

About Forced Hot Air

Hot water systems use one or more pumps to circulate the hot water to under-window baseboard radiation or embedded floor or ceiling piping. These systems are often used in cold climates as they also employ the conductive and radiation effect to offset the cold radiated from walls and windows. If used, separate provisions are required for air-conditioning. Steam systems using radiators are rarely used in homes today, except in older buildings in cold climates.

Hot air systems are most often chosen when you plan to include air-conditioning or add it in the future. A hot air system would typically include a factory-assembled furnace with fan, air filter and heating section. For heating only, the furnace can be either electric, gas or oil.

When the home is air-conditioned, an electric heat pump or a gas or oil furnace with an installed cooling coil is piped to an electric compressor/condenser unit located outdoors.

The heat pump can be either a single unit located either indoors or outdoors or a split system with a fan/filter/coil unit indoors connected to a compressor/condenser unit located outdoors. An electric strip heater is usually installed for back-up heating or to supplement the heat pump in the coldest weather.

If you air-condition your home, another choice is to use a heat pump to provide economical heating when it is not too cold outside (which in many areas is most of the time) and then use a gas or oil furnace to provide lower-cost heating during the coldest weather.

In all hot air systems, these units are coupled with an air-duct and register/grille system to distribute the heated air to the rooms in the home. They are also provided with a thermostat control to regulate the system operation. During the heating season, set your thermostat to the lowest temperature at which you and your family are comfortable and don't change it often. While frequent changes will use more energy, it's recommended that you set back the temperature at night.

In the typical U.S. home, especially ones in colder climates, heating may be the largest energy expense. That means heating can consume up to one third or more of your energy dollar expense. Heating and air conditioning combined can account for 50% or more of your annual energy use.

On existing systems, concentrate your energy saving efforts on improving the home's energy efficiency - sealing cracks and leaking ducts, improving insulation, better controls, storm or multiple-pane windows, keep air filters clean, and the like.

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