Installation Instructions

Direct Expansion Fan-Coil Units

FA1A
FA1B

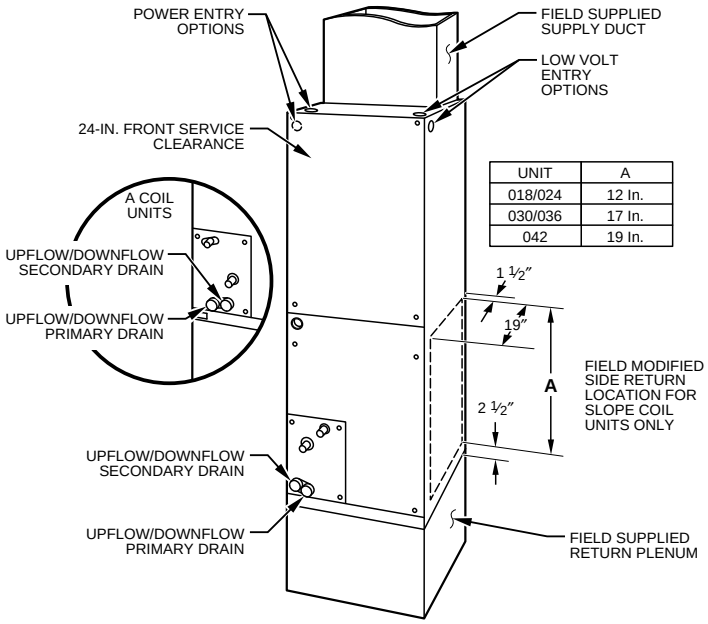

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Fig. 1—FA1A Fan-Coil Unit

NOTE: Read the entire instruction before starting the installation.

SAFETY CONSIDERATIONS

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock or other conditions which may cause personal injury or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use factory authorized kits or accessories when modifying this product. Refer to the individual instructions packaged with the kits or accessories when installing.

Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloth for brazing operations. Have fire extinguisher available. Read these instructions thoroughly and follow all warning or cautions attached to the unit. Consult local building codes and National Electrical Code (NEC) for special requirements.

It is important to recognize safety information. This is the safety-alert symbol ⚠ . When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal word— DANGER, WARNING, or CAUTION. These words are used with the safety- alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies hazards that **could** result in personal injury or death. CAUTION is used to identify unsafe practices, which **would** result in minor personal injury or product and property damage.

⚠ WARNING: Before installing or servicing fan coil, always turn off all power to unit. There may be more than one disconnect switch. Turn off accessory heater power if applicable. Electrical shock can cause personal injury or death.

INSTALLATION

PROCEDURE 1—MOUNT FAN COIL

Unit can stand or lie on floor, or hang from ceiling or wall. Allow space for wiring, piping, and servicing unit.

Form: IM-FA1A-02 Cancels: IM-FA1A-01 Printed in U.S.A. 3-92 Catalog No. 92-33FA-1A6

IMPORTANT: When fan coil is installed over a finished ceiling and/or living area, building codes (CABO M-1701.2, UMC 1205, SBCCI 603.4) may require a field-fabricated secondary condensate pan to be installed under the entire unit or unit to have a secondary condensate line. Fan coils are equipped with primary and secondary 3/4-in. FPT drain connections.
When installing any fan coil (of any manufacturer) over a finished ceiling and/or living space, installation of a secondary drain pan under entire unit is recommended to avoid damage to ceiling.

A. Installation

NOTE: This product is intended primarily for installation in conditioned space. Wrapping of the cabinet may be required if unit is installed in unconditioned space.

1. Upflow —If return air is to be ducted, install duct flush with floor. Set unit on floor over opening. Use fireproof resilient gasket, 1/8- to 1/4-in. thick, between duct, unit, and floor. Side return is a field option on FA1A018, 024, and 036 and FA1B030 models. Cut opening per dimensions in Fig. 1. A field supplied metal bottom closure is required.
2. Downflow—In this application, field conversion of the evaporator coil is required along with an Accessory Base Kit. Refer to Table 1 for kit part number.
3. Horizontal—When a horizontal application is indicated, field conversion of the coil and the condensate pan are required. Follow the instructions provided with the Horizontal Conversion Kit. Refer to Table 1 for kit part number.

Table 1—Accessory Kits

ACCESSORY KIT	PART NUMBER	MODEL APPLICATION
Downflow Coil Conversion Kit	KFADC0201SLP	Slope FA1A108, 024, 036 FA1B030
	KFADC0301ACL	A Coil FA1A030
Downflow Base Kit	KFACB0101CFB	FA1A/FA1B - 018,024
	KFACB0201CFB	FA1A/FA1B - 030,036
Horizontal Conversion Kit*	KFACK0101HCK	FA1A - 018,024
	KFACK0201HCK	FA1A036 - FA1B030

*FA1A030 is not approved for horizontal application.

PROCEDURE 2—AIR DUCTS

Connect the supply-air duct over the outside of the 3/4-in. flanges provided on the supply-air opening. Secure the duct to the flange, using proper fasteners for the type of duct used, and tape the duct-to-unit joint. If return-air flanges are required, install factory-authorized accessory kit.

Use flexible connectors between ductwork and unit to prevent transmission of vibration. When electric heater is installed, use heat resistant material for flexible connector between ductwork and unit at discharge connection. Ductwork passing through unconditioned space must be insulated and covered with vapor barrier.

A. Ductwork Acoustical Treatment

Metal duct systems that do not have a 90-degree elbow and 10 ft of main duct to first branch takeoff may require internal acoustical insulation lining. As an alternative, fibrous ductwork may be used if constructed and installed in accordance with the latest edition of SMACNA construction standard on fibrous glass ducts. Both acoustical lining and fibrous ductwork shall comply with National Fire Protection Association as tested by UL Standard 181 for Class 1 air ducts.

PROCEDURE 3—ELECTRICAL CONNECTIONS

When a factory approved accessory control package has been installed check all factory wiring per unit wiring diagram and inspect factory wiring connections to be sure none were loosened in transit or installation. If a control package is required see unit rating plate.

⚠ CAUTION: If a disconnect switch is to be mounted on the unit, select a location where drill or fastener will not contact electrical or refrigerant components.

Before proceeding with electrical connections, make certain that supply voltage, frequency, phase and amperage are as specified on the unit rating plate. See unit wiring label for proper field high- and low- voltage wiring. Make all electrical connections in accordance with the National Electrical Code (NEC) and any local codes or ordinances that may apply. Use copper wire only.

The unit must have a separate branch electric circuit with a field-supplied disconnect switch located within sight from, and ready accessible from, the unit.

A. 24-Volt Control System Connections to Unit

Refer to outdoor unit wiring instructions for recommended wiring procedures. Use No.18 AWG color-coded, insulated (35 C minimum) wire to make the low-voltage connections between the thermostat and the unit. If the thermostat is located more than 100 ft from the unit, use No. 16 AWG.

NOTE: Transformer is factory wired for 230-v operation (See Fig. 2). All wiring must be NEC Class 1 and must be separated from incoming power leads.

NOTE: When using 208-v supply, connect red primary lead to T2 and connect blue primary to T3 (See Fig. 2.). The secondary circuit of the transformer is protected by a 5-amp fuse mounted on the printed- circuit board.

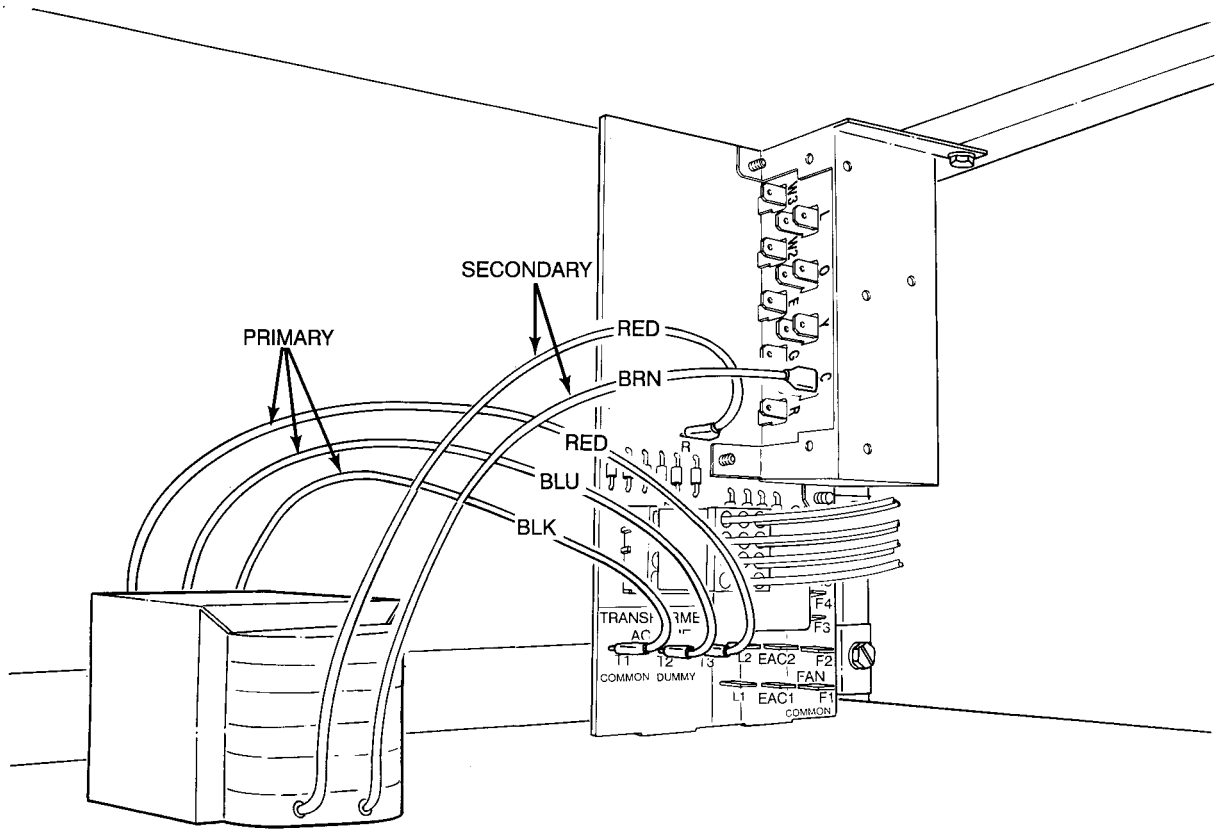

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Fig. 2—230-Volt Transformer Connections

B. Ground Connections

⚠ WARNING: According to NEC, ANSI/NFPA 70 and local codes, the cabinet must have an uninterrupted or unbroken ground, to minimize personal injury if an electrical fault should occur. The ground may consist of electrical wire or metal conduit when installed in accordance with existing electrical codes. Failure to follow this warning could result in an electric shock, fire, or death.

Grounding is accomplished by using grounding lug provided in control box. The use of UL-listed metal conduit and conduit connectors for connecting supply wire(s) to unit also provides a ground path.

PROCEDURE 4—REFRIGERANT TUBING

Use accessory tubing package or field-supplied tubing of refrigerant grade. Suction tube must be insulated. Do not use damaged, dirty, or contaminated tubing because it may plug refrigerant flow control device. ALWAYS evacuate the coil and field-supplied tubing before opening outdoor unit service valves.

NOTE: Solder with low-temperature 430 F silver alloy solder and wrap a wet cloth around rear of fitting to prevent damage to factory-made joints.

PROCEDURE 5—CONDENSATE DRAIN

The drain should be pitched downward at a minimum slope of 1 in. in 10 ft. If the coil is located in or above living space where damage may result from condensate overflow, a separate 3/4-in. drain must be provided from the secondary drain connection and/or a pan installed under the entire unit. Run trapped secondary drain to a place where it is noticeable when used.

NOTE: It is recommended that PVC fittings be used at the plastic condensate pan. Do not over tighten. Tighten finger tight plus one turn.

NOTE: When connecting condensate drain, avoid blocking the field supplied filter access panel, thus preventing removal of filter.

Install a 3-in. trap in condensate drain as close to coil as possible. Make sure that top of trap is below connection to coil to prevent condensate from overflowing drain pan. Prime trap with water, test for leaks, and insulate drain if located above a living area. Consult local codes for additional restrictions or precautions. (See Fig. 3.)

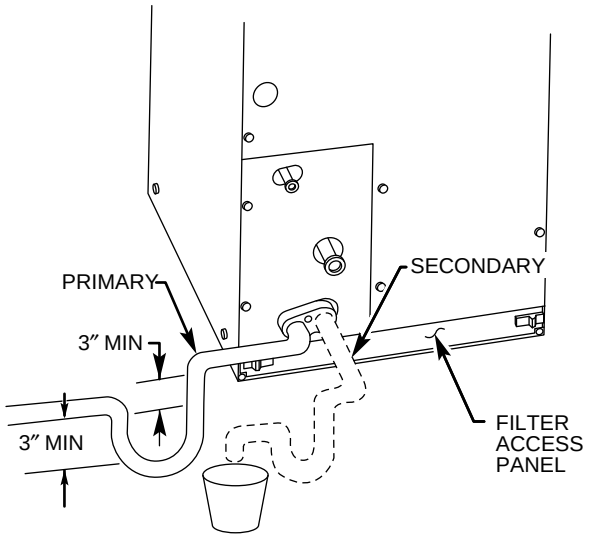

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Fig. 3—Condensate Drain

⚠ CAUTION: Never operate unit without a filter. Damage to blower motor or unit may result. Units are not shipped with filters. Filters must be field-supplied.

UNIT START-UP

Refer to outdoor unit installation instructions for system start-up instructions and refrigerant charging method details.

CARE AND MAINTENANCE

To continue high performance, and minimize possible equipment failure, it is essential periodic maintenance be performed on this equipment. Consult your local dealer as to the proper frequency of maintenance and the availability of a maintenance contract.

The ability to properly perform maintenance on this equipment requires certain mechanical skills and tools. If you do not possess these, contact your dealer for maintenance. The only consumer service recommended or required is filter replacement or cleaning on a monthly basis.