ENERGY FROM BIOMASS AND WASTE

TRITOR® ENERGY

WASTE
AS NEW ENERGY
SOURCE

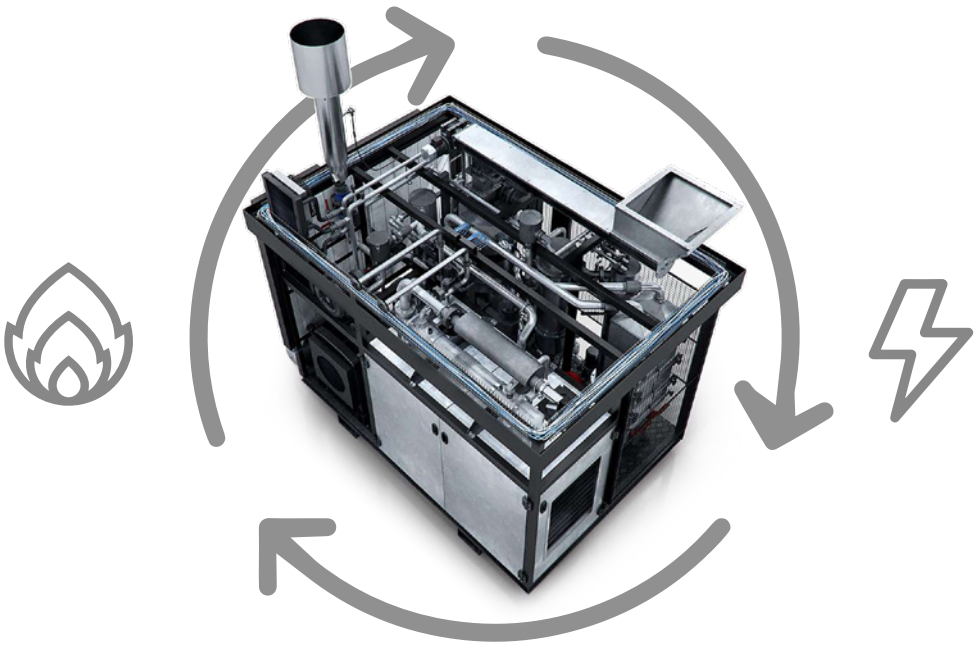
Waste, once viewed as an environmental problem only, is increasingly proving to be a new and promising source of energy. As the world strives to respond to the climate crisis and reduce its dependence on fossil fuels, converting waste into energy becomes an innovative and sustainable solution.

SSF (Secondary Solid Fuel) produced with the latest technology machinery for various types of waste treatment – i.e. unsorted general waste, dry fraction, organic fraction and sludge – is currently the most "sustainable" solution from the standpoints of the environment and affordability. It is used to produce thermal and electric energy in cogeneration plants, and it revolutionises our way of thinking regarding energy and the environment.

TRITOR® ENERGY

THE GREEN REVOLUTION
COMES TO YOUR PLANT

Tritor Energy is a micro cogeneration system producing electric and thermal energy through high quality SSF. Energy is generated via gasification at high temperatures, in total absence or with minimum quantity of oxygen.
This state-of-the-art technology makes the most out of the energy potential of the waste, while minimising harmful emissions in the atmosphere.



Operational Rental - your rental system: you only pay for the energy you consume.

BECOME
ENERGY SELF-SUFFICIENT

Tritor Energy is the ideal choice for urban and industrial heating, as energy production from solid waste increases energy efficiency and generates revenue from the sale of the electricity and heat produced.
This energy solution aims to greatly reduce dependence on traditional fossil fuel sources and mitigate problems linked to the depletion of non-renewable natural resources and to green gas emissions.
Using **Tritor Energy** to produce electric energy can contribute to energy security of the entire country. Diversifying the energy base with SSF can reduce dependence on fuel imports and improve energy independence.

YOU GAIN
AND THE ENVIRONMENT TOO!

Tritor Energy is the ideal solution to meet the high-energy demand from businesses, institutions and public entities, while giving back to the grid part of the electric energy produced, combining profits and care of the environment.

DISCOVER OUR FULL SERVICE SOLUTIONS

From 20 to 200 kWh (electric)
From 40 to 300 kWh (thermal)

BENEFITS
OF TRITOR ENERGY

ZERO IMPACT ON THE ECOSYSTEM

Tritor Energy fits in the natural cycle and respects the environment by generating only clean energy, with no negative impact on global overheating.

LOWER UTILITY BILLS

Self-produced electric and thermal energy lowers significantly your company's utility expenses.

ENERGY SELF-SUFFICIENT AND EFFICIENT

Your business can be energy self-sufficient, and enjoy the additional benefit of energy efficiency.

NATURAL FUEL

The high variety of fuels that can be used in this type of plant makes its use valuable in a number of sectors.

AUTOMATED AND SAFE PROCESS

Every phase of the process is automated and can be controlled remotely or on site with a simple and intuitive interface.

MINIMAL AND FUNCTIONAL DESIGN

The Tritor Energy box holds the entire process and it is easy to move, install and start up (indoor or outdoor).

MODULAR AND SCALABLE

Tritor Energy compact system is simple and quick to manage, extremely adaptable and flexible. The container configuration allows multiple installations and connections to achieve the desired output power.

TRITOR® ENERGY

IT IS THE IDEAL SOLUTION FOR:

- Municipal administrations
- Hospitals
- Hotels
- Sport facilities

Carbon Free Energy from 20 to 200 kWh

CERTIFICATIONS

Tritor Energy micro-cogenerator complies with the **European Conformity (EC)** in all the safety and quality requirements laid down by the regulation.
The production process is certified according to an integrated system of Quality - Environment - Safety UNI EN ISO 9001/2017 - ISO 14001 - ISO 9100:2009 - ISO/TS 16949:2002.

Member of CISQ Federation
RINA
CERTIFIED MANAGEMENT SYSTEM
ISO 9001

Member of CISQ Federation
RINA
CERTIFIED MANAGEMENT SYSTEM
ISO 14001

Member of CISQ Federation
RINA
CERTIFIED MANAGEMENT SYSTEM
EN 9100

Member of CISQ Automotive
RINA
CERTIFIED MANAGEMENT SYSTEM
IATF 16949

CE

OUR SUPPORT TO INSTITUTIONS AND BUSINESSES

Tritor Energy provides support during every phase of the installation process of the micro-cogenerator, ensuring comprehensive consulting and assistance services.

Installation assistance

We provide free of charge context analysis of the facility and of all the engineering services needed for Tritor Energy installation.

Activation assistance

We support you during the application process for the administrative authorizations required to activate Tritor Energy.

Global Service

We support you all the way from preparation of the Business Plan to commissioning the plant. The system is flexible and customizable according to your needs and can be deployed immediately, in turnkey fashion.

TECHNICAL SPECIFICATIONS CE

General Information	TE 20	TE 50	TE 102	TE 109	TE 200
Configuration	20' Container (6,1 x 2,4 x 2,6 m)	20' Container (6,1 x 2,4 x 2,6 m)	2 20' Containers (6,1 x 2,4 x 2,6 m)	30' Container (9,1 x 2,4 x 2,9 m)	2 30' Containers (9,1 x 2,4 x 2,9 m)
Weight	5.500 kg	7.550 kg	15.100 kg	12.000 kg	24.800 kg
Electric power	20 kWp [±20%]	50 kWe	100 kWe	100 kWe	200 kWe
Net thermal power	40 kWth	73 kWth	146 kWth	146 kWth	292 kWth
Biomass Consumption (1)	22-26 kg/h	60 kg/h	120 kg/h	120 kg/h	240 kg/h
BioChar (avg)	1,6 kg/h	4,2 kg/h	8,4 kg/h	8,4 kg/h	16,8 kg/h
Gasification units	1 RESET Evo-5 downdraft fixed bed	1 RESET Evo-5 downdraft fixed bed	2 RESET Evo-5 downdraft fixed bed	2 RESET Evo-5 downdraft fixed bed	4 RESET Evo-5 downdraft fixed bed
Motor (1500 rpm@50Hz)	GM Vortec 4.3 L - V6	n. 1 Origin 10.3 L - V8	n. 2 Origin 10.3 L - V8	n. 1 MAN E3262 E302 - V12	n. 2 MAN E3262 E302 - V12
Generator (50 Hz / 400 V)	Meccalte - ECP 28 VL4	SINCRO SK225	(2x) SINCRO SK225	(2x) SINCRO SK225	(2x) Meccalte - ECP 34 2M4 C
Ability to produce and environmental footprint @ 7200 hrs/year	**TE 20**	**TE 50**	**TE 102**	**TE 109**	**TE 200**
Electricity output	137 MWh	360 MWh	720 MWh	720 MWh	1,440 MWh
Thermal output	200 MWh	526 MWh	1,051 MWh	1,051 MWh	2,102 MWh
BioChar production (avg)	11,5 ton/year	30,2 ton/year	60,5 ton/year	60,5 ton/year	121 ton/year
Primary energy savings (2)	42,7 TEP/year	112,5 TEP/year	225 TEP/year	225 TEP/year	450,1 TEP/year
CO_2 Savings (3)	-125,2 ton/year	-329,5 ton/year	-659,1 ton/year	-659,1 ton/year	-1,318,1 ton/year

(1) Ref. wood chips with 10/12% moisture content pursuant UNI EN ISO 17225-4 standard; variable according to quality of biomass and residual humidity.

(2) Conversion factor of electric energy in Italy: $0{,}187 \times 10^{-3}$ tep/kWhe - SOURCE: ARERA Resolution EEN 3/08.

(3) Sum of CO_2 avoided by equivalent production from fossil sources and CO_2 equivalent to Carbon sequestered in BioChar (68%). Ref. natural gas generation (367,3 grCO_2/kWe; 231,1 grCO_2/kWth) - SOURCE: ISPRA "Atmospheric emission factors of greenhouse gas in the domestic electricity sector..." ed. 2020.

TRITOR® ENERGY

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registered trademark

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In collaboration with

RESET
INNOVATION IN BIOMASS TECHNOLOGY

Please note that continuous power performance might be subject
to variations in relation to the degree of moisture and the heating value.