

Fuel use / Efficiency and Emissions Results for Troika gasifier stove

Cook stove Manufacturer	AWAMU Biomass Energy
Cook stove Model	Troika gasifier stove
Testing Center	Regional Transfer and Knowledge Centre (RTKC) at Centre for Research in Energy and Energy Conservation (CREEC)
Protocol	Water Boiling Test 4.2.2 followed as a guideline to testing a batch fed stove
Fuel Used	Eucalyptus grandis with average dimensions of 4x4x18cm with 14% moisture content and Gross calorific value of 19373 KJ/Kg
Pot Used	7 L Aluminium flat bottomed pot with 12 cm height and 27 cm diameter
Tests conducted	Water Boiling Test (WBT) with emissions using Portable emissions measurement system (PEMS)
Test Dates	28th and 29th April 2014
Tester	Nelson Byanyima
Supervisor	Agnes Naluwagga

		Metric	Value	Unit	Sub-Tier
Efficiency/Fuel Use					
Tier	1	High power Thermal Efficiency	30.9	%	2
		Low power Specific Consumption	0.10	MJ/min/l	0
Emissions					
Tier	2	High power CO	9.51	g/MJ _d	2
		Low power CO	0.10	g/min/l	2
		High power PM 2.5	33.27	mg/MJ _d	4
		Low power PM 2.5	0.51	mg/min/l	4
Indoor emissions					
Tier	1	Indoor emissions CO	0.66	g/min	1
		Indoor emissions PM 2.5	3.21	Mg/min	3

These results were obtained in accordance with the IWA and the Global Alliance for Clean Cookstoves' Testing and reporting requirements.

Photo showing the Troika gasifier stove

