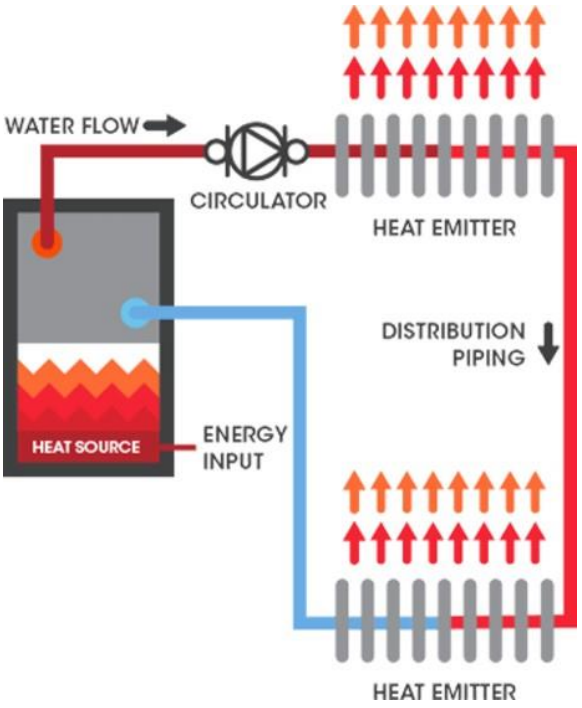
HYDRONIC HEATING AND COOLING

What is Hydronic Heating & Cooling?

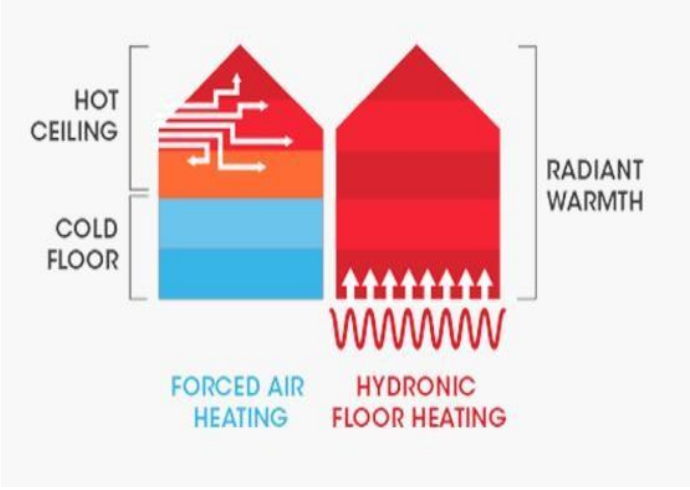
Hydronic heating is the use of water as the heating or cooling transfer medium to heat or cool a room for climate control. The water is contained in a closed system of water pipes continually heating or cooling the water from an energy source to transfer heat into or take heat away from rooms as required. This provides better climate control for human comfort.



Hydronic systems have been used for thousands of years. The Romans used hydronic systems in ancient times for heating spa water.

In using hydronics for space heating, the heat can be delivered underneath your floor and rises naturally so you feel a lovely warmth from a low gentle heat that is not blown at you.

This is also good for your hydronic system because lower heat means less pressure and wear and tear on all components of your hydronic heating and cooling (in reverse cycle) system.



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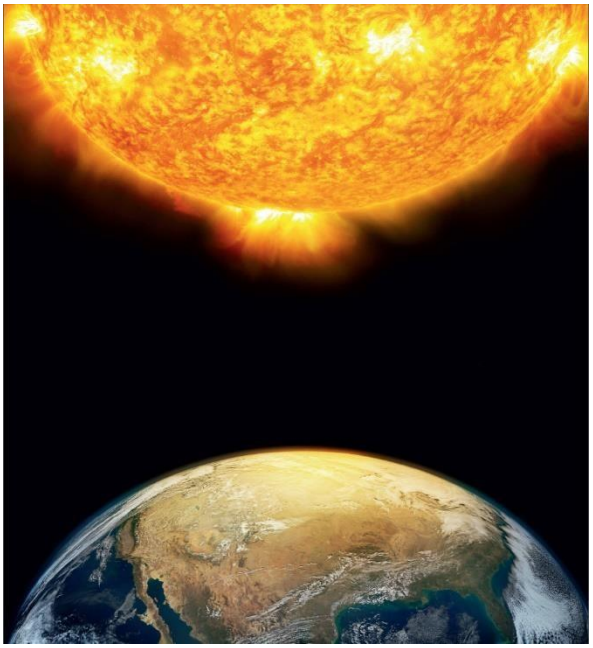
What is Solar Hydronic Heating & Cooling?

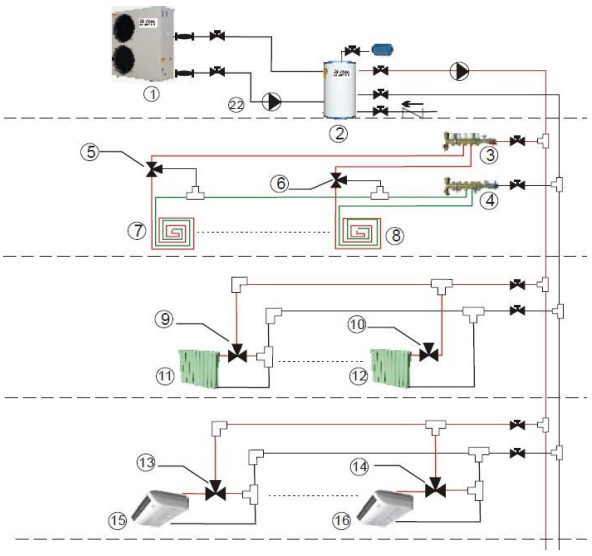


Solar hydronic heating & cooling makes use of the sun to provide the energy source for hydronic heating and cooling. Therefore, **sun and water** are the key ingredients of a solar hydronic heating & cooling system.

A heat pump exploits the solar energy transferred to the warm air we breathe, and so can use this energy both day and night, rain and shine. It does not depend on direct radiation from the sun.

A heat pump uses a similar refrigeration system to a refrigerator or air conditioner. It takes the heat from the air and transfers it to the water via a heat exchanger where very hot compressed refrigerant gas is transferred to the water, or cooled in reverse cycle, where a heat pump can absorb heat from the air in a room and cool it.

How does Hydronic Heating and Cooling work?



To make hydronic heating and cooling work, you need a hydronic system. This comprises hydronic heating and cooling source equipment, a network of water pipes, a water circulating pump, a buffer tank, an air evacuation valve, a low-pressure water supply valve, an expansion tank and a method to disperse or remove heat from rooms for climate control.

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There are many hydronic heating and cooling source methods available including air and ground source heat pumps, solar plates, evacuated tubes, gas boilers and wood wetback systems. With each of these, there are a many types, styles, brands and models to choose from.

Modern heat pumps can work effectively in sub zero air temperatures using refrigerants that boil at temperatures as low as minus 46˚C. This makes a temperature of minus 5˚C feel hot and so the heat pump can efficiently evaporate the liquid refrigerant into a gas to be compressed, heated and transferred to the hydronic water.

What Hydronic system is right for me?

With so many equipment choices and factors available, choosing the right hydronic system can be somewhat daunting.

To get an indication of what might work for you and the price, jump onto our online configurator, enter your information in response to the questions asked and receive an indicative quote.