



CHP Units

For generation of combined heat and power



Our Story

TEDOM was founded in 1991 by Josef Jeleček. From a small company with a single cogeneration unit model with an output of 22 kW, we have grown in more than 34 years into a global manufacturer with more than 1,100 employees. Today, our products can be found in dozens of countries around the world.

Over the years, we have expanded our portfolio of cogeneration units ranging from 20 kW to 10 MW, designed not only for natural gas but also for biogas applications. In addition to individual units, we also deliver comprehensive turnkey energy solutions – from project documentation and technology supply to the construction of complete energy facilities.

Since 2003, we have been developing and manufacturing our own TEDOM engines, which are a key component of our cogeneration units. We also operate energy facilities at municipal waste landfills, where we produce tens of thousands of megawatt-hours of green electricity every year. Our extensive service network also includes online monitoring for efficient operation management.

In 2016, we strengthened our market position through the acquisition of the German company SCHNELL Group, expanding our

know-how in the field of biogas plants. The number of our employees increased to 900 and the number of completed projects exceeded 8,000 units.

Since 2020, we have expanded our portfolio to include comprehensive energy services such as photovoltaic power plant installations, ancillary services for ČEPS (Czech Transmission System Operator), and the operation of energy facilities. This step reflects the growing demand for sustainable and integrated solutions.

In 2024, TEDOM became part of the Japanese YANMAR Group, creating new opportunities for technological development and international expansion.

Today, we have more than 1,100 employees and over 10,500 cogeneration units sold worldwide – and our journey of innovation continues.

TEDOM Engines

Our company builds on more than a century of engine manufacturing tradition dating back to 1906. Today, we are part of the TEDOM Group with a production plant located in Jablonec nad Nisou, where the famous automotive manufacturer LIAZ was once based.

At this facility, which has a rich history in truck manufacturing, we currently employ more than 150 specialists. In addition to developing our own TEDOM engine used in Cento series cogeneration units, we also cooperate with leading global engine manufacturers such as MAN Engines, Kubota and Scania, whose engines we modify and further develop.



We Deliver Comprehensive Energy Solutions

Wide Range of Services

We provide complete energy solutions for our customers and rank among the fastest-growing electricity and gas suppliers. Our portfolio includes not only energy supply, but also photovoltaic systems, heat pumps, and electricity purchasing services. We design and operate energy systems that combine cogeneration units, photovoltaic power plants, heat pumps, and additional energy sources to achieve maximum efficiency and savings.

Savings and Efficiency for Customers

We help our customers save money by designing tailor-made solutions. We assist with selecting smart tariffs and the most suitable combination of technologies. Our cogeneration units can be remotely operated or connected to balancing services, generating additional revenue for our clients.



Cogeneration

Power and Heat from One Source

Traditional power generation is usually very inefficient. The heat generated during this process has usually no use. Cogeneration is a efficient alternative.

Combined Production of Power and Heat

The combined production of heat and power, or cogeneration, is the method of electric power generation during which the heat created during the manufacturing process is utilised efficiently. This results in a very efficient use of the fuel being used.

Small-sized and medium-sized CHP units are mostly designed on the basis of gas-combustion engines. The engine rotates the generator that produces electrical energy. The heat from engine cooling and from exhaust gases is used for heating, hot water preparation, and other purposes.

The power produced in the CHP unit can either be utilised for internal needs or supplied to the power grid. In certain cases, CHP units can also have a role as a backup source of power in the event of power outage.

Who Benefits from Cogeneration

Cogeneration can be applied in any structures where heating or cooling is required:

- hospitals and clinics
- retirement homes
- hotels and boarding houses
- waste water treatment plants
- swimming pools and water parks
- biogas plants
- industrial complexes
- district heating schemes

Reduces CO₂ Emissions

The burning of fossil fuels is always associated with CO₂ emissions. The less fuel burned, the fewer the emissions produced. In this respect, the TEDOM CHP units are a highly effective solution: They utilise natural gas that has low emissions of CO₂ and at the same time, they are highly efficient due to the combined production process.

CHP Units Can Run on Renewable Fuels

CHP units burn both natural gas and LPG as well as various biogas types. Biogas is generated as a product of the biomass decomposition in agricultural biogas plants, municipal recycling centres, or during the waste-water treatment process. Other types of gas can be used for the production of power including mine gas, which is generated when coal is being mined, in closed mines, or at oil well heads.

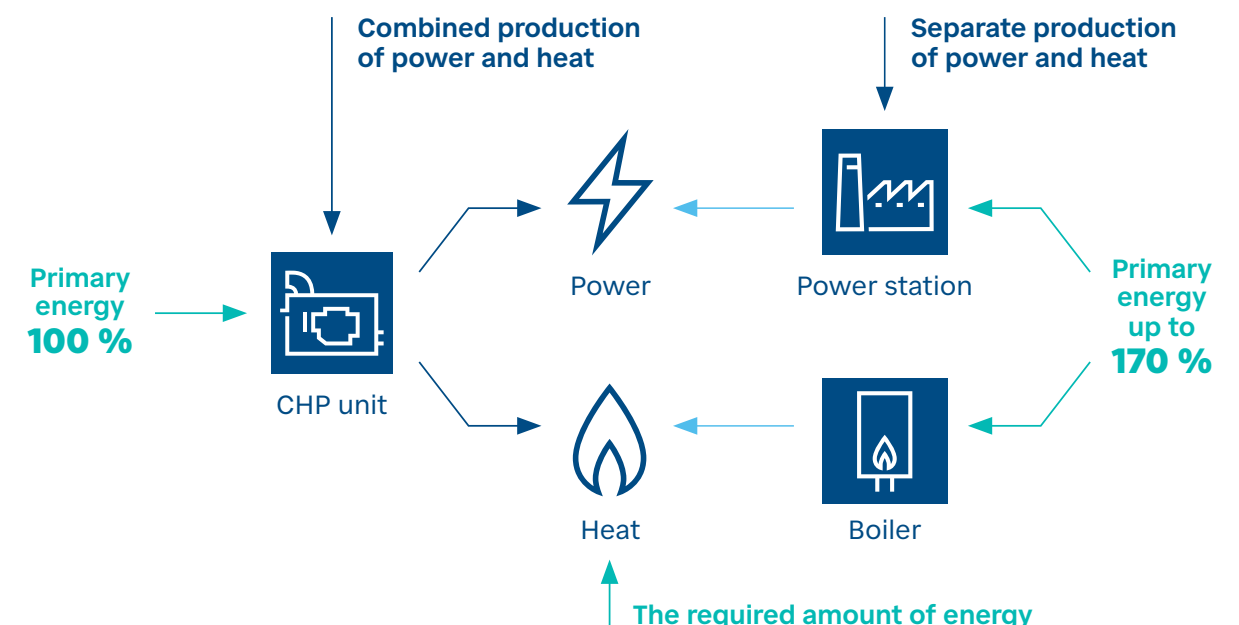
CHP Units Compliment other Renewable Energy Sources

When compared to renewable energy sources like sun or wind, CHP units have one great advantage: it is possible to plan production of power independently of any weather conditions. CHP units continue to generate power when the sun is not shining and the wind is not blowing.

Energy when Needed

The CHP unit size is usually designed depending on the amount of heat necessary. Produced power will be consumed on-site, sold back to the grid, or stored in a battery. CHP units are highly flexible sources of energy.

Energy Saving Through Cogeneration



We Rely on Decades of Experience

Over more than 34 years, we have commissioned more than 10,500 cogeneration units. Thanks to this extensive experience, we have gained significant expertise in both their design and installation. When you work with us, you can be confident that you will always communicate with an experienced sales specialist who will help you find the optimal solution.



Monitoring Operation of TEDOM CHP Units



Communication technologies enable TEDOM to monitor the CHP units for operation 24 hours a day from anywhere in the world. With this level of interaction, we can easily see any deviation from the normal CHP unit operation and we can draw the operator attention to the necessary correction, if it is required. In addition, remote monitoring reduces repair time when there is a failure, because the service technician sets out to the installation site already aware of the failure cause. Most frequently, CHP settings can be adjusted remotely correcting faults when they occur.

Reliable Service

The key features for operators is machine reliability and on-time service. TEDOM has an extensive international service network with dozens of service centres and hundreds of professionally trained technicians. Our central warehouse has almost all spare parts available from stock. Our service partners are provided with both regular training and professional technical support to provide maintenance of TEDOM units abroad.

Quality and TEDOM Engines

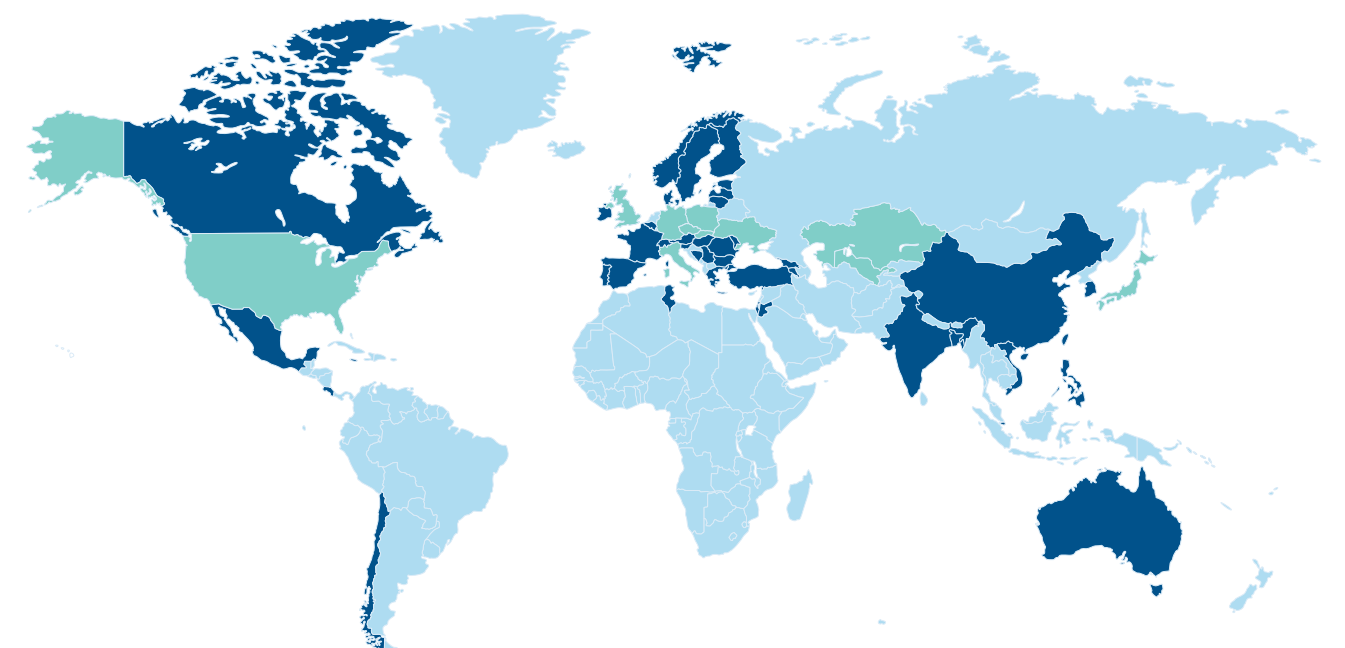
When designing the CHP units, we base our experience from the development and production of our own TEDOM combustion engines. TEDOM holds their development firmly in its hands. Thanks to their high quality workmanship and low operating costs, the TEDOM engines have already proven themselves in thousands of installations. Technically advanced components from proven suppliers are the basis for the reliability and long service life of our machines. However, we also design and produce our machines with engines from different manufacturers as, for example, MWM, Kubota and MAN.



TEDOM, all the production processes and procedures are subject to a strict quality control. The company is a holder of the ISO 9001 Certificate. TEDOM also ensures that its production is environment-friendly according to ISO 14001 standards.

World Wide Delivery

Many years of experience with CHP unit installations in dozens of countries worldwide allows TEDOM to respond flexibly to the various requirements of any customer. We have direct international representation in 10 countries and together with our business partners, we are always capable of finding a convenient solution with regard to the local conditions.



Branches:

- | | | | | |
|------------|-----------|-----------------|--------------|-----------|
| └ Czechia | └ Poland | └ USA | └ Kazakhstan | └ Japan |
| └ Slovakia | └ Germany | └ Great Britain | └ Italy | └ Ukraine |

CHP Units

TEDOM

20–50 kW_e
MICRO



80–200 kW_e
CENTO



260–530 kW_e
FLEXI



600–4500 kW_e
QUANTO



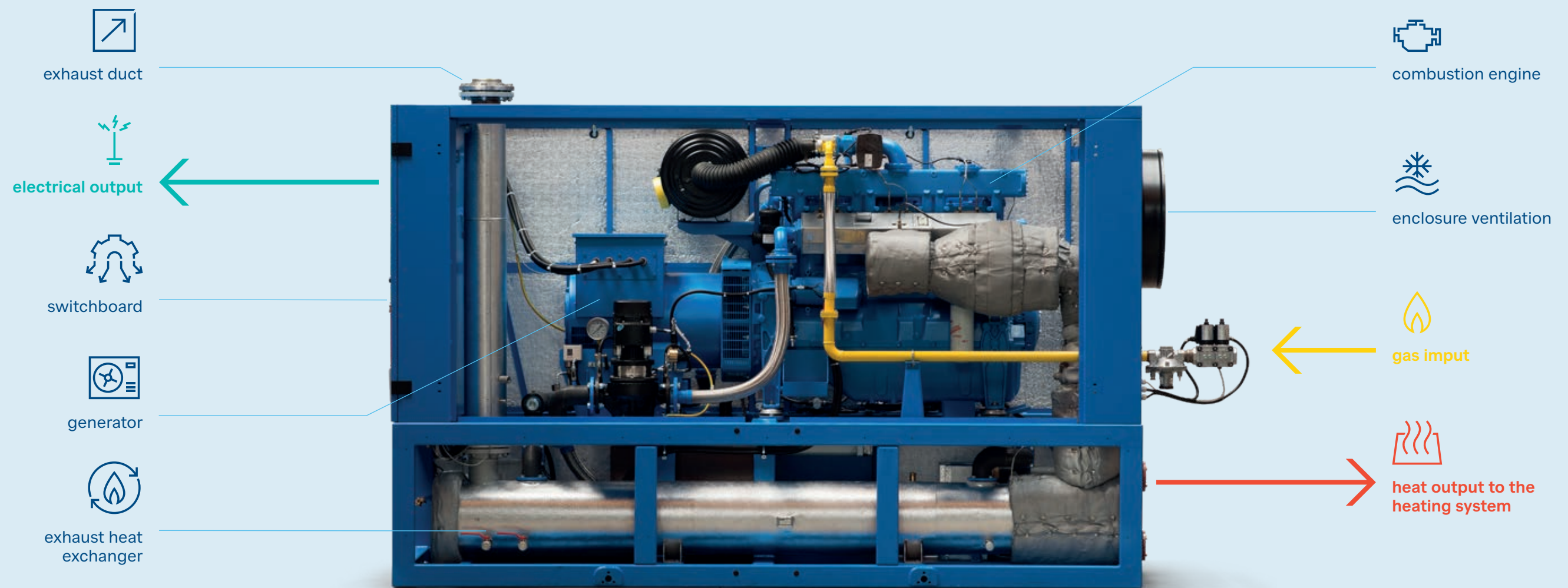
Fuels:

▮ natural gas ▮ hydrogen ▮ LPG ▮ biogas ▮ mine gas ▮ sewage gas ▮ landfill gas



For a current overview of manufactured units visit www.tedom.com

Cleverly Designed Modular System



Design Options

TEDOM cogeneration units are delivered to our customers as complete solutions. When installed in soundproof engine rooms, a version without a sound enclosure is often sufficient. For outdoor installations, containerized solutions are available, where the complete cogeneration technology is installed inside the container and on its roof.

Power Outage? We Are Ready!

In their standard configuration, TEDOM cogeneration units are designed for parallel operation with the electrical grid. If equipped with an emergency operation system, they can continue operating during a power outage and serve as an emergency power source. Cogeneration units operating in so-called island mode work in a similar way – meaning they operate independently without connection to the public grid.

MICRO

Compact Machines with High Efficiency



Installation or replacement of technology in technical rooms of existing buildings pose a frequent problem, mainly because of the reduced accessibility. TEDOM took these obstacles into account when developing the Micro CHP units. The design is compact and can fit anywhere. As a result, the installation is quick and does not incur any significant extra costs. Even the follow-up service of CHP units does not require much space.



A Lot of Energy Under the Small-Sized Sound Enclosure

The Micro series CHP units have a total efficiency of over 95 %. The water-cooled generator has a major role in this. If an additional condensing exchanger is used, the efficiency will exceed 100 %.

Long Service Life

Smart conception and first-rate processing together with regular maintenance guarantee the life of CHP units in the tens of thousands of operation hours.

Low Demands for Space

The compact dimensions and low demands for the service area allows installation of micro CHP units into confined and non-ventilated areas. Due to the rotatable switchboard, the CHP units can fit through most doors which makes their installation in existing buildings much easier.

Easily Accessible Components

The easily accessible sound enclosure allows trouble-free access to all the CHP units components. This feature shortens the time required for service visits and this is favourably reflected in its price.

Plug & Play

The design allows very easy connection of the CHP unit into the building's heating system. Due to the water-cooled generator, the CHP unit does not need ventilation. This makes complex construction modifications unnecessary.

Automatic Operation

Due to the sophisticated control system, Micro CHP unit operates on a completely automatic basis so it does not need any attendance. If the actual CHP unit status needs to be checked from time to time, it's as simple as taking a look at the control display to see the actual condition of the CHP unit. Additionally, TEDOM CHP units can be connected to the Internet to control their operation remotely through a computer or smartphone.

Low Operation Noise Levels

Because of the tightly sealed sound enclosure, the CHP unit operation is very quiet even in close proximity.

Adjustable Power Switchboard

The separate switchboard allows for individual positioning layout, depending on how the CHP unit is positioned. This layout also protects sensitive electronic components against the heat generated by the engine.



CENTO

It Will Adapt to Your Needs



Predominantly, you will find Cento CHP units in buildings with a high energy demand, for example, hospitals, schools, hotels, aqua parks or conference centres. Intelligent structure, variable design and a wide output range - it is these features that allow for installation of our CHP units wherever needed.

Cento CHP Unit Version Options

Open Module

This CHP unit is one with a simple design and its own switchboard that needs no special ventilation. You can access all of its components very easily – this makes service visits much simpler. It is ideal for installation into a sound-proof machine room. Above all, it is cheaper than our other models.



Sound Enclosure

The sound enclosure that encases the CHP unit is internally modified so that it absorbs the motor generator noises to the maximum extent possible and at the same time protects the CHP unit components from impurities and damage. This version is intended for installations inside buildings.



Container

A CHP unit, as well as with any other equipment, can be placed into a metal or concrete container. This version is intended for outdoor installations and therefore has several advantages:

- the container protects the CHP unit from adverse weather conditions,
- a maximum of 3 cogeneration modules can be placed in one container,
- the container colours can be modified to adapt to blend into the environment.



FLEXI

Highly Flexible



Modular conception that can be easily adapted to fit the customer needs.

- ▤ Selectable switchboard location
- ▤ Long-term emission stability, including permanent values monitoring
- ▤ Longer service intervals due to automatic oil replacement from an external tank
- ▤ Easy-access structure - easy service intervention

Various Design Options

- ▤ container
- ▤ open module
- ▤ sound enclosure



Selectable Location of Switchboard

The switchboard can be located either directly on the CHP unit frame, or it can be remotely interconnected with the CHP unit via cables and located in a position to suit the customers requirements.



Low NO_x Emissions

All of the Flexi series CHP units feature a low level of NO_x emissions. The low NO_x emissions are attained in individual types either by using the integrated SCR system or by employing the engines with stoichiometric combustion and dual lambda control. Both options guarantee a long-term stability of NO_x emissions which are additionally monitored on a permanent basis as well as saved to the memory of the CHP unit for later review.

QUANTO

The Basis of Your Power Engineering Project



Big and Efficient

- └ stand-alone motor generator
- └ modifiable power and control switchboard location
- └ engines made by renown manufacturers
- └ generators for both low and high voltages
- └ various design options

The Quanto series CHP units offer a really high output. One of these CHP units is capable of reliably supplying heat to an urban community with two hundred and fifty apartments and an adjacent school. It can also produce enough power to handle the consumption of a town with two thousand inhabitants. These CHP units will find further applicable uses, for example, in energy-intensive industrial plants or when utilising non-traditional sources of energy, for example, mine gas.

For Municipal and Industrial Energy Systems

Quanto series units are frequently used in district heating systems, where heat generated by the cogeneration unit is supplied to the heating network and electricity produced through cogeneration is fed into the power grid. In addition, Quanto units are often used to supply industrial facilities with both electricity and heat. Thanks to their high output, they can also play an important role in ancillary energy services, for example as a flexible complement to renewable energy sources. They are equally important as backup power sources and for off-grid (island mode) operation.

References



Wastewater Treatment Plant

Dolný Kubín (SK)
Total electrical output: 50 kW



Biogas Plant

Suchohrdly (CZ)
Total electrical output: 1.8 MW



National Theatre

Prague (CZ)
Total electrical output: 1.2 MW



District heating plant

Ostrava (CZ)
Total electrical output: 6.9 MW



Zinc Production Plant

Bolesław (PL)
Total electrical output: 12.9 MW



Syrup Production Plant

Zharkent (KZ)
Total electrical output: 1.2 MW



District heating plant

Lviv Region (UA)
Total electrical output: 3.2 MW

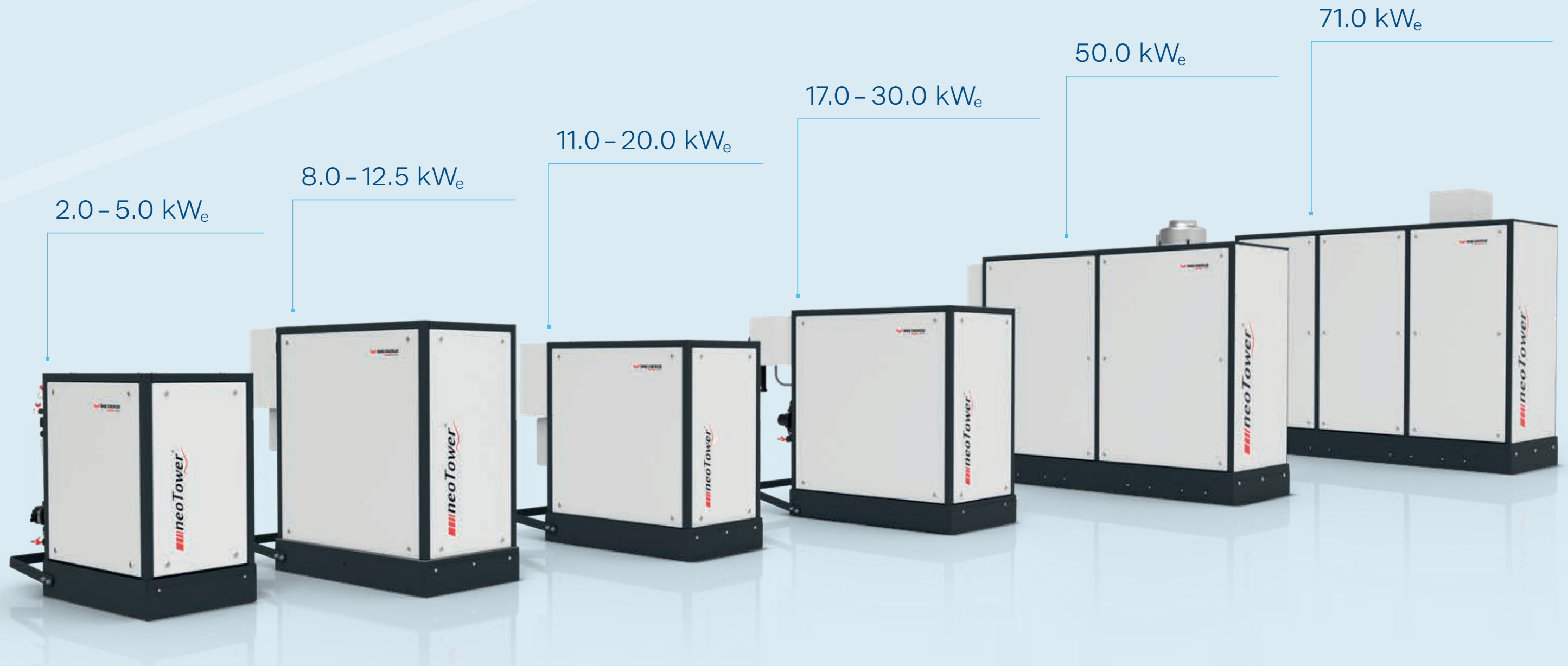


Spa Resort

Mutsuzawa (JPN)
Total electrical output: 160 kW

neoTower[®]

2.0–71.0 kW_e



Fuels:

└ Natural gas └ Hydrogen └ LPG └ Biogas

Cogeneration units for decentralized energy solutions with electrical output ranging from 2.0 to 71.0 kW.



Maximum Performance in Minimal Space

– quiet, durable, and highly efficient



Intuitive Control

The neoTower® units can be operated via a touchscreen display, allowing users to manage settings and view current consumption and production values whenever needed.

Operation on Various Fuel Types

Depending on the output class, neoTower® units are suitable for natural gas, biogas, sewage gas, landfill gas, and LPG.



Reduced Maintenance Requirements

Thanks to stable operation and low engine speeds, neoTower® units experience less wear and tear, reducing the need for service interventions.



Monitoring

Each neoTower® unit can be conveniently connected to the internet using the supplied mobile router including a SIM card (valid for 24 months) or via an Ethernet connection. This allows you to access operational and performance data anytime and from anywhere.

At the same time, data is transmitted to TEDOM, enabling the internal service team to continuously monitor the unit, detect deviations early, and remotely connect to the system whenever necessary.

Charging Button for Electric Vehicles

From the cogeneration unit directly to the vehicle: the EV charging function optimizes electromobility from both an economic and environmental perspective.

Use neoTower® as a charging station for e-bikes, e-scooters, and electric vehicles of all types.

Smart and Innovative

For Every Project – Always Economically Efficient

neoTower® units stand out thanks to their compact design, high efficiency, and exceptionally quiet operation. A sophisticated sound insulation system combined with low engine speeds ensures silent operation and maximum service life. This makes neoTower® cogeneration units suitable even for demanding environments such as hotels, care facilities, or residential complexes.

With a total efficiency of up to 109.2 %, neoTower® ranks among the leaders in energy-efficient solutions. Thanks to its modular design and the possibility of partial disassembly during installation, the unit can be installed almost anywhere, even in confined spaces. In particular, the neoTower® H₂ Ready is prepared for the sustainable future of energy.

Fuel Choice – Maximum Flexibility with Bi-Fuel

With the optional Bi-Fuel accessory, you can flexibly decide at any time which fuel your micro-cogeneration unit will operate on – depending on availability, economic efficiency, or environmental considerations. Switching between natural gas and LPG is simple and enables optimal adaptation to your specific needs. neoTower® units are also designed for hydrogen blends of up to 40 %.

Emergency Power Supply Operation

In the event of a power outage, neoTower® switches to backup power mode for an unlimited period. Thanks to its electrical energy storage system, the micro-cogeneration unit can start independently and reliably ensure electricity supply.

Hybrid Heating: Cogeneration and Heat Pump in One System

Combining a heat pump with neoTower® units provides an efficient and environmentally friendly way of generating thermal energy. This hybrid solution utilizes the advantages of both technologies for optimal energy management and maximum economic efficiency.

Plug & Play

A modular system for efficient on-site energy generation and storage. A container equipped with a neoTower® unit, battery storage systems, heat pumps, and additional technologies represents a complete turnkey Plug & Play solution for your energy needs.

Intelligent Control: Electricity Demand-Based Operation with Continuous Output Regulation

neoTower® units can be configured according to either thermal or electrical demand. The system adjusts its electrical output to the building's current consumption and produces only the amount of energy actually required at any given moment.

