

EARTHENERGY™



Health Centre



This low energy building uses an EarthEnergy system to provide heating and cooling to the underfloor system and to provide domestic hot water preheat. This installation is believed to be the first closed loop vertical ground source heat pump system to be commissioned in the UK. The 400 square metre building designed by the Cornish architect Barry Briscoe is constructed using a highly insulated timber frame system supplied by Thermatech.

The EarthEnergy groundworks comprise four vertical boreholes fitted with closed loop high density polyethylene pipework, sealed in place with bentonite grout. The borehole loops are manifolded together and taken back below ground surface to the plantroom where they are connected to the heat pump unit via twin circulating pumps. There is no external manifestation of the heating and cooling system at all - an important feature on this sensitive site - and with a building roofline that would be spoilt with flues or fans.

The heat pump is a Florida Heat Pump WP158 supplied by Hi-Cool Limited. The twin compressor, reverse cycle, water to water unit is connected via a buffer ring main to a multi-zone underfloor system by Wirsboro. A desuperheater unit provides hot water pre-heat to the domestic hot water system whenever the heat pump compressors are running.

Ground Loop	<i>Boreholes</i>
Heat Pump	<i>Florida Heat Pump WP158</i>
Distribution System	<i>Multi-zone underfloor</i>
Client	<i>Isles of Scilly Health Centre Trust</i>
Mechanical & Electrical	<i>Cornwall County Council</i>
Commissioned	<i>February 1997</i>