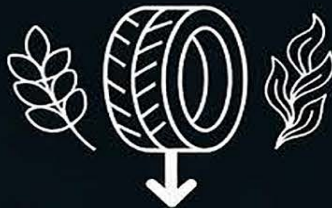




WL-50

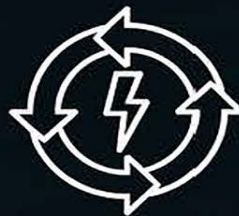
THERMAL DECOMPOSITION REACTOR

The **WL-50** is a mid-scale industrial unit designed for regional energy projects. It offers a bankable solution for converting scrap tires or biomass into renewable fuel and carbon-negative materials. The system is built for modularity, allowing for easy expansion and full-cycle energy independence through integrated distillation and battery storage.



Feedstock Input

For every 50 tons of input feedstock daily, you can produce...



Fuel & Energy Production

Approx. 6,428 gallons of pyrolysis crude oil, convertible to diesel by the distillation system.



Carbon / Credits

Approx. 16 ton of carbon black/biochar for industrial and agricultural use.

The included distillation module refines crude oil to low-sulfur, high-cetane diesel meeting ASTM specifications.

50 TONS/DAY | ~6,428 GAL CRUDE/DAY | ~2,000 KW

www.whitelionenergy.com



WL-50

THERMAL DECOMPOSITION REACTOR

CORE TECHNICAL DATA

PARAMETER	WL-50 SPECIFICATIONS
Input Capacity	50 tons/day (\approx 2.08 t/hr)
Crude Oil Output (45%)	267 gal/hr
Carbon Black / Biochar (35%)	\approx 16 t/day
Syngas (20%)	\approx 6 t/day (reused internally for heat)
Voltage	208/230 V, 3-phase, 60 Hz (customizable)
Power Consumption	70 kWh/hr
Startup Fuel (Heavy Oil)	12 gal/hr
Water Make-up (Cooling)	\approx 40 gal/hr
Operating Cycle	60 days continuous + \approx 3 days maintenance
Material	Alloy 15-7 Stainless Steel Reactor
Working Pressure	\approx 50 to \approx 100 Pa
Heating System	Hot-air circulation using recovered syngas
Cooling System	Closed-loop condenser + emission scrubber
Control System	Schneider or Siemens PLC with remote monitoring
Staffing	3-5 operators per shift
Reactor Warranty	5 years
Remote Monitoring	Included (36 months)

PHYSICAL & SITE REQUIREMENTS

ITEM	WL-50 REQUIREMENT
Footprint	75 ft L \times 25 ft W \times 32 ft H (requires 4-5k sqft pad)
Recommended Pad	4,000 psi reinforced concrete
Building Type	Can operate in open yard or under roof
Power Integration	Can run off-grid via 100 kW genset and 2-10 MW battery bank
Environmental Controls	Dual scrubber + condensate recovery to ISO 14001 standard



WL-50

THERMAL DECOMPOSITION REACTOR

MAINTENANCE & SUPPORT

ITEM	DETAILS
Annual Maintenance (after Yr 1)	≈ \$80,000 per year (quarterly PM)
Service Intervals	Quarterly inspection + scrubber media change
Spare Parts Kit	12-month consumables included
Training	5-day on-site O&M program
Monitoring	36 months remote diagnostics included

SCALABILITY & INTEGRATION



Modular Expansion

A second WL-50 can be added without replicating all utilities, cutting incremental capex.



Energy Storage Ready

Integrates seamlessly with White Lion's 2-20 MW sodium-ion battery systems for load leveling and off-grid operation.



Distillation Sync

The distillation system sized for continuous diesel production.

DISTRIBUTOR INFORMATION

PLACE DISTRIBUTOR INFORMATION HERE