Air Handler TXV Conversion
R-22 to R-410A
7.5-20 Tons

Note: Read instructions completely before starting conversion. This procedure is intended to be performed only by a properly trained, equipped, and qualified air conditioning service technician.

IMPORTANT

It is recommended that a new line set be used when replacing an existing R-22 system with an R-410A system. In cases where replacing the line set is not possible, the line set must be flushed prior to installation of the R-410A system. It is also important to flush any existing traps.

Polyol ester (POE) oils are used in units charged with R-410A refrigerant. Excess residual mineral oil may negatively affect system performance.

Failure to properly flush the system will void the unit warranty.

IMPORTANT

The Environmental Protection Agency prohibits the intentional venting of HCFC and HFC refrigerants during maintenance, service, repair and disposal of appliance. Approved methods of recovery, recycling or reclaiming must be followed.

Required Equipment

The following items and equipment will be required to convert the air handler to R-410A operation and to flush the existing indoor coil and line set:

- Correct TXV kit for air handler being converted. Each kit contains two (2) TXV's.
- R-22 recovery cylinder(s).
- Refrigerant re-claimer with pump down feature.
- Gauge sets for R-22 and R-410A.
- Oxy/acetylene torch set with tips appropriate for the tube & fitting sizes on the unit.
- Sufficient quantity of clean R-22 to adequately flush lines and air handler as indicated.

    - **3/4" diameter suction line:** 1/4 lb. per foot of line.
    - **7/8" diameter suction line:** 1/3 lb. per foot of line.
    - **1-1/8" diameter suction line:** 1/2 lb. per foot of line.
    - **1-3/8" diameter suction line:** 2/3 lb. per foot of line.
    - **1-5/8" diameter suction line:** 1.0 lb. per foot of line.

Refrigerant Quantities for Air Handler Flushing:

RHGG-090 – 17 lbs. **RHGG-120 – 22 lbs.**
RHGG-180 – 27 lbs. **RHGG-240 – 36 lbs.**

Example: *An RHGG-090 air handler with 30 feet of 1-1/8" suction line would require 15 lb of R-22 to adequately flush the lines (1/2 lb./ft. x 30 ft. = 15 lb.)* ***plus*** *17 lbs. for the air handler* ***for a minimum total of 32 lbs.***

Remember that when the system is flushed you must always evacuate it with a recovery machine at the end of the procedure.

It is highly recommended that the air handler be replaced with the correct R-410A model. If replacement is not possible, the R-22 TXV's in the air handler can be replaced with R-410A valves using the following procedure thereby converting the air handler for R-410A operation.

1. Disconnect all power to existing R-22 condensing unit and air handler.
2. Recover R-22 refrigerant from system.
3. Disconnect suction and liquid lines from outdoor unit.
4. The indoor coil can be flushed by either of the following methods:
    a. Unscrew the bottom cap of each TXV, remove the valve internals, replace the caps and flush as described below.
    b. Un-braze the TXV's and connect short line sections between each air handler liquid line and the associated TXV distributor. Flush as described below. Use a wet cloth or heat block compound to protect distributor tubes.

Note: The 6.5 ton and larger condensing units and heat pump outdoor sections are charged at the factory with dry nitrogen which must be released before evacuation and charging with refrigerant.

5. Connect short pieces of line with service access fittings to the suction and liquid lines that were removed from the outdoor section.
6. Completely flush the indoor coil and lines in the direction of normal refrigerant flow with the minimum quantities of refrigerant shown above using an appropriate refrigerant recovery technique.
7. Remove air handler temporary line connections that were used for flushing.
8. Install new R-410A TXV's in air handler taking care to keep the valve body and power head from being overheated. If method 4a was used for flushing the old TXV's will have to be removed prior to installation of the new ones. Use a wet cloth or heat block compound as necessary.
9. Remove fittings used for flushing on outdoor lines and connect suction and discharge lines to new R-410A condensing unit.
10. If the outdoor section is being replaced as a result of a compressor burnout, install a properly sized suction line filter/dryer.
11. Evacuate and charge the new condensing unit as described in the condensing unit I & O instructions.
12. Restore power to indoor and outdoor sections and verify correct operation.
13. Apply included R-410A label to air handler in a conspicuous location to notify that it has been converted for R-410A operation.