

# Best Practices for Ductless Heat Pump Installations

## *A Contractor's Guide*



A quality ductless heat pump installation results from attention to details including: tools, installation and homeowner education. This guide provides information and suggestions to help you achieve successful ductless heat pump installations. Quality installations result in minimal call backs, more customer referrals, and increased awareness of ductless heat pump technology.

### Required Tools



R410A Specific Flaring Tools

Programmable Refrigerant Charging Scale

Torque Wrench

R410A Gauge and Hose Set

### Installation Best Practices

• Follow manufacturers' installation instructions. This guide is not intended to replace manufacturers' specifications.



#### Outdoor Unit (Compressor):

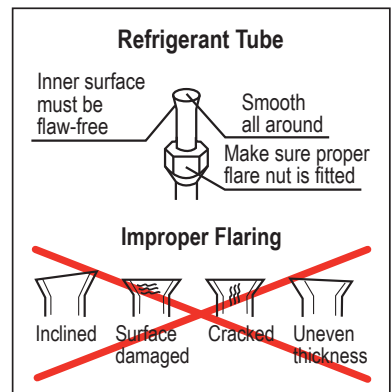
- Set the unit on a stable, level surface.
- Risers are essential to prevent snow and debris build-up and should be installed to allow better drainage of defrost water.
- Outdoor units should be secured to the pad, risers, and/or surface on which they are set using bolts and/or adhesive.

#### Refrigerant Tubing:

- Factory tubing flares and fittings are NOT TO BE REUSED.
- Create new flares using appropriate R410A flaring tool & measurement gauge.
- Apply refrigerant oil to the end of each flare.
- Connect tubing with R410A nuts (supplied with indoor and outdoor units) using a torque wrench tightened to manufacturer's specifications.

#### Refrigerant Charge:

- Adjust refrigerant charge ONLY IF NECESSARY. Most installations do not require adjustment from pre-charge levels.
- Gauges are not needed to verify refrigerant levels. (A scale should be used when adding or removing refrigerant.)
- Consult the manufacturer's installation manual to verify refrigerant protocols, specifications can often change.



#### Line Set Insulation and Protection

- Insulation must cover entire line set length to avoid condensation and decreased efficiency.
- Once insulated, protect the outdoor portion of line set with rigid line hide to avoid premature degradation damage to the insulation.
- All penetrations through the shell of the home must be sealed with an insulative sealant.

#### Condensate Drain:

- Must slope downhill and can be routed with line set or run to a different termination point.



### Homeowner Education

- Ensure homeowner has a copy of the Manufacturers Operation Manual that is provided with the indoor unit. Refer to this manual as you perform a walkthrough of unit operation.
- Provide homeowner with a copy of the “Homeowner's Guide” and remind homeowners of [www.GoingDuctless.com](http://www.GoingDuctless.com) for more information about ductless heating and cooling systems.
- Educated homeowners reduce call backs and promote your services!

### Contractor Resources

- For information on becoming a Project-oriented contractor, visit [www.NWDuctless.com](http://www.NWDuctless.com) or call (503) 808-9003. Project-oriented contractors are eligible to perform installations that receive utility rebates of up to \$1,500!

### Well Installed Outdoor and Indoor Unit = Happy Homeowner

Wall Penetrations Sealed With Insulative Sealant

Rigid Line Hide

Riser Block

Anchor Foot to Riser

Adhesive

Pad

Compacted Ground

Indoor Unit is Installed High on Wall

Indoor Unit is Level

Indoor Unit is Centrally Located in Home for Best Air Circulation

Disclaimer: This document is only to be used as a general guide for providing quality installations. For complete information regarding installation requirements, features, benefits, operation, and maintenance, review the manufacturer’s installation manual of the product being installed. Images of specific manufacturer product lines are not placed as endorsements, nor does this guide guarantee their quality.

An initiative of the Northwest Energy Efficiency Alliance, an alliance of NW Utilities and energy efficiency partners.