EAMWX
(formerly EAM4X)
Evaporator A-Coil, Cased, Multipoise, for R-410A Refrigerant
IN THE U.S. THIS PRODUCT IS FOR SERVICE AND WARRANTY ONLY.

Installation Instructions

IMPORTANT: The EAMWX replaces the EAM4X model in the United States is only available for service and warranty use.

NOTE: Read the entire instruction manual 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 death, 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, protective clothing and work gloves. Use quenching cloths for brazing operations. Have fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions attached to the unit. Consult local building codes and the current editions of the National Electrical Codes (NEC) NFPA 70.

In Canada, refer to the current editions of the Canadian Electrical Code CSA C22.1.

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 words DANGER, WARNING and 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 which could result in personal injury or death. CAUTION is used to identify unsafe practices, which may result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which will result in enhanced installation, reliability, or operation.

⚠ WARNING

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury or death.

Before installing, modifying or servicing system, always turn off main power to system. There may be more than one disconnect switch. Lock out and tag switch with a suitable warning label.

⚠ WARNING

PERSONAL INJURY HAZARD

Failure to follow this caution may result in personal injury.

This coil contains Nitrogen precharge of 7 – 10 PSIG. Release this pressure through the center of the rubber plugs before removing plugs.

⚠ WARNING

EXPLOSION HAZARD

Failure to follow this warning could result in death, serious personal injury, and/or property damage.

Never use air or gases containing oxygen for leak testing or operating refrigerant compressors. Pressurized mixtures of air or gases containing oxygen can cause an explosion.

⚠ CAUTION

CUT HAZARD

Failure to follow this caution may result in personal injury.

Sheet metal parts may have sharp edges or burrs. Use care and wear appropriate protective clothing and gloves when handling parts.

⚠ CAUTION

UNIT OR PROPERTY DAMAGE HAZARD

Failure to follow this caution may result in property damage.

Make sure that Aluminum tubes do not come in direct contact or allow for condensate run off with a dissimilar metal. Dissimilar metals can cause galvanic corrosion and possible premature failure.

⚠ WARNING

PROPERTY OR PERSONAL INJURY HAZARD

Risk of fire. Flammable refrigerant used.

To be repaired only by trained service personnel. Do not puncture refrigerant tubing.

Auxiliary devices which may be ignition sources shall not be installed in the ductwork, other than auxiliary devices listed for use with the specific appliance. See instructions.

Dispose of refrigerant properly in accordance with federal or local regulations.

INTRODUCTION

Use this instruction manual to install EAMWX indoor coil on multipoise furnaces. The coil is enclosed in a casing.

Inspect Equipment

Inspect equipment for damage prior to installation. File claim with shipping company if shipment is damaged or incomplete. Locate the rating plate attached to the coil assembly. Check the rating plate model number and the AHRI Directory to ensure outdoor and indoor units are properly matched and meet job specifications.

Select Installation

See Table 1 for dimensions. Note instructions for placement of the coil casing on the furnace.

INSTALLATION OF COIL

NOTE: Consult the furnace installation instructions for any special requirements when installing the coil to the furnace.

Table 1 – Coil Information

Model Number	Size (Ton)	Flush Fit to Furnace Width (in.)	Stub Out Tube Size, in.	
			Liquid	Suction
EAMWX19L17	1-1/2	17-1/2	3/8	5/8
EAMWX24L14	2	14-3/16	3/8	5/8
EAMWX24L17	2	17-1/2	3/8	5/8
EAMWX30L14	2-1/2	14-3/16	3/8	3/4
EAMWX30L17	2-1/2	17-1/2	3/8	3/4
EAMWX36L17	3	17-1/2	3/8	3/4
EAMWX37L17	3	17-1/2	3/8	3/4
EAM5X37L21	3	21	3/8	7/8
EAMWX42L21	3.5	21	3/8	7/8
EAM5X42L24	3.5	24-1/2	3/8	7/8
EAMWX43L21	3.5	21	3/8	7/8
EAMWX48L21	4	21	3/8	7/8
EAMWX60L24	5	24-1/2	3/8	7/8
EAMWX61L21	5	21	3/8	7/8
EAMWX61L24	5	24-1/2	3/8	7/8

Upflow Coil Installation

The cased coil is designed to fit furnaces of the same width.

1. Set coil in place on upflow furnace discharge air opening. See Fig. 1 and Fig. 2.
2. Ensure coil is level for proper condensate drainage. Do not tip coil toward condensate drain. Coil casing need not be fastened or screwed to furnace.
3. When installing wider coil on narrow furnace, create field fabricated adapter.

NOTE: On upflow installations where the indoor coil is placed in an unconditioned space, a 6-in wide piece of insulation should be applied and wrapped around the outside of coil casing and supply duct contact point.

NOTE: Consult the furnace installation instructions for any special requirements when installing the coil to the furnace.

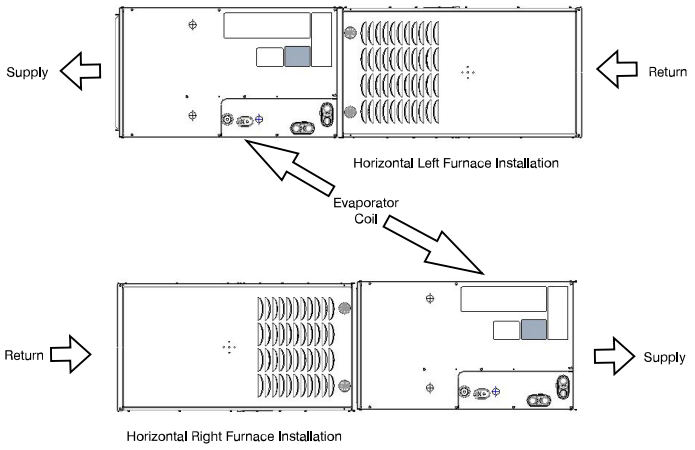

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Fig. 1 – Typical Horizontal Coil Installation

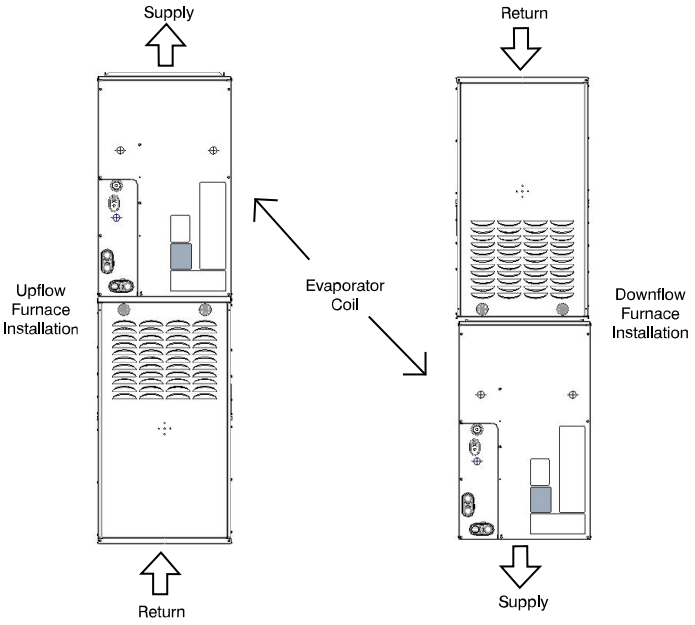

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Fig. 2 – Typical Vertical Coil Installation

Downflow Coil Installation

IMPORTANT: Installing "A" coils rotated 90 degrees from the front of the furnace in downflow applications can cause water blow off or coil freeze up. This is due to the concentration of air on one coil slab or lack of air on the opposite coil slab. If the airflow is high due to ductwork or other causes, and there is a chance for water blow off, it is recommended that a 4-in. minimum field-supplied adapter be placed between the coil and the furnace to allow the air to distribute evenly to both coil slabs. See Fig. 3.

1. Set uncased coil in supply duct opening.
2. Place field fabricated 4-in. minimum adapter on coil casing. Adapter should be tapered to fit coil/furnace combination when one of them is larger than the other.
3. Set furnace on adapter.

NOTE: In downflow installation with a 4-way multipoise furnace, break off perforated duct flanges on furnace. See furnace installation instructions.

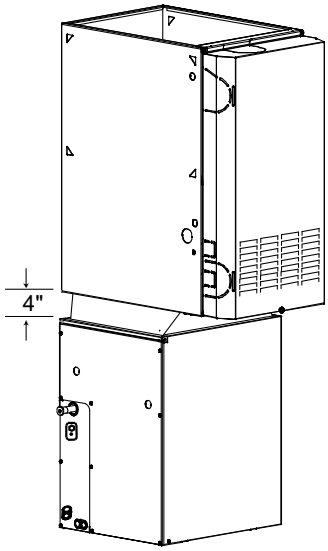

Fig. 3 – Downflow Installation with Coil Rotated 90° A170284A

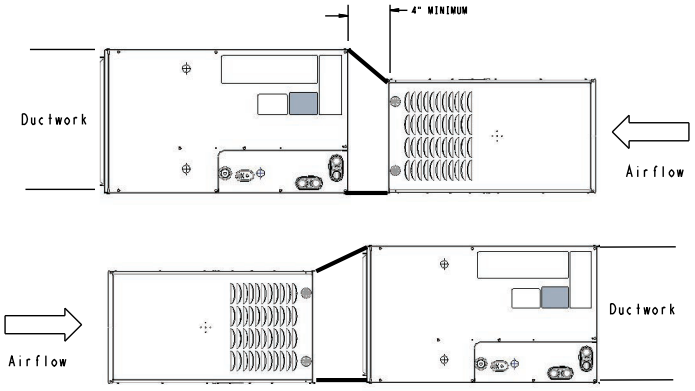

Fig. 4 – Horizontal with Adapter A170281A

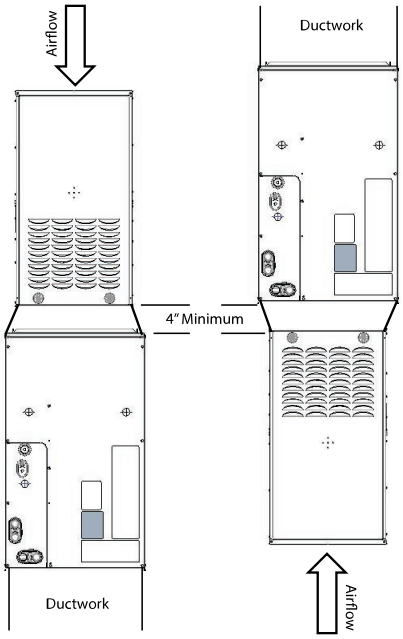

Fig. 5 – Vertical with Adapter A170280A

Horizontal Coil Installation

The unit can be installed on a work platform, secured to roof truss in attic, suspended from hangers on floor joists in crawl space, or installed on blocks. It is designed to allow airflow in either direction, to mate with horizontal-left or horizontal-right furnace installations. Ensure coil cabinet is level side to side and front to back. It is allowable to add up to 1/2-in. additional slope over length and depth of coil cabinet in the direction of drain pan connection.

Horizontal-Right Installation

1. Use field fabricated attachment plates to secure coil to furnace. See Fig. 6.
2. Use self-tapping screws to mount attachment plates to coil casing.

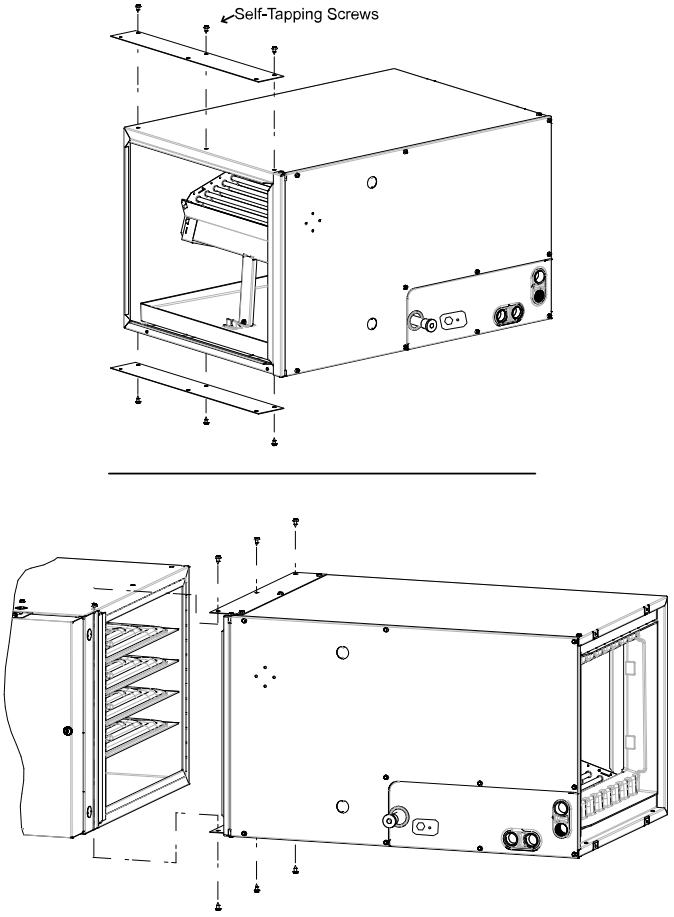

Fig. 6 – Horizontal-Right Installation A13065A

3. Connect furnace snugly against coil casing.
4. Use self−tapping screws to attach furnace. See Fig. 6.
5. Seal joint between coil casing and furnace to create an air tight seal using locally approved materials.
6. Use cork tape to create air seal between the undersides of the pan extension and front of the vertical drain pan as shown in Fig. 7.
7. Install included condensate pan extension and two corner screws as shown in Fig. 7.
8. If coil is wider than furnace, use 4−in minimum transition and self tapping screws to attach furnace. See Fig. 4.

Horizontal-Left Installation

Use same steps as Horizontal-Right. See Fig. 8 and Fig. 9.

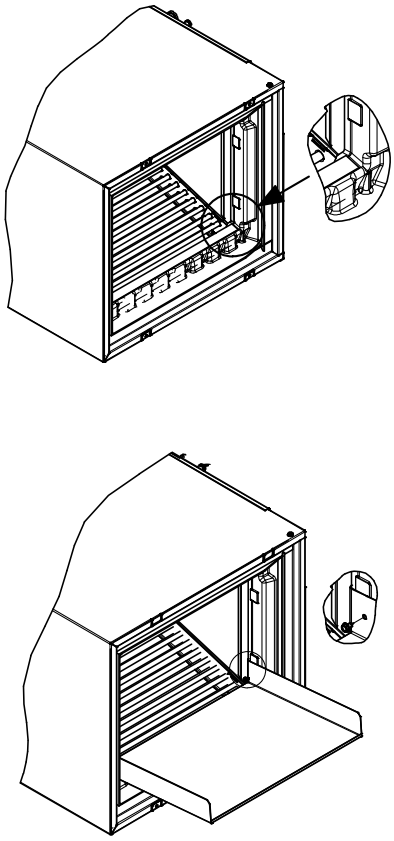

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Fig. 7 – Condensate Pan Extension Cork Tape Location

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Fig. 8 – Horizontal-Left Installation

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Fig. 9 – Horizontal-Left Installation

Refrigerant Line Connections

NOTE: Factory nitrogen charge may escape past rubber plugs during storage. This does not indicate a leaking coil nor warrant return of the coil.

Size and install refrigerant lines according to information provided with outdoor unit. Coil connection tube sizes are shown in Table 1. Route refrigerant lines to the coil in a manner that will not obstruct service access to the unit or removal of the filter.

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.

Connect Refrigerant, Liquid, and Suction Lines

For matched and mismatched systems, use line sizes recommended in outdoor unit Installation Instructions.

Mechanical Fittings

IMPORTANT: Mechanical fittings must meet or exceed maximum operating pressure of 700 psig for evaporator coils.

Follow mechanical fitting supplier's instructions for installation.

Brazed Fittings

The coil can be connected to outdoor units using field-supplied tubing of refrigerant grade. Always evacuate tubing and reclaim refrigerant when making connections or flaring tubing. Leak check connections before insulating entire suction line.

See Table 1 for coil connection tube size.

1. Remove cabinet access door.
2. Remove rubber plugs, suction plug then liquid plug, from coil stubs using a pulling and twisting motion. Hold coil stubs steady to avoid bending or distorting.
3. Remove fitting door with rubber grommets and slide fitting door with grommets onto the refrigerant lines (field line-set), away from braze joints.

⚠ CAUTION

UNIT DAMAGE HAZARD

Failure to follow this caution may result in damage.

All aluminum tubing and coils must be adequately shielded from any copper braze splatter.

4. For optimal performance, swedge stub outs according to the outdoor unit's recommended lineset size. Wrap a heat sinking material such as a wet cloth behind braze joints.
5. Wrap TXV and nearby tubing with a heat-sinking material such as a wet cloth.
6. Use 1/2 psig Nitrogen purge in the suction and out the liquid line.
7. Braze using a Sil-Fos or Phos-copper alloy. Do not use soft solder.
8. After brazing, allow joints to cool. Carefully remove TXV bulb insulation and verify that the TXV bulb is securely fastened with hose clamp. Tighten screw a half-turn past hand tight with TXV bulb placed in the indentation with full contact with the vapor line tube. Re-wrap TXV bulb with insulation.
9. Perform a pressure check of the unit with a nitrogen charge of approx. 200psi. The nitrogen holding charge must not decrease in pressure for 1 hour.
10. Perform a leak check on the unit. Vacuum unit to 500 microns. When isolating the unit from the pump, the pressure shall not rise above 1000 microns in 7 minutes (Fig. 10).

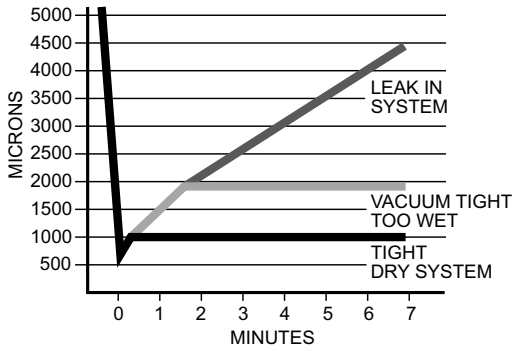

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Fig. 10 – Deep Vacuum Graph

11. Slide fitting door with rubber grommets over joints. Position tubing at center of each grommet to ensure an air seal around the tube. Reinstall cabinet door.

Refrigerant Metering Device

These Coils have a factory installed hard shut-off TXV designed only for use with R-410A refrigerant. Use only with outdoor units designed for R-410A.

NOTE: ALL TXV'S HAVE PRESET SUPERHEAT SETTINGS AND ARE FIELD NON-ADJUSTABLE.

⚠ CAUTION

UNIT DAMAGE HAZARD

Failure to follow this caution may result in product damage.

DO NOT BURY MORE THAN 36 IN. OF REFRIGERANT TUBING IN GROUND. If any section of tubing is buried, there must be a 6 in. vertical rise to the valve connections on the outdoor unit. If more than the recommended length is buried, refrigerant may migrate to cooler buried section during extended periods of unit shutdown, causing refrigerant slugging and possible compressor damage at start-up.

Condensate Drain

Units are equipped with primary and secondary 3/4" FPT drain connections. It is recommended that PVC fittings be used on the plastic condensate pan. Do not over-tighten. Finger-tighten plus 1-1/2 turns. For proper condensate line installation review Fig. 11 and Fig. 12.

⚠ CAUTION

UNIT OR PRODUCT DAMAGE HAZARD

Failure to follow this caution may result in unit or product damage.

BOTH primary and secondary drain lines should be installed and include properly sized condensate traps. Shallow, running traps are inadequate and do not allow proper condensate drainage. Use pipe dope. Do not over-torque. Hand tighten plus 1-1/2 turns.

NOTE: When connecting condensate drain lines, avoid blocking filter access panel, thus preventing filter removal. After connection, prime both primary and secondary condensate traps.

IMPORTANT: The owner of the structure must be informed that when condensate flows from the secondary drain, the unit requires servicing or else water damage will occur.

Optionally, a float switch may be used in lieu of a secondary drain. If so, make sure the float switch is installed so that it will trip before the water exits the weep hole between the drain pans. The float switch may be installed in the primary drain line or inside the pan. If installing in the secondary drain, make sure the float switch is below the exit of the drain.

NOTE: Do not install the float switch at the same level as the secondary drain exit.

Install traps in the condensate lines as close to the coil as possible (Fig. 11). Make sure that the outlet of each trap is below its connection to the condensate pan to prevent condensate from overflowing the drain pan. Prime all traps and test for leaks.

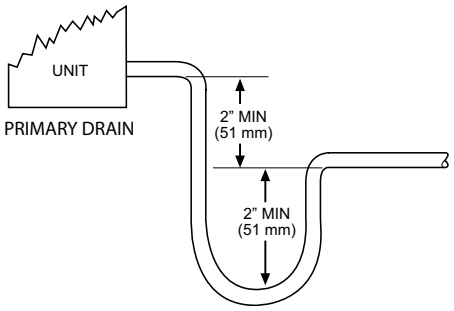

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Fig. 11 – Recommended Condensate Trap

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Fig. 12 – Insufficient Condensate Trap

Condensate drain lines should be pitched downward at a minimum slope of 1" for every 10 feet of length. Consult local codes for additional restrictions or precautions.

NOTE: If unit is located in or above a living space, where damage may result from condensate overflow, a field−supplied, external condensate pan should be installed underneath the entire unit, and a secondary condensate line (with appropriate trap) should be run from the unit into

the pan. Any condensate in this external condensate pan should be drained to a noticeable place. As an alternative to using an external condensate pan, some localities may allow the running of a separate 3/4 inch (19 mm) condensate line (with appropriate trap) per local code to a place where the condensate will be noticeable. The owner of the structure must be informed that when condensate flows from secondary drain or external condensate pan, the unit requires servicing or water damage will occur. To further protect against water damage, install a float switch to shut the unit off if the water in the secondary pan gets too high.

UNIT START-UP

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

⚠ CAUTION

UNIT OR PRODUCT DAMAGE HAZARD

Failure to follow this caution may result in unit or product damage.

Never operate the unit without a filter. Damage to the blower motor or coil may result. For those applications where access to an internal filter is impractical, a field supplied filter must be installed in the return duct system.

CARE AND MAINTENANCE

To continue high performance and minimize possible equipment failure, it is essential that 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.

⚠ CAUTION

ENVIRONMENTAL HAZARD

Failure to follow this caution may result in environmental damage.

Remove and recycle all components or materials (i.e., oil, refrigerant, etc.) before unit final disposal.

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