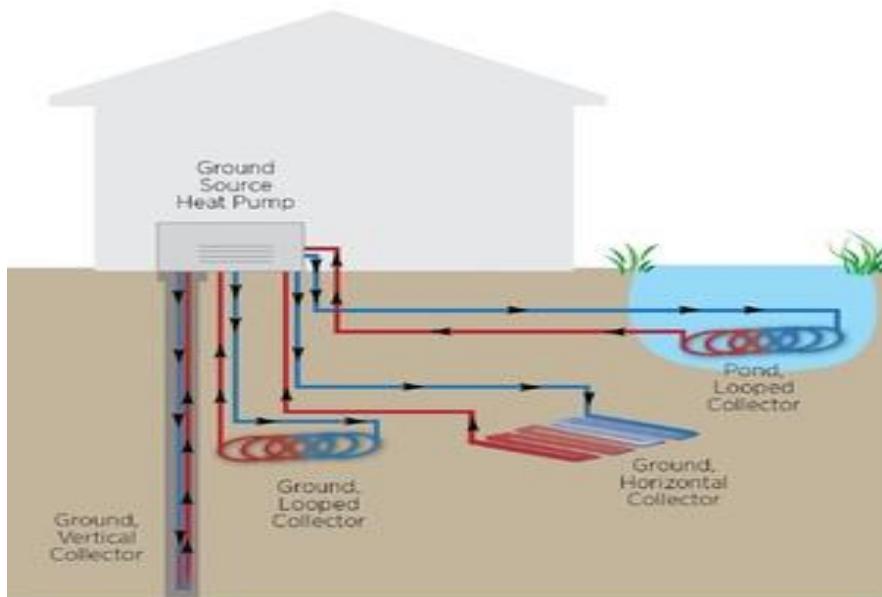




Water-To-Water Heat Pump Systems

A water-to-water heat pump system is a renewable heating and cooling solution that uses water as both the energy source and the distribution medium. It extracts low-grade heat from groundwater, lakes, or geothermal loops and upgrades it to provide hot water for underfloor heating, radiators, or domestic use. In cooling mode, the system reverses the process, absorbing heat from the building and transferring it back into the water source. This closed-loop design delivers high efficiency, quiet operation, and year-round comfort.



Key Features

- Delivers excellent performance by using stable water or ground temperatures as the energy source.
- Harnesses natural groundwater, lakes, rivers, or geothermal loops for sustainable heating and cooling.
- Dual function, provides both heating and cooling, plus domestic hot water.
- Less affected by outdoor air temperature changes, making it reliable year-round.
- Long system lifespan when designed and maintained properly.

Considerations

- Water source availability, requires access to groundwater, lakes, rivers, or a geothermal loops.
- Space requirements for plant equipment, storage tanks, and possibly boreholes or ground loops.
- Water quality and chemistry (minerals, iron, hardness) can impact system efficiency and maintenance needs.
- Maintenance considerably low, but water-side components and filters require periodic inspection.

Applications

- Efficient heating, cooling, and domestic hot water for residential homes.
- Multi-residential developments, apartments or complexes with centralised hydronic systems.
- Commercial buildings such as offices, retail spaces, and hospitality venues where consistent year-round performance is needed.
- Pairs well with geothermal loops, solar thermal, or hybrid energy systems for maximum efficiency.