

Biomatic®

The proximity solution
for your high-quality composting

The new Biomax®'s family
dynamic bio-reactor
for medium-small facility



Biomatic® biological treatment is the perfect answer to **small-medium treatment capacity needs**, whereas decentralized systems are preferred to large centralized facilities.

The new model keeps all the advantages of the patented and highly tested Biomax®'s family, global leader in organic waste aerobic treatment. **Compact size and price affordability** make it extremely competitive for small and medium treatment plants, up to 20.000 tons/year of organic waste.

Just like the larger models of the Biomax-G® series, Biomatic® is an **automatic system that can treat all types of organic waste** inside a stainless-steel reactor (in-vessel).

Organic feedstock is loaded into reactor by means of an automatic belt conveying system and is subject to the augers turning action according to a PLC controlled pattern. At Client's request loading and downloading operation can be also performed manually.



The gradual and controlled turning cycle guarantees the compliance with the designed residence time (typically from 2 to 6 weeks). The **biomass forced aeration is negative and runs 24 hrs per day**, automatically adjusted by supervision software which controls all process parameters.

Process air, as well as general ventilation air, is ducted to the odour treatment section (scrubber/ biofilter) to guarantee odours removal.

Compared to static 'batch-type' systems Biomatic® is a very compact technology and allows to:

- 1) eliminate spaces for intermediate storage, loading and unloading of the tunnel; Biomatic® load and unload operation are continuous and automatic;
- 2) eliminate manoeuvring clearance for material handling by diesel engines;
- 3) avoid, thanks to the augers dynamic action, the natural decrease of the pile height caused by the bio-oxidation process, so allowing the dynamic recovery of space that static system cannot cope with.



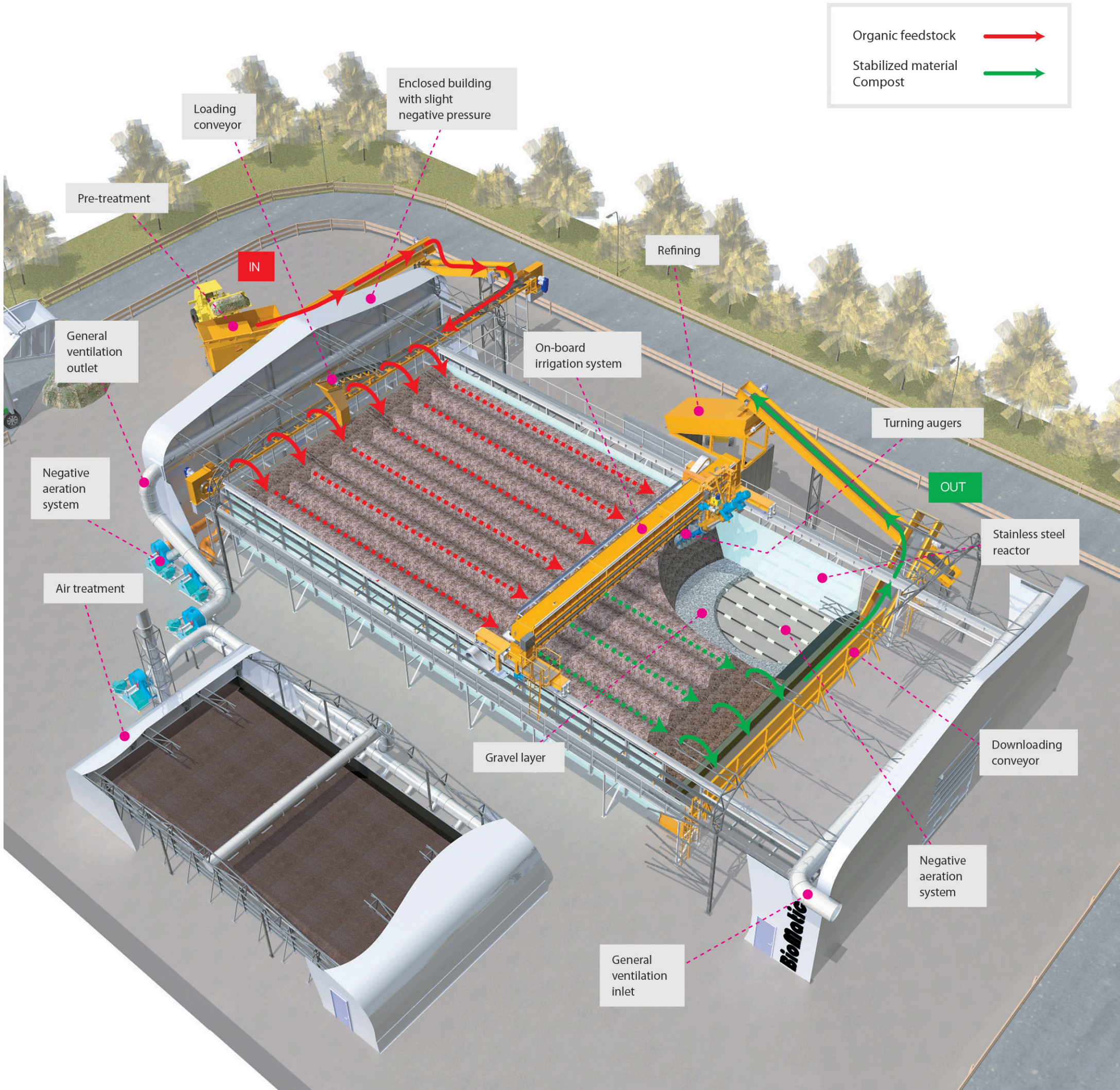
Up to 50% reduction of the process treatment space is thus achieved by Biomatic® under same working condition.

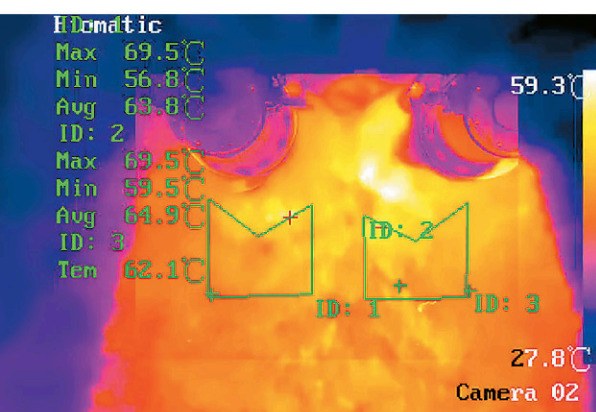
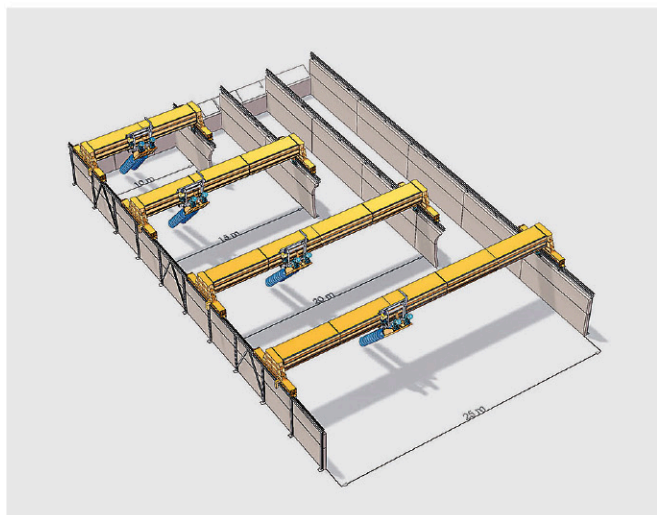
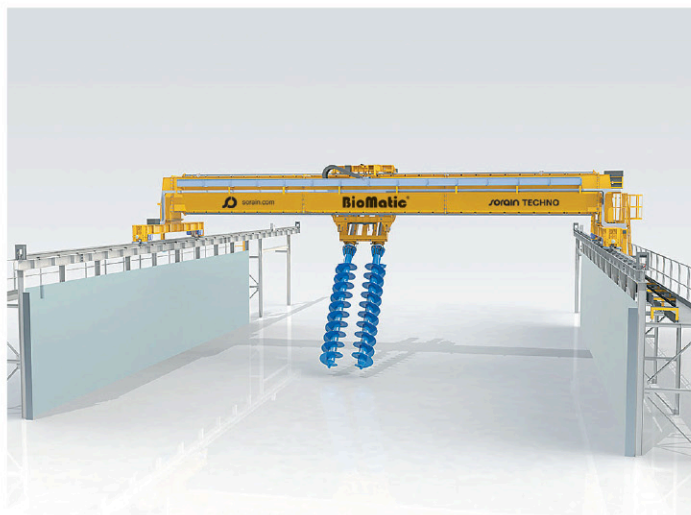
Due to its reduced size, ultra-light "fabric type" buildings can be used for Biomatic® housing. Biomatic® system is available in 4 sizes, 10-15-20 and 25 meters, with an overall reactor's length from 20 to 50 meters.

Treatment capacity, for a 4-week retention time, varies from 15 to 100 tons per day (i.e. 4.500 to 30.000 tpy) of organic waste.

Biomatic® system is modular, can be easily dismantled and is supplied on a "turn-key" basis fitted with stainless steel reactor, automatic loading and unloading system, forced aeration, air treatment, control and supervision systems.

Civil works are minimal. At client's request, it is also possible to include in the package the ultra-light fabric type building.





In addition to space savings BioMatic® advantages vs traditional static systems (i.e. tunnels) are:

1) Fast process start-up

Being a dynamic process, the incoming feedstock is immediately put in the best condition for activating the biological process. No inoculation is required.

2) Porosity control

The dynamic turning preserves the biomass porosity, allowing proper oxygen circulation in each portion of the pile. The result is a more reliable and uniform process treatment.

3) Moisture control

Biomass proper moisture content is maintained by the on-board irrigation system while turning the biomass; a much more efficient system compared to static sprinklers on biomass surface.

4) Better Health & Safety conditions

The absence of intermediate storage and the automatic loading and downloading operations significantly improves the hygiene and the working conditions of the processing plants.

5) Better environmental conditions

The entire system uses low consumption, height efficiency and zero emission electrical drives.

6) Low operating costs

No operating personnel, no fuel consumption and low maintenance equipment.