

## Geothermal HVAC Design Software Suite Design, Simulation & Optimization

- Vertical Borehole
- Horizontal Trench
- Surface Water
- Piping System Builder
- Coaxial Heat Exchangers
- Hybrid Assistant
- Financial Modeler

for Geothermal Ground Heat Exchangers

### Features and Benefits

#### DESIGN FLEXIBILITY

- Vertical, Horizontal & Surface Water Designs
- Peak / Monthly / 8760 Hourly Simulations
- Fixed Length / Temperature Design Modes
- Automated Piping System Builder / Purging / Fluid Dynamics Simulator / Balancing Valves / Vaults / Manifolds / International Sizes
- Unsurpassed Financial Modeling Tools
- U-Bend or Coaxial exchangers

#### ENGINEERING FRIENDLY

- Import / Export Data to Other Industry Tools
- English / Metric Units; Professional Reports
- Peak-Shaving Hybrid Heating/Cooling Controls
- More than 1,000 Pre-Configured Heat Pumps
- Modular Design Tools for Real-World Designs

#### PROVEN WORLDWIDE

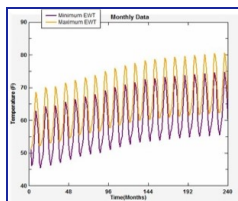
- Available in Multiple Languages
- ASHRAE / IGSHPA / European Standards
- International Pipe Sizes, Fluids and Tables
- Online Training Available

#### INDUSTRY STANDARD

- Used by 1,000's of Engineering Firms Worldwide
- Integrated into IGSHPA & University Curriculum
- Based on Industry Proven Theory
- ASHRAE financial outputs
- Unsurpassed Power

### Ground Loop Design™

Discover the #1 leading commercial GHX software design tool in the world. Ground Loop Design™ software is the choice of design professionals in over 62 countries and is the world's leading software suite for commercial geothermal heat pump and ground heat exchanger system design. The GLD Geothermal Design Suite enables designers to design the way they want: with power and extreme flexibility.

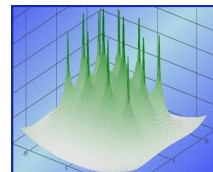


In development for more than 20 years, the GLD Geothermal Design Suite offers a comprehensive toolset that engineers need to quickly design cost-effective and high performance geothermal systems. GLD enables designers

to simulate an unlimited variety of loopfield configurations for any and all installation areas. With GLD, the Piping System Builder automates the full piping system and allows users to design with ease. Simulate loopfields with confidence and optimize the tradeoff between capital costs and operational savings with the complete GSA LifeCycle costing module.



GLD Runs natively on Windows® based systems and is available in standalone or network versions. MAC® and Linux users have the option of using one of many standard emulators.



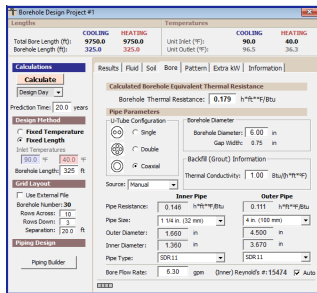
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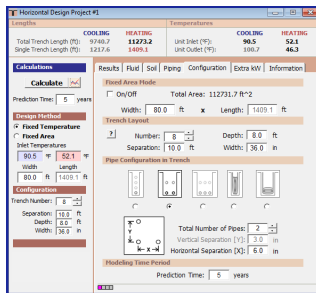
# Ground Loop Design

For systems that "Work By Design, Not By Accident."

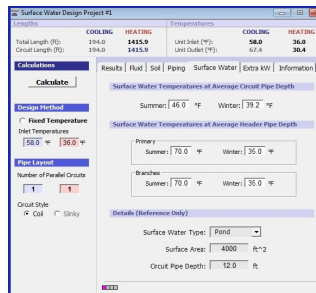
## GLD Design Modules:



Vertical GHX Module



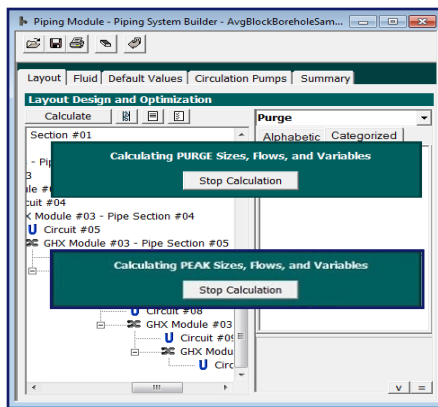
Horizontal GHX Module



Surface Water GHX Module

## GHX Modules

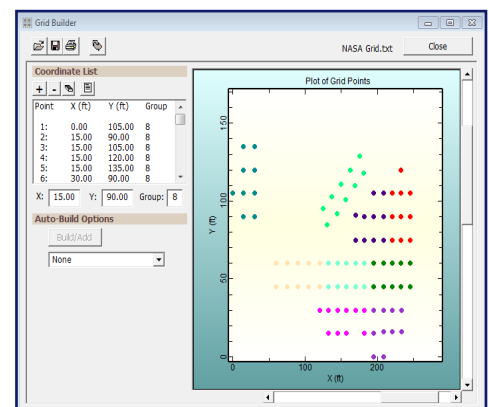
Purpose designed interface for each type of loop design. Vertical Module features Peak, Monthly and Hourly design simulations. Modules can share the same load for design comparison. Both the Horizontal and Vertical GHX Modules feature the new peak-shaving Hybrid Controls. The Vertical Module now features U-Bend and Coaxial Heat Exchangers.



Piping System Builder / CFD Module

## Productivity Modules

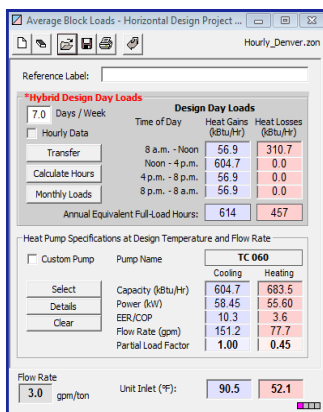
GLD provides numerous design tools that enable the designer to exceed client needs and expectations. With the Piping System Builder, build the entire GHX module piping system automatically, including balancing valves, vaults and manifolds. Now includes international pipe sizes. Use the GSA module, the world's most comprehensive geothermal lifecycle costing tool, to win bids by demonstrating the savings associated with your design. The Grid Builder lets the designer create a complex loopfield design for any project site. The optional Thermal Conductivity Module is a must for TC testing.



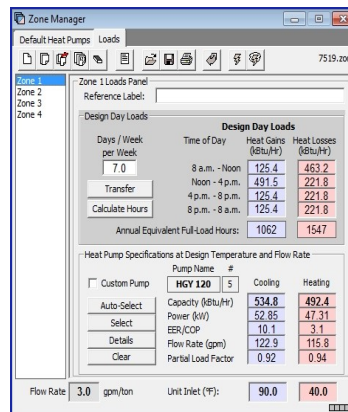
Grid Builder Module

## Load Modules

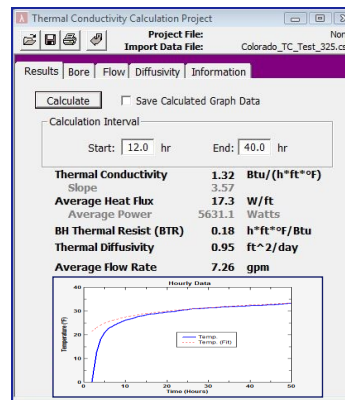
No other program offers the ability to model multiple zones with different loads and equipment as well as to provide a quick design option. GLD features more than 1,000 pre-loaded heat pump and generic choices which are fully modeled with automatic performance curves and operational data, allowing the designer to concentrate on the ground heat exchanger and fluid temperature design rather than the heat of compression and pump sizing. The Average Block modules allows gold standard monthly and 8760 hourly simulations. The Zone Manager enables multi-zone simulations for the highest level of pump selection accuracy. The new Hybrid Tool dynamically updates the loads values and provides powerful load splitting options that used to require many hours and steps.



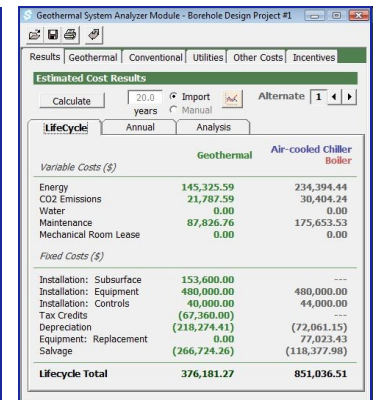
Average Block Load Module



Zone Manager Load Module



Thermal Conductivity Module



GSA / Finance Module

## Ordering Information

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