

BOSS Kit Pro Mill

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BOSS-CONCEPT

Off-Grid solar power systems can be an important factor to support rural development in areas that are not connected to the electricity grid. The Phaesun BOSS-solutions target specifically the commercial sector in non-electrified areas. BOSS stand for **Business Opportunities with Solar Systems**. The Phaesun technical

team develops innovative solutions together with component manufacturers and partners in the target countries. The systems are well adjusted to local needs, designed with high quality energy efficient loads which makes them robust with little maintenance needs.

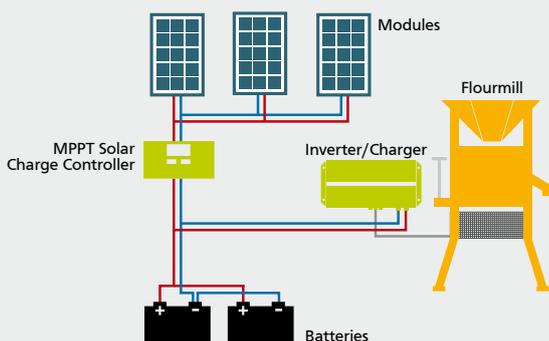
The BOSS grain mill guarantees the possibility to obtain flour from different kinds of most common cereals (maize, wheat, barley, teff, millet, rice etc), spices and nuts from the sun energy! It is ideal for smallholder farms, rural communities, cooperatives or projects in places where no electricity grid is available. The efficient engine is run by an adapted Off-Grid solar system with high efficient solar modules and electronics and a battery storage to have power available at any time. The wooden mill is installed on a stable structure with an aperture to easily fill a flour wagon or flour sacks. The mill funnel can be filled with up to 25 kg of cereals.

Technical data:

- Grain mill with bag filling and 25kg filling funnel
- Mill motor 1000 W, 230 VAC
- 3 strings solar module, combiner box, support structure
- Maintenance-free VLRA batteries with rack
- MPPT solar charge controller, IP54
- Inverter/charger, IP54, external fan
- Output: 500- 800g/ minute (depending on cereal type and desired fineness level)
- Wooden case: European larch
- Total weight approx. 1100kg



Irradiation Group	Irradiance	Autonomy	Daily flour production	Daily operation
1	6 kWh/m ² , day	2,1 d	255 kg	8,5 h
2	5 kWh/m ² , day	2,5 d	216 kg	7,2 h
3	4 kWh/m ² , day	3,0 d	174 kg	5,8 h



Amount	Components
1	Grain mill
9	Solar module 260Wp, poly, 60 cells
1	MPPT solar charge controller 1500W/24V
1	Inverter/charger 1200W/24V
12	Battery 1000Ah/2V
1	Installation material, cables and connectors
3	Module support structure
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Generate income with BOSS solutions!

BOSS solutions specifically target the commercial sector in non-electrified areas. Local entrepreneurs use the power of the sun to offer services and generate a business out of this. BOSS-solutions have the potential to develop the commercial sector in rural areas in a

sustainable way as they provide income sources on a longterm basis. The following graphs show different business scenarios with the BOSS Kit Pro Mill.

Assumptions for the business scenarios:

The grain mill can mill 30– 50 kg per hour up to 8 hours/day:

- Wheat: 50 kg/hour
- Maize: 30 kg/hour
- Barley: 30-50 kg/hour
- Sorghum: 30 kg/hour

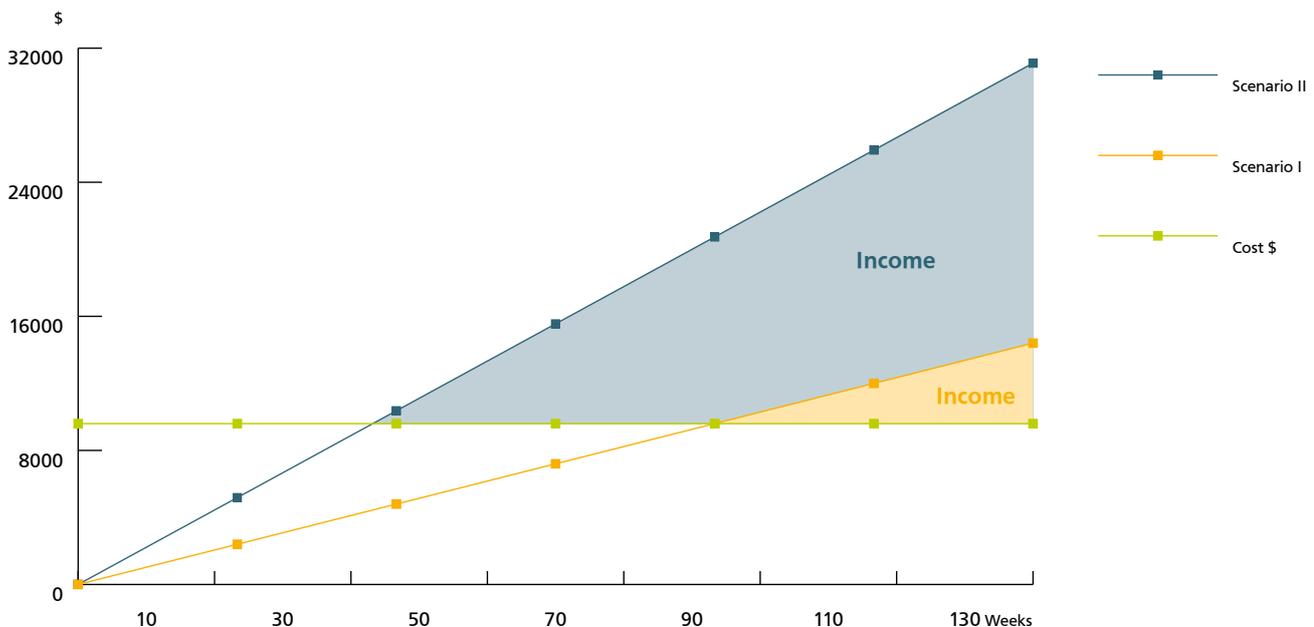
The scenarios assume a solar irradiation of 4 kWh/m²/day, which refers to the minimum irradiation in most African countries.

Business scenarios: BOSS Grain Mill

Scenario I: Milling of 50 kg wheat/hour, 8 hours/day, 5 days/week.
Prices:
 Milling of 10 kg: 0,50 \$
 → weekly income: 100,00 \$
 The investment costs of 9.000 \$ are amortized after a period of 90 weeks = 1 year and 10 months

Scenario II: Milling of 30 kg maize/hour, 8 hours/day, 6 days/week.
Prices:
 Milling of 10 kg: 1,50 \$
 → weekly income: 216,00 \$
 The investment costs of 9.000 \$ are amortized after a period of 41 weeks = less than one year

Investment Costs (fix costs) BOSS grain mill



Please note: These are assumed business scenarios with the standard BOSS Kit Pro Mill used in southern Africa. We are happy to assist you with the development of specific business

scenarios adapted to other irradiation groups, different price levels and modified grainmilling systems. Please ask our sales team for the checklist to find the best grain mill for your individual needs.