

New



Biosirus

Pyrocracker

Plastic Pyrolysis Waste Reduction System

Pyrolysis Temperature (400–500 deg. C)
Hydrocarbon yield 75-85% (by wt.) of Plastic
85% Efficient (Energy Balance)
Little Flue Gas (mostly self consumed)



Application:

- Offices, General Commercial, Hotels, Apartments
- Municipal Garbage Services
- Supermarkets, Food Service, Food Terminals
- Plastic Recycling Facilities

Features:

- Energy savings – No fuel, small electricity/water input
- Small footprint, simple modular construction
- Wide range of plastics input – HDPE, LDPE and PP
- Environment-Friendly
- High oil yield

How Does It Work:

- Low temperature pyrolysis (400-500 deg. C) in absence of oxygen; Plastic degradation (70-240 deg. C)
- Atmospheric Pressure
- Low energy inputs (1 KL water); 15 KW power; 6-8 hours per batch
- High Calorific Value: Fuel Oil (8,041 Kcal/Kg); Carbon Residue (2,460 Kcal/Kg)

Technical Data:

- **Models:** 50 / 100 / 200 Kg. capacity
- **Power Supply:** 120/220/240/380/415V; 50/60Hz.; 1ph/3ph
- **Inputs (per batch):** 1 KL water; 6-8 hours; 15 KW
- **Exhaust Gas:** Little flue gas (mostly self consumed)
- **Efficiency:** 85% (energy balance); Oil yield 75%-85% (of plastic weight)
- **Output Fuel:** Oil (25/50/100 Kg.); Carbon Powder (9/18/36 Kg); By Model Type
- **Output Uses:** Oil - Industrial Burners; Carbon Powder - Briquettes
- **Construction:** Stainless Steel; Footprint: 10x10 / 15x12 / 20x15 feet



Operation:

The system consists of 3 chambers (Reactor, Condenser and Separator). Thermal degradation takes place in the absence of oxygen at 400–500 deg. C., (atmospheric pressure), with catalytic hydrocarbon split occurring between 70–240 deg. C. The pyrolysis process converts plastic into low-emissive hydrocarbon fuel in about 6-8 hours per batch.

S.No	Description	Value
1.	Fuel Oil Characters: Density Viscosity Calorific Value Moisture Content Carbon: Hydrogen (%)	0.9051 g/cc 95 CST 8,041 Kcal/kg 1.3% 89 : 11
2.	Carbon Residue Powder Calorific Value	2,460 Kcal/kg



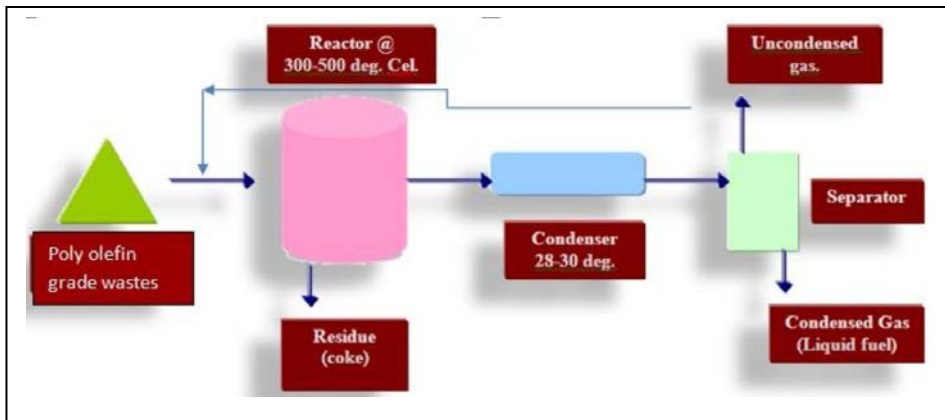
Tech Talk: *Plastic degradation through Low Temperature Pyrolysis*

Plastics when burnt in the open, is hazardous to health.

At present, almost all plastics ever manufactured, continues to exist today in some form or the other. More plastics have been manufactured in the last 15 years than the entire last century. Of the global production of 300 million tons, about 160 million tons (or over 50%) go to landfill. But it does not have to be this way. Since plastic garbage sources are dispersed (even within a locality), its collection and transportation (to a central waste facility), is very expensive. Hence, a sustainable solution for plastic reduction would be best when it is (1) in-situ with waste production, and (2) uses non-polluting methods. This would be the most economical and environment-friendly solution.

Dispersed and discretized plastic pyrolysis units using non-polluting methods is the best answer for neighborhood plastic reduction. The thermal degradation of plastics substances pyrolyzed (in absence of oxygen) at low temperatures (400-500 deg. C), converts waste plastic into low-emissive hydro-carbon fuel. With the catalytic action, hydro-carbon is split between 70–240 deg. C. The result is a pollution-free waste reduction system. The process is 85% energy efficient (by energy balance) and over 50-70% of the plastic yield (by wt.) can be converted to carbon fuels.

The best part is, that this solution is achieved (1) right where the garbage is produced; (2) at much lower cost (relative to traditional garbage collection/transportation/central processing); (3) has low O&M cost; and (4) produces a high calorific marketable fuel (oil and carbon powder). All this, with added benefits being pollution free.



Typical Applications



PP Bags
Snacks & Pouches
Carry Bags
Packaging
LDPE, HDPE & PP

Not Suitable



Epoxy
Glass
Ceramics
Construction Waste

And Savings Too:

This ensures lower costs, greater ROI and a scalable speedier long-term solution. A two-for-one benefit.

Best Value Applications:

Parameters	Platinum Savings	Gold Savings	Silver Savings	Bronze Savings
Factory, Hotels, Apartments	*****	****	***	**
Food Industry (All)	*****	****	***	**
Municipal	*****	****	***	**
Supermarkets, Plazas	*****	****	***	**
Electricity Tariff (US \$/Kwh)	>0.15	0.12	0.10	0.08
Transport cost (US \$/km)	>10	10-7	7-3.5	<3.5
Labour cost (US \$/hour)	>10	10-8	8-5	<5
Typical Pay back (simple ROI)	1 Year	2 Years	3 Years	4 Years

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**Call us for any details
or a trial project**