

Saffron Cleaning & Stigma Separation Line

Complete Turnkey Business Proposal



Supplier reference: real fine botanical airflow and sieve separator representative of gentle stigma-cleaning configuration.

5-15 kg/h starter dried-saffron intake	2-4 controlled separation fractions	0.001 g quality balance readability	4-7 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

A gentle post-harvest line for receiving dried Afghan saffron, loosening clustered threads, separating light floral matter and foreign material by controlled sieving and air, then illuminated hand inspection, grading and protected holding. Mechanical settings must protect stigma length, color and aroma.

Why this project fits Afghanistan

- Afghan saffron value depends on purity, thread condition and traceability.
- Gentle separation reduces petal, style, dust and foreign-material defects.
- Manual final inspection remains essential for premium grades.
- A compact line can serve several farmer groups during the harvest season.

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

For the lowest credible entry, use a 5-15 kg/h enclosed micro-sieve and adjustable low-velocity air separator, stainless inspection table, precision balance, food-safe trays and a small controlled dryer only for moisture correction.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Premium whole saffron threads	Buyer-approved color, aroma, thread integrity, moisture and foreign matter	Premium retail, hospitality and export buyers
Declared secondary saffron grade	Separately identified style and broken-thread fraction	Food-service and ingredient buyers

Saffron is too valuable for aggressive grain-cleaning equipment. Acceptance must measure thread breakage, mass balance, moisture, foreign matter and grade recovery from representative Afghan lots. No supplier throughput is accepted without a product trial.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Lot scale and sampling station	Records intake and creates representative samples	Traceable lot and farmer code
2	Gentle loosening table	Separates clustered threads without cutting	Manual or very low-energy action
3	Enclosed micro-sieve	Removes dust and separates controlled size fractions	Interchangeable food-grade screens
4	Low-velocity air separator	Removes light petal and floral residues	Variable airflow proven by trial
5	Illuminated inspection table	Rejects discoloration and remaining foreign matter	Food-grade dark contrast belt
6	Precision balances	Checks yield, grade and laboratory samples	0.001 g quality scale plus lot scale
7	Controlled tray dryer	Corrects moisture only when specification requires	Low-temperature programmable airflow
8	Covered grade bins	Protects released grades before packing	Food-safe light and moisture barrier

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 fine botanical airflow and sieve separator representative of gentle stigma-cleaning configuration.



Processor reference: real controlled saffron tray dryer used to protect color and aroma during moisture correction.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Traceable dried Afghan saffron lots
- Food-grade trays and covered grade bins
- Tamper-evident sample containers
- Lot labels and laboratory records

Utilities & infrastructure

- Stable three-phase electricity
- Clean compressed air where specified
- Potable process water where required
- Washable food-grade processing room with dust control
- Dry segregated raw-material and finished-goods storage

Quality, safety and environmental controls

- Confirm origin, harvest date, drying method and lot identity
- Measure moisture and foreign matter before processing
- Validate airflow and screens against thread breakage and grade recovery
- Inspect color, aroma, mold, insects and adulteration risk
- Maintain full intake-to-grade mass balance
- Use dry, cool, dark and access-controlled storage

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 keeps final defect removal manual and uses adjustable small equipment. Optical sorting, automated flower stripping, retail packing, building and saffron working stock are excluded.

Component	Indicative range	Notes
Fine sieving and air separation	US\$3k-8k	5-15 kg/h gentle section
Inspection, balances and grade bins	US\$2k-6k	Manual premium-quality gate
Small controlled dryer	US\$2k-6k	Moisture correction, not routine overdrying
Hygiene and quality tools	US\$1k-3k	Sampling, moisture and protected handling
Freight, installation and spares	US\$2k-5k	Compact equipment shipment
Indicative low-entry total	US\$10k-28k	Building, saffron inventory and laboratory certification excluded

Implementation sequence

Phase 1	2-3 weeks	Confirm raw-material specification, product grades, capacity and packs
Phase 2	2-4 weeks	Run trials with representative Afghan raw materials and approve samples
Phase 3	5-9 weeks	Manufacture, inspect and ship the selected equipment
Phase 4	3-5 weeks	Install, train and validate process controls and shelf life

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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