



ENGINEERING PRODUCTION

# PROCLEA



## APPLICATION

The Proclea HECOCUBE can be applied multiple contexts and with multiple purposes. HECOCUBE can be applied in all off-grid situation where is needed a production of electric energy, heat or cooling like greenhouses , breeding, cold chains, but also isolated housing settlements, rural food industries and many other applications. HECOCUBE can be used like a generator of electric energy to be input into the electric grid, in this way the vegetable waste made by production activities can be converted in an economic return and never be again a cost for your activity.

## SERVICES

### FINANCIALS

Energy produced by renewable sources and combustibles is, currently and in Europe, object of a wide range of financing and incentive programs.

Joining in an European financing program means to turn Heco Cube in a source of income.

Heco Cube team may help the Customer from the draft of the business plan to the application for the financing program, following the full process until to meet the participation to the financing and incentive program.

### MAINTENANCE

Heco Cube is supported with packages of maintenance services, including both time based ordinary maintenance than remoted control through an Internet connection and on request express maintenance.

Mainly, the remote control application, implemented as standard in the Heco Cube control system, helps the User to properly manage the system: routinely or on alarm, the Proclea experts may check by remote the source of issue or the state of the equipment giving a fast and reliable answer to solve the problem or to organize a targeted maintenance intervention.

### TRAINING

In order to help the User to properly act the Heco Cube, to be able to solve simple issues or to understand the importance of combustible quality, Proclea offer training courses to the Customers.

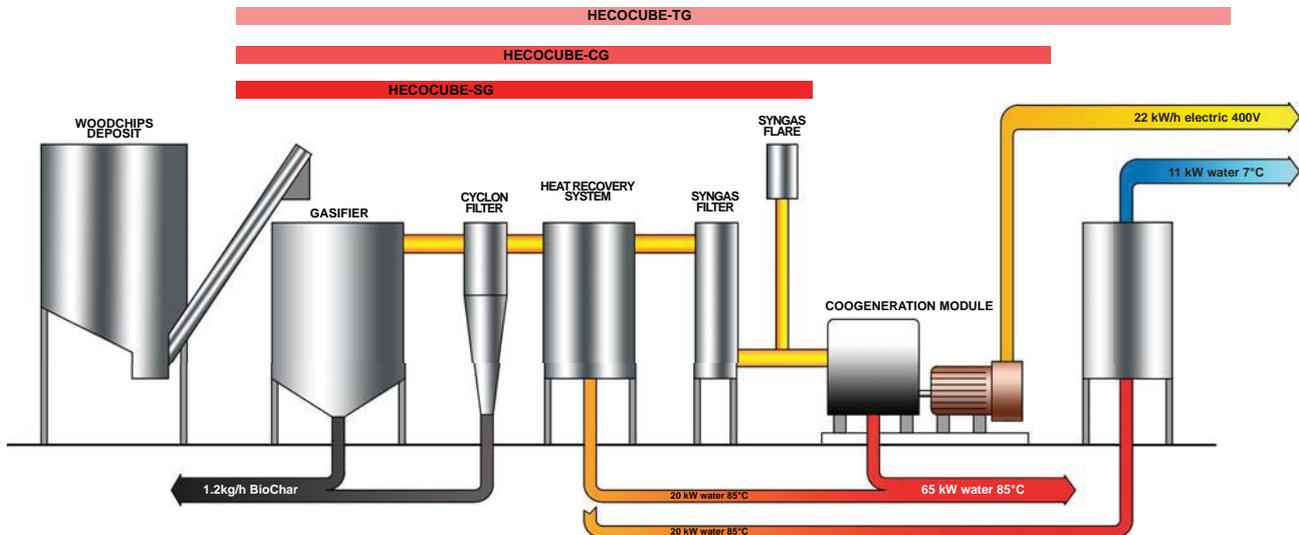
Certified people, trained by Proclea, became a valuable source of employment with the expansion of Heco Cube systems application.

### ENGINEERING

Heco Cube is a system that needs to be fed and to be connected with the surrounding environment.

Proclea offers an engineering service in order to help the User in dimensioning the combustible stocking area and transport systems, the ashes storage sizing and any other system concerning the use of an Heco Cube system, like energy distribution, hot water storage and distribution etc.

## WORKING PRINCIPLES



## CONFIGURATION AND TECHNICAL FEATURES

Heco Cube is proposed in two models and four configurations, finalized to better fit the needs of several Users.

### HECO CUBE SG

Heco Cube SG is the basic wood gasifier, able to produce syngas and hot water at 85°C.

Syngas may be used in gas burners, direct flame fed water chillers or other equipment in the availability of the User.

As supplemental energy source, Heco cube SG generate hot water for heating or sanitary use .

Model	HC0-SG	HC1-SG	HC2-SG	HC3-SG
Wood consumption (Woodchips G30 or G50)	30 kg/h	40 kg/h	135 kg/h	270 kg/h
Syngas production	73 Nm <sup>3</sup> /h	95 Nm <sup>3</sup> /h	330 Nm <sup>3</sup> /h	660 Nm <sup>3</sup> /h
Thermal power (hot water @ 85°C)	17 kW	22 kW	77 kW	153 kW
Electric consumption	0,5 kWh @ 230 V 50/60Hz	0,5 kWh @ 230 V 50/60Hz	1,5 kWh @ 230 V 50/60Hz	3,5 kWh @ 230 V 50/60Hz

## HECO CUBE CG

Hecocube CG is a cogeneration system, able to produce both thermal than electric energy.

Configurations of Hecocube CG allows to set up the system in order to be used off-grid, for all the applications allowing the self-generation of electricity, or in-grid, featuring Heco Cube with all the components needed by the connection to a national distribution network.

Thermal energy generated by Heco Cube CG is significant. In the following table, we give an estimation of the number of families (based on average European consumption standard) which consumptions can be satisfied with an Heco Cube unit

Modello	HC0-CG	HC1-CG	HC2-SG	HC3-SG
Wood consumption (Woodchips G30 or G50)	30 kg/h	40 kg/h	135 kg/h	270 kg/h
Electric energy production	22 kW @ 400V, 50/60 Hz	30 kW @ 400V, 50/60 Hz	100 kW @ 400V, 50/60 Hz	200 kW @ 400V, 50/60 Hz
Thermal power (hot water @ 85°C)	63 kW	83 kW	286 kW	572 kW
Electric consumption	0,5 kWh @ 230 V 50/60Hz	0,5 kWh @ 230 V 50/60Hz	0,5 kWh @ 230 V 50/60Hz	3,5 kWh @ 230 V 50/60Hz
Served family	35-40	50-60	150-200	300-400

## HECO CUBE TG

If chilled water need is a must for the User, Hecocube TG allows the production, at the same time, of electricity, hot water @ 85°C and chilled water @ 7°C.

In the following table we propose the standard configuration: our Engineering Department can set up the balance between produced hot water and produced chilled water upon the User's needs

Modello	HC0-TG	HC1-TG	HC2-SG	HC3-SG
Wood consumption (Woodchips G30 or G50)	30 kg/h	40 kg/h	135 kg/h	270 kg/h
Electric energy production	22 kW @ 400V, 50/60 Hz	30 kW @ 400V, 50/60 Hz	100 kW @ 400V, 50/60 Hz	200 kW @ 400V, 50/60 Hz
Thermal power (hot water @ 85°C)	46 kW (water at 90°C)	60 kW (water at 90°C)	209 kW (water at 90°C)	418 kW (water at 90°C)
Cooling power	12 kW (water at 7°C)	16 kW (water at 7°C)	54 kW (water at 7°C)	109 kW (water at 7°C)
Electric consumption	1 kWh @ 230 V 50/60Hz	1 kWh @ 230 V 50/60Hz	3,5 kWh @ 230 V 50/60Hz	6 kWh @ 230 V 50/60Hz
Water consumption	40 m³/year	52 m³/year	178 m³/year	350 m³/year

## HECO CUBE CGW

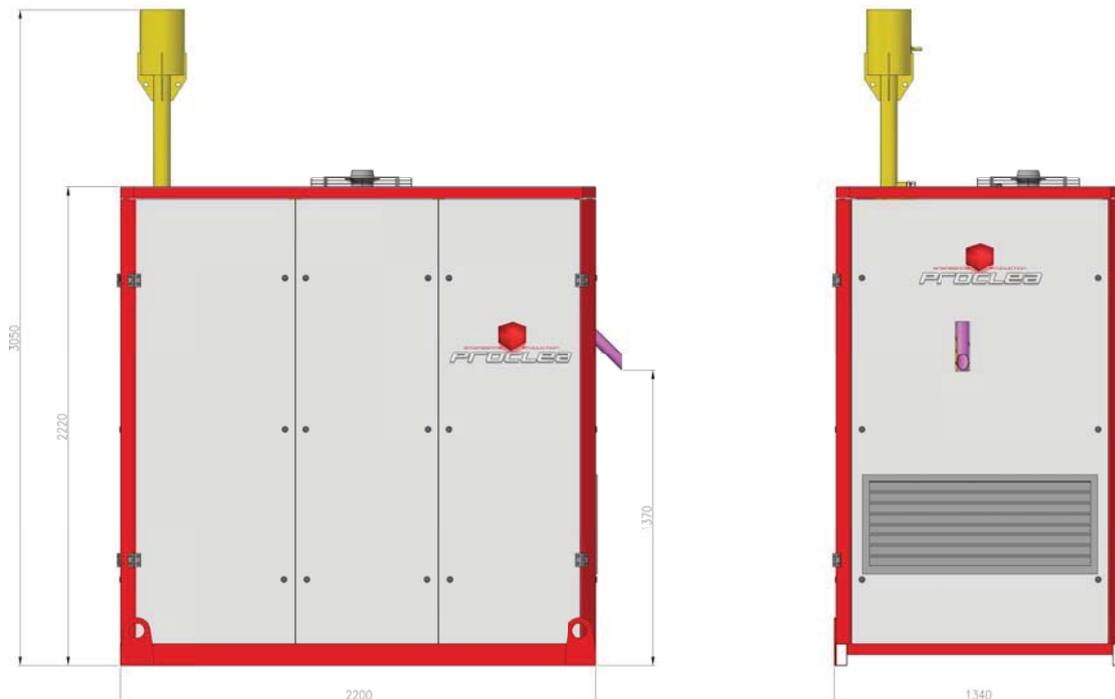
Drinkable water are, in many areas of the world, an exception respect the whole amount of available shallow waters.

Factors due to the origin of the water or the presence of pollutant human activities, deny to many peoples the use of this source of life.

Hecocube CGW uses the technical skills of Proclea to provide the Users, in a compact system, with electricity, thermal energy and a system to let the water drinkable.

The set-up of the system allows to produce up to 250 m³ of drinkable water per day

## GASIFIER DIMENSIONS MODEL HC0 AND HC1



## MANUFACTURING

All the HECOCUBE systems are designed and manufactured in Italy accordingly with European safety rules



## CONTACTS

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