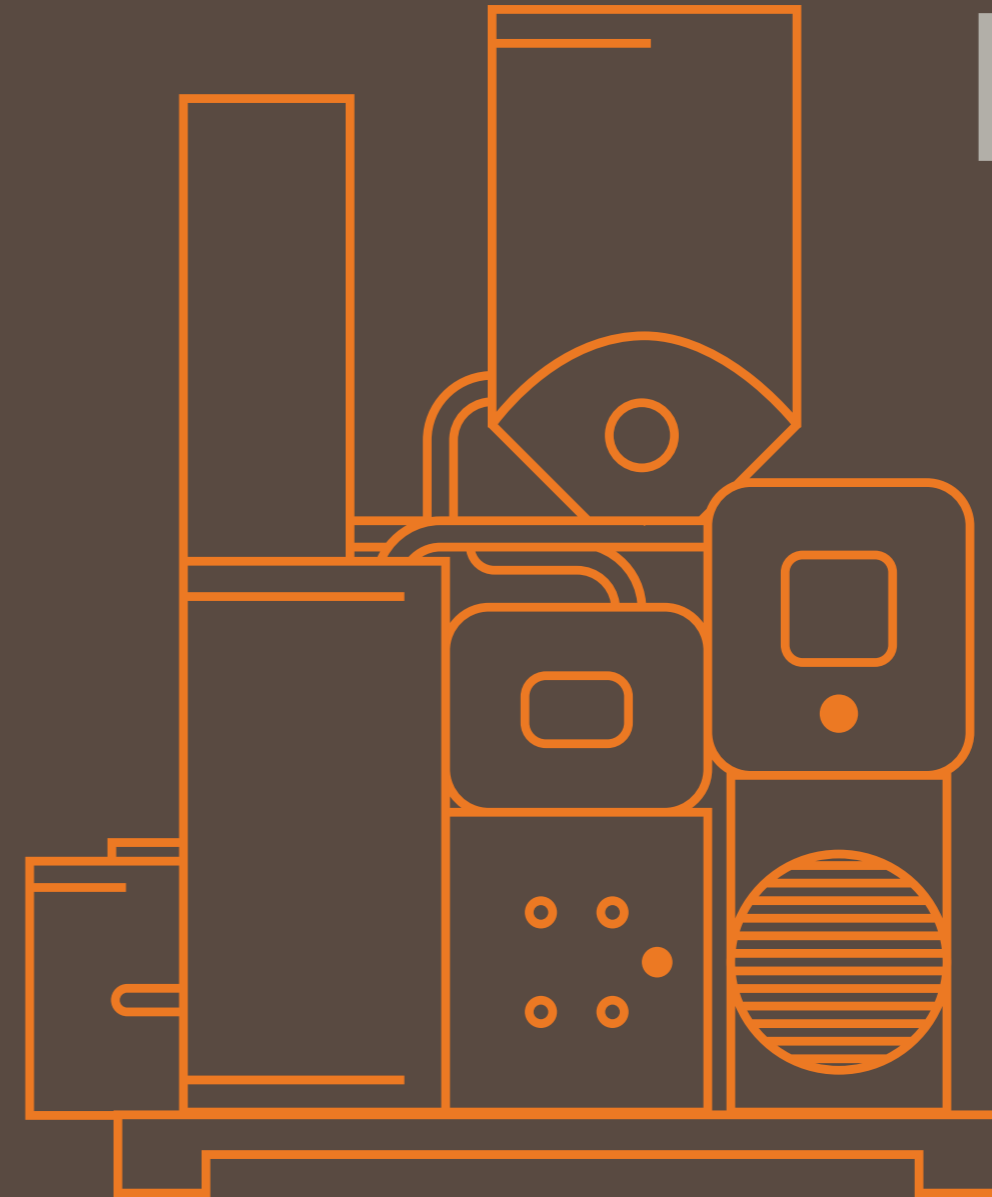


PP30



Solving Global Warming

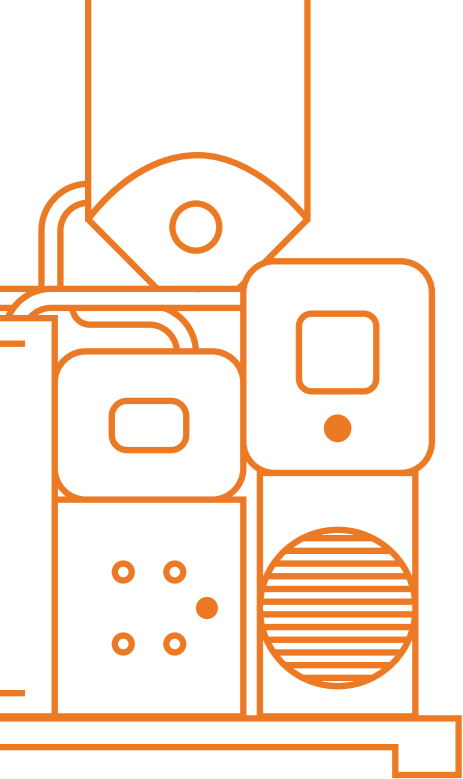
Biomass-based solutions to climate change are of unique interest in that the hardest problem –the capture and storage of atmospheric CO₂–is already solved and globally installed at scale in the form of plant photosynthesis. We don't have to start from scratch, as with expensive direct capture of atmospheric CO₂; we only have to process the biomass in some form that prevents the captured CO₂ from returning to atmosphere. We do this by producing Biochar as part of our gasification process for energy production. When mixed with soil, the carbon in the biochar can be sequestered from the atmosphere for centuries or more, making the Power Pallet one of the only carbon-negative technologies currently ready for global deployment.



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Spec Sheet

SHIPPING

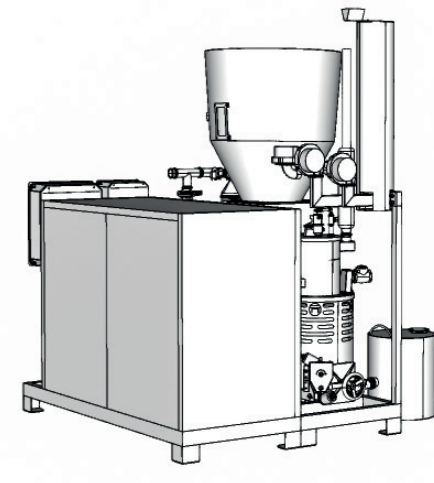
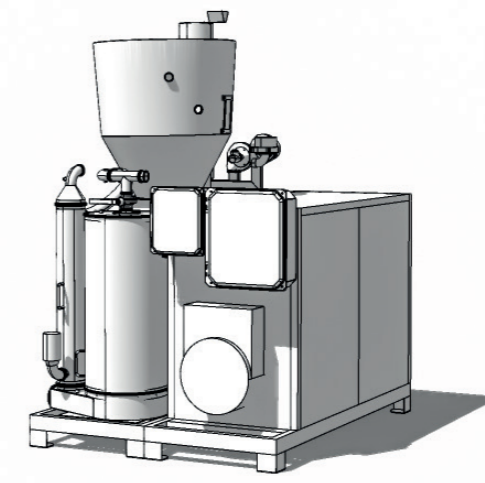
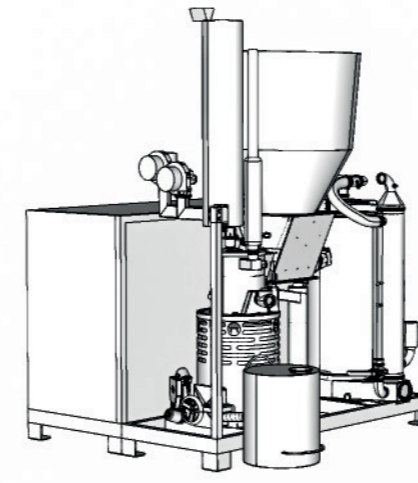
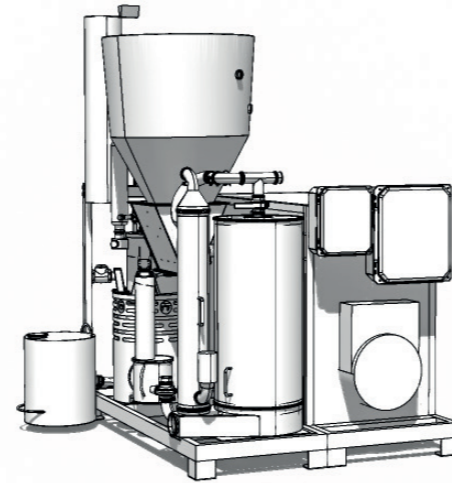
Dimensions	Main crate	1.83 x 1.47 x 1.40 m 72 x 58 x 55 inches
	Hopper crate	83 x 83 x 114 cm 33 x 33 x 45 inches
Weight	Main crate	1,350 kg - 2,976 lbs
	Hopper crate	91 kg - 200 lbs

PERFORMANCE ELECTRICAL OUTPUT

Continuous Power Rating	25 kW @ 50/60 Hz
Sound Level @ 7 meters	75 db
Biomass Consumption	1.0 kg/kWh (dry biomass)
Runtime per hopper fill: Approximate @ 250kg/m³ feedstock density	5 kW: 12 hours 10 kW: 6 hours 15 kW: 4 hours 25 kW: 2.4 hours
Max. continuous operation	>12 hours
Start up time	10-15 minutes

PERFORMANCE THERMAL ENERGY OUTPUT

Maximum Outlet Temperature	90°C (190°F)
Return Temperature Range	40°C – 90°C (160°F – 190°F)
Standard Temperature Difference	10°C (50°F)
Heating Water Volume Flow	Variable
Max Heating Water Volume Flow	50 gpm
Maximum Thermal Output	50 kW



two separate skids for gas making and powertrain

ENGINE

Type	Ashok Leyland /Hino
Cylinder count	4
Displacement	4.0 liter
Compression Ratio	12:1
RPM	1500 @ 50hz, 1800 @ 60Hz
Valve Configuration	Overhead valves, Pushrods
Engine block / Cylinder head	Cast Iron w/ hardened exhaust valve inserts
Ignition	Coil over plug (COP)
Oil capacity	8L 15 W-40
Oil Maintenance Interval	500 hrs
Coolant capacity	15 L
Auto-shutdown	Low oil pressure High coolant temperature
Starter	12 V Starter
Charging system	switch mode power supply from AC genhead
System voltage	12 V DC
Recommended battery	75 Ah, 880 CCA Marine
Battery tray dimensions	20 x 30 cm / 10 x 12 inches
Speed control	Electronic governor Woodward L-series
Mixture control	Automated with Wide Band Oxygen Sensor

GASIFIER

Type	APL v5 Patented Multistage heat recycling downdraft gasifier
Materials	304 Stainless, 310 Stainless, 321 Stainless, 316 Stainless, Mild Steel
Hearth	Coated Ceramic
Char-Ash Removal	Automated removal from reactor to 12-hour batch vessel.
Fuel Feed	Automated from hopper to reactor
Hopper Capacity	333 liters / 88 gallons
Hopper Filling	Batch—manual refilling while operating OPTIONAL CONTINUOUS FEED HOPPER SYSTEM AUTOMATES FILLING
Minimum maintenance cycle	~12 hours
Control system	On-board automation

GENERATOR

Type	Marathon 284CSL1542 wire reconfigurable
AVR	DSE A106 MK II
Available Voltages	120-277, 240-480V AC
Available Topologies	3 phase: Series Star, Parallel Star, Series Delta, Parallel Delta, 1 phase: Double Delta (Base Model)
Total Harmonic Distortion	<5%
Motor Surge Starting Capacity	>300%
Genset Starting	Manual Handover
Maximum step-load	50% of rated power
Generator efficiency	92%