

GeoDesigner® 3.2 Overview

Revision 3.2 extends the system design and analysis capabilities of GeoDesigner® to the leading edge of modern residential heating and cooling technology. Advanced features such as variable-speed fans and two stage operation are now available for all system types, including geothermal, furnaces, air conditioners, or air-to-air heat pumps. GeoDesigner® 3.2 also includes the latest models for each system. In addition, hydronic capabilities have been added for geothermal systems, including a dedicated water heating option.

GeoDesigner®, in revision 3.2 provides better Windows® and Windows XP® compatibility, larger and easier to use screen views, longer file names, enhanced directory browsing, and faster calculation speed. GeoDesigner® 3.2 is backward compatible with project files that have been saved with prior versions including obsolete R22 refrigerant models.

Major new capabilities of GeoDesigner® 3.2 are:

- Hot water generator performance updated to account for new heat exchangers now used in all R410a products.
- Selection "GEO A" can now model a wide range of hydronic applications, including tandem systems that couple a water-to-water unit for heating stage 1 and a water-to-air unit for cooling and stage 2 heating (typical floor warming installation). Optional use of the water-to-water for year-round hot water on demand is also incorporated.
- Geothermal selections now include all geo thermal models (over 150), including Tranquility 27® series packaged units, Tranquility water to water models, Genesis™ GSW series water-to-water units, Tranquility, Genesis™, and Paradigms™ indoor and outdoor splits mated with variable-speed furnaces or air handlers, and the Genesis™ GR line.
- Furnace and auxiliary heat choices now include over 25 selections ranging from 65 to 95 percent in efficiency for fossil fuels, plus three for electric resistance, with options for variable speed fans and two-stages of capacity. Any of these selections can be combined with a single or two-stage geothermal or air-to-air heat pump with a choice to either supplement or override the primary system. The complicated effects of up to four stages of operation can be accurately analyzed.
- Air conditioners and air-to-air heat pumps are now offered in standard SEER ratings from 8 to 19, with options for variable speed fans and two-stages of capacity. Because manufacturers typically provide ARI ratings for a number of different indoor blower and coil combinations, the standard SEER rating can now be fine-tuned by selecting the most appropriate match. In addition, the effects of the condition of the outdoor coil can be included, based upon the results of a study of air-to-air units by the California Energy Commission to determine the impact on system performance.
- Expansion of water heater options including standard and high-efficiency storage tank types, tankless, and solar.

