BEST PRACTICES FOR INSTALLING

DUCTLESS

HEATING & COOLING **SYSTEMS**

A CONTRACTOR'S GUIDE

Generate customer referrals and increase sales through quality installations. Properly installed ductless systems heat and cool homes at a fraction of the cost of baseboard and wall heaters. By following installation best practices and providing homeowner education you will ensure satisfied customers.

Installation Best Practices

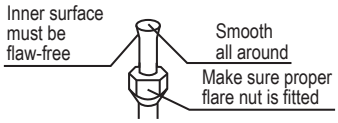
Follow manufacturer's installation instructions. This guide is not intended to replace manufacturer's specifications.

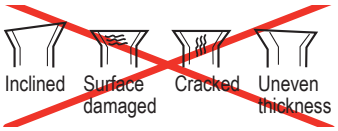
OUTDOOR UNIT (COMPRESSOR)

- Set the unit on a stable, level surface
- Utilize risers to prevent debris and snow build-up to allow better defrost water drainage
- Secure outdoor units to a pad, risers and/or the surface on which they are set using bolts and/or adhesive

REFRIGERANT TUBING

- DO NOT REUSE factory tubing flares and fittings
- Create new flares using appropriate R410A flaring tool and measurement gauge
- Apply refrigerant oil to the ends of each flare
- Connect tubing on indoor and outdoor units with R410A nuts (supplied with units) using a torque wrench tightened to manufacturer's specifications





CONDENSATE DRAIN

- Must slope downhill and can be routed with line set or run to a different termination point
- Cannot terminate in a crawlspace or on a pathway

Required Tools

Ratchet Flaring Tool

Programmable Refrigerant Charging Scale

R410A Gauge and Hose Set

Torque Wrench

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; if an adjustment is needed, use a scale when adding/removing refrigerant
- Consult manufacturer's installation manual to verify refrigerant protocols as specifications change often

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 cover to avoid premature insulation damage
- Add UV tape as needed to ensure entire length is UV protected

- All penetrations through the shell of the home must be sealed with insulative sealant, any insulation disturbed by installed line set must be returned to original (or better) condition

COLD CLIMATE RECOMMENDATIONS

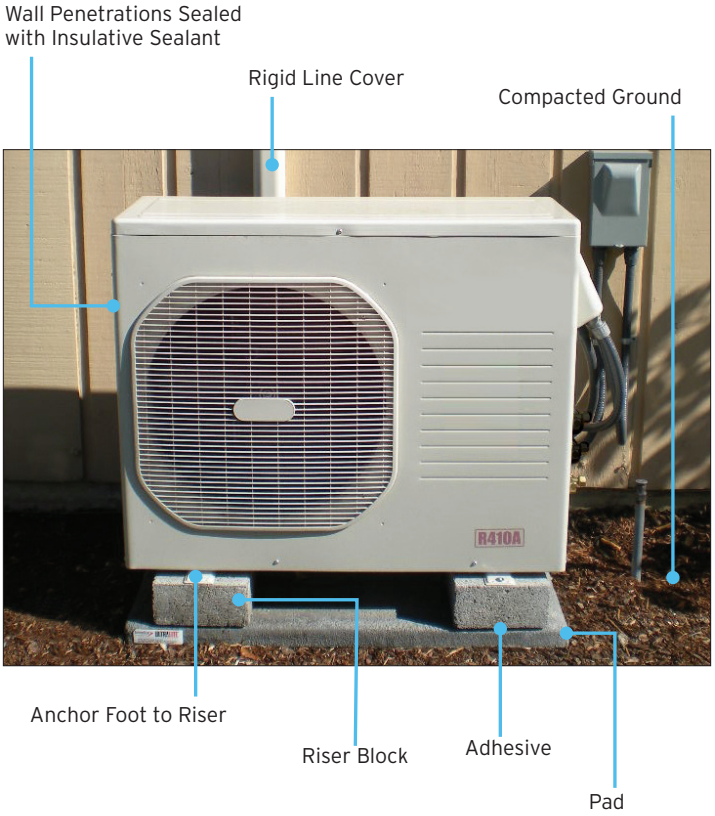
- Use a pan heater to avoid defrost discharge freezing inside compressor
- Increase clearance under the outdoor unit to promote easy drainage and reduce snow and ice build-up
- Consider wall-mount brackets to maximize outdoor unit clearance

Homeowner Education

Educating homeowners about their new ductless system will reduce call backs and generate referrals from satisfied customers.

- Ensure the homeowner has a copy of the manufacturer's operation manual that comes with the indoor unit and refer to the manual during your unit operation walk-through or training
- Provide your customer with a copy of the Project's "Homeowner's Guide" and remind the homeowner that GoingDuctless.com has more information about ductless heating and cooling systems

Well-Installed Outdoor + Indoor Units = Satisfied Homeowner



CONTRACTOR RESOURCES

For more information visit **GoingDuctless.com** or call (503) 467-2159.

"I think that it is the best way to heat and cool my house by far. I will never live without one from now on."

Ryan—Polson, Mont.

The NW Ductless Heat Pump Project is an initiative of the Northwest Energy Efficiency Alliance, an alliance of the Northwest utilities and energy efficiency partners.