

BASE Buildings HVAC Characteristics: Heating System Equipment - Primary and Secondary

	Number of Buildings Reporting	
	Primary Heating System ¹	Secondary Heating System ¹
Heating System Equipment		
Steam or Hot Water Boiler	60	1
Central System With Heating Coils	49	9
Reheat Coils in Air Distribution System	41	19
Packaged Units	4	11
Forced Air Furnace	2	2
Heat Pump	2	10
Ducted Air Distribution	81	6
Fan Coil Units	8	25
Individual Space Heating	1	7
Fin-Tube Radiators	26	17
Electric Baseboard	1	20
Makeup Air Units	9	8
Total Number of Buildings Reporting	100	100
<p><u>Notes:</u> ¹Based on those buildings in the dataset that had heating systems (n=100). Values within each column add up to greater than 100 as some buildings had more than one primary or secondary heating system equipment entered into the database.</p>		

Variable Descriptions:

Primary Heating System is the equipment that provides heating to the majority of the building.

Secondary Heating System is the equipment that provides heating to the remaining areas of the building or serves as back up to the primary system.

The following heating system categories apply:

Steam or Hot Water Boilers produce hot water or steam which is delivered through pipes to space heating equipment. Key components to a boiler are the combustion chamber, burner, and the heat exchanger.

Central System with Heating Coils are air conditioning systems that are centrally located in the building, or on the building roof. These units may provide heating using a hot water or steam heating coils.

Reheat Coils in Air Distribution System are heating coils that are located in the ductwork near the distribution point to control the temperature in an individual zone.

Packaged Units are factory assembled air conditioning units equipped with the ability to heat or cool. Heating is generally provided using gas fired heat exchanger or electric resistance heating coils.

Forced Air Furnace heats by delivering warmed air to the spaces in a building. Components of the furnace are a heat exchanger, fuel burner, and air blower.

Heat Pumps are factory assembled units with the capacity to heat and cool. A single system can be used to condition an entire building or individual zones. Heat pump types include air-to-air, water-to-air, air-to-water, and water-to-water. Ventilation air may be supplied by a central system to the individual units through a system of ductwork or the individual units may provide ventilation.

Ducted Air Distribution a network of ducts to carry the air to the rooms to be heated or cooled.

Fan Coil Units consist of a finned-tube coil supplied with hot or chilled water from a central source and a fan that circulates room air over the coil. These units are sometimes provided with an outdoor air connection through the exterior wall. Temperature controllers in the unit meter the chilled or hot water to the coil.

Individual Space Heating is a unit that is located in and provides heat for the room where it is located.

Fin-Tube Radiators are hydronic terminal units equipped with metal fins that dissipate the heat from the hot water in the piping through natural convection.

Electric Baseboard are electric terminal units that heat by electrical resistance and natural convection.

Makeup Air Units are fan units that solely provide outdoor air to the building.