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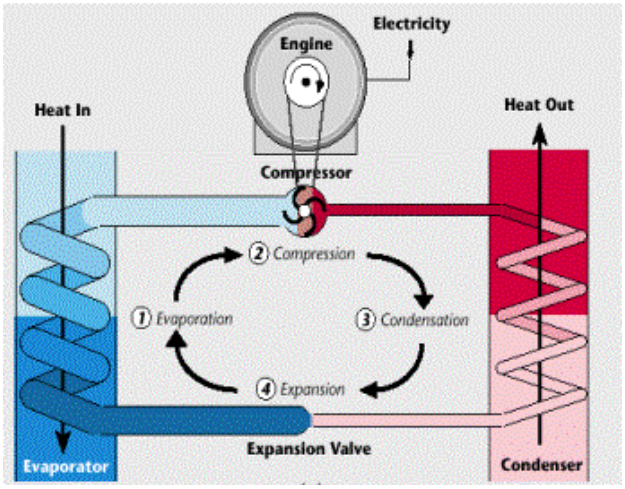
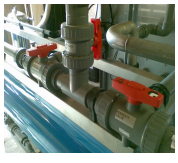
Complete Water Solutions

Background information on closed loop ground source heat pumps



Heat from the ground is absorbed at low temperatures into the fluid inside the ground loop buried underground, or submerged in a lake, the ground loops are usually around 50metres long and 1metre wide, the number of loops required will depend on the heat load of the property. The fluid then passes through a compressor that raises it to a higher temperature, passes through a heat exchanger and heats the load side of the heating system, this can then heat water for the heating and hot water circuits of the house. The cooled ground-loop fluid is circulated into the ground where it absorbs further energy from the ground in a continuous process as long as heating is required.

Normally the ground loop is laid flat or coiled in trenches about a metre deep,

but if there is not enough space in your garden you can install a vertical loop down into the ground to a depth of up to 100 metres for a typical domestic home. Although this is a costly option with each borehole costing over £3,000.

Heat pumps have some impact on the environment as they need electricity to run, but the heat they extract from the ground, the air, or water is constantly being renewed naturally.