

Prime Cylindrical Stove - Chopped wood/woodchip version

Energy efficient biomass stove for chopped wood fuel with fire extinguishing system.

Biomass stove that uses preheating counter-flow and diffused combustion technology. Standardized stove body, chopped wood/woodchip combustion chamber.

Technical Specifications

Stove body: Galvanized plat, thickness 0.55 mm

Stove table: Stainless steel, thickness 0.55 mm

Combustion chamber: Stainless steel, thickness 0.6 mm

Stove dimension: 24.5 cm (diameter) x 36 cm (height)

Approx. weight: 3.1 kg

Fuel capacity: maximum 1.5 kg of chopped wood, 2 kg of biomass briquette

Lifetime: 2 years

Turn down ratio: 2.1



Provides a clean and stable flame for 1-2 hours depending on intensity

Flame can be extinguished with minimum smoke

Inventor: Dr M. Nurhuda.

Registered to Indonesian Patent Office (WIPO member) with registration number P00201100604 (2011)

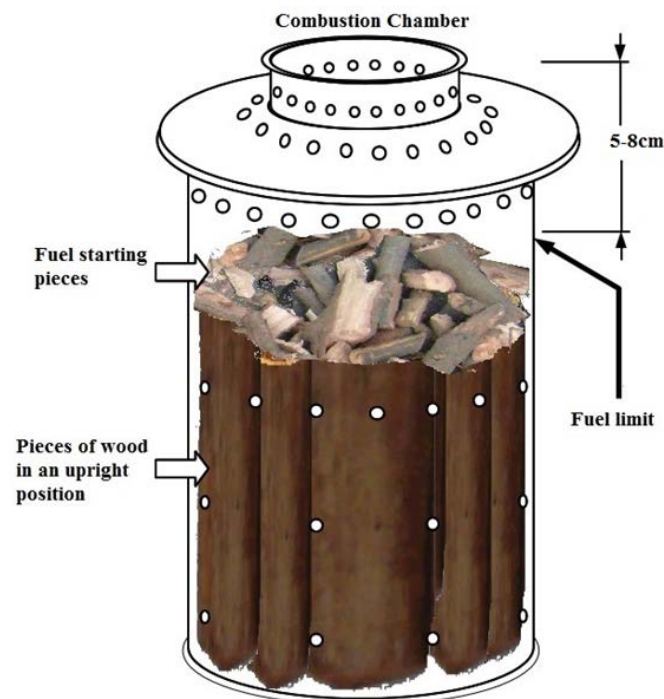
Thermal efficiency: 49 %
Fuel to cook 5L: 516.6 g
CO to Cook 5L: 17.3 g
PM to boil 5L: 786.6 mg
Produces biochar or ash
(WBT 4.2.2, GERES, Cambodia, 2013)

Procedures for use

Remove the burning chamber from the stove and pack the fuelwood into the burning chamber tightly. Top the larger chunks of wood with woodchip or other smaller biomass to ease lighting the fire. Please leave about 5-8 cm empty to ensure sufficient airflow from the ventilation holes at the top of the burning chamber. Replace the burning chamber into the stove body and open both air vents to the maximum position. Please leave the cap on the ash removal opening.

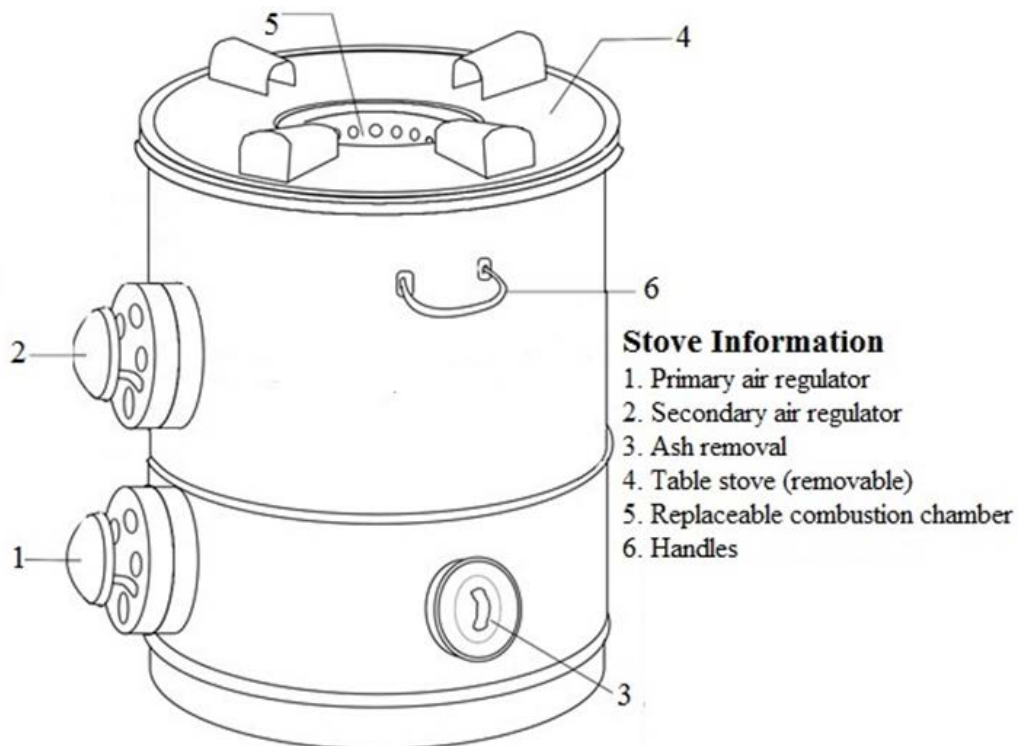
The easiest way to light the cookstove is by squirting 20 ml of kerosene on the top layer of the fuelwood, then igniting it by the use of a match. Do not put the pot on the stove until the larger pieces of wood has caught fire, i.e. when flames are coming out of the holes in the burning chamber. The strength of the flame can then be adjusted by regulating the opening of the primary air vent.

The stoves (chopped and granular fuels) are designed to burn for 1-1.5 hours. If extra time for cooking is required, please add fuel a little at a time whilst cooking. Do not wait until the fire has died down or been extinguished! The stove will then be very difficult to relight unless emptied for biochar prior to restarting. Maximum of fuel to be added at the same time is approximately 200 g.



Q&A

1. Note that the primary air regulator is in the bottom position (see drawing below).
2. The duration of the flame depends on how the fuel is arranged in the burning chamber. If the fuel is densely arranged, the flame is controllable; otherwise, the smaller twigs will burn very quickly.
3. Note that smaller twigs/woodchips tend to burn quicker than fuelwood with larger diameter.
4. If densely arranged, a full combustion chamber (1.2 kg fuel) should provide a strong flame for up to 1.5 hours.
5. If you reduce the opening size of the secondary air the flame will be higher. Please note that an ideal flame should be less than 20 cm but have pressure.
6. If the flame contains a lot of smoke, use a 1 m long stick to densify the fuel by gently pushing the fuel in burning chamber. This should remove most of the smoke immediately.
7. Users should become comfortable with the stove by using it and experimenting with it. It always takes some time to learn how to use a new appliance!



Attention! Read the manual carefully before you use your biomass stove!



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