INSTALLATION INSTRUCTIONS
AIR CONDITIONING & HEAT PUMP INDOOR COILS FOR COMMERCIAL UNITS

INTRODUCTION

These Indoor Coils are designed specifically for use with various models of commercial gas or electric furnaces or air handlers in downflow, upflow or horizontal applications.
These instructions are primarily intended to assist qualified individuals trained and experienced in the proper installation of this type of equipment. Some state codes require installation and service personnel to be licensed. Refer to authorities having jurisdiction for additional guidance. Remember that the Clean Air Act of 1990 requires technician certification for handling refrigerant.

GENERAL COIL INSTALLATION NOTES: **CAUTION! ALL COILS ARE SHIPPED FROM OUR FACTORY PRESSURIZED WITH NITROGEN. THEY DO NOT CONTAIN ANY HCFC.**

1. Coils are equipped with a Schrader valve port to allow field installation of thermal expansion valve without having to sweat it in. This Schrader valve can also serve the useful purpose of checking for leaks prior to installation. Unscrew the Schrader valve cap and press the depressor. **IF THERE IS NO NITROGEN PRESSURE PRESENT, THE COIL MAY HAVE DEVELOPED A LEAK DURING SHIPMENT AND SHOULD BE RETURNED TO THE POINT OF PURCHASE FOR EXCHANGE.** If pressure is present, then go ahead and relieve the pressure in the coil by continuing to depress the Schrader valve. When there is no pressure then cut off the ends of the copper tubes. In a non-Schrader version coil, relieve pressure by punching a hole with a pointed instrument in the end of the suction line (large copper) tube BEFORE cutting the ends off. **IF THERE IS NO NITROGEN PRESSURE PRESENT, THE COIL MAY HAVE DEVELOPED A LEAK DURING SHIPMENT AND SHOULD BE RETURNED TO THE POINT OF PURCHASE FOR EXCHANGE.**

2. The blower and duct system must be properly sized in order to provide adequate cooling and heating performance. Select the correct motor speed tap on the furnace blower to give the required CFM needed for rated cooling capacity. Return air filters of generous size must be provided, in order to avoid contaminating the coil, blower and ductwork, or restricting necessary air flow.

3. It is essential that the indoor coil and outdoor unit be properly matched and that the TXV is properly matched. A too small TXV will cause starving and one that is too large will cause flooding of the coil with refrigerant. Improper sizing of TXV or incorrect charge will result in inefficient operation.

4. For optimum performance and efficiency of air conditioning or heat pump coils, adjust system charge and/or superheat as recommended by outdoor unit manufacturers.

5. It is recommended that coil be sprayed with liquid detergent thoroughly and rinsed thoroughly before installation to assure proper drainage of condensate from the coil fins to eliminate water blowoff and to assure maximum coil performance. If not sprayed, approximately 50 hours of break in time is required to achieve the same results.

6. Always be sure coil is installed level or sloped slightly toward primary and secondary (the higher of the two) drain fittings. Connect both drain lines to open drain, but never to a closed sewer. Pitch drain lines away from drain pan. Always, test drain lines with water before operating. Do not reduce size of drain lines.

7. Coils are factory supplied for right or left drains. BE SURE TO CAP THE UNUSED DRAIN FITTINGS. USE TEFLON TAPE OR APPROVED THREAD SEALANT!!! DO NOT OVER TIGHTEN FITTINGS OR PLUGS !!! PAN MAY BE DAMAGED!!!

8. **A WATER TRAP IS RECOMMENDED ON ALL COIL APPLICATIONS, BUT, IS REQUIRED ON PULL THROUGH INSTALLATIONS ON ELECTRIC FURNACES. FAILURE TO PROVIDE CAN RESULT IN IMPROPER DRAINAGE OR POTENTIAL SHOCK HAZARD.**

9. **CAUTION: IT IS MANDATORY TO USE AN EMERGENCY AUXILIARY DRAIN PAN WITH ANY COIL OR AIR HANDLER INSTALLED IN AN ATTIC OR ABOVE A FINISHED CEILING. IT MUST HAVE ITS OWN DRAIN LINE (A WATER TRAP IS NOT NECESSARY) WITH ITS OUTPUT INTO AN OPEN DRAIN (NOT A CLOSED SEWER). IT SHOULD ALLOW EASY VISUAL INSPECTION SO THAT IF CONDENSATE FLOW IS SEEN THE OWNER KNOWS THAT THE COIL DRAIN PAN LINES ARE**

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PLUGGED AND NEED MAINTENANCE.

10. Refrigerant piping is critical on any coil installation when the outdoor unit is to be located below the level of the coil. For proper piping design considerations, refer to the guidelines furnished by the manufacturer of the outdoor unit.

11. Check all field installed refrigerant connections with electronic leak detector or soap bubbles.

12. Refer to installation instructions provided with the outdoor unit, furnace or air handler and line sets for completion of system installation.

INSTRUCTIONS FOR COILS WITH THERMAL EXPANSION VALVES.

For indoor coils requiring expansion valves, both bleed and non-bleed types are available in several sizes. The expansion valve used is externally equalized and the superheat is non-adjustable. Our expansion valves have a built-in check making them heat pump capable.
While thermal expansion valves can be factory installed, they are normally available in kit form for field installation. For the kit version, follow the installation instructions provided with the kit. Normally these can be field installed before system is charged without requiring cutting and brazing. Be sure that the expansion valve provided is the proper size and type required to achieve rating. If a non-bleed type valve is to be used, the outdoor unit must be equipped with a hard start kit allowing the outdoor unit to start under load. Check with our factory if necessary.
When a non-bleed expansion valve is specified in our AC or HP Rating, the following assumptions are made:

a.) The TXV is a field installed accessory to be field installed in accordance with recommended TXV practice.

b.) The combination of this non-bleed valve and the compressor in the outdoor unit results in a system that operates with a loaded condition on startup.

c.) The outdoor unit is capable of starting against this loaded condition or a hard start kit is to be field installed.
If any of the assumptions don't fit the application and the system starts unloaded, the ARI SEER Rating must be decreased by .4 SEER.
In most cases a reciprocating compressor with a TXV will start loaded whereas a scroll compressor will start unloaded.

CHARGING WITH EXPANSION/CHECK VALVE, USE LIQUID LINE PRESSURE METHOD IN COOLING MODE.
Measure following values from system: outside ambient temperature, indoor wet bulb temperature, liquid line head pressure at gauge.
Adjust charge to achieve recommended liquid line head pressure.
If the installer encounters a problem using the outdoor manufacturers suggested charging method he should contact the factory for assistance.

INSTRUCTIONS FOR HORIZONTAL COILS.

CAUTION: IT IS MANDATORY TO USE AN EMERGENCY AUXILIARY DRAIN PAN WITH ANY COIL OR AIR HANDLER INSTALLED IN AN ATTIC OR ABOVE A FINISHED CEILING.

1. Care should be taken to insure no internal damage is done to the coil or furnace when fastening together or suspending the coil and furnace assembly (always support both coil and furnace SEPARATELY). Never use screws longer than 1/2" in length and always determine what is on the opposite side of the penetration prior to inserting the screw.
2. On those coils used for downflow or reverse flow applications the top cap shipped must be removed and repositioned. On reverse flow the two piece pan must be caulked to seal between the pans and prevent air from blowing water out of horizontal pan. **The air pressure drop is much higher so air can blow water out between the pans in the corners of the "A" end plate.** Seal seam between horizontal pan and "A" coil pan by caulking mating surface on horizontal pan and setting "A" pan in it. All air leaks must be stopped, it is recommended that opposite hand coil be ordered to allow air to enter bottom of "A" on coil.

CONTACT US FOR HELP OR FOR ANY COMMENTS ON OUR PRODUCTS.

As we strive to better serve our customers like you, we are always ready to help you. We also welcome any comments from our customers concerning quality and improvements that could be made to our products.

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