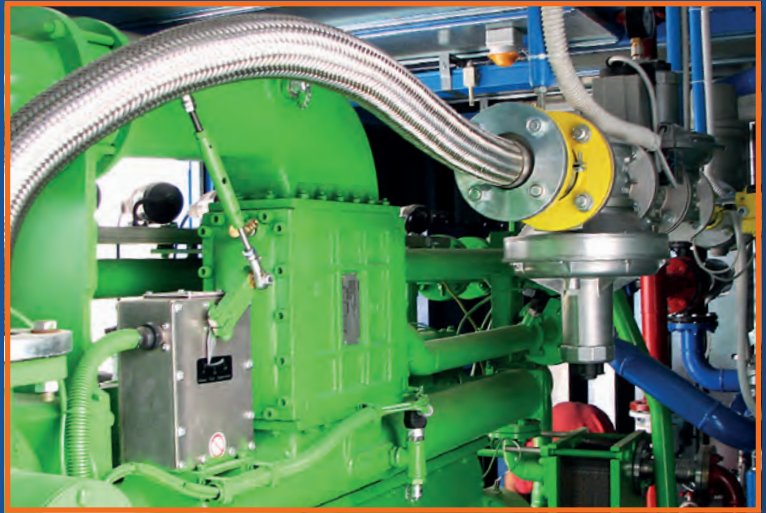


Based on experience acquired over the years, Bertuzzi Impianti is also able to design and build combustible gas pretreatment systems to be installed before the endothermic engine and significantly extend routine system maintenance intervals.





BErtuzzi **IM**pianti

**AUTOMATION &
COGENERATION**



BERTUZZI IMPIANTI S.r.l
AUTOMAZIONE & COGENERAZIONE

di Ing. Bertuzzi Simone

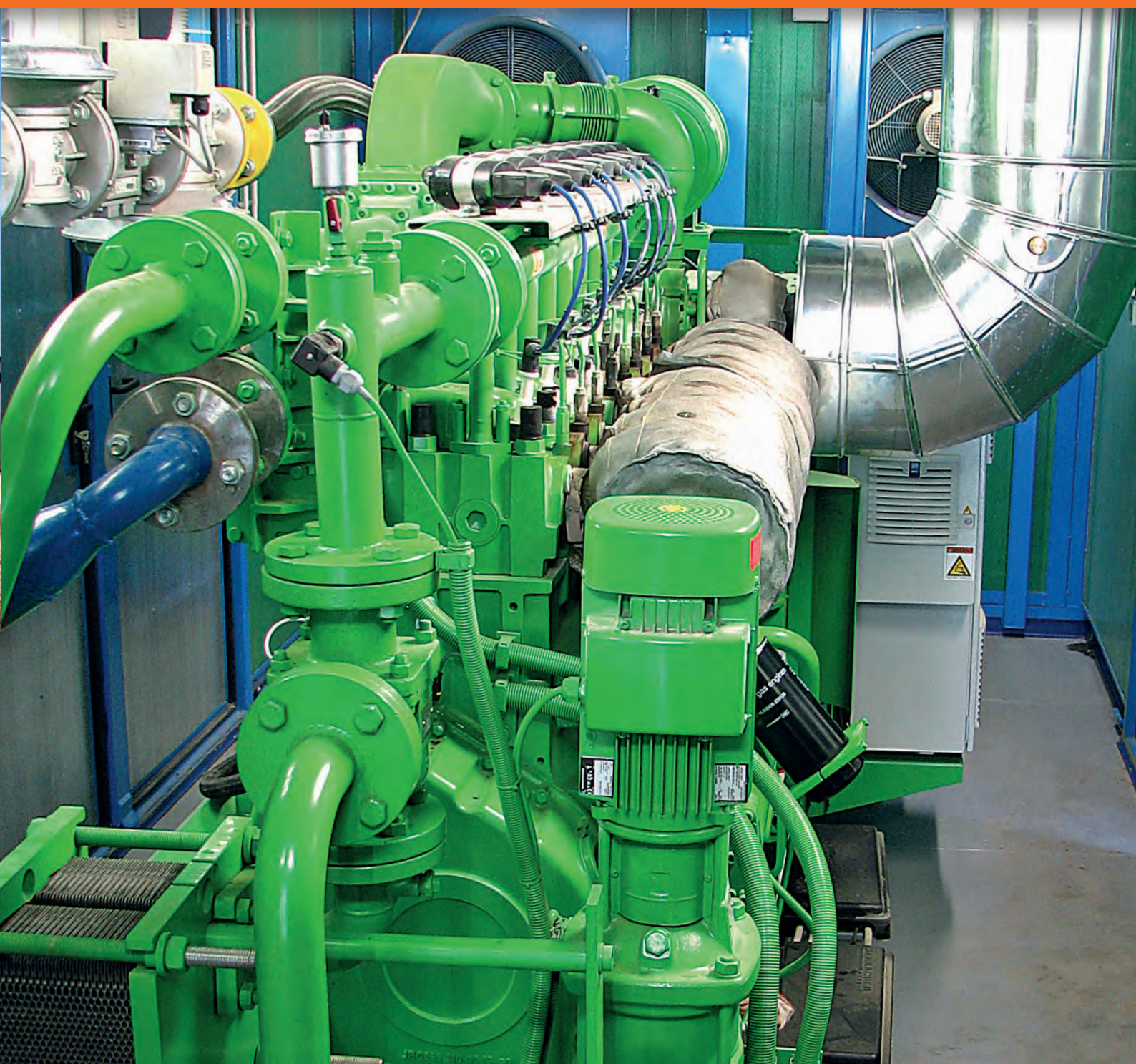
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BErtuzzi IMpianti

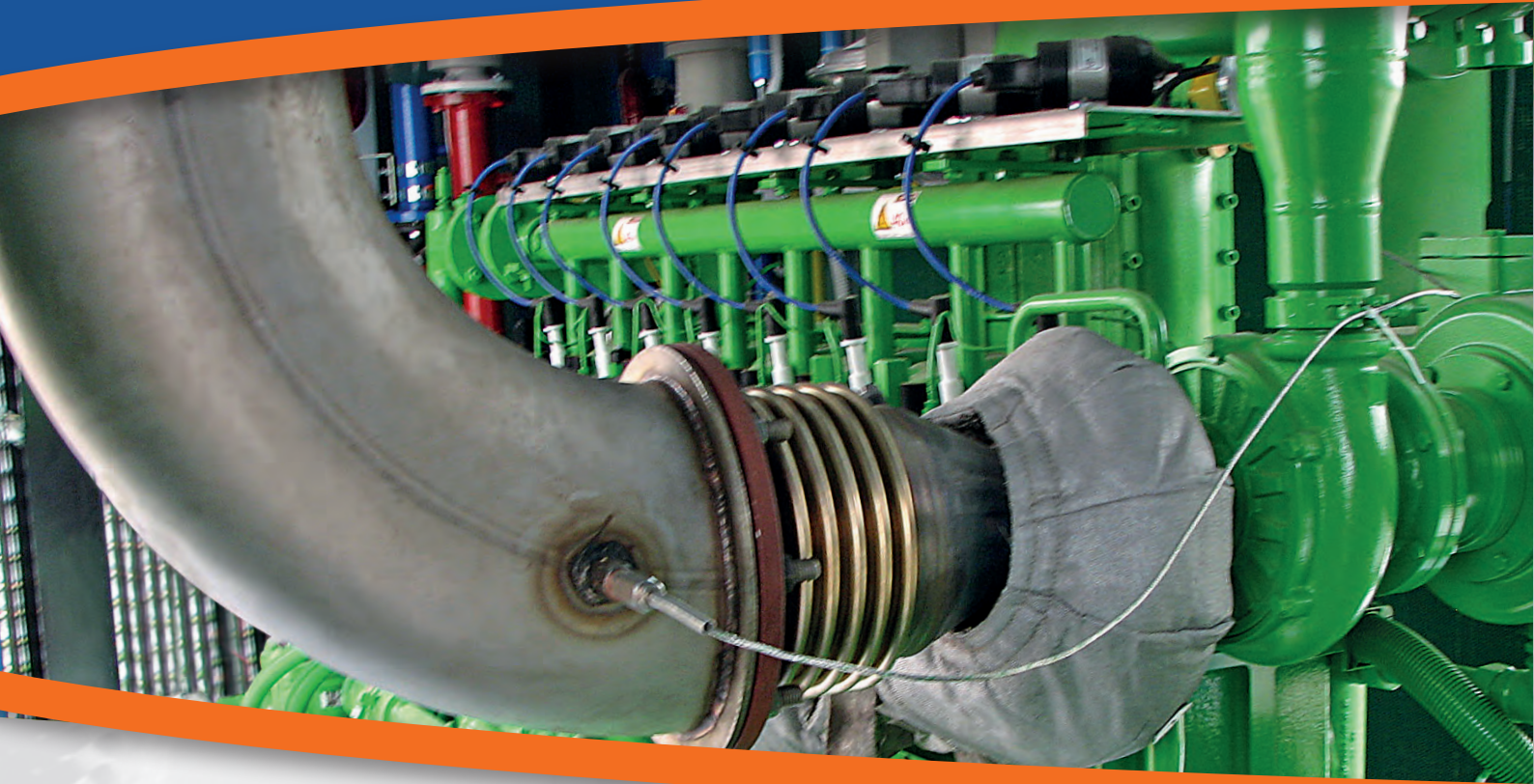
AUTOMATION &
COGENERATION



Skill, quality and innovation
are the three principles that have always
set Bertuzzi Impianti apart

BErtuzzi IMpianti

Created in the Sixties as an electrical engineering company operating in the MV and LV power distribution sector, the company successfully expanded into the industrial automation segment as a supplier of customised solutions for the process industry. During the last decade, gathering together all the strands of the wide range of skills and experience acquired over the years, the company has been operating also in the gas cogeneration plant field, offering plants ranging from 250kW to 9.5MW.



In a cogeneration system, endothermic machines are used to generate both electricity and heat from a single primary energy source, for instance a combustible gas such as natural gas, bio-gas, landfill gas, flare gas, etc.

Bertuzzi Impianti builds compact, "Plug&Play", containerised power generation plants where the main components of the system, the endothermic engine, the electrical power and control systems, the fluid and piping systems, etc., are entirely assembled and tested at our facilities before being shipped to the installation location and quickly

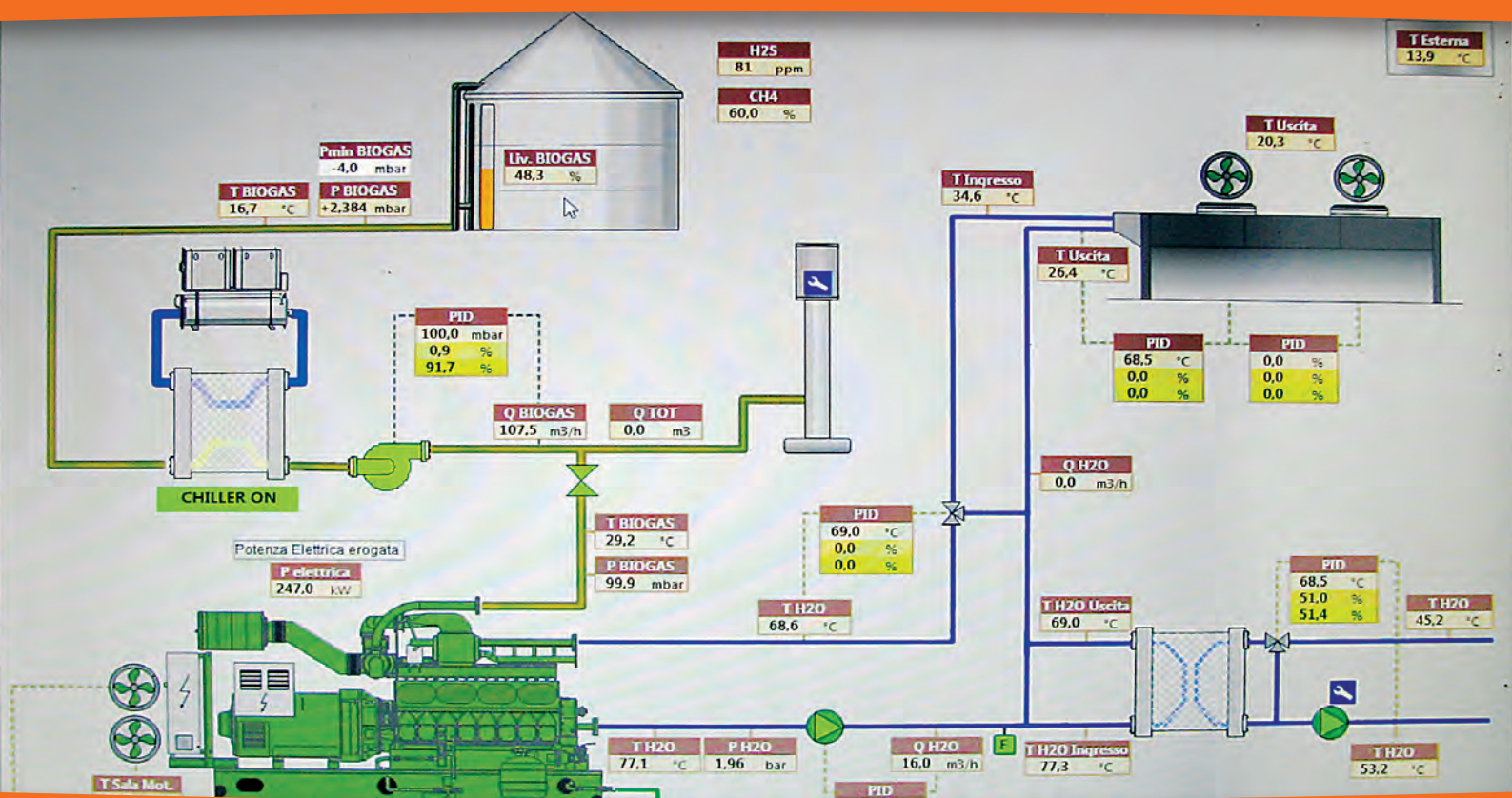
put on stream with a minimum of operations necessary. The plant module only requires the electrical connections for the power users and the pipe connections for the fuel supply and the heat users.

This solution significantly reduces costs by minimising on-site works and ensuring that the entire plant is fully tested at source to avoid unpleasant surprises during the installation later.

Our plants can provide different operating modes, based on the requirements of your process, including grid-parallel operation, where the power plant operates with a constant parallel connection to the local electrical grid, or islanding operation, where the plant powers the local process independently without requiring a connection to the local power supply grid.

In both operating modes, our plants are able to run at rated power for over 8000 hours per year.

The entire machine system is managed and controlled by PLCs, including the ancillary plant serving the endothermic engine. All the main operating values, alarms and control parameters are displayed on a supervision system. The supervision system and PLC software has been specifically created and developed by the Automation and Control section of Bertuzzi Impianti with a particular view to minimise the power requirements of the auxiliary systems of the plant.



The plant can also be remote controlled to allow quick and timely intervention in case of alarms and malfunctions.

The entire design and building process of these plants starts with a careful evaluation of customer requirements, including electrical power demands, minimum and maximum ambient temperatures, humidity, partial or full use of the available thermal energy, maximum permitted noise level, expected duty cycle (continuous or emergency), and operating mode (grid-parallel, island), etc.

Based on this data, all the components of the system are carefully dimensioned, and finally, the appropriate container size is selected to accommodate all parts of the plant.

Depending on customer requirements, the type of application (cogeneration and/or trigeneration) and the required thermal power outputs and temperatures, several heat-recovery solutions can be adopted,

including decoupling exchangers between the engine cooling and the user heating circuits, as well as tube-bundle heat exchangers on the exhaust fumes lines, thus significantly raising the temperatures of the cooling fluids. This increases considerably the flexibility of the module.

The entire set up (installation of the endothermic engine, fluid connections, installation of electrical components, controlgear and low and medium voltage power components, as well as the control and supervision system) is carried out at our facilities, carefully checking the quality of the materials used and the assembly of the complete module before proceeding with our exhaustive pre-delivery tests.

