

What if we told you that...



...your cashew shells are a clean energy source?

Discover best practices for shells management in small and medium scale industry



Nitidæ provision of services for agri-processors and communities:

- Training and capacity building in:
 - o Manufacturing equipment (H2CP, steam loop, boilers...)
 - o Operation, maintenance and best practices on safety
 - o Access to market for products and by-product
- Technical studies and assistance in:
 - o Design and test of innovative food and agri by-products processing
 - o Value addition to waste and by-products
 - o Low-carbon strategies and Circular economy



Contact : Kindly send us a brief description of your activities and needs to contact@nitidae.org

Or dial
[+33 \(0\)973 661 017](tel:+330973661017)
www.nitidae.org

High Calorific Cashew Pyrolyser (H2CP)

*Supply of environmentally safe
thermal energy environmentally safe from cashew waste*



Features:

- Inlet: 700-1000 kg shells en 8h
- Fire power: 250 kW → steam generation up to 300 kg steam/h,
- **Environmentally friendly**: conversion of 25% shell waste thanks to the pyrolysis technology
- **Reduction of air pollution**: no more acrid fumes
- **Energetic by-product**: H2CP produces 10 to 15% charcoal, locally consumed for cooking or used as soil amendment

Mastered, appropriate technology for African context:

- **Local know-how**, materials and maintenance: your project managed by African technicians, from A to Z.
- **Robust technology**: easy maintenance, no electric elements
- **Same staff requirements** than a conventional boiler setup
- **Adapted to factories** at small and medium-scale: up to 5000 tons RCN/year
- **Adaptable to other industries**: dried fruits, vegetable oil refining...
- **More than 20 factories** already installed a H2CP in Africa and are satisfied

Return on Investment (RoI) for the case of substitution of wood in the boiler is
only 5 months!

Shells become a cheap, no-harm fuel

How does it work?

- Shells are easily fed from the top hopper, accessible from the boiler platform
- Into the pyrolysis oven, shells are pyrolysed, and evacuate a rich fuel gas (containing CO, CH₄, C₂H₆...). Gases are burn straight into the boiler firebox.
- No CNSL leaking. Harmful components are volatilized and burnt in the boiler
- Solid waste are carbonised shells, recovered at the end of the batch.
- Charcoal obtained is smokeless and lights quickly (LHV 24,7 MJ/kg at 10% moisture)

Key figures (case of connection to cashew steaming only):

Start-up time: 4 minutes

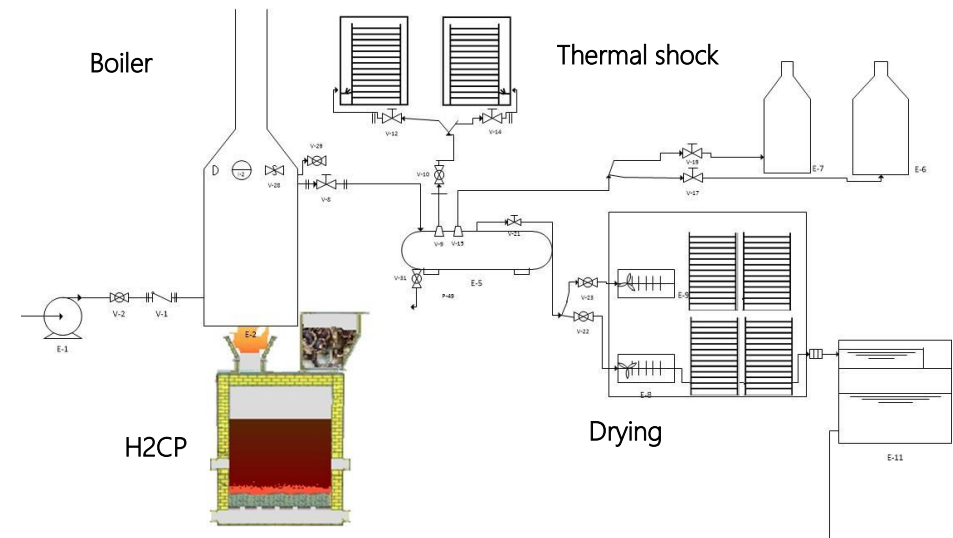
Volume of RCN cooked: 6.8 tons in 8h (85 bags)

Volume of shells converted: 700 kg in 8h

Volume of charcoal produced: 115 kg thus 13% yield



+Important reduction of acrid fumes, until complete elimination



Typical connection scheme for cashew processing