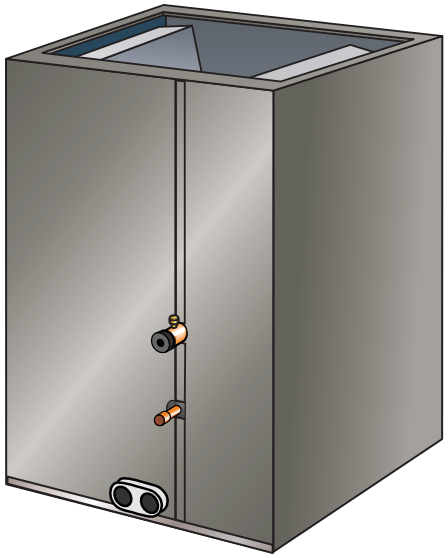
INSTALLATION INSTRUCTIONS

7EDX

R410A Downflow Indoor Coils

This manual must be left with the homeowner for future reference.



⚠ WARNING

Improper installation, adjustment, alteration, service or maintenance can cause personal injury, loss of life, or damage to property.

Installation and service must be performed by a licensed professional installer (or equivalent) or a service agency.

⚠ CAUTION

As with any mechanical equipment, contact with sharp sheet metal edges can result in personal injury. Take care while handling this equipment and wear gloves and protective clothing.

⚠ IMPORTANT

The Clean Air Act of 1990 bans the intentional venting of refrigerant (CFCs, HCFCs and HFCs) as of July 1, 1992. Approved methods of recovery, recycling or reclaiming must be followed. Fines and/or incarceration may be levied for noncompliance.

⚠ IMPORTANT

If installing in an R454B application, R454B coil sensor kit (26Z69), Refrigerant Detection System Control (27A05 or 27A06* and R454B TXV (26Z70, 26Z71, or 26Z72) must be ordered.

If installing in an R454B application, use installation instructions provided in R454B coil conversion kit (26Z69).

For sensor maintenance recommendations refer to the instructions in kit 26Z69.

*For non-communicating furnaces, order kit 27A05. For communicating furnaces, order kit 27A06.

⚠ WARNING

Every working procedure that affects safety means shall only be carried out by competent persons. This appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure they do not play with the appliance.

⚠ WARNING

Maximum altitude of application is 3200m above sea level.

(P) 508488-01

NOTE: *This unit is a PARTIAL UNIT AIR CONDITIONER, complying with PARTIAL UNIT requirements of this Standard, and must only be connected to other units that have been confirmed as complying to corresponding PARTIAL UNIT requirements of this Standard, UL 60335-2-40/CSA C22.2 No. 60335-2-40, or UL 1995/CSA C22.2 No 236.*

NOTE: *PARTIAL UNITS shall only be connected to an appliance suitable for the same refrigerant.*

NOTE: *Special procedures are required for cleaning the aluminum coil in this unit. See Page 7 in this instruction for information.*

General

The 7EDX coil includes an externally equalized factory-installed HFC-410A check/expansion valve.

The coil drain pan has a maximum service temperature of 500°F. The drain pan must be at least 2" away from a standard gas-fired furnace heat exchanger and at least 4" away from any drum-type or oil-fired furnace heat exchanger. Closer spacing may damage the drain pan and cause a leak.

Refer to the Product Specification for the proper use of these coils with specific furnaces, air handlers and line sets.

These instructions are intended as a general guide and do not supersede local or national codes in any way. Authorities who have jurisdiction should be consulted before installation.

Dry Air Charge Release

The 7EDX coils are shipped with a 10 psi dry air holding charge. Puncture the suction line rubber plug to release the charge. Remove the rubber plug.

NOTE: *If there is no pressure when the rubber plug is punctured, check the coil for leaks before installing the coil.*

Loosen and remove the liquid line compression fitting. Remove and discard the plug that is in the distributor body.

Plenum Installation

See Table 1 for the dimensions of the floor opening required to accommodate the supply air opening and the plenum. If the unit is installed against a wall, the rear edge of the opening must be at least 1" (25 mm) from the wall. Cut an appropriately sized opening.

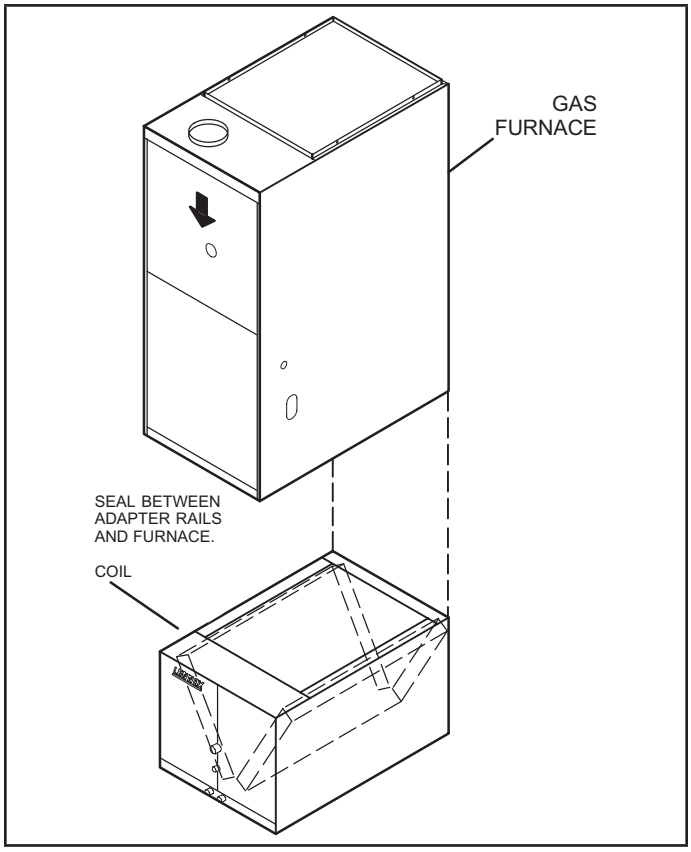


Figure 1. Gas Furnace and Coil

⚠ CAUTION

If the furnace flange height is greater than 5/8" (16 mm), damage may occur to coil. Notch flange so that it does not contact coil slabs.

1. Lower plenum through floor opening—Align the base of the unit with the matching plenum, then lower the unit over the plenum. The coil cabinet must be either level or sloped slightly toward the drain outlet and secured and sealed to the plenum. **If the furnace and coil cabinet are the same size, skip to step 3.**

Unit	Side to Side	Front to Rear
-24A, -24B, -30/36B	14-1/4" (394 mm)	23" (584 mm)
-30/36C, -42B, -48C	19" (483 mm)	
-50/60C, -60D	22-1/2" (571 mm)	

Table 1. Floor Opening Dimensions

⚠ CAUTION

Do not install screws through the drain pan.

⚠ WARNING

There must be an airtight seal between the top of the furnace and the return air plenum. Use fiberglass sealing strips, caulking, or equivalent sealing method between the plenum and the furnace cabinet to ensure a tight seal. Return air must not be drawn from a room where this furnace or any gas-fueled appliance (i.e., water heater), or carbon monoxide-producing device (i.e., wood fireplace) is installed.

2. **Sealing**—Seal between the furnace cabinet and the coil cabinet to prevent air leaks.
3. As you lower the furnace onto the coil, align the flanges of the furnace and the coil cabinet.

Air Leakage

All indoor cabinets **MUST** be taped after installation to seal against any air leaks. System performance and efficiency will be reduced if air leakage exists.

Refrigerant Line Connections

The refrigerant line sets should be sized according to the recommendations given in the condensing unit or heat pump installation instructions (see Table 2 for sweat connection sizes). A field-provided adapter may be required to match line set connections.

NOTE: *Special consideration must be taken for line sets over 50 feet. See Refrigerant Piping Guidelines.*

Capacity	Suction (Vapor) Line Sweat Size	Liquid Line Sweat Size
All sizes	7/8 (22.0)	3/8 (9.5)
NOTE: Some applications may require a field-provided 7/8” to 1-1/8” adapter.		

Table 2. Refrigerant Line Connection Sizes - in (mm)

Brazing Coil Connections

NOTE: ***For R454B refrigerant installations,*** *do not braze the line set to the evaporator coil until the outdoor unit is installed. Line set joint sleeves must be installed on the liquid and suction lines prior to line set brazing. Refer to R454B Coil Conversion Kit (26Z69) instructions for installation details.*

1. Place a field-provided heat shield, such as a wet rag, against the piping plate and around the piping stubs, and sweat in the suction line. The heat shield must be in place to guard against heat damage to the paint.
2. Slide the liquid line compression nut onto the provided liquid line stub. Insert the field-supplied liquid line into the liquid line stub for brazing.
3. Braze liquid line and coil connections. Use a silver alloy brazing rod (5 or 6 percent silver alloy for copper-to-copper connections or 45 percent silver alloy for copper-to-brass or copper-to-steel connections).
4. Remove the heat shield after brazing and allow the connections to cool.

Metering Device Installation

7EDX coils include a factory-installed HFC-410A check/expansion valve metering device.

Connect the properly sized field-provided liquid line to the liquid line stub as shown in Figure 2 using one of the following procedures:

1. Position the properly sized refrigerant piping and make the brazed connection following the brazing guidelines.
2. Do not remove the water-saturated rags from the cabinet and piping until the piping has cooled completely.

OR

1. Cut the copper liquid line on a vertical or horizontal section. Use a field-provided coupling to join the properly sized field-provided refrigerant piping and and the liquid line stub on the coil. Follow the brazing guidelines.
2. Do not remove the water-saturated rags from the cabinet and piping until the piping has cooled completely.

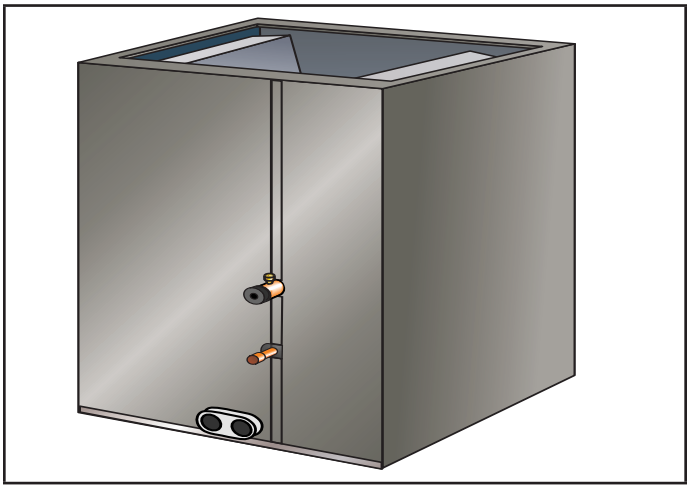
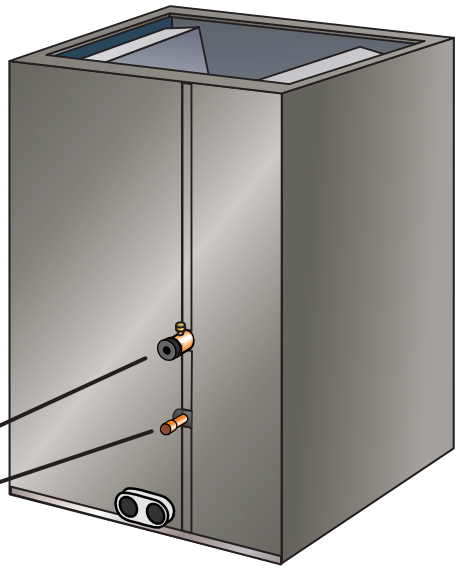


Figure 2. Liquid Line Connections

PLEASE READ IMPORTANT ISSUES CONCERNING BRAZING OPERATIONS ON PREVIOUS PAGE BEFORE PROCEEDING.

NOTE - *REFER TO OUTDOOR UNIT INSTALLATION INSTRUCTIONS FOR REFRIGERANT PIPING SIZE REQUIREMENTS.*

NOTE - *Use silver alloy brazing rods with five or six percent minimum silver alloy for copper-to-copper brazing, 45 percent alloy for copper-to-brass and copper-to-steel brazing.*



A REMOVE ACCESS PANEL

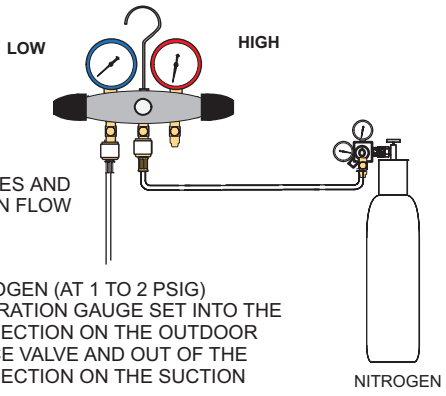
B REMOVE RUBBER PLUG FROM BOTH LIQUID AND SUCTION LINES

NOTE - *UNITS USE NITROGEN OR DRY AIR AS A HOLDING CHARGE. IF THERE IS NO PRESSURE WHEN THE RUBBER PLUGS ARE REMOVED, CHECK THE COIL FOR LEAKS BEFORE INSTALLING.*

C EITHER REMOVE OR PUSH PIPE WRAPPING BACK THROUGH HOLE IN PIPING PLATE BEFORE LINE SET CONNECTION AND BRAZING.

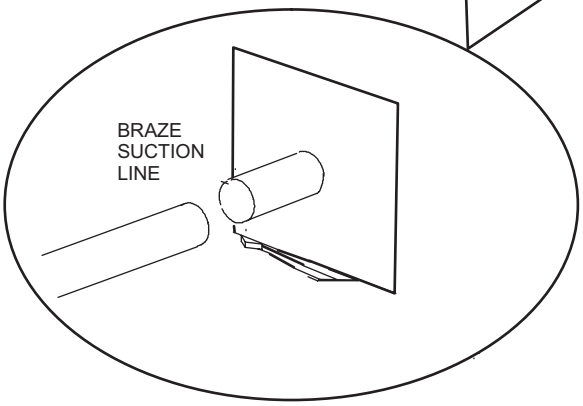
D CONNECT PIPES

NOTE - *REFRIGERANT LINE SETS SHOULD BE ROUTED TO ALLOW FILTER ACCESSIBILITY.*



E CONNECT GAUGES AND START NITROGEN FLOW

FLOW REGULATED NITROGEN (AT 1 TO 2 PSIG) THROUGH THE REFRIGERATION GAUGE SET INTO THE VALVE STEM PORT CONNECTION ON THE OUTDOOR UNIT LIQUID LINE SERVICE VALVE AND OUT OF THE VALVE STEM PORT CONNECTION ON THE SUCTION SERVICE VALVE.



F PLACE A WET RAG AGAINST PIPING PLATE AND AROUND THE SUCTION LINE CONNECTION.

G BRAZE CONNECTION. ALLOW PIPE TO COOL BEFORE REMOVING WET RAG FROM CTXV SENSING BULB AND PIPING PANEL AREA.

REFER TO INSTRUCTIONS PROVIDED WITH OUTDOOR UNIT FOR LEAK TESTING, EVACUATING AND CHARGING PROCEDURES

REFRIGERANT SYSTEM INSTALLATIONS SHALL BE INSTALLED AND TESTED PER ASHRAE STANDARD 15.2, SECTION 10.0 (LATEST EDITION)

Figure 3. Brazing Connections

Condensate Drain Installation

IMPORTANT

After removal of drain pan plug(s), check drain hole(s) to verify that drain opening is fully open and free of any debris. Also check to make sure that no debris has fallen into the drain pan during installation that may plug up the drain opening.

Main Drain

Connect the main drain and route downward to drain line or sump. Do not connect drain to a closed waste system. See Figure 4 for typical drain trap configuration.

Overflow Drain

The overflow drain **MUST** be connected and routed to a overflow drain line.

If the overflow drain is not connected, it must be plugged with field-provided cap or plug.

Best Practices

The following best practices are recommended to ensure better condensate removal:

- Main and overflow drain lines should NOT be smaller than both drain connections at drain pan.
- Overflow drain line should run to an area where homeowner will notice drainage.
- It is recommended that the overflow drain line be vented and a trap installed. Refer to local codes.

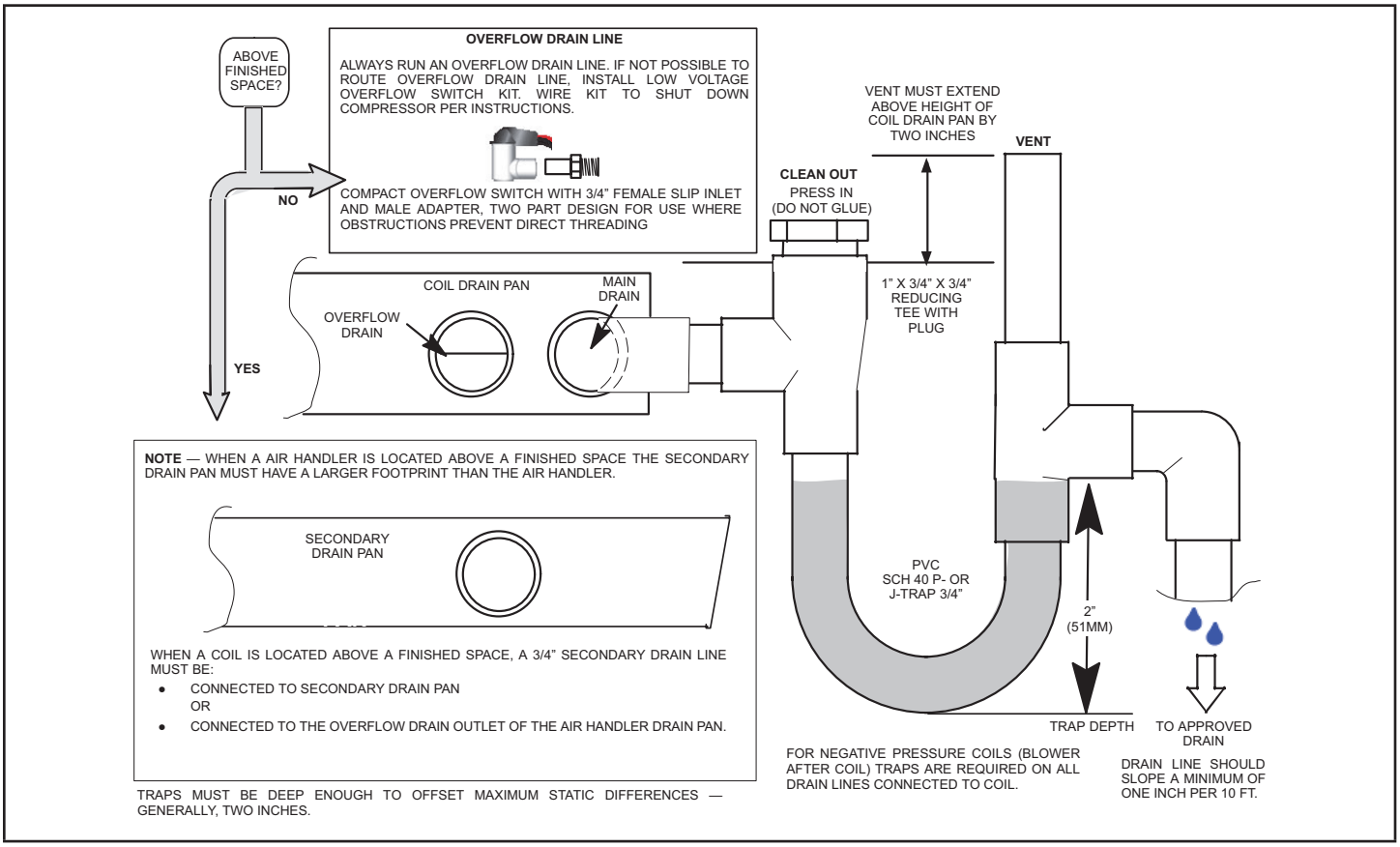


Figure 4. Typical Main and Overflow Drain Installations

Blower Speed Adjustment

Proper air volume MUST be provided over the evaporator coil. To ensure that the static pressure is within the proper range, take a draft gauge reading as follows:

1. Remove access panel.

CAUTION

Access panel must be removed before drilling air test holes.

2. Drill two 5/16” (8 mm) air test holes in the right front access panel; hole locations are shown in Figure 5. Replace the panel.
3. Connect draft gauge. Zero end of draft gauge scale connects to air entering hole of the coil. Insert gauge hoses into test holes about 5/16” (8 mm). Seal around holes with permagum.
4. Turn off power to the outdoor unit, then set the thermostat for high stage cooling.

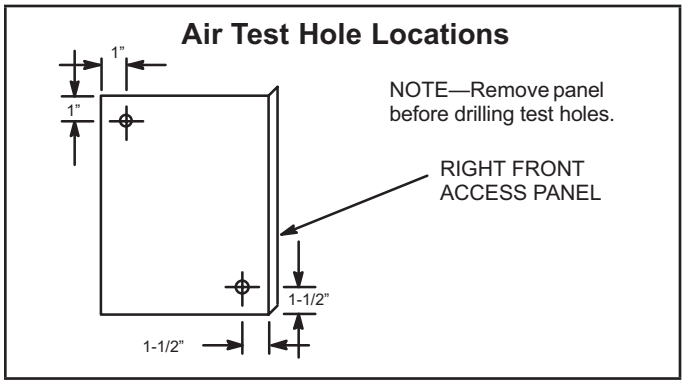


Figure 5. Air Test Hole Locations

5. Table 3 lists the range of air volumes and equivalent draft gauge readings for this unit. Observe draft gauge reading. If reading is above required air volume, decrease blower speed. Refer to furnace wiring diagram for changing direct drive blower speed. Do not exceed maximum air volume as indicated in diagram blower speed table.
6. After required draft gauge readings are obtained, remove draft lines and seal air test holes.
7. Set the room thermostat to desired temperature.

Nameplate Marking

Prior to installing the front panel, mark the unit nameplate to permanently identify the refrigerent configuration. Nameplate example shown in figure 6 below.

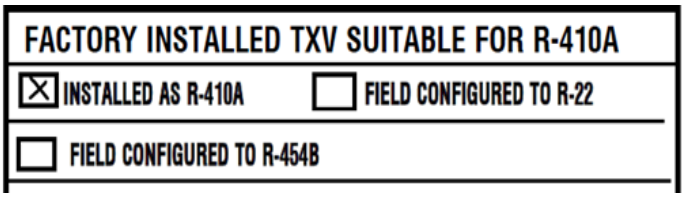


Figure 6. Nameplate Marking

Maintenance

⚠ IMPORTANT

Failure to follow instructions will cause damage to the unit.

This unit is equipped with an aluminum coil. Aluminum coils may be damaged by exposure to solutions with a pH below 5 or above 9. The aluminum coil should be cleaned using potable water at a moderate pressure (less than 50psi). If the coil cannot be cleaned using water alone, it is recommended to use a coil cleaner with a pH in the range of 5 to 9. The coil must be rinsed thoroughly after cleaning.

A trained technician or service agency must perform maintenance and service on equipment. At the beginning of each heating or cooling season, indoor coils should be inspected to determine whether the coil requires cleaning.

Cleaning the Coil

1. Remove the coil from the cabinet and take the coil to an appropriate place to clean it.
2. Vacuum or brush the coil to remove matted and surface debris from the fin. Use vacuum attachments and/or brushes that are non-destructive to fins.
3. If oil deposits are present, spray the coil with a mild coil cleaner with a pH in the range of 5 to 9 to soften deposits. Do not leave the coil cleaner on the coil for more than 10 minutes. Flush the coil thoroughly with potable water.
4. Spray the coil at a vertical angle of 30 to 45 degrees with a constant stream of water at moderate pressure. A pressure washer with a fan nozzle will work best. Do not spray the coil from a horizontal direction.
5. Direct the spray so that any debris is washed out of the coil and base pan. For most residential units, hot water is not necessary.

   NOTE: *Attempting to back flush from the inside of the coil will require removing parts from the unit, and it may be very difficult to flush the whole coil surface. Attempting to blow water through a coil will slow the water stream and reduce the flushing action of the outer fin surface.*
6. Replace the coil into the cabinet or plenum. Ensure that you have followed the proper procedure for routing and securing the refrigerant tubing.

Use of Coil-Furnace System During Construction

Allied does not recommend the use of its coil-furnace system during any phase of construction. Very low return air temperatures, harmful vapors and operation of the unit with clogged or misplaced filters will damage the unit.

Coils may be used for heating (heat pumps) or cooling of buildings under construction, if the following conditions are met:

- A room thermostat must control the air handler. The use of fixed jumpers is not allowed.
- Air filter must be installed in the system and must be maintained during construction.
- Air filter must be replaced upon construction completion.
- The evaporator coil, furnace supply fan assembly and duct system must be thoroughly cleaned following final construction clean-up.
- All coil and furnace operating conditions must be verified according to these installation instructions.
- **R454B applications only:** If refrigerant leak detection sensor kit has been installed, ensure that sensor opening is clear and free of debris. Follow sensor maintenance recommendations as outlined in sensor kit instructions.

Model No.	Air Volume	Total Resistance	
		Dry Coil	Wet Coil
	cfm	in. w.g.	in. w.g.
7EDX -24A	400	0.08	0.09
	600	0.16	0.18
	800	0.29	0.33
	1000	0.45	0.49
7EDX-24B	600	0.11	0.13
	800	0.18	0.19
	1000	0.27	0.29
	1200	0.35	0.39
	1400	0.47	0.51
7EDX-30/36B	600	0.1	0.12
	800	0.15	0.18
	1000	0.24	0.27
	1200	0.32	0.36
	1400	0.43	0.47
7EDX-30/36C	600	0.05	0.08
	800	0.09	0.12
	1000	0.13	0.17
	1200	0.17	0.23
	1400	0.24	0.30
7EDX-42B	600	0.08	0.10
	800	0.12	0.14
	1000	0.18	0.22
	1200	0.25	0.30
	1400	0.34	0.39
	1600	0.43	0.49
7EDX-48C	800	0.09	0.10
	1000	0.11	0.13
	1200	0.15	0.18
	1400	0.21	0.23
	1600	0.26	0.30
	1800	0.34	0.37
	2000	0.4	0.44
7EDX-50/60C	800	0.09	0.11
	1000	0.12	0.14
	1200	0.16	0.20
	1400	0.22	0.24
	1600	0.27	0.32
	1800	0.33	0.38
	2000	0.4	0.46
7EDX-60D	800	0.09	0.08
	1000	0.13	0.13
	1200	0.18	0.16
	1400	0.16	0.21
	1600	0.2	0.26
	1800	0.24	0.32
	2000	0.29	0.39

Table 3. Air Resistance

Decommissioning

Before decommissioning, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered safely.

Before performing this task, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of recovered refrigerant. It is also essential that electrical power is available before starting decommissioning.

1. Become familiar with the equipment and its operation.
2. Isolate system electrically.
3. Before attempting the procedure, ensure that:
    a. mechanical handling equipment is available, if required, for handling refrigerant cylinders;
    b. all personal protective equipment is available and being used correctly;
    c. the recovery process is supervised at all times by a competent person;
    d. recovery equipment and cylinders conform to the appropriate standards.
4. Pump down refrigerant system, if possible.
5. If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
6. Make sure that cylinder is situated on the scales before recovery takes place.
7. Start the recovery machine and operate in accordance with instructions.
8. Do not overfill cylinders (no more than 80% volume liquid charge).
9. Do not exceed the maximum working pressure of the cylinder, even temporarily.
10. When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
11. Recovered refrigerant shall not be charged into another REFRIGERATING SYSTEM unless it has been cleaned and checked.