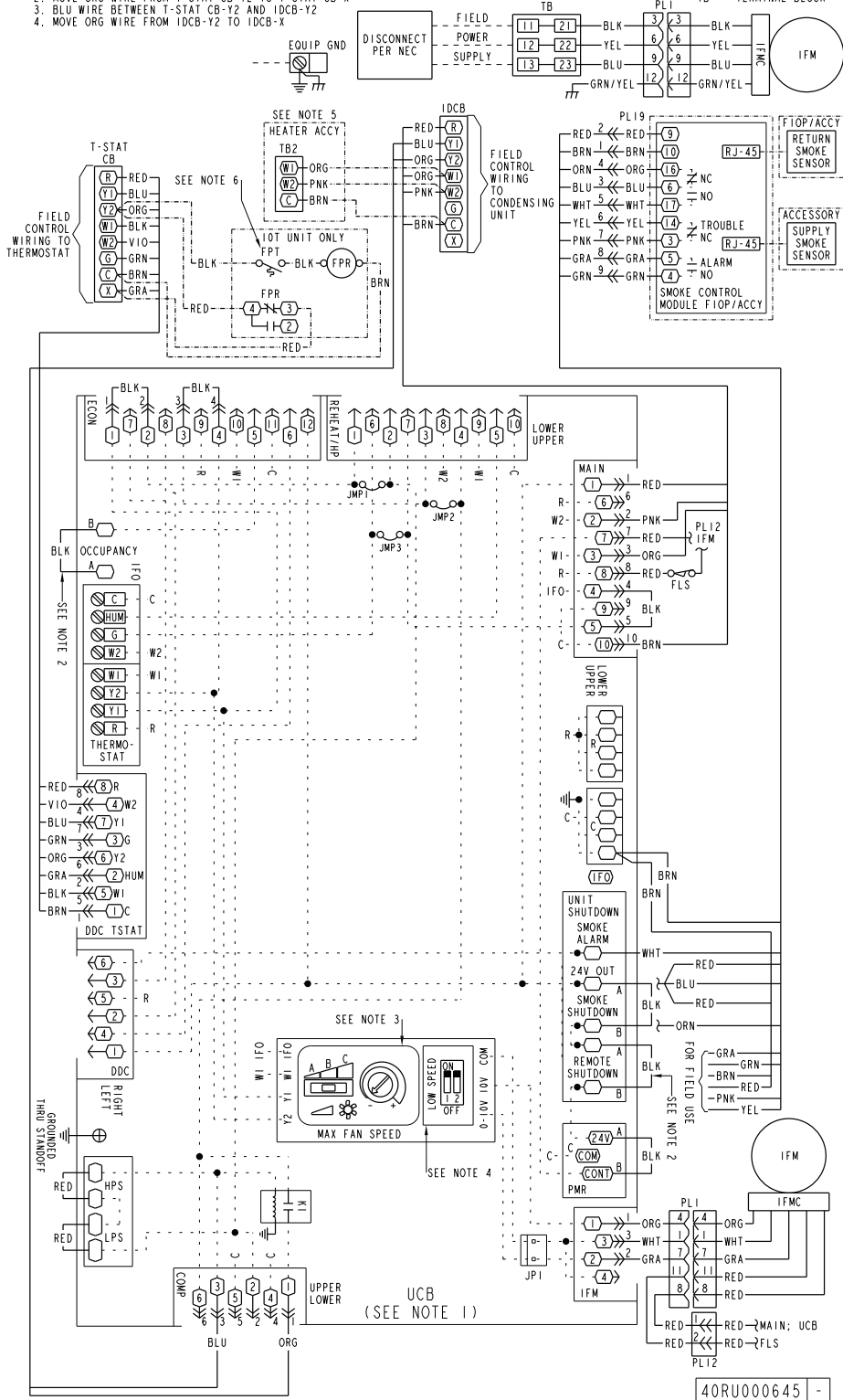
NOTES:

1. TERMINAL BOARD SCHEMATIC LAYOUT DOES NOT MATCH ACTUAL TERMINAL BOARD LAYOUT.
2. REMOVE DESIGNATED JUMPERS ON TERMINAL BOARD WHEN ADDING SMOKE DETECTORS, OCCUPANCY AND REMOTE SHUTDOWN.
3. USE ABC AS COARSE AND POT AS FINE ADJUSTMENTS FOR SETTING HIGH FAN SPEED. LOW SPEED IS AN OFFSET BASED ON DIP SWITCHES.
4. 2-PIN LOW SPEED DIP SWITCH POSITIONS ARE FACTORY SET AS SHOWN.
5. TB2 LOCATED IN HEAT SECTION.
6. FREEZE PROTECTION SWITCH NORMALLY CLOSED. WILL OPEN WHEN THE EVAPORATOR COIL IS FROZEN.
7. WIRING SHOWN IS FOR 2 STAGE UNIT. TO CONVERT TO 3 STAGE UNIT:
 1. REMOVE GRA WIRE FROM T-STAT CB-X
 2. MOVE ORG WIRE FROM T-STAT CB-Y2 TO T-STAT CB-X
 3. BLU WIRE BETWEEN T-STAT CB-Y2 AND IDCB-Y2
 4. MOVE ORG WIRE FROM IDCB-Y2 TO IDCB-X

FIELD CONTROL WIRING

LEGEND

- | | | | |
|-------|------------------------------|------|------------------------------|
| — | FACTORY WIRING | CB | CONNECTION BOARD |
| - - - | FIELD POWER WIRING | FLS | FAN LIMIT SWITCH |
| --- | ACCESSORY OR OPTIONAL WIRING | FPR | FREEZE PROTECTION RELAY |
| | | FPT | FREEZE PROTECTION THERMOSTAT |
| | | IDCB | INDOOR CONNECTION BOARD |
| | | IFM | INDOOR FAN MOTOR |
| | | IFMC | INDOOR FAN MOTOR CONTROL |
| | | TB | TERMINAL BLOCK |



Application data

General

IMPORTANT: Do not bury refrigerant piping underground. Select equipment to match or to be slightly less than peak load. This provides better humidity control, less unit cycling, and less part-load operation. Equipment should be selected to perform at no less than 300 cfm/ton (40 L/s per kW).

The air handler fan must always be operating when the condensing unit is operating.

Ductwork should be sized according to unit size, not building load. For larger units with two fans, a split duct transition is recommended at the fan outlets, but a plenum can be used with slight reduction in external static pressure capability.

Auxiliary Side Connector Data

| UNIT | PART NO. | INLET/OUTLET DIAMETER — ODF (in.) | AUXILIARY (HOT GAS) DIAMETER — ODF (in.) |
|--------|----------|-----------------------------------|--|
| FAX072 | 1178747 | 1-1/8 | 5/8 |
| FAX091 | 1178748 | 1-3/8 | 7/8 |
| FAX120 | 1178747 | 1-1/8 | 5/8 |
| FAS150 | 1178747 | 1-1/8 | 5/8 |
| FAS180 | 1178747 | 1-1/8 | 5/8 |
| FAS240 | 1178747 | 1-1/8 | 5/8 |
| FAS300 | 1178748 | 1-3/8 | 7/8 |
| FAS336 | 1178748 | 1-3/8 | 7/8 |

Factory-Installed Nozzle and Distributor Data^a

| UNIT | COIL TYPE | TXV QTY...P/N | DISTRIBUTOR QTY...P/N | FEEDER TUBES PER DISTRIBUTOR ^b QTY...SIZE (in.) | NOZZLE QTY...P/N |
|--------|-----------|--------------------------------|---------------------------------|--|------------------------|
| FAX072 | 4 Row | 1...1178405 1...BBIZE-5-GA | 1...1178408 1...1135 | 12...1/4 | 1...1178410 1...G4 |
| FAX091 | 4 Row | 1...1178406 1...BBIZE-6-GA | 1...1178412 1...1136 | 15...1/4 | 1...1178411 1...G5 |
| FAX120 | 4 Row | 2...1196872 2...HXAE-5-KX | 2...1178408 2...1135 | 9...1/4 | 2...1178409 2...G3 |
| FAS150 | 4 Row | 2...1193965 2...HXAE-6-KX | 2...1178407 2...1113 | 12...3/16 | 2...1178409 2...G3 |
| FAS180 | 4 Row | 2...1178406 2...BBIZE-6-GA | 2...1178412 2...1136 | 16...3/16 | 2...1178410 2...G4 |
| FAS240 | 4 Row | 2...1183553 2...BBIZE-8-GA | 2...1175454 2...D196-18-3/16 | 18...3/16 | 2...1179769 2...G6 |
| FAS300 | 4 Row | 2...1183751 2...BBIZE-15-GA | 2...1173485 2...1126 | 20...3/16 | 2...1179803 2...C15 |
| FAS336 | 4 Row | 2...1183751 2...BBIZE-15-GA | 2...1173485 2...1126 | 24...3/16 | 2...1175908 2...C17 |

NOTE(S):

a. For FAS units, hot gas bypass applications require field-supplied auxiliary side connector.

b. Feeder tube size is 1/4 in. (6.35 mm).

LEGEND

TXV — Thermostatic Expansion Valve

Guide specifications — FAX

Commercial Packaged Air-Handling Unit

HVAC Guide Specifications

Size Range: **2,400 to 4,000 Cfm, Nominal Airflow, 6 to 10 Tons, Nominal Cooling**

Model: **FAX (Direct-Expansion Coil)**

Part 1 — General

1.01 System Description

- A. Indoor, packaged air-handling unit for use in commercial split systems. Unit shall have a multi-position design and shall be capable of horizontal or vertical installation on a floor or in a ceiling, with or without ductwork. (Only vertical units are to be applied without ductwork.)
- B. Unit with direct-expansion coil shall be used in a refrigerant circuit with a matching air-cooled condensing unit.

1.02 Quality Assurance

- A. Coils shall be designed and tested in accordance with ASHRAE 15 Safety Code for Mechanical Refrigeration (U.S.A.), latest edition.
- B. Unit shall be constructed in accordance with UL (U.S.A.) and UL, Canada, standards and shall carry the UL and UL, Canada, labels.
- C. Unit insulation and adhesive shall comply with NFPA-90A (U.S.A.) requirements for flame spread and smoke generation. Insulation shall be treated with an immobilized antimicrobial agent to inhibit the growth of bacteria and fungi on the insulation as proven by tests in accordance with ASTM standards G21 and 22 (U.S.A.).
- D. Unit shall be manufactured in a facility registered to the ISO 9001 manufacturing quality standard.
- E. Direct-expansion coils shall be burst and leak tested at 435 psi.

1.03 Delivery And Storage

- A. Units shall be stored and handled per manufacturer's recommendations.

Part 2 — Products

2.01 Equipment

- A. Indoor mounted, draw-thru, packaged air-handling unit that can be used in a suspended horizontal configuration or a vertical configuration. Unit shall consist of a direct drive vane axial fan and motor assembly, pre-wired fan motor controller, factory-installed refrigerant metering devices (direct-expansion coil units), cooling coil, 2 in. (51 mm) disposable air filters, and condensate drain pans for vertical or horizontal configurations.
 1. Cabinet shall be constructed of mill-galvanized steel.
 2. Cabinet panels shall be fully insulated with 1/2 in. (12.7 mm) fire-retardant material. Insulation shall be treated with an immobilized antimicrobial agent to inhibit the growth of bacteria and fungi on the insulation as proven by

tests in accordance with ASTM standards G21 and 22 (U.S.A.).

3. Unit shall contain non-corroding condensate drain pans for both vertical and horizontal applications. Drain pans shall have connections on right and left sides of unit to facilitate field connection. Drain pans shall have the ability to be sloped toward the right or left side of the unit to prevent standing water from accumulating in pans.
 4. Unit shall have factory-supplied 2 in. (51 mm) throwaway-type filters installed upstream from the cooling coil. Filter access shall be from either the right or left side of the unit.
- B. Evaporator Fan and Motor with X-Vane Fan Technology:
1. Direct Drive Evaporator fan motor:
 - a. Shall be an ECM motor design.
 - b. Shall have permanently lubricated bearings.
 - c. Shall have inherent automatic-reset thermal overload protection.
 - d. Shall have slow ramp up to speed capabilities.
 - e. Shall require no fan/motor belts for operation, adjustments and or initial fan speed set up.
 - f. Shall be internally protected from electrical phase reversal and loss.
 2. Evaporator Fan:
 - a. Shall be easily set with dedicated selection switch and adjustment pot on unit control board.
 - b. Shall provide two stage cooling capacity control, the indoor fan speed is automatically controlled to meet the code-compliant <66% low fan speed and 100% at full fan speed operation.
 - c. Blower fan shall be a Vane Axial fan design with 75% less moving parts than a conventional belt drive system.
 - d. Shall be constructed of a high impact composite material on stator, rotor and air inlet casing.
 - e. Shall be a patented / pending design with a corrosion resistant material and dynamically balanced.
 - f. Shall have slow ramp up to speed capabilities to help reduce sound and comfort issues typically associated with single speed belt drive systems.
 - g. Shall be a slide out design with removal of a few support brackets.
 3. Shall include an easily accessible Unit Control Board to conveniently and safely provide connection points for vital control functions such as: smoke detectors, phase monitor, economizer, thermostat, and low and high pressure

Guide specifications — FAX (cont)

switches. Controller shall also provide an intuitive means to adjust the indoor fan speed through a simple switch and pot adjustment design.

C. Coils:

DX coil is 4-row and consists of copper tubes with sine-wave aluminum fins bonded to the tubes by mechanical expansion. Suction and liquid line connections or supply and discharge connections shall be made on the same side of the coil.

Direct-expansion coils shall feature factory-installed thermostatic expansion valves (TXVs) for refrigerant control. The TXVs shall be R-410A compatible and capable of external adjustment. Coil tubing shall be internally rifled to maximize heat transfer.

D. Operating Characteristics:

1. When combined with matching CAS condensing unit the system shall be capable of starting and running at ambient outdoor temperatures from 35°F (2°C) to 125°F (52°C) in cooling mode.
2. Unit shall operate at ±10% from rated voltage.

E. Motor:

1. Fan motor of the size and electrical characteristics specified on the equipment schedule shall be factory supplied and installed.
2. Evaporator motors are designed specifically for our units and do not have conventional horsepower (hp) ratings listed on the motor nameplate. Motors are designed and qualified in the "air-over" location downstream of the cooling coil and carry a maximum continuous bhp rating that is the maximum application bhp rating for the motor; no "safety factors" above that rating may be applied.

F. Special Features:

1. Alternate Motor and Drive:

An alternate high-static motor shall be available to meet the airflow and external static pressure requirements specified on the equipment schedule.

2. External Paint:

Where conditions require, units shall be painted with an American Sterling Gray finish.

3. Hot Water Coil:

Coil shall be 2-row, U-bend coil with copper tubes and aluminum plate fins bonded to the tubes by mechanical expansion. Coil shall be mounted in a galvanized steel housing that shall be fastened to the unit's fan deck for blow-thru heating operation. Coil shall have maximum working pressure of 150 psig.

4. Steam Distributing Coil:

Coil shall consist of one row of copper tubes with aluminum plate fins, and shall have inner

steam distributing tubes. Coil shall be mounted in a galvanized steel housing and shall be fastened to the unit's fan deck for blow-thru heating operation. Coil shall have maximum working pressure of 20 psig at 260°F.

5. Electric Heaters:

Heaters for nominal 240v, 480v, or 575v, 3-phase, 60 Hz shall be factory-supplied and field-installed as shown on the equipment drawings. Electric heat assembly shall be ETL (U.S.A.) and ETL, Canada, agency approved, and shall have single-point power wiring. Heater assembly shall include contactors with 24-v coils, power wiring, 24-v control wiring terminal blocks, and a hinged access panel. Electric heaters shall not be used with air discharge plenum.

6. Air Discharge Plenum:

Plenum shall be factory-supplied for field installation to provide free-blow air distribution for vertical floor-mounted units. A grille with movable vanes for horizontal or vertical airflow adjustment shall be included. Plenum shall be field-assembled and field-installed on the unit's fan deck for blow-thru air distribution. Plenum shall not be used with electric heaters.

7. Return-Air Grille:

Grille shall be factory-supplied for field installation on the unit's return air opening.

8. Unit Subbase:

Subbase assembly shall be factory-supplied for field installation. Subbase shall elevate floor-mounted vertical units to provide access for correct condensate drain connection.

9. Economizers:

a. Accessory Ultra Low Leak EconoMi\$er X (Field-installed) Economizer for ventilation or "free" cooling shall be factory provided for field installation on either return air opening of air handler.

1) Integrated, gear driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.

2) Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.

3) Shall include all hardware, actuator and controls to provide free cooling with outdoor air when temperature and/or humidity are below setpoints.

4) Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.

Guide specifications — FAX (cont)

- 5) Ultra Low Leak design meets California Title 24 section 140.4 and ASHRAE 90.1 requirements for 4 cfm per sq ft on the outside air dampers and 10 cfm per sq ft on the return dampers.
- 6) Economizer controller on EconoMi\$er X models shall be the Honeywell W7220 that provides:
 - a) 2-line LCD interface screen for setup, configuration and troubleshooting.
 - b) On-board Fault Detection and Diagnostics (FDD) that senses and alerts when the economizer is not operating properly, per California Title 24.
 - c) Sensor failure loss of communication identification.
 - d) Automatic sensor detection.
 - e) Capabilities for use with multiple-speed indoor fan systems.
 - f) Utilizing digital sensors: Dry bulb and Enthalpy. Accessory comes standard with dry bulb sensing.
 - g) Field installing enthalpy sensor required.
- b. Accessory Standard Leak EconoMi\$er IV (field-installed) Economizer for ventilation or “free” cooling shall be factory provided for field installation on either return air opening of air handler.
 - 1) Integrated, gear driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.
 - 2) Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.
 - 3) Shall include all hardware, actuator and controls to provide free cooling with outdoor air when temperature and/or humidity are below setpoints.
- 4) Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
- 5) Standard leak rate shall be equipped with dampers not to exceed 2% leakage at 1 in. wg pressure differential.
- 6) Economizer controller on EconoMi\$er IV models shall be Honeywell W7212 that provides:
 - a) Combined minimum and DCV maximum damper position potentiometers with compressor staging relay.
 - b) Functions with solid state analog enthalpy or dry bulb changeover control sensing.
 - c) Contains LED indicates for when free cooling is available, when module is in DCV mode, when exhaust fan is closed.
10. Overhead Suspension Package:

Package shall include necessary brackets to support units in a horizontal ceiling installation.
11. CO₂ Sensor:

Sensor shall provide the ability to signal the economizer to open when the space CO₂ level exceeds the predetermined setpoint.
12. Condensate Drain Trap:

Trap shall have transparent, serviceable design for easy cleaning. Kit shall include overflow shutoff switch and wiring harness for connection to an alarm if desired.
13. Discharge Duct Adapter:

Adapter shall be required for replacements using FAX units with or without electric heat. It shall not be required for new installations or when using steam coil, hot water coil, or discharge plenum accessories.

Guide specifications — FAS

Commercial Packaged Air-Handling Unit

HVAC Guide Specifications

Size Range: **5,000 to 12,000 Cfm, Nominal Airflow, 12.5 to 30 Tons, Nominal Cooling**

Model: **FAS (Direct-Expansion Coil)**

Part 1 — General

1.01 System Description

- A. Indoor, packaged air-handling unit for use in commercial split systems. Unit shall have a multi-position design and shall be capable of horizontal or vertical installation on a floor or in a ceiling, with or without ductwork. (Only vertical units are to be applied without ductwork.)
- B. Unit with direct-expansion coil shall be used in a refrigerant circuit with a matching air-cooled condensing unit.

1.02 Quality Assurance

- A. Coils shall be designed and tested in accordance with ASHRAE 15 Safety Code for Mechanical Refrigeration (U.S.A.), latest edition.
- B. Unit shall be constructed in accordance with ETL (U.S.A.) and ETL, Canada, standards and shall carry the ETL and ETL, Canada, labels.
- C. Unit insulation and adhesive shall comply with NFPA-90A (U.S.A.) requirements for flame spread and smoke generation. Insulation shall be treated with an immobilized antimicrobial agent to inhibit the growth of bacteria and fungi on the insulation as proven by tests in accordance with ASTM standards G21 and 22 (U.S.A.).
- D. Unit shall be manufactured in a facility registered to the ISO 9001 manufacturing quality standard.
- E. Direct-expansion coils shall be burst and leak tested at 435 psi.

1.03 Delivery And Storage

- A. Units shall be stored and handled per manufacturer's recommendations.

Part 2 — Products

2.01 Equipment

- A. Indoor mounted, draw-thru, packaged air-handling unit that can be used in a suspended horizontal configuration or a vertical configuration. Unit shall consist of forward-curved belt-driven centrifugal fan(s), motor and drive assembly, pre-wired fan motor contactor, factory-installed refrigerant metering devices (direct-expansion coil units), cooling coil, 2 in. (51 mm) disposable air filters, and condensate drain pans for vertical or horizontal configurations.
 1. Cabinet shall be constructed of mill-galvanized steel.
 2. Cabinet panels shall be fully insulated with 1/2 in. (12.7 mm) fire-retardant material. Insulation shall be treated with an immobilized antimicrobial agent to inhibit the growth of

bacteria and fungi on the insulation as proven by tests in accordance with ASTM standards G21 and 22 (U.S.A.).

3. Unit shall contain non-corroding condensate drain pans for both vertical and horizontal applications. Drain pans shall have connections on right and left sides of unit to facilitate field connection. Drain pans shall have the ability to be sloped toward the right or left side of the unit to prevent standing water from accumulating in pans.
4. Unit shall have factory-supplied 2 in. (51 mm) throwaway-type filters installed upstream from the cooling coil. Filter access shall be from either the right or left side of the unit.

B. Coils:

DX coil is 4-row and consists of copper tubes with sine-wave aluminum fins bonded to the tubes by mechanical expansion. Suction and liquid line connections or supply and discharge connections shall be made on the same side of the coil.

Direct-expansion coils shall feature factory-installed thermostatic expansion valves (TXVs) for refrigerant control. The TXVs shall be R-410A compatible and capable of external adjustment. Coil tubing shall be internally rifled to maximize heat transfer. The FAS300 and 336 have 1179823 TXVs. These are Sporlan™¹ BBIZE-15-GA-BP5, part no. 1183751, which have a 5% bleed.

C. Operating Characteristics:

1. When combined with matching CAS condensing unit the system shall be capable of starting and running at ambient outdoor temperatures from 35°F (2°C) to 125°F (52°C) in cooling mode and from -10°F (-23°C) to 60°F (16°C) in heating mode.
2. Unit shall operate at ±10% from rated voltage.

D. Motor:

1. Fan motor of the size and electrical characteristics specified on the equipment schedule shall be factory supplied and installed.
2. Motors rated at 1.3 through 3.7 hp shall have inherent thermal overload protection. Motors rated at 5 hp shall be protected by a circuit breaker.
3. Evaporator-fan motor shall have permanently lubricated, sealed bearings and inherent automatic-reset thermal overload protection or manual reset calibrated circuit breakers. Evaporator motors are designed specifically for our units and do not have conventional horsepower (hp) ratings listed on the motor nameplate. Motors are designed and qualified in the "air-over" location downstream of the

1. Third-party trademarks and logos are the property of their respective owners.

Guide specifications — FAS (cont)

cooling coil and carry a maximum continuous bhp rating that is the maximum application bhp rating for the motor; no “safety factors” above that rating may be applied.

4. All evaporator-fan motors 5 hp and larger shall meet the minimum efficiency requirements as established by the Energy Policy Act of 1992 (EPACT, U.S.A.), effective October 24, 1997.

E. Control Box:

1. Shall include an easily accessible Unit Control Board to conveniently and safely provide connection points for vital control functions such as: smoke detectors, phase monitor, economizer, thermostat, and low and high pressure switches. Controller shall also provide an intuitive means to adjust the indoor fan speed through a simple switch and pot adjustment design.

F. 2-Speed Indoor Fan Motor System for 2-stage cooling models (standard):

1. Evaporator fan motor.
 - a. Shall have permanently lubricated bearings.
 - b. Shall have a maximum continuous bhp rating for continuous duty operation; no safety factors above that rating.
 - c. Shall be Variable Frequency duty and 2-speed control.
 - d. Shall contain motor shaft grounding ring to prevent electrical bearing fluting damage by safely diverting harmful shaft voltages and bearing currents to ground.
2. Variable Frequency Drive (VFD) Standard:
 - a. Shall be installed inside the unit cabinet, mounted, wired and tested.
 - b. Shall contain Electromagnetic Interference (EMI) frequency protection.
 - c. Insulated Gate Bi-Polar Transistors (IGBT) used to produce the output pulse width modulated (PWM) wave-form, allowing for quiet motor operation.
 - d. Self diagnostics with fault and power code LED indicator. Field accessory Display Kit available for further diagnostics and special setup applications.
 - e. RS485 capability standard.
 - f. Electronic thermal overload protection.
 - g. 5% swinging chokes for harmonic reduction and improved power factor.
 - h. All printed circuit boards shall be conformal coated.

G. Special Features:

1. Alternate Motor and Drive:

An alternate motor and/or high-static drive shall be available to meet the airflow and external static pressure requirements specified on the equipment schedule.

2. External Paint:

Where conditions require, units shall be painted with an American Sterling Gray finish.

3. Hot Water Coil:

Coil shall be 2-row, U-bend coil with copper tubes and aluminum plate fins bonded to the tubes by mechanical expansion. Coil shall be mounted in a galvanized steel housing that shall be fastened to the unit's fan deck for blow-thru heating operation. Coil shall have maximum working pressure of 150 psig.

4. Steam Distributing Coil:

Coil shall consist of one row of copper tubes with aluminum plate fins, and shall have inner steam distributing tubes. Coil shall be mounted in a galvanized steel housing and shall be fastened to the unit's fan deck for blow-thru heating operation. Coil shall have maximum working pressure of 20 psig at 260°F.

5. Electric Heaters:

Heaters for nominal 240v, 480v, or 575v, 3-phase, 60 Hz shall be factory-supplied and field-installed as shown on the equipment drawings. Electric heat assembly shall be ETL (U.S.A.) and ETL, Canada, agency approved, and shall have single-point power wiring. Heater assembly shall include contactors with 24-v coils, power wiring, 24-v control wiring terminal blocks, and a hinged access panel. Electric heaters shall not be used with air discharge plenum.

6. Air Discharge Plenum:

Plenum shall be factory-supplied to provide free-blow air distribution for vertical floor-mounted units. A grille with movable vanes for horizontal or vertical airflow adjustment shall be included. Plenum shall be field-assembled and field-installed on the unit's fan deck for blow-thru air distribution. Plenum shall not be used with electric heaters.

7. Return-Air Grille:

Grille shall be factory-supplied for field installation on the unit's return air opening.

8. Unit Subbase:

Subbase assembly shall be factory-supplied for field installation. Subbase shall elevate floor-mounted vertical units to provide access for correct condensate drain connection.

9. Economizers:

a. Accessory Ultra Low Leak EconoMiSer X. (Field-installed) Economizer for ventilation or “free” cooling shall be factory provided for field installation on either return air opening of air handler.

- 1) Integrated, gear driven opposing modulating blade design type capable of

Guide specifications — FAS (cont)

- simultaneous economizer and compressor operation.
- 2) Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.
 - 3) Shall include all hardware, actuator and controls to provide free cooling with outdoor air when temperature and/or humidity are below setpoints.
 - 4) Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
 - 5) Ultra Low Leak design meets California Title 24 section 140.4 and ASHRAE 90.1 requirements for 4 cfm per sq ft on the outside air dampers and 10 cfm per sq ft on the return dampers.
 - 6) Economizer controller on EconoMi\$er X models shall be the Honeywell W7220 that provides:
 - a) 2-line LCD interface screen for setup, configuration and troubleshooting.
 - b) Onboard Fault Detection and Diagnostics (FDD) that senses and alerts when the economizer is not operating properly, per California Title 24.
 - c) Sensor failure loss of communication identification.
 - d) Automatic sensor detection.
 - e) Capabilities for use with multiple-speed indoor fan systems.
 - f) Utilizing digital sensors: Dry bulb and Enthalpy. Accessory comes standard with dry bulb sensing.
 - g) Field installing enthalpy sensor required.
- b. Accessory Standard Leak EconoMi\$er IV (field-installed) Economizer for ventilation or “free” cooling shall be factory provided for field installation on either return air opening of air handler.
- 1) Integrated, gear driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.
 - 2) Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.
 - 3) Shall include all hardware, actuator and controls to provide free cooling with outdoor air when temperature and/or humidity are below setpoints.
 - 4) Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
 - 5) Standard leak rate shall be equipped with dampers not to exceed 2% leakage at 1 in. wg pressure differential.
 - 6) Economizer controller on EconoMi\$er IV models shall be Honeywell W7212 that provides:
 - a) Combined minimum and DCV maximum damper position potentiometers with compressor staging relay.
 - b) Functions with solid state analog enthalpy or dry bulb changeover control sensing.
 - c) Contains LED indicates for when free cooling is available, when module is in DCV mode, when exhaust fan is closed.
10. Overhead Suspension Package:

Package shall include necessary brackets to support units in a horizontal ceiling installation.
 11. CO₂ Sensor:

Sensor shall provide the ability to signal the economizer to open when the space CO₂ level exceeds the predetermined setpoint.
 12. Condensate Drain Trap:

Trap shall have transparent, serviceable design for easy cleaning. Kit shall include overflow shutoff switch and wiring harness for connection to an alarm if desired.

© 2023 Carrier
Lewisburg, Tennessee 37091 USA
www.GoDayandNight.com

Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.