SANAATCHI
INDUSTRIAL VISION GROUP

Maize Grits Production Line

Complete Turnkey Business Proposal

Supplier reference: real combined maize peeling, crushing and grits-making machine.

300-500 kg/h starter throughput	**2-4** launch grit grades	**12-25 kW** indicative connected load	**4-6** entry operators

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 defined maize-grit fractions rather than undifferentiated ground meal. Controlled dehulling and degerming improve appearance and shelf life; crushing, air separation, grading and optional polishing then produce coarse, medium and fine grits for porridge, snacks, brewing inputs and food-service users.

Why this project fits Afghanistan

- Local maize can be upgraded into multiple priced food fractions
- Small combined machines reduce initial building and conveying requirements
- Grits can serve household, institutional and snack-processing buyers
- Separated flour, germ and bran create additional saleable streams

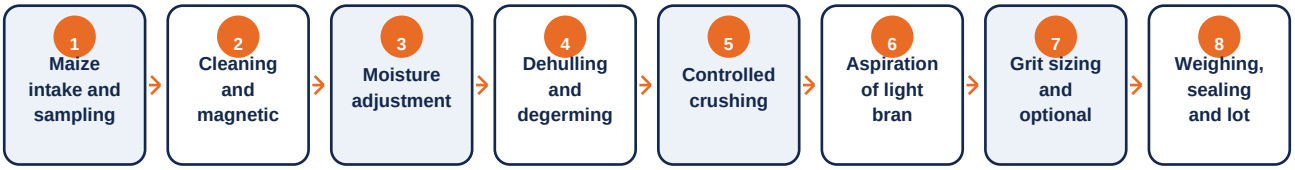
Sanaatchi delivery scope

- 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 one cleaner, a combined dehulling and grits machine, aspiration, grading screens and semi-manual packing. Confirm the buyer's grit sizes and acceptable flour, germ and bran yields through a trial with Afghan maize.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Coarse maize grits	Uniform large fraction with low bran specks	Porridge, food service and further processing
Medium and fine maize grits	Buyer-defined graded fractions	Retail, snacks and institutional foods
Maize flour, germ and bran	Separated and traceable co-products	Food, oil and approved feed users

A compact supplier unit lists 500 kg/h, two motors totaling about 11.5 kW and integrated peeling, crushing, grading and polishing. Published peeling-rate claims require verification with the buyer's maize; a complete line also needs intake cleaning, dust control, product bins and packing.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Air-screen maize cleaner	Removes dust, stones and foreign material	Screens selected for local maize
2	Magnet and moisture-control station	Protects equipment and prepares kernels for dehulling	Measured water addition only when trial requires
3	Combined dehuller and degerminator	Removes bran and germ with controlled endosperm loss	Adjustable pressure and aspiration
4	Grits crusher	Breaks clean endosperm into controlled particles	300-500 kg/h entry reference
5	Air separator	Removes loose bran and light fractions	Dust-tight ducting and adjustable air
6	Grit grader and polisher	Separates saleable sizes and improves appearance	Interchangeable screens for launch grades
7	Product bins and scales	Keeps grades and co-products separate	Food-grade identified bins
8	Bag sealer or closer	Packs each grit grade	Semi-manual 1-25 kg launch 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 combined maize peeling, crushing and grits-making machine.

Supplier reference: alternate compact maize-grits machine with integrated controls and dust-air section.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Dry food-grade Afghan maize
- Retail and wholesale food-grade bags
- Labels and coding consumables
- Approved sanitation materials

Utilities & infrastructure

- Stable three-phase electricity
- Dust collection and ventilation
- Potable water for controlled conditioning and sanitation
- Dry segregated storage for maize and product grades
- Calibrated scales, moisture meter and laboratory sieves

Quality, safety and environmental controls

- Inspect maize moisture, mold, insect damage and mycotoxin risk
- Measure dehulling loss and residual bran specks
- Record grit-size distribution and flour yield
- Check color, odor, moisture and cooking performance
- Keep grit grades and co-products identified by lot
- Control grain dust and guard rotating equipment

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 combined maize dehulling and grits machine with essential cleaning, aspiration, interchangeable grading screens and semi-manual packing. Land, building and maize inventory are excluded.

Component	Indicative range	Notes
Cleaning and maize preparation	US$3k-7k	Simple cleaner, magnet and conditioning
Combined dehulling and grits machine	US$3k-8k	Compact 300-500 kg/h unit
Aspiration, grading and semi-manual packing	US$3k-8k	Two to four launch grades
Electrical, dust control and initial spares	US$2k-5k	Include screens and high-wear parts
Freight and clearance	US$2k-6k	Consolidated shipment where practical
Indicative low-entry total	US$13k-34k	Building, maize stock and optional color sorter excluded

Implementation sequence

Phase 1	1-2 weeks	Confirm grit grades, maize samples, bag sizes and target capacity
Phase 2	2-3 weeks	Run dehulling and grading trials and approve yields
Phase 3	4-7 weeks	Manufacture, inspect and ship the selected line
Phase 4	2-3 weeks	Install, balance aspiration, train staff and approve product 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

Sanaatchi Industrial Vision Group
Afghanistan Office: +93 779 819 820 | info@sanaatchi.com
China Office: +86 159 5171 6867 | china@sanaatchi.com
Website: www.sanaatchi.com

Research and image references

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