SANAATCHI
INDUSTRIAL VISION GROUP

Organic-Fertiliser Granulation Line

Complete Turnkey Business Proposal

Made-in-China supplier reference: real organic-fertiliser granulation line equipment.

0.5-1 t/h	**2-4 mm**	**1 grade**	**9-14**
entry output	**launch granule**	**controlled formula**	**entry workforce**

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/medium line making screened granular organic fertiliser from fully mature, tested livestock-manure or crop-residue compost through quarantine, controlled drying or moisture adjustment, crushing and screening, formula batching, intensive mixing, disc or wet granulation, controlled drying and cooling, product screening with fines recycle, optional coating, nutrient and hygiene release, and 20-50 kg bagging. Raw manure sanitation and composting must be proven before granulation.

Why this project fits Afghanistan

- Granules are easier to meter, transport and retail than loose compost.
- Livestock and crop residues can become a standardized higher-value soil input.
- A disc granulator provides an economical small-line entry.
- Maturity, pathogens, nutrients, moisture and granule strength require laboratory control.

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	Launch one 2-4 mm uncoated organic-fertiliser grade at 0.5-1 t/h using purchased or captive fully mature compost. Include a crusher, screen, weigh batching, mixer, disc granulator, modest low-temperature dryer only where needed, cooler, grading screen/fines recycle, dust collection, laboratory and semi-automatic bagging. Do not claim NPK values without batch formulation and laboratory confirmation.

Manufacturing Process & Product Portfolio

Integrated process flow

Target products

Product	Typical specification	Primary market
Granular organic fertiliser	Declared feedstock, 2-4 mm fraction, moisture, organic matter, nutrients, pH, EC, pathogens, metals, granule strength and net mass	Afghan field crops, orchards and horticulture under agronomic guidance

Granulation improves handling but does not sanitize unsafe compost or create nutrients. The operator must validate compost maturity and pathogen control upstream. Commissioning fixes moisture, binder if any, disc angle/speed, recycle ratio and dryer temperature, then verifies size distribution, crushing strength, dust, caking, nutrients, salts, contaminants and bag weight.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Compost crusher and pre-screen	Produces uniform granulation feed	Mature compost only
2	Weigh batching and mixer	Controls one declared formula	Traceable batch
3	Disc wet granulator	Builds organic granules	0.5-1 t/h
4	Low-temperature dryer and cooler	Stabilizes moisture and strength	Feed-dependent
5	Grading screen and fines return	Controls 2-4 mm sale fraction	Closed recycle
6	Laboratory and bagging station	Releases formula and pack	20-50 kg

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 organic-fertiliser granulation line equipment.

Made-in-China supplier reference: second real machine configuration for organic-fertiliser granulation line.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Fully mature tested manure or crop-residue compost
- Approved mineral or biological amendments only by declared formula
- Water and validated low-dose binder if required
- Open-mouth sacks, thread, labels and pallets

Utilities & infrastructure

- Stable three-phase electricity with verified connected load
- Guarded machinery, lockout, ventilation and fire protection
- Covered segregated raw-material and finished-goods storage
- Maintenance tools, safe lifting and critical spare parts
- Dryer heat and emissions control only if wet feed requires it
- Washable quarantine area and local dust extraction
- Laboratory access for hygiene, nutrient and contaminant tests

Quality, safety and environmental controls

- Release compost maturity and hygiene before production
- Control formula weights and moisture
- Record granulator setting, recycle and throughput
- Control dryer outlet temperature and final moisture
- Test granule size, strength, dust and caking
- Confirm nutrients, contaminants, label and bag mass

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 receives fully mature compost, makes one uncoated 2-4 mm grade and uses disc granulation. Composting, chemical NPK production and automated palletizing are separate.

Component	Indicative range	Notes
Crushing, screening, batching and mixing	US$18k-42k	Mature feed
Disc granulator, dryer/cooler and recycle screen	US$38k-95k	0.5-1 t/h
Dust control, laboratory and bagging	US$15k-38k	One grade
Freight, installation and spares	US$16k-40k	Recipe trials
Indicative installed low-entry total	US$87k-215k	Composting plant, building and stock 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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