



J.A. Smith



Heating & Air Conditioning, Inc.

360 Patricia Drive

Warminster, Pa. 18974

(215) 956-9400 Fax (215)672-5116

E-mail info@Jasmithheating.com www.Jasmithheating.com

Intelligencer's "Best of Bucks Mont" past 1st Place HVAC Contractor

Montgomery Newspapers 2007 & 2008 Reader's Choice 1st Place Air Conditioning Contractor

August 20, 2008

Ductless split system air conditioners and heat pumps

There has been a lot of interest in the past few years about ductless split units. This sheet will hopefully give you a better idea on what they are and what is the best application for their use.

Manufacturers. When they first appeared on the scene in the early 1990s, Sanyo and Mitsubishi were the primary brands. Since then many more manufacturers are offering ductless splits such as: Samsung, Fujitsu, LG, EMI, and many others.

Overview Ductless split units are as the name implies, ductless. They can provide heating and cooling without ducts. The indoor console has a very quiet fan and the air is delivered into the room directly out of the front grill on the indoor unit. They are also as the name implies, split. That is there is an indoor unit and there is an outdoor unit connected by refrigerant lines and wiring. This is as opposed to a standard "window" style air conditioner where all of the unit's parts are together in one package.

The major advantages of a ductless split unit over a window air conditioner are:

- Quieter- the ductless split compressor sits outside on the ground, not in your window. Many ductless split units have a variable speed indoor fan motor for even quieter operation.
- Higher efficiency- ductless units are much more efficient than window units. 13-17 SEER is common.
- Security- ductless units let you keep you window shut and locked. Window units do not.
- Air leakage- ductless units do not increase air leakage from inside to outside in the summer or the winter, nor do they block sunlight. Ductless units are permanently installed and do not need to be removed in the fall like window units, reducing your chance of hurting yourself in the process.
- Enhanced home value- Ductless units are "central air conditioning" and will add to the value of your home.

Application Ductless split units are very popular in applications where there is no existing duct system and there is no easy way to install a duct system. Their average cost per ton is usually *higher* than a quote with a conventional duct system. But by using ductless units you may be able to reduce or eliminate your patching and painting costs associated with the project. Another benefit of using multiple ductless units instead of one conventional ducted unit is that you would end up with more zones (and more thermostats). This will enhance temperature control and provide a certain amount of redundancy since it is unlikely that more than one unit would need service at a time.

Another popular application for ductless split units is for small one or two room additions to a house and finished basements. Ductless split units are available in much small sizes than conventional units and this makes it easy to get the right size for your project.

Ductless split units have been used widely for churches and other meeting places as they are extremely quiet.

Heating and or Cooling Ductless split units are available in a cooling only style and also a combined heating-cooling unit. The combined unit is a heat pump and is a very efficient way to heat your space. In addition the heat pump is a very "Green" machine as it uses the outside air as its heat source. While it is very efficient and very environmentally friendly, heat pumps do require supplemental heat in the coldest weather since there is less heat outside to absorb then. Most ductless split heat pumps do not come with any supplemental heat built into them so you will need to allow for that in other ways such as; baseboard electric heat, natural gas or propane fire place, etc.