

VRF/GHP

Natural gas heat pump systems provide high efficiency heating and cooling for commercial buildings. By using natural gas technology, engines deliver low running costs, reduced CO2 emissions and use minimal electricity. VRF systems can either be a heat pump or heat recovery system. The benefit of a heat recovery system is that it allows for simultaneous heating and cooling by absorbing excess heat energy in one zone and transferring it to heat another. This helps provide comfort while operating at maximum efficiency.

Efficiency: VRF Systems are 20%-25% more efficient than conventional systems. VRF systems do have additional upfront costs, but these can be offset by lower energy bills and repair expenses over time, as well as through increased occupant comfort.

Individual zone control: No matter how your building is used, this customizable solution allows you to control different comfort needs independently. This leads to a reduction in complaints that offices are either too hot or too cold, since offices can have individualized controls. Unused rooms' climate controls can be switched off entirely, lowering your energy bill by not having to pay to heat and cool, unoccupied spaces.

Quiet: In a VRF system, the noisier condensing unit is typically outside, and the indoor air handlers are smaller and quieter than a traditional systems.

Consistent Comfort: The VRF HVAC system can detect the precise requirements of each zone, and send the precise amount of refrigerant needed to do the job.

Space: VRF systems take up much less space than forced-air systems, which is a benefit for upgrades in existing structures.

Multiple Control Options: The options are almost limitless with the ability to have up to 16 Zone Levels and up to 128 indoor units per outdoor unit, as well as the ability to have multiple VRF systems and Inter-connectivity to a controls system.



VRF/GHP APPLICATIONS

Retro fit - any building looking to cut costs, and increase reliability.

New construction - Working at an early stage with the architects and our design team allows us to create an optimal solution without added redesign costs.

IDEAL CANDIDATES

Offices. Hotels. Pharmaceutical. Recreational Facilities. Hospitals. Industrial & Manufacturing. Nursing Homes, Indoor agriculture, real estate developers/housing authorities, Schools, colleges, municipals buildings.

CONTROLLED AIR INC

Controlled Air, is Yanmar America's center for engineering excellence and service solutions, and part of their Energy Systems Company. Controlled Air provides heating, ventilation, air conditioning, temperature controls and custom engineering for commercial buildings.

Our team is comprised of skilled professionals each highly trained in specific areas of technology. We provide design, installation and service for commercial, industrial, educational and institutional applications.

Through dedication and creativity, we solve a broad range of heating and cooling problems for schools, industrial, healthcare, education, office environments, warehouses and more through energy-efficient design and exemplary service.

MIDDLETOWN REC CENTER, CT

The customer had strong green goals. They wanted to save energy and save money. Furthermore, the customer needed a refuge for local inhabitants during severe weather occurrences. Due to budget constraints, a defunct school building needed to be repurposed rather than new construction. The existing system was in poor shape, oversized for the new application, at the end of useful life and had a massive carbon footprint. Our solution was innovative. The system now has the capability to operate in conjunction with the grid or operate in Island mode in the event of an outage.

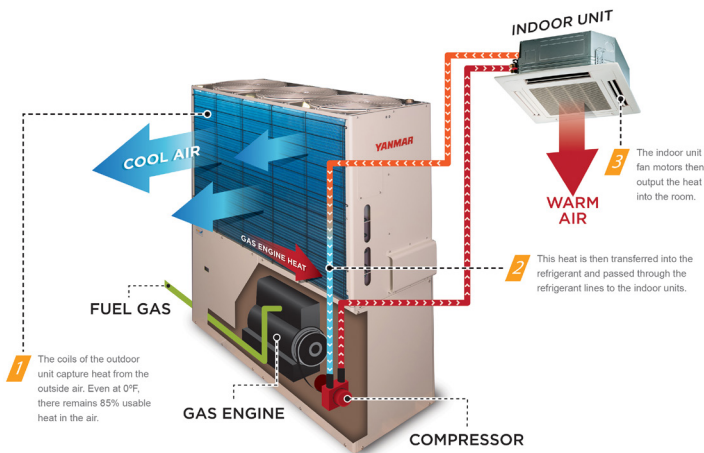
Additionally, the excess heat produced by the system can be used to heat the pool. Use of GHP's provided a load reduction of 30% and reduced emissions by 80%.

PROVIDES: Electricity, Heat, Hot Water and Cooling.

SIZE: Backup Generation 100KW, CHP 35KW, Battery 25KW, solar 108KW, (7) 14-ton GHPs, 20 kW Battery

COMPONENTS: Yanmar GHPs, YAMAR CHP, AHU, Solar, Controls, Boilers, Pumps, Heat Wheel, RTU, Duct Sox, Unit Heaters, VFDs.

AREA SERVED: Full Middletown Rec Facility.



GRANTS & INCENTIVES

We are excited to share that we have confirmed the Gas Heat Pump (GHP) systems manufactured by Yanmar qualifies for the 30% tax credit, as well as for direct payments to tax exempt entities, under the Inflation Reduction Act (IRA). Yanmar GHP is considered a mechanical cogeneration product and should be treated as “Combined Heat and Power system property” (CHP) for purposes of Internal Revenue Code Section 48, under the Investment Tax Credit (ITC).

As part of the new provisions adopted, the IRA imposed additional requirements to receive the 30% tax credit. The project must be installed under specific requirements and may require prevailing wage and apprenticeship requirements depending on the size of the project and other specific considerations.

These systems must be placed into service between January 1st 2023 and December 31st 2024. Please consult with your tax professional for additional requirements, information and to verify your qualification.