

Barley Cleaning & Pearling Line

Complete Turnkey Business Proposal



Supplier reference: real installed barley-processing plant with enclosed pearling and dust-control equipment.

300-500 kg/h starter barley input	70-85% planning pearled-product yield	12-25 kW indicative connected load	3-5 entry operators
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Prepared for investment planning in Afghanistan and regional export markets. Final specifications, pricing, civil works, and utility loads require supplier quotation and site survey.

Executive Summary

This line makes edible pearl barley by cleaning and sizing food-grade barley, removing stones, progressively abrading the hull and selected bran layers, separating hull and flour dust, polishing the kernel and grading whole and broken fractions. It is not a malt line: the grain is mechanically pearled for cooking, soup, porridge and food-ingredient use rather than germinated.

Why this project fits Afghanistan

- Afghan barley can be converted into a convenient food ingredient with shorter cooking time.
- A compact line can serve retail packs, soup makers, restaurants and institutional kitchens.
- Adjustable pearling supports lightly pearled and more polished grades from one plant.
- Separated hull and bran may be sold to approved feed users after contamination checks.

Sanaatchi delivery scope

- Factory setup planning, supplier pre-qualification, and technical comparison
- Complete production-line and individual equipment supply
- Factory layout, utilities, civil-work coordination, installation, and commissioning
- Raw-material sourcing, trial-batch qualification, and repeat supply planning
- International logistics, customs documentation, operator training, spare parts, and after-sales support

Recommended configuration

Start at 300-500 kg/h with a cleaner, destoner, adjustable dehuller/pearler, aspiration, grading screen and semi-manual packing. Use two controlled pearling passes if one aggressive pass causes high breakage; approve the removal percentage, cooking time and yield with target buyers.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Pearl barley	Uniform polish, low hull residue and buyer-approved cooking time	Retail, soup, restaurant and institutional food
Lightly pearled barley	Controlled partial bran retention	Whole-grain and specialty food buyers
Broken pearled barley	Clean graded smaller-kernel fraction	Porridge, flour and food-ingredient users
Hull and bran fraction	Dry separated co-product	Approved livestock-feed users

Small supplier dehullers list about 100-400 kg/h depending on model, while dedicated industrial pearling machines can exceed 800 kg/h. The entry design uses a conservative 300-500 kg/h complete flow and requires a barley trial because hull adhesion, kernel size, moisture and desired polishing degree determine breakage and yield.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Air-screen cleaner and magnet	Removes dust, chaff, over/undersize and ferrous material	Screens matched to local barley
2	Destoner	Separates stones and dense impurities	Adjustable deck and aspiration
3	Size grader	Improves uniformity before abrasion	Separate undersize and broken grain
4	Adjustable barley pearler	Removes hull and selected bran by controlled abrasion	Variable clearance or pressure; low broken-kernel target
5	Aspiration and cyclone	Separates hull, bran and flour dust	Dust-tight ducts and identified discharge
6	Optional polishing pass	Produces a smoother and more uniform kernel	Use only to buyer-approved pearling degree
7	Product grader	Separates whole pearl barley and broken fractions	Interchangeable food-grade screens
8	Scale and bag closer	Packs released products and co-products	Semi-manual 1-25 kg starter range

Equipment models are indicative and will be matched to the selected capacity, local raw-material tests, available utilities, and preferred automation level.

Reference Equipment Gallery



Supplier reference: real installed barley-processing plant with enclosed pearling and dust-control equipment.



Supplier reference: dedicated barley peeling and pearling machines photographed in the manufacturer's workshop.

Images are supplier references for configuration discussion; final equipment appearance and model may differ.

Plant, Raw Materials & Utility Requirements

Raw materials

- Food-grade Afghan barley approved for pearling
- Food-grade retail or wholesale bags
- Labels and coding consumables
- Approved sanitation and pest-control materials

Utilities & infrastructure

- Stable three-phase electricity
- Dust extraction and safe ventilation
- Dry barley and finished-product storage
- Calibrated scales, moisture meter and laboratory screens
- Food-hygiene and pest-control program

Quality, safety and environmental controls

- Grade barley for moisture, hull adhesion, kernel size, infestation and foreign matter
- Verify cleaner, destoner and magnet performance
- Measure pearling removal, whole-kernel yield and broken percentage
- Check residual hull, appearance, odor, moisture and cooking time
- Keep edible grades separate from hull and bran co-products
- Control grain dust, abrasive wear and machine guarding

A final factory layout must reserve safe forklift routes, maintenance clearances, raw-material segregation, finished-goods storage, fire protection, ventilation, and future expansion space.

Indicative Investment & Implementation Plan

LOW-ENTRY CONFIGURATION

Lowest entry uses one compact cleaner/destoner stream, one adjustable pearler, basic aspiration and grading, and semi-manual packing. Land, building, barley inventory and optional optical sorting are excluded.

Component	Indicative range	Notes
Cleaning, destoning and grading	US\$3k-7k	Compact food-grain preparation
Adjustable pearling and aspiration section	US\$3k-9k	One pearler with cyclone and wear parts
Product grading and semi-manual packing	US\$2k-6k	Whole and broken launch grades
Electrical, installation and initial spares	US\$1.5k-4k	Include abrasive parts, screens and belts
Freight and clearance	US\$2k-5k	Compact consolidated shipment
Indicative low-entry total	US\$11.5k-31k	Building, barley stock and color sorter excluded

Implementation sequence

Phase 1	1-2 weeks	Confirm barley samples, pearling grades, capacity and bag sizes
Phase 2	2-3 weeks	Run pearling trials and approve yield, breakage and cooking result
Phase 3	4-7 weeks	Manufacture, inspect and ship the equipment
Phase 4	2-3 weeks	Install, balance abrasion and air, train staff and approve lots

Ranges are planning targets for a low-cost entry configuration, exclude land, and remain subject to confirmed capacity, supplier quotation, freight, duties, exchange rates and site conditions.

Next Steps & Contact Information

Recommended next steps

- Confirm target products, hourly output, and packaging formats
- Test representative raw materials and document quality requirements
- Complete site survey covering electricity, water, fuel, drainage, roads, and warehouse space
- Request comparable technical and commercial quotations from shortlisted suppliers
- Finalize financing, logistics, installation, training, and spare-parts plan

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Research and image references

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