

Biomax-G®

In-vessel dynamic biological treatment

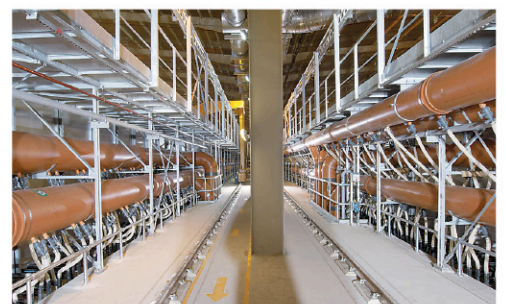
The most advanced and reliable technology for bio-stabilization and composting of biodegradable organic waste



Biomax-G® is a patented aerobic bio-treatment, result of decades of **research and development** by the Sorain group, since 1964 treating bio-waste. In 1988 first generation (Bio-Rapid model with transversal run) was industrially tested in Perugia and in 1996 was realized the first Biomax-G® system. Nowadays this technology is used worldwide with **more than 100 units under operation** for a total of 25.000 tons/day of processed waste.

Biomax-G® is the most advanced **Accelerated Dynamic Bio-stabilisation**, combining turning with negative forced aeration and moisture control in a full automatic mode. The aerobic process takes place within an enclosed reactor, where moisture, temperature and aeration levels are constantly monitored. Overrunning the reactor an auger bridge crane turns the biomass according to a scheme controlled by computer.

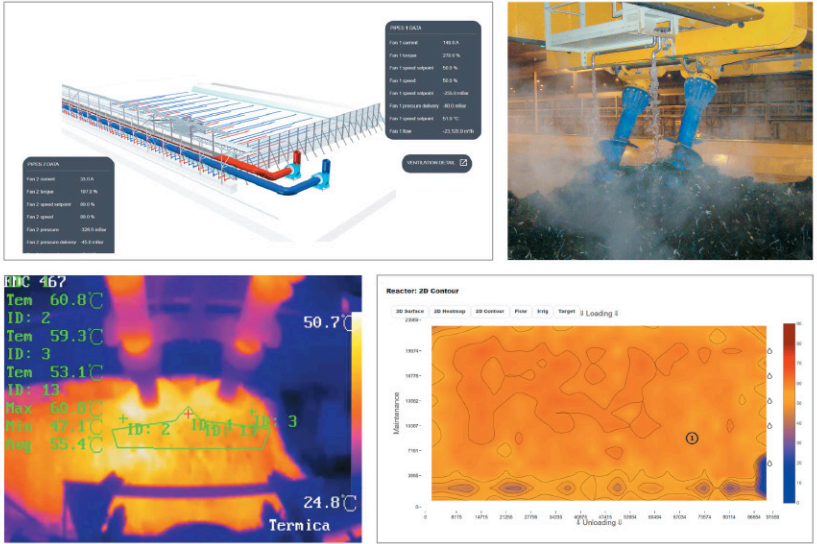
The system is designed to **separately process in the same reactor two or more organic streams**, making Biomax-G® ideal for source separated waste collection of organics and residual waste.



Fresh organic feedstock is automatically loaded and distributed along the entire Biomax-G® vessel length by means of a tripper trolley conveyor.

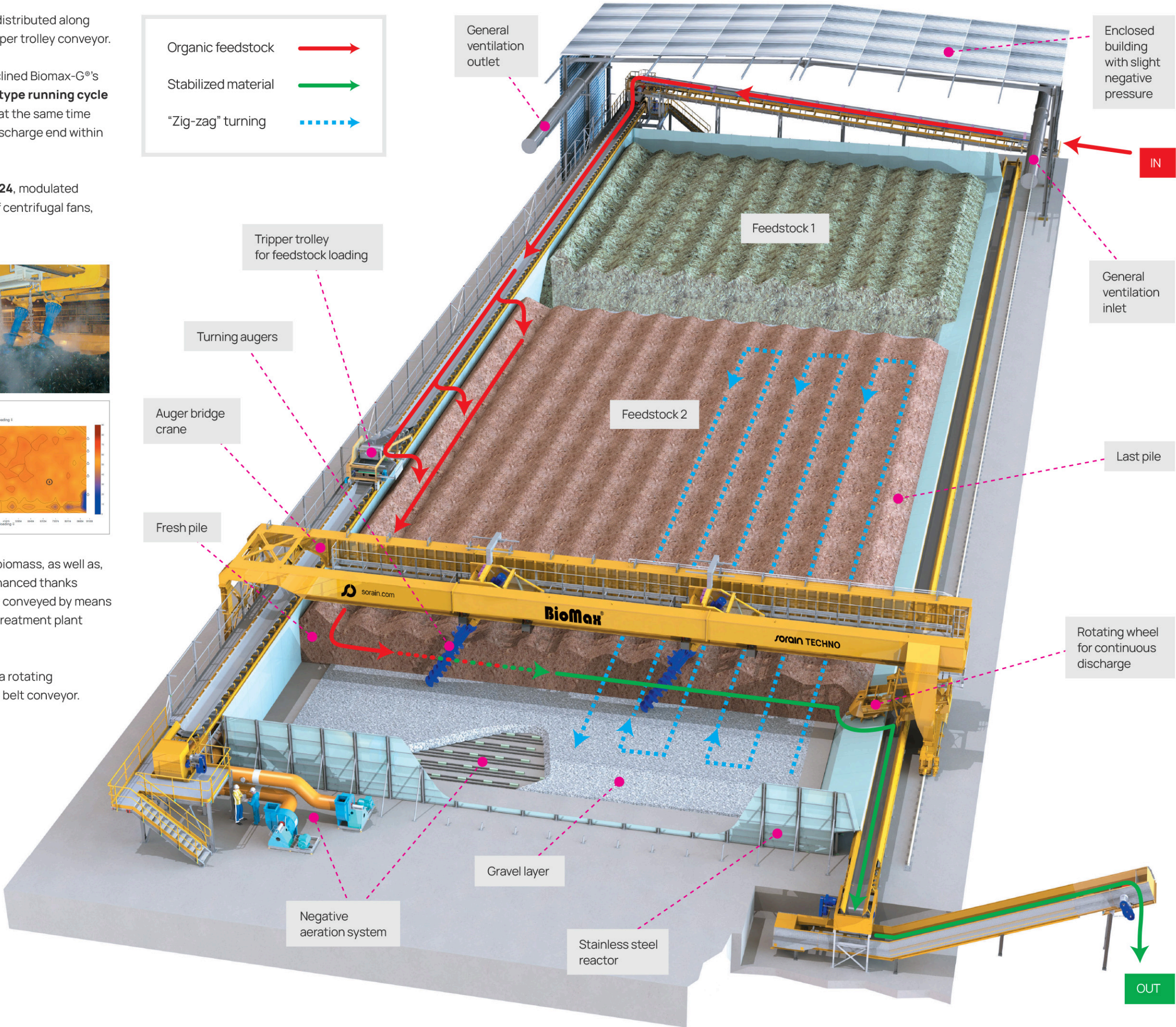
Once generated the first pile of fresh material, the inclined Biomax-G®'s augers move inside the reactor following a “zig-zag” type running cycle (from the loading to the unloading side), turning and at the same time displacing in a controlled manner the piles towards discharge end within the design retention time.

Biomass forced aeration is **negative** and working **24/24**, modulated by a computerized system which controls a battery of centrifugal fans, each of them controlling one aeration zone.



Process control, temperature distribution inside the biomass, as well as, ambient conditions inside the building are greatly enhanced thanks to this system. Air extracted from the biomass is then conveyed by means of headers, running along the loading side, to the air treatment plant (Scrubber/Biofilter).

Finished raw product is unloaded from the reactor by a rotating paddle-wheel, which “scraps” the finished pile onto a belt conveyor. The **discharge is continuous** and allows the direct connection to a refining line, if needed.





Several are Biomax-G®'s **key advantages**:

- A worldwide industrially proven technology with more than 100 units under operation for a total of 25.000 tons/day of processed organic residues.
- Recommended for all organic biodegradable materials (organics from mixed MSW, organics from source separated waste, green waste, agro-industrial and sewage sludge, biomass in general).
- Ideal bio-drying treatment for Secondary Recovered Fuel (SRF) from MSW and biogenic fuel production.
- Modular system which allows the completely separate treatment of more than one organic fraction inside the same reactor (e.g. organics from MSW and organics from source separated waste).
- Fully automatic computer-controlled system with loading, unloading and continuous feeding to refining line, without the need of intermediate storage.
- Compact system: the automated biomass height recovery allows to save up to 40% of needed surface.
- Moisture control by directly irrigating the biomass during the turning action by the augers, so avoiding leachates' formation.
- Accelerated dynamic system that allows, throughout a "gentle" augers turning, homogeneous porosity all over the biomass bed so avoiding anaerobic pockets formation and optimal conditions for aerobic microorganism's activity.
- Heavy-duty system fit for long life cycle plants with low operation and maintenance costs.
- Automatic temperature and moisture scan.
- Fully electric and suitable for solar panel installation.

