



TRITOR 
HURRICANE®

**Greater efficiency, lower consumption:
waste valorisation at its best**



About Tritor[®] S.r.l

As a leader in waste management and treatment services, **Tritor[®] S.r.l.** is dedicated to developing cutting-edge solutions that integrate sustainability, energy efficiency, and innovation.

Tritor's mission is to provide systems that minimise environmental impact by optimising industrial processes, reducing both the footprint and mass of waste for treatment, and improving the quality of materials designated for recycling or energy recovery.

Reducing waste volumes: a core step towards sustainability

Volume reduction of waste is a crucial step in advancing towards a sustainable circular economy. Compressing waste and minimising its mass and volume are essential pre-treatment processes before materials can undergo recycling or repurposing.

The **Tritor Hurricane**[®] is engineered as a breakthrough in “pulverization” technology, aiming to significantly reduce energy costs compared to existing solutions while enhancing the effectiveness of volumetric and mass reduction.





TRITOR HURRICANE®: Advanced Technical Specifications

The **Tritor Hurricane**® is an innovative plant designed for pulverising and dehydrating waste via a system that harnesses centrifugal force and an integrated hot air vortex. This design enhances efficiency while reducing energy consumption.

Its compact structure and advanced features make it one of the most efficient and sustainable plants available on the market.

Additionally, the introduction of hot air allows uniform heating of the entire grinding chamber.



Electric motor and milling system

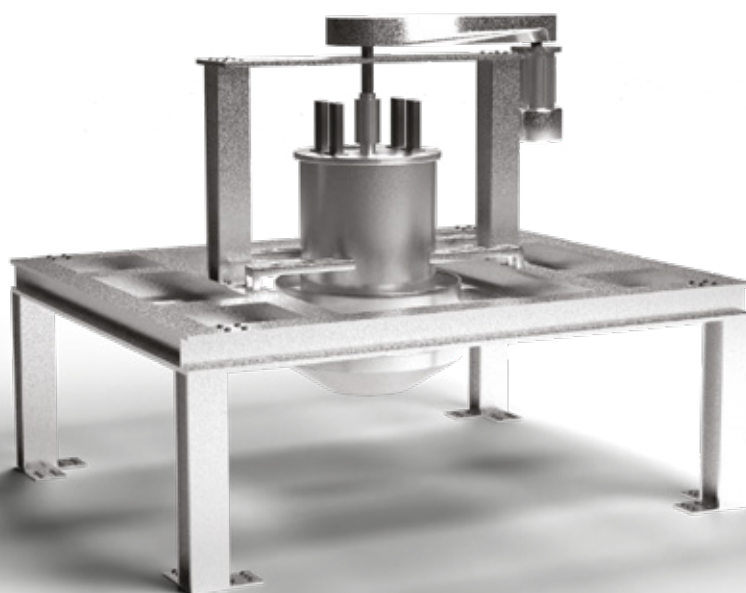
The **Tritor Hurricane**[®] is powered by an electric motor rated between 45 kW and 55 kW, generating substantial centrifugal force that activates the fragmentation system within the grinding chamber.

This motor drives a system of spherical bodies (balls or hammers) that rotate, crushing incoming material into fragments suitable for subsequent treatments.

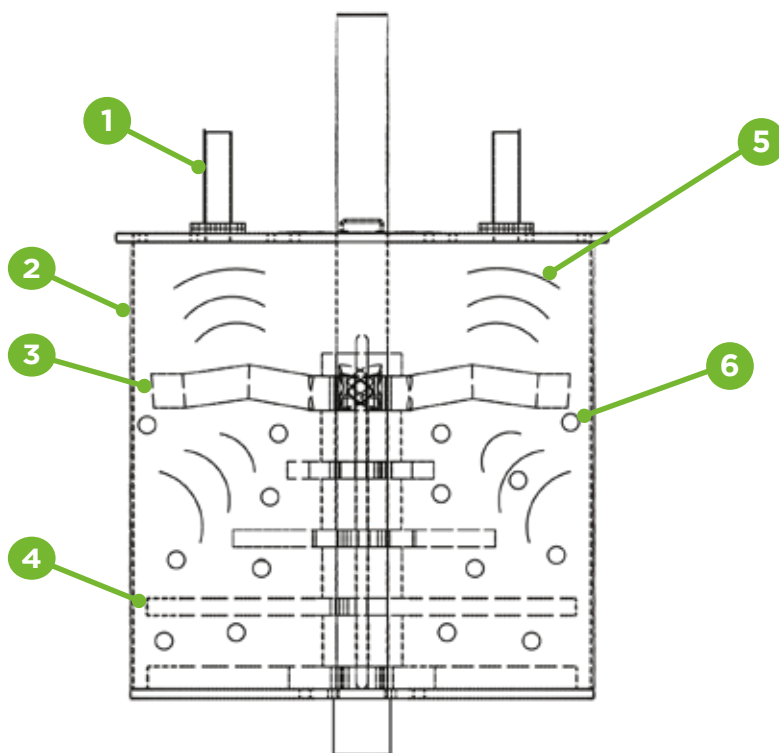
Grinding chamber

The core of the system is the grinding chamber, internally lined with removable **Hardox 450-500** strips, a steel highly resistant to impact and gentle on friction. These strips are designed to reduce chamber wear and enhance process efficiency. Their unique geometry projects waste fragments towards the centre of the grinding chamber, preventing radial dispersion (ineffective for pulverisation) and optimising fragmentation.

The new and expanded chamber measures 2.4 meters in diameter.



Rotating block and stability



- | | |
|------------------------------|--------------------------------|
| 1 Waveguide Magnetron | 4 Blades |
| 2 T-Chamber | 5 Electromagnetic Waves |
| 3 Upper Helix | 6 Grinding Balls |

The rotating grinding block, composed of a central shaft, is mounted on two rotation points (top and bottom), stabilising the system during operation and preventing wear due to shaft displacement. This design extends the machine's overall lifespan and lowers maintenance costs.

Vanes and balls: pulverisation optimisation

The **vanes**, rotating components on the shaft, are also constructed from **Hardox 400** and, together with the balls, maximise pulverisation efficiency. The geometric configuration of the vanes is designed to optimise the movement of crushing bodies, reducing component wear and increasing the machine's volumetric reduction capability.



Blades on the rotating plate

Blades on the rotating plate further reduce the transverse particle size of the processed material. With an adjustable orifice height between 2 and 5 mm, the output material can be processed to reach very small sizes, ensuring readiness for subsequent processing or recycling stages.





Heating system and energy savings

A standout innovation in the **Tritor Hurricane**® is its ability to dehydrate by heating with a hot air vortex, eliminating additional electric consumption. This novel system achieves **higher temperatures** within the grinding chamber with **lower energy consumption**.

The combination of hot air and the milling system's movement **creates a vortex** that increases material dehumidification capacity, optimising the process and further reducing energy consumption.

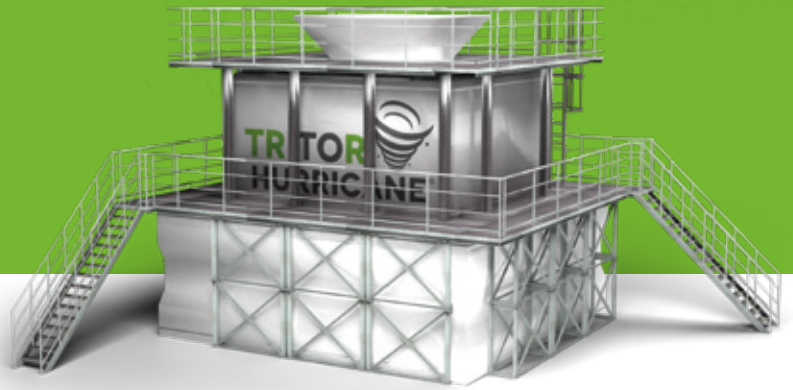




Monitoring and automation via PLC

The **Tritor Hurricane**[®] is equipped with an advanced monitoring system based on a **Programmable Logic Controller** (PLC), enabling real-time control of machine operating parameters. The system monitors the moisture content and specific weight of incoming and outgoing material, ensuring optimal pulverisation management. Additionally, three preset treatment modules are available for dry waste, moisture levels up to 35%, and up to 50%, reducing personnel needs from three operators to one per shift.





Compact design and easy installation

The **Tritor Hurricane**'s compact design, achieved through lateral placement of the electric motor, significantly reduces space requirements.

Compared to traditional solutions, the overall height of the machine's loading system is approximately 4.2 meters.

The **Hurricane** is modular, and based on client needs, 1/2/4 modules can be installed in-line to meet production (waste volume) and space requirements at the production site.

Specifications

Material Types	Partially stabilised organic waste from mechanical treatment, mixed waste from mechanical treatment
Material Types	Mixed Waste from Mechanical Treatment
Non-Suitable Materials	Metals, inerts, glass
Input Granulometry	< 80 mm
Input Humidity	< 60%
Single Chamber Production	t/h 1,2-1,7
Production with 4 Chambers	t/h 5-7

General specifications

Operating Temperature	- 10 to + 40 °C
Electrical Voltage	380 V 50 Hz
Installed Electrical Power	220 kW
Operating Electrical Power	136 kW
Operating Time	Automatic, 16 h/day
Refiner Dimensions	L: 4 m x W: 4 m x H: 4.4 m (excluding waste feeding)
Control Cabinet Dimensions	L: 5 m x W: 1 m x H: 2 m



Superior energy efficiency and performance

Despite its relatively low motor power (45 kW), the **Tritor Hurricane**[®] delivers performance equivalent to that of machines with far more powerful motors, thanks to optimised design and transmission systems.

The machine's **high Coefficient of Performance** (COP) between electric energy input and pulverised mass output is a key factor distinguishing it from competitors, ensuring a substantial reduction in operational costs.

Conclusion

The **Tritor Hurricane®** stands as a reference solution for waste treatment and pulverisation, with a focus on energy efficiency, sustainability, and cost reduction. Thanks to its technological innovations and compact configuration, this machine represents a secure investment for companies aiming to optimise industrial processes and minimise environmental impact.





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