

ACE 1 Solar Biomass Cookstove Product Specifications

Stove Manufacturer	African Clean Energy
Stove Model	ACE 1 Solar Biomass Cookstove
Stove Type	Fan-driven, Top-lit Updraft (TLUD) Gasifier Stove

Materials

Stove Body	Stainless Steel (grade 430)
Stove Base	Powder Coated Galvanized Steel
Pot Rest	Galvanized Steel
Burning Chamber	20mm Refractory Ceramic Tiles and Stainless Steel Bottom (grade 304)

Accessories and Parts

Solar Panel	9V / 5 watt unit, unregulated (regulator integrated into the stove)
LED Light	100 Lumens
AC Power Adapter	Input: AC100-240V 50/60Hz; Output: DC 9V = 1500mA
Fan (inside stove)	DC 12V Brushless
Battery (inside stove)	LiFePO4 6.4V / 5 Ah
Time to Charge Battery (from empty to full)	10 hours with AC and 2 days with the solar panel
Battery life on one full charge	20 hours (fan only, will be less if charging cell phone or powering the LED light)
USB Charger	5 volt power to charge cell phones and other USB devices

Measurements

Height	cm	32
Diameter (at top of stove)	cm	22.5
Weight	kg	4.6
Fuel Chamber Volume	cm ³	842 (considering that fuel should be filled no higher than 1 cm below the holes in the combustion chamber)
Firepower	watts	Max 4,000 – 5,000, Min 2,000 – 3,000

Fuels

Fuelwood	Coconut Husks
Woodchips	Corncoobs
Briquettes	Other Bulky Biomass
Pellets	Charcoal and Charcoal Briquettes

Stove Performance

Parameter	ACE 1*	Cambodia Baseline**	The ACE 1...
High Power Thermal Efficiency (%)	37%	27.2%	is 37% more efficient
High Power PM Emissions (g/Min)	54	1036	produces 95% less particulate matter
High Power CO Emissions (g/MJd)	3.8	4.9	produces 22% less carbon monoxide

*Testing conducted by RENMI Laboratory in Vientiane, Laos in October 2014.

**Testing conducted by G-BEL Laboratory in Phnom Penh, Cambodia in 2014.