

MUNICIPAL SOLID WASTE TO GRID POWER

NEAR ZERO LANDFILL



GEODYN
SOLUTIONS

**3 TON TOTAL WASTE SYSTEM
PLUG AND PLAY**

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Geodyn 3 Ton Tws - Containerized

LABELED SHIPPING CONTAINERS COMPLIANT WITH SHIPPING VESSAL REQUIREMENTS



All 3 ton triple deck Total Waste Systems are housed in four parallel transport ready containers 40' x 8' (12.2M x 2.4M).

Geodyn Solutions are the manufactures of the world's most innovative municipal waste processing systems.

The Total Waste System (TWS) is a patented process using proprietary technology to turn any solid waste material into marketable products. Recovery facilities normally have to remove recyclable materials from the sorting line and the remaining waste must be landfilled.

Not anymore, thanks to Geodyn and the Total Waste System.

Geodyn 3 Ton Tws - Containerized

OPENED CONTAINER SHOWING THE 3 TON PER HOUR TOTAL WASTE SYSTEM

GEODYN PROCESS

DUMPING
CONVEYOR

BAG
OPENER

SORTING
LINES

MAIN
SHREDDER

RADIANT HEAT
PROCESSOR

PRESS

FILTRATION

MOISTURE
EXTRACTOR

GRINDER

PELLETIZER

COOLER

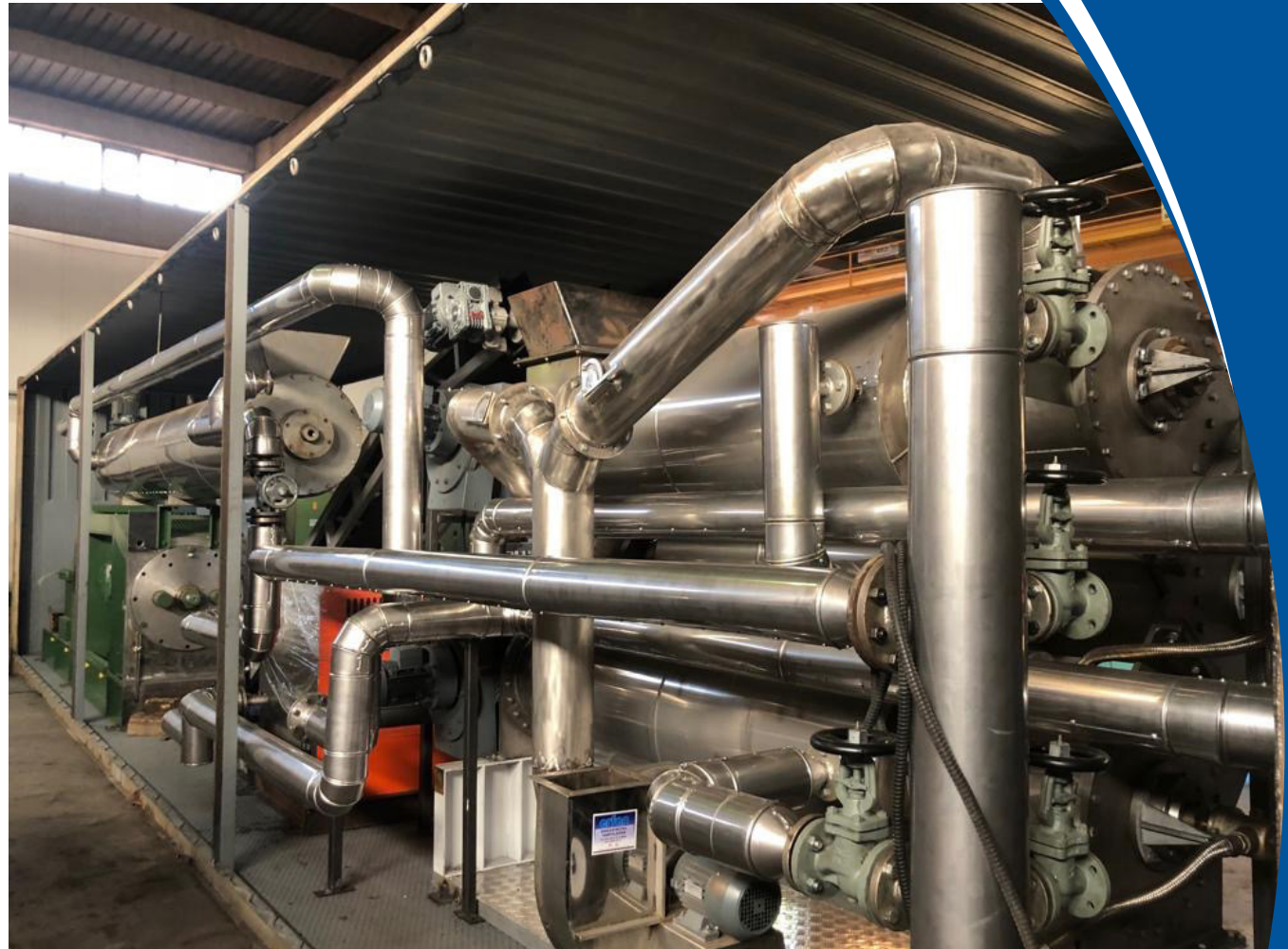
PYROLYSIS
SYSTEM

PRODUCTION
OF SYNGAS

PYRO-OIL

CARBON
BLACK

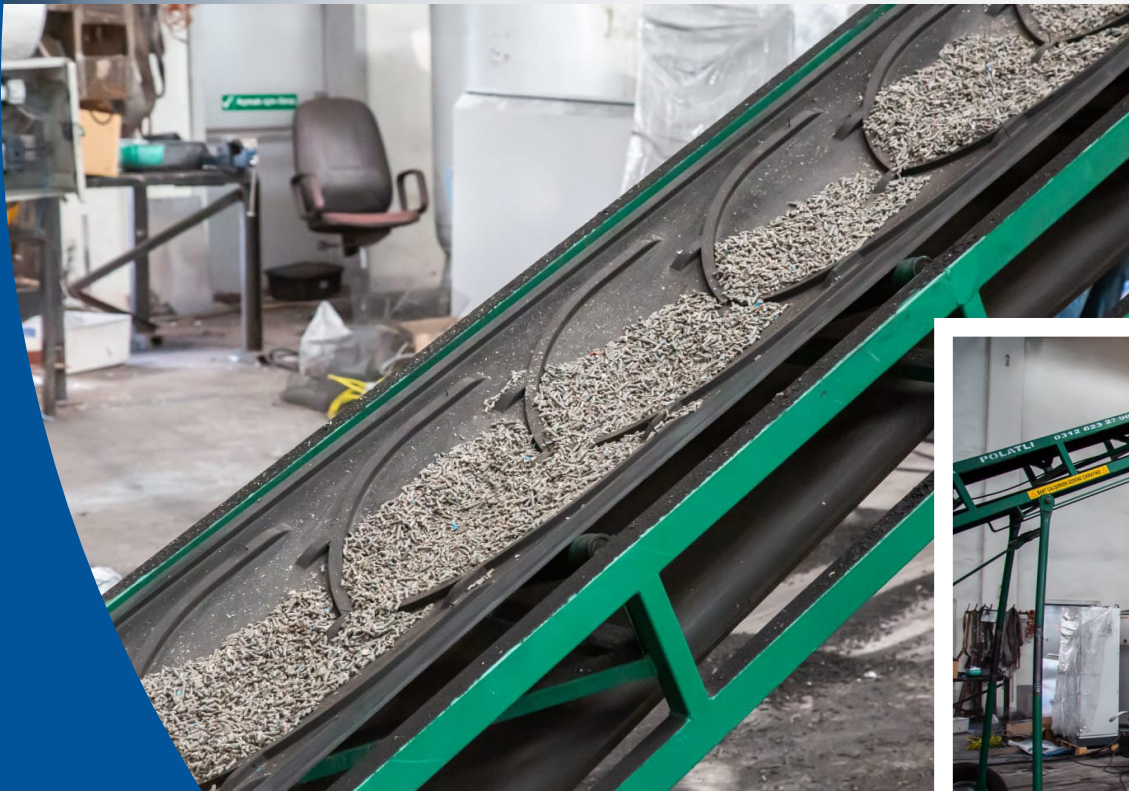
BIO-CHAR



This container houses the radiant heat processor which eliminates pathogens and eliminates odor. Next, the press will remove the liquid and transfer fluids to the filtration system.

PYROLYSIS SYSTEM

CUSTOMIZED SOLUTIONS CAN BE MADE FOR EACH SCENARIO AND REQUIREMENT



Transferring the Geodyn pellets from the tripledeck on a conveyor to the pyrolysis system.



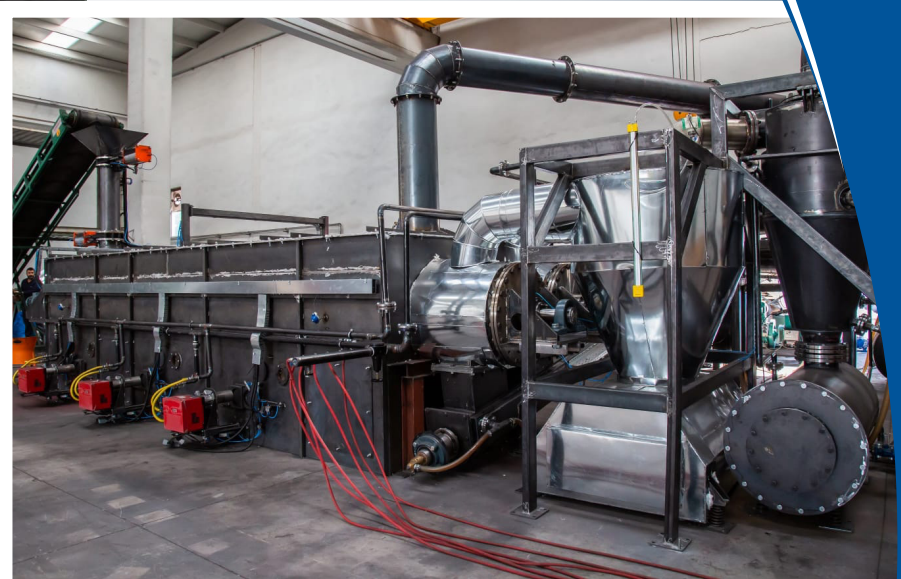
The Geodyn pellets are transferred to double reactors through the double air locks by cutting off the oxygen supply.

PYROLYSIS SYSTEM

WORLD LEADING STATE OF THE ART TECHNOLOGY



The "PyroOil" gets generated from the processed Geodyn pellets inside the reactors and transfers from the valves through the container. The containers next to the "PyroOil" generator are tanks that produce bio-char or carbon black.



The propane gas system is initialized for the first 60 minutes through six opposing burners till the temperature rises to 600 degrees Celsius. Then production of the 'Geodyn Generated SynGas' will engage the engine to run the generator.

PYROLYSIS SPECIFICATIONS

RAW MATERIAL SPECIFICATIONS

The system is able to pyrolyze biomass based raw material with organic content. Raw material needs to be dry and the content of the raw material contains the following limitations.

The capacity of the system:

- **Moisture Content $\leq 6\%$**
- **PET + PVC + ABS $\leq 3\%$ (wt)**
- **Calorific value ≥ 3500 kcal/kg**
- **Particle size $\leq 8 \times 8 \times 20$ mm**
- **Bulk Density ≥ 750 kg / m³**
- **Metallic content $\leq 1\%$ (wt)**

Products' quality and amount changes

according to raw material properties. According to plastic content of raw material catalysts may need to be used.

System Capacity: 1000 kg/hour raw material Liquid Oil Percentage after pyrolysis: 37 % (wt) on dry basis raw material Calorific Value of Liquid Oil with no moisture content ≥ 9000 kcal / kg

TECHNICAL SPECIFICATIONS OF EQUIPMENT REACTOR

Material : Drive : Sealing : Refractory : Burner:

HEAT EXCHANGERS

Material : Surface Area :
P355 GH or equivalent

Frequency controlled electric motor
Graphite @ High temp regions
Viton @ Medium temp regions
AISI 304 steel fiber reinforced min. 40% Al₂O₃
refractory material AISI 304 anchor rods
128 kg/m³ Ceramic Fiber
600000 kcal / h capacity gas burner
Able to burn process gas
S235 Mild Steel
min. 34m² cooling surface area

AUTOMATED FEEDING SYSTEM

Material : S235 Mild Steel
Specifications: Automated with
Double flap gate system with sealing.
Screw conveyors drive: 3 kW with
frequency control

AUTOMATED DISCHARGE SYSTEM

Material: S235 Mild Steel
Specifications: Automated with Double
flap gate system with sealing. Cooling:
Water cooling jacket & Shaft cooling Screw
conveyors drive: 3 kW with frequency control

Air Dryer: Included
Air Tank: Included
ELECTRIC SYSTEM & PLC
All sensors and electric equipments have
been approved according to UL standards.

OIL TANK

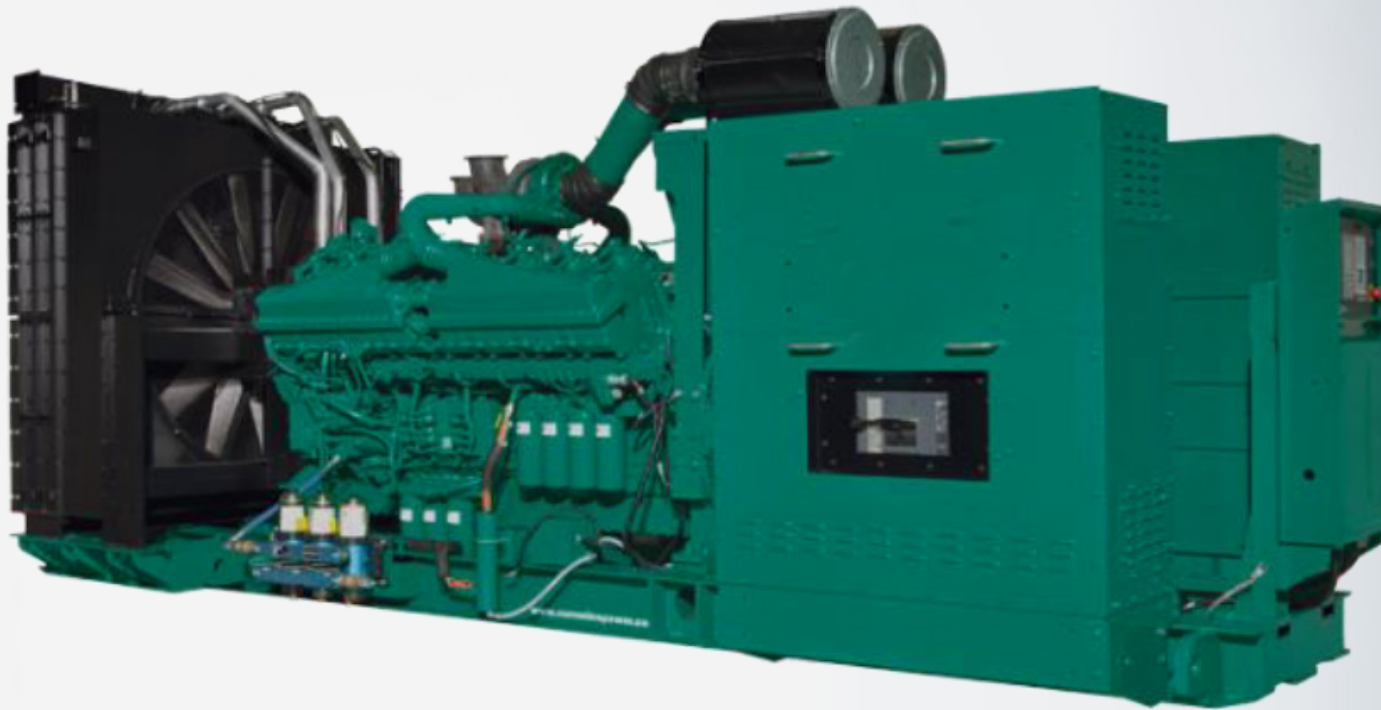
Material: S235 Mild Steel Capacity : 3m³
NITROGEN GENERATOR SET with
COMPRESSOR
Type: PSA - Automated Capacity : 10 m³/hour @ 99 % N₂ Air Compressor : Included
Nitrogen Tank: Included

OTHER EQUIPMENTS

- Process Blower or Vacuum Pump
- Stack gas Fan
- Automated Process Gas Burning System
- Flare System
- Oil Pumps
- Water Pumps

INDUSTRY STANDARD 1500KW GENERATOR

FUELED BY SYNGAS OR PYRO-OIL



Generator Ratings

Standby Rating	Prime Rating	Continuous Rating
50Hz kVA (kW)	50HZ kVA (kW)	50HZ kVA (kW)
1540 (1232)	1400 (1120)	1125 (900)

GEODYN SYSTEMS

*Geogyn Systems
Eliminating a
global waste
problem*

*Waste to
fuel pellet
Fuel pellet to
SynGas
SynGas to
Electricity*

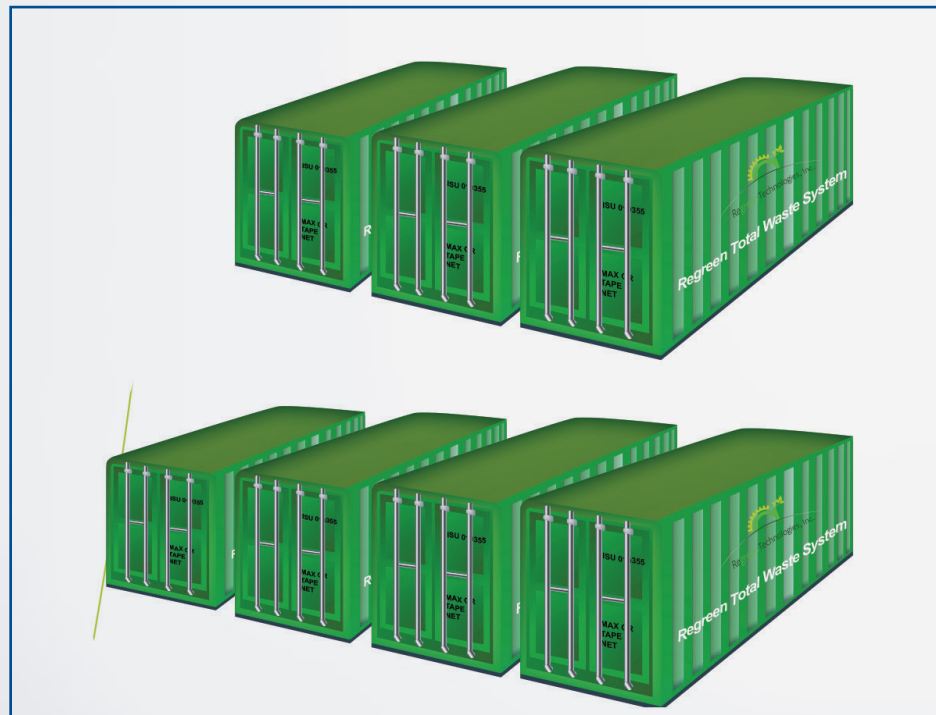
*Lowering
Carbon CO₂
Footprint Globally*

Mission Statement

To use our innovation technologies in eliminating landfill waste and harmful pathogens to create a healthier and more prosperous world. We seek out difference-makers, both in employees and customers, to enrich lives and communities worldwide.

Vision

Deploy our unique and patented technology and systems to turn environmental liabilities into marketable commodities, eliminating the need for landfills and significantly reducing carbon emissions. To produce green power, organic fertilizers and feed, and other needed products, while reclaiming water. To achieve these accomplishments in a zero-emissions and zero-waste manner.



*The 3 ton per hour
Total Waste System
including 1.5MW power
generation comes in
seven 40 foot shipping
containers.*