



ANESI®

COMMERCIAL HYDRONICS

A high-efficiency solution for
smarter, more cost-effective heating
with gas absorption heat pumps.

Building performance engineers and mechanical system designers are expected to improve energy performance, reduce GHG emissions, and strengthen system resilience—often without expanding electrical capacity. Gas absorption heat pumps (GAHP) provide a high-efficiency solution by using a thermally driven absorption cycle that cuts site and source energy use, lowers Scope 1 and Scope 2 emissions, and avoids the power constraints common in commercial retrofits. GAHPs integrate easily into high-temperature-difference hydronic systems, hybrid plants, and buildings with large DHW or space-heating loads. For engineers seeking proven, future-ready ways to boost building performance, GAHPs deliver efficiency and decarbonization benefits without major infrastructure upgrades.

**FUEL FLEXIBILITY
ULTRA HIGH EFFICIENCY
NATURAL REFRIGERANT
LOWER TOTAL GHG OUTPUT**

Energy Performance

Purpose-built for commercial hydronic heating systems, GAHPs deliver high thermodynamic efficiency, reducing site energy consumption and operating costs compared to conventional systems. Leveraging a thermally driven absorption cycle, these units maintain stable coefficient-of-performance (COP) levels even under extreme low-ambient temperatures, ensuring reliable performance across diverse and continuous hydronic load profiles. Their fuel flexibility for natural gas or LP allows engineers to optimize system design around available utility infrastructure, redundancy requirements, and regional fuel economics. Because electricity-intensive mechanical compressors are replaced with thermal compression, these systems help preserve electrical service capacity—an advantage in buildings with constrained panels or where electrification thresholds are limited. During commercial power outages, backup generators need to provide less than 10% of the power required by an electric heat pump system to continue the operation of GAHP systems. With advanced modulation and load-tracking capability, gas absorption heat pumps continuously adjust thermal output to match real-time demand, improving part-load efficiency and delivering measurable seasonal performance gains across hydronic loops, storage systems, and heat distribution networks.

HEATING APPLICATIONS

Commercial, Institutional, Multifamily, & Retrofit
WATER | SPACE | FLOOR | POOL



Emissions Reduction

This technology delivers meaningful emissions benefits across a wide range of building types by improving overall energy and emissions performance scores, helping facilities meet increasingly stringent sustainability and compliance targets. By using thermally driven operation, it reduces on-site fuel emissions compared to conventional heating equipment, lowering direct combustion output at the source. At the same time, its minimal electrical demand helps minimize grid-related emissions, particularly in regions where electricity generation still relies on carbon-intensive sources. In high-demand commercial applications, these combined advantages lower total greenhouse gas (GHG) output, enabling a measurable reduction in the building's carbon footprint while supporting long-term decarbonization strategies.

System Integration

Designed for compatibility across a wide range of commercial hydronic installations, the GAHP system integrates easily with existing hydronic loops and boiler equipment, allowing enhanced performance without major mechanical room reconfiguration. It also operates seamlessly within modern hybrid heating systems, enabling engineers to combine multiple heat sources for optimal efficiency, load management, and reliability.

