



Increased Design Flexibility

Geoexchange systems provide the architect with optimal design flexibility because the roof and landscape are free of chillers, air handlers and other outdoor equipment. Geoexchange can benefit a building's design because there is no need for unsightly and noisy rooftop equipment, such as split systems and cooling towers. Without the necessity of rooftop equipment, the architect is free to experiment with alternative roof styles. Eliminating rooftop equipment also reduces the load-bearing requirements of the roof structure. The air distribution ducts can be reduced, allowing for higher ceilings or reduced construction costs.

Increased Floor Space

With Geoexchange systems, boiler rooms can be eliminated and the size of mechanical rooms can be significantly reduced. Less mechanical space (1-3 % of GFA) means more productive space and more design freedom.

Increased reliability and reduced maintenance

The elimination of outdoor or rooftop equipment means the Geoexchange system is not exposed to temperature extremes, dirt, pollution or vandalism. For this reason, Geoexchange systems require less maintenance than conventional systems. Furthermore, Geoexchange systems retain their high efficiency over the years. Since units are protected from weather, equipment life is extended and cost of repairs due to vandalism is eliminated.

Increased Efficiency Means Cost Savings

Geoexchange systems typically operate with a Coefficient of Performance (COP) of 4 to 6 under all conditions, including temperature extremes. For example, a Geoexchange system typically saves 25 to 50 percent on heating and cooling bills, compared to other Technologies

Reduced CO2 Emissions

For every 2.5 hours of use, a Geoexchange system produces one kilogram less CO2 than a conventional HVAC system. For example, where the electrical source is a coal-fired power station, a 500 kW conventional system discharges 550 tonnes of CO2 p.a compared to 160 tonnes of CO2 p.a for a geoexchange system



Geo Climate Systems

Quiet Operation

Geoexchange systems have few moving parts and typically provide much quieter operation than conventional systems.

Increased Safety and Public Health

Geoexchange systems do not require a flue or chimney. Since there is no on-site combustion, there is less chance of fire, and no chance at all of carbon monoxide spilling back into the building. The absence of cooling towers also eliminates the potential threat of Legionnaire's disease.

Historical Buildings

Because Geoexchange systems are so flexible, they are ideal for renovating buildings with historical merit. One successful strategy is to use smaller heat pumps dispersed in closets, basements, and attics to provide space conditioning and ventilation with minimal ducting. Additionally, because the ground loop heat exchanger is completely invisible, there are no unsightly condensers on the roof or grounds to distract from the building's historic charm.

Marketing Point of Difference

Knowledge of and experience with geoexchange systems can be an effective marketing tool for the architectural firm.



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