

Ouaga Métallique Stove

Burkina Faso



Type

One-pot portable metal stove

Name

“Ouaga Métallique” in Burkina Faso

“Foyer VITA” in Mauritania

Fuel

Fuelwood

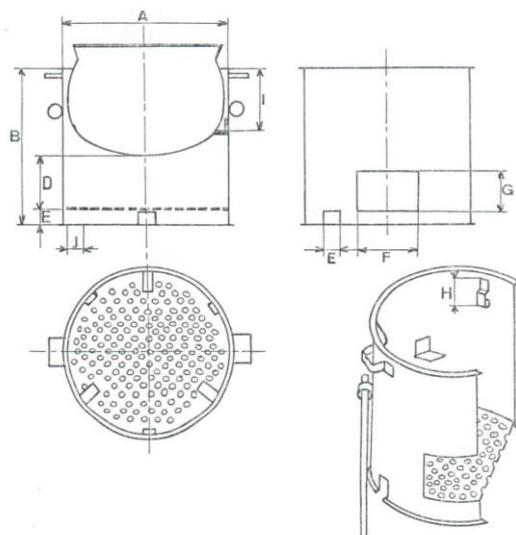
Country of origin / Dissemination area

Burkina Faso

Developed in 1984 by the “Institut Voltaïque d’Energie”, currently called “Institut de Recherche en Sciences Appliquées et Technologies” (IRSAT).

Dissemination within the project FAFASO¹ started in 2006. By December 2010 over 4,000 stoves have been produced and sold country-wide.

Dissemination within the ProGRN² programme in Mauritania started in 2010. In six months of production, over 400 stoves were produced and sold.



Users

Rural and urban big-sized households and restaurants

General description

Portable metal stove for one pot:

- Vertical pot skirt customized to fit the pot diameter snugly for enhanced heat transfer.
- One fixed grate for fuelwood resulting in a gap between the grate and the bottom of the stove to create undercurrent of air for enhanced combustion.
- Handles

Stove dimensions

The stove is scalable to suit all pot sizes up to very large pots for institutional purpose.

Dimensions for an average stove size in Burkina Faso (used with pot no. 3 à 6 litres):

- Height: 23 cm
- Diameter: 29 cm



Estimated lifespan

At least 2 years

Materials used

At least 1 mm thick scrap or new metal sheet

¹ Foyers Améliorés au Burkina Faso

² Programme de Gestion durable des Ressources Naturelles

Performance

Water Boiling Tests indicate potential fuel savings of 44% as compared to a three-stone-fire, while Controlled Cooking Tests indicate fuel savings of 43% compared to a three-stone-fire.



The fuel savings increase with the size of the pot: By using bigger pots, more than 50% of the fuel can be saved compared to a three-stone fire, as the efficiency of the open fire decreases with the decreasing pot size.

This stove is thus ideal for institutions and restaurants.

Production / Supply

The stove is produced by local tinsmiths. Standardized templates are used to outline the different stove parts on a metal sheet; then they are cut out along the indicated lines.

The use of templates allows the producers to maintain standard sizes, fulfil quality standards and to increase their productivity. The cut pieces are assembled without electricity.

A tinsmith can produce about three improved stoves per day, depending on the size.

An intense quality control system supported by the research centre and associations of artisans ensures the quality of the stove and the customers' satisfaction.

Price (2011)

In Burkina Faso, the price varies from 3.00 € (2,000 FCFA) for pot no. 3 and 38.00 € (25.000 FCFA) for pot no. 30.

Depending on the availability and the cost of raw materials, the price varies in the different regions of the country.

Strengths and weaknesses

Positive

- + Efficient stove
- + Portable
- + Decentralised production
- + Availability of local raw materials (e.g. scrap like fridge doors, etc.)
- + Standardized templates facilitate quality production
- + Well recognised branding
- + Enhances local production and income generation
- + Scalable to big stove's sizes
- + High degree of users' satisfaction

Negative

- Stove compatible with only one pot-size
- For fuelwood use only

Available documents

- Tests des foyers Roundés (IRSAT, 2009):
https://energypedia.info/index.php/File:Tests_des_performance_des_foyersR_OUMDE_IRSAT.pdf
- Mésures foyers Ouaga Métallique:
https://energypedia.info/index.php/File:M%C3%A9sures_foyers_Ouaga_M%C3%A9talliques.pdf



Source of pictures: GIZ Burkina Faso and Mauritania

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