

Rock-Salt Crushing, Iodising & Packing Line

Complete Turnkey Business Proposal



Made-in-China supplier reference: real rock-salt crushing, iodising & packing line equipment.

300-500 kg/h screened dry-line output	500 g / 1 kg launch packs	1 shift starter operation	7-12 entry workforce
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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

A small food-processing line converting food-grade released rock salt into iodised table salt through lot receiving, pre-cleaning and foreign-matter removal, stainless crushing, screening, optional washing and centrifuging only when feed purity requires it, controlled drying, anti-caking and potassium-iodate solution preparation, calibrated iodine spraying and blending, metal detection, iodine verification, hygienic weighing, sealing, coding and carton packing.

Why this project fits Afghanistan

- Afghan rock salt can become a basic public-health food product when purity and iodine are controlled.
- A dry route avoids unnecessary water and energy where mine salt already meets chemical cleanliness.
- Two retail sizes simplify film, settings, laboratory release and distribution.
- Food licensing, potable water, iodate control and traceability are essential-not optional machinery extras.

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

Before selecting a dry or wash route, test several mine lots for NaCl, insolubles, calcium/magnesium, sulfate, heavy metals and microbiology. For clean food-grade rock salt, screen a 300-500 kg/h dry line with stainless crusher, two-deck sieve, small dryer only if needed, batch iodiser/blender, metal detector and 500 g/1 kg packer. Contract iodine at production and shelf-life limits with Afghan health authorities.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Iodised table salt	Afghan legal NaCl, iodine at production/shelf life, moisture, insolubles, contaminants and pack weight	Household retail, wholesalers and institutional food buyers
Food-processing salt	Separate granulation, iodine and pack specification	Bakeries, dairy, pickling and food manufacturers

Supplier throughput must be based on the selected dry or wet route. Potassium iodide and potassium iodate are not interchangeable without formulation and stability review. Acceptance measures NaCl, insolubles, moisture, granulation, iodine mean and uniformity, heavy metals, metal-detector sensitivity, pack weight, seal integrity, coding and accelerated shelf-life retention.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Food-grade receiving and pre-cleaner	Controls mine lots and removes debris	Hygienic segregated intake
2	Stainless salt crusher	Reduces rock salt without corrosion contamination	300-500 kg/h basis
3	Two-deck vibrating sieve	Controls table-salt granulation	Oversize return
4	Optional washer/centrifuge/dryer	Removes soluble/insoluble contamination where needed	Only after feed study
5	Iodate solution and dosing skid	Prepares and meters stable iodine addition	Calibrated protected tank
6	Batch blender and conditioning bin	Distributes iodine and anti-caking agent evenly	Validated mixing time
7	Metal detector and check scale	Protects food safety and net weight	Recorded verification
8	Retail packer and coder	Fills 500 g and 1 kg moisture-barrier packs	Two launch formats

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



Made-in-China supplier reference: real rock-salt crushing, iodising & packing line equipment.



Made-in-China supplier reference: second real machine configuration for rock-salt crushing, iodising & packing line.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Food-grade released Afghan rock salt by mine lot
- Food-grade potassium iodate and approved anti-caking agent
- Potable water for iodate solution and any wash route
- Food-contact film/bags, cartons, ink, cleaning supplies and critical spares

Utilities & infrastructure

- Licensed hygienic food premises with pest control and zoning
- Stable power and protected stainless food-contact equipment
- Potable water and sanitary drainage if washing is used
- Dry humidity-controlled salt, iodate and finished-product storage
- Food laboratory access, handwashing, sanitation and recall system

Quality, safety and environmental controls

- Release every mine lot for chemistry and contaminants
- Calibrate crusher/sieve settings and iodine solution concentration
- Verify dosing rate and blender uniformity each production run
- Test iodine at start, middle, end and through shelf-life study
- Challenge metal detector and check pack weights/seals
- Trace every carton to salt, iodate, film and production batch

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

The lowest credible route uses already food-grade clean rock salt, dry crushing/screening, validated iodising and two retail packs. Washing/drying, building, licensing and working stock are excluded.

Component	Indicative range	Notes
Pre-cleaning, stainless crushing and screening	US\$7k-18k	Clean dry-route basis
Iodising, blending and metal control	US\$5k-14k	Calibrated food-grade system
Retail packing, coding and laboratory	US\$6k-16k	500 g and 1 kg formats
Freight, hygienic installation and spares	US\$5k-14k	Food licensing/site dependent
Indicative installed dry-line total	US\$23k-62k	Washer/dryer, building and working capital excluded

Implementation sequence

Phase 1	2-5 weeks	Confirm product specification, representative raw material, buyer, capacity, site and utilities
Phase 2	3-7 weeks	Run supplier trials with the buyer material and freeze the balanced machine, tooling and utility scope
Phase 3	8-22 weeks	Manufacture or refurbish, inspect, document and ship the contracted equipment
Phase 4	3-12 weeks	Install, commission, train operators and pass material-specific acceptance tests

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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