

NEERDHUR

CSIR-NEERI's initiative to develop a domestic multi-fuel stove: NEERDHUR, an Improved Cook Stove (ICS) has been developed by adopting a comprehensive approach of technological innovations for improved stove efficiency, emission reduction and intensive stakeholder interactions to address issues of adoption such as stove cost, stove maintenance, fuel affordability, and availability. The NEERI stove "NEERDHUR" addresses adoption and sustainability related challenges of ICS. It is a multi-fuel (biomass, charcoal, agro residue etc.) stove with hybrid operation modes.



Conventional chulha



*Prototype of NEERDHUR
designed by CSIR-NEERI*

Overview

At CSIR-NEERI, NEERDHUR, a multi-fuel improved cookstove has been developed with high overall thermal efficiency, reduced fuel consumption and reduced emissions through design improvements and technological innovations. NEERDHUR has been extensively tested in the lab and field for user's perception and acceptability.

At present, **NEERDHUR** cookstoves approved by MNRE on the basis of their performance testing conducted by Improved Cook-stove Test Centers and satisfying stipulated performance parameters. NEERDHUR is certified to meet the newly developed cook-stove emission standards by Bureau of Indian Standards (BIS 2013). NEERDHUR shows a thermal efficiency of 33.33% with emission levels as CO: 3.78 g/MJd, TPM: 340.10 mg/MJd at a power output of 1.70KW. NEERDHUR is rated among the best cookstoves in terms of thermal efficiency under the 2KW domestic natural draft biomass stoves.

IPR Status

The product registration has been filed at CSIR-IPMD.

Indian Patent Application is under process. (Clearance from CSIR-URDIP received regarding patentability)

Innovator

- Ankit Gupta
- Nitin Labhassetwar

Salient Features

- Adjustable fuels grate for multi-fuel applications.
- Improved combustion chamber design.
- Material - SS, MS & Bakelite
- Power output Rating- 0.81-1.7 KW
- Thermal efficiency: 30% - 42%.
- Emission reduction > 60% (PM_{2.5} & CO emissions)
- Fuel saving > 50 %.
- Time to boil: 5-8 min.
- Fuel/feed: 0.8 - 1 kg.
- Serving size: 4 - 5 person.
- Estimated Lifespan: 2-3 years
- Stove Weight - 4.5 kg.
- Strength Test – Stable at 70 kg load
- Front-feeding fuel tray
- Pot support for different vessel sizes.

Benefits

- Works on Wood, Agro-residue, charcoal, biomass pellets etc.
- Supports top and front fuel loading.
- Improved thermal efficiency.
- Reduced cooking time
- Reduced emissions.
- Lower fuel consumption.
- Zero maintenance & easy to use.
- Better safety and portability.

Beneficiaries

- Rural households.
- Slum dwellers.
- Street vendors.
- Small & Medium Enterprises.
- Forest and other Govt. Departments.

Awards / Recognition

Field installations



NEERDHUR chulha in a rural community, near Nagpur, MH

Technology Licensee

<Company Name>

<Address>

<Phone: xxxx | Mobile: xxxx>

<Email: >

Technology Licensed up to: