Air Source Heat Pumps

Save Energy and Add Comfort

When Dave and Mary Larsen set out to build their new home in 2010, comfort, design and energy efficiency were major considerations. The recently retired couple knew they wanted a single-story house with an open floor plan and lots of natural light. They chose high performance windows and appliances and decided to heat and cool their home with a combination of in-floor radiant heating and an energy-efficient mini-split ductless air source heat pump (ASHP).

“We wanted the nice, comfortable, neutral warmth and aesthetics of the in-floor slab heating, and our builder suggested the mini-split for summer cooling and for heating in the spring and fall,” said Mary Larsen.

“Neither of us wanted the artificial cold drafts or noise associated with traditional air conditioning, so this sounded like a good option.”

ASHPs use electricity to transfer energy between indoor and outdoor air. In the cooling mode, the heat pump moves heat from inside to outside the home. In the heating mode, the refrigerant is reversed to extract low-temperature heat from outdoors and deliver concentrated high-temperature heat to the indoor living space.

There are two types of ASHPs. Mini-split ductless systems have an outdoor condenser and one or more wall-mounted air-handling units in key locations throughout the house. They typically are installed in homes without ductwork, such as those with electric baseboard, slab or hydronic (boiler) heat. Furnace-integrated ASHPs are installed in homes with forced-air systems (ducts) and existing electric or fossil fuel heat.

Dave and Mary Larsen enjoy the comfort and energy savings of their ASHP.
cont. Properly sized and installed, ASHPs typically can satisfy 100 percent of a home’s air conditioning needs and provide energy-efficient heating in late fall and early spring when temperatures are chilly but not well below freezing.

“As it gets cold outside, there is less heat available to extract,” said Ben LaLone, operations manager, Summit Mechanical Service, Inc., of Duluth, Minn.

“Most of the units we are putting in can heat a home to the satisfaction of homeowners down to about 25° F. to 30° F. before another heat source is needed.”

This makes them attractive even in cold-climate areas like Minnesota and Wisconsin where they help homeowners save energy and money, delivering up to three times more heating energy to a home than the electricity they consume.

Knowledgeable contractors can help homeowners choose equipment and systems that are the right fit for their specific applications and meet their energy-saving goals and performance expectations.

“Delivering quality products and installations is good for business and for our industry,” LaLone said. “It benefits contractors and homeowners.”

Minnesota Power encourages quality installations by requiring that program participating contractors be used to install ASHPs in order for homeowners to qualify for rebates.

“It was wonderful to work with Ben LaLone and the entire Summit Mechanical Service staff during our entire building process and on an ongoing basis since then,” said Mary Larsen. “They are just so amazing to work with, it made the entire building experience a pleasure.”

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www.mnpower.com/powerofone

Featured Incentives

Educate your customers about Minnesota Power’s conservation incentives and build your business on energy efficiency:

ASHP Bonus—$50 bonus on qualifying ASHP installations, through Aug. 31, 2013 (in addition to these standard ASHP rebates):

Standard ASHP Rebates for Electrically Heated Homes

» $500 rebate on new mini-split ductless ASHP systems
» $300 rebate on furnace-integrated ASHPs using an existing fan motor
» $500 total rebate on furnace-integrated ASHPs with an ECM fan motor

Standard ASHP Rebates for Non-Electrically Heated Homes

» $375 combo rebate on ECM fan motor for new, non-electric forced air furnaces with central air conditioning (CAC) or ASHP
» $250 combo rebate on CAC or ASHP and new ECM fan motor for existing, non-electric forced air furnace
» $50 ASHP proper installation rebate for non-electric forced-air or ductless system
» Visit www.mnpower.com/ASHPRebates to learn more and download your $50 bonus coupon! Systems must be installed by a participating contractor.

Ground Source Heat Pump (GSHP) Bonus—$100 bonus for GSHP in approved Triple E new construction, through December 31, 2013. With $100 bonus, rebates are $300/ton on closed loop systems and $200/ton on open loop systems, for a maximum rebate of $2,100.

Saving energy is like finding money … through effective energy choices. Visit www.mnpower.com/foundmoney for more complete information on rebates and other energy-saving tools to help your customers and build your business on energy efficiency.