Hydronic fan coil heating unit

How does it work?

The heating system uses a gas water heater to furnish heat to the space of a residence, as well as its domestic hot water. A simple recirculating loop of hot water is tapped off near the top of the heater and is circulated through a finned tube heat exchanger in an air handler or duct coil that furnishes warmed air to the space. The cooled water (140°cooled to about 120°) is then returned to the water heater, near the bottom of the tank. The air handler includes a circulating pump and controls, piped and wired.
The water heater may include side tappings to provide the recirculating loop connections. When a conventional heater is used, special fittings including check valves are used at the hot and cold water connections.
The control of the heating system is very simple. A conventional heating or heating/cooling thermostat is used. On a call for heat, the hot water circulator is energized through a relay, as is the blower motor. Hot water immediately begins circulating through the heat exchanger, and heats the air. Typical leaving air temperatures are 95° –105°. When the thermostat is satisfied, the pump and blower both stop.

Efficiency

The system is only as efficient as the water heater. If it's a standard efficiency direct vent, power vent, or natural draft water heater the system is inefficient. With a 90%+ efficient water heater or boiler the system is considered efficient.

Cost to Operate

Since every household has different energy consumption and needs (based on a multitude of factors) the cost to operate can vary. Taking into account all factors though, the cost to operate should be in the same range as a gas fired furnace. It is recommended that you monitor your energy bills to confirm.