



(MCHP) COMBINED HEAT & POWER

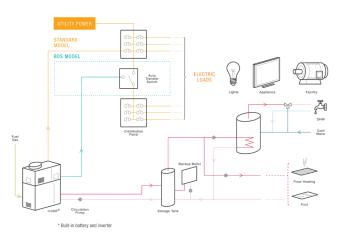


WHAT IS CHP?

Cogeneration, also called CHP or Combined Heat and Power, is an integrated energy system that can be used in commercial buildings, industrial buildings, and educational settings to create heat and hot water, as well as electricity. Cogeneration, because of its efficiency, is considered one of the most eco-friendly energy sources.

In conventional water heaters and boilers, fuel is used to create hot water only. During this normal process the excess energy is wasted and exhausted out a chimney. Through cogeneration, the high-temperature combustion produces both hot water as well as electric power.

In cogeneration systems, gas is burned in an efficient internal combustion engine like that in a car or truck. The engine drives a generator to produce electricity while simultaneously making hot water from rejected engine heat, that hot water can be used to heat your building, domestic hot water, pool, and process requirements.



CHP has the following advantages over traditional energy delivery methods of centralized power plants and onsite gas use:

Onsite generation (or distributed generation): Electricity is

generated close to the point of use, helping to avoid transmission and distribution losses that occur when electricity travels over power lines. Electricity can also be available even when the grid has failed due to storms or other factors.

Waste heat recovery: Thermal energy from space heating, domestic hot water heating, pool/spa heating dehumidification or process applications goes unused in centralized power plants as waste, but in a CHP application, it is used to offset boiler or other heating device usage.

Simple integration: CHP can be easily integrated into various electrical and thermal systems in residential or small commercial applications. This applies to both new construction and retrofitting into existing homes or buildings.

APPLICATIONS



HOSPITALS. OFFICE BUILDINGS. EDUCATIONAL SETTINGS. POOLS & HEALTH CLUBS





COGENERATION HISTORY

In the 18th century with the development of the industrial revolution. In the mid-twentieth century it lost popularity because nuclear power and electricity plants were cheaper to run. But in the 1970's and the rising energy crisis, cogeneration had a come back. Currently with advancement in technologies, the cost of cogeneration is a fraction of what it once was. Furthermore, laws were developed by the Public Utility Regulated Policy Act, which requires utility companies to buy back excess energy produced from cogeneration.

YANMAR Standard Limited Warranty CP5WN/CP10WN: 2 Years/17,600 hours* CP35D1(Z): 2 Years/15,000 hours* Real 100% direct "factory-backed" nondeclining warranty

YANMAR ADVANTAGES

All YANMAR CHP customers require servicing dealers that are focused on providing excellence in customer service. YANMAR is committed to working with all dealers to upgrade service capabilities, and provides incentives to those who demonstrate the highest levels of technical proficiency. YANMAR encourages all dealerships to continuously make critical evaluations of their service operations, then use this information to implement changes that will improve service in all areas. From day one, we have been dedicated to ensuring that our engines and CHP systems are the best in the industry, which means precise control over research, development, engineering, manufacturing, sales, distribution and service. If you want a CHP system that you know is truly supported inside and out by the company who built it, choose YANMAR.

ENERGY EFFICIENT

- * High efficiency contributes to energy and cost savings
- * Electricity + effective waste heat usage system
- *High efficiency Lean-burn Miller cycle GAS ENGINE (powered by YANMAR-designed high performance gas engine)
- *High efficiency electrical POWER GENERATOR
- *High efficiency INVERTER

ENVIRONMENTALLY FRIENDLY

- *Contributes to a reduction in greenhouse gas emissions
- *Powered by clean, natural gas
- *Reduces the amount of primary energy consumption
- *Reduction in CO2 emissions

LOW OPERATION NOISE

HIGH RELIABILITY

*High quality & long maintenance intervals.

EASY INSTALLATION

*Easy grid connection using inverter

HIGH FUNCTIONALITY

- *Scheduled operation
- *Start and stop power demand control
- *Remote monitoring system
- *Operation reports
- *Blackout start

ECONOMIC SAVINGS

*As electric prices continue to increase, you can gain significant utility bill cost savings by switching to abundant natural gas or propane.

CONTROLLED AIR

Founded in 1980, Controlled Air, Inc. is a commercial heating, ventilation, air conditioning and temperature controls company. We have always been on the forefront of technology, bringing sophisticated solutions to the challenges of today's complex applications.

To find out more about Controlled Air, Inc. visit our website controlledair.com