SANAATCHI
INDUSTRIAL VISION GROUP

NPK Fertiliser Blending & Bagging Line

Complete Turnkey Business Proposal

Made-in-China supplier reference: real npk fertiliser blending & bagging line equipment.

2-5 t/h	3-4 bins	25-50 kg	6-10
entry output	**launch ingredients**	**bag range**	**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 bulk-blending line producing declared NPK grades from purchased compatible dry granular fertilisers through supplier-certificate release, segregated humidity-controlled storage, screened feeding, gravimetric recipe batching, gentle low-segregation blending, surge transfer, automatic weighing into 25-50 kg bags, stitching, coding, check weighing, nutrient verification and retained-sample control. It performs physical blending only-not ammonia chemistry, acid processing or compound-fertiliser granulation.

Why this project fits Afghanistan

- Afghan dealers can supply crop- and region-specific blends from standard imported nutrients.
- Physical blending needs far less capital than chemical fertiliser manufacture.
- One grade controls inventory, formulation and segregation risk.
- Certified inputs, accurate weighing and nutrient assays protect farmers and the brand.

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 agronomist-approved grade at 2-5 t/h using compatible, closely matched granule sizes of certified urea, DAP or MAP and potash. Include three to four covered bins, independent weigh hoppers, a gentle batch or rotary blender, short-drop conveyors, surge hopper, 25-50 kg net weigher, stitcher, coder, check scale and nutrient sampling. Keep incompatible or hygroscopic materials out until storage and caking trials are passed.

Manufacturing Process & Product Portfolio

Integrated process flow

Target products

Product	Typical specification	Primary market
Bulk-blended granular NPK fertiliser	Declared N-P2O5-K2O grade, ingredient sources, granule range, moisture, segregation, net mass and legal label	Crop-specific Afghan farm supply under agronomic recommendation

This line does not chemically manufacture NPK. A qualified agronomist sets each formula from soil/crop need and applicable regulation. Acceptance verifies weigh accuracy per ingredient, blend time, ingredient damage, throughput, carryover and cleanout. Finished lots are sampled across the run for nutrient uniformity, moisture, granule distribution, caking and bag mass.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Three to four segregated feed bins	Keeps certified ingredients dry and separate	Matched granule sizes
2	Independent weigh hoppers	Meters each NPK recipe component	Calibrated gravimetric
3	Gentle batch or rotary blender	Mixes without crushing granules	2-5 t/h
4	Low-drop conveyors and surge hopper	Limits post-blend segregation	Short transfer path
5	Net weigher, stitcher and coder	Packs declared grade	25-50 kg
6	Sampling and nutrient-control station	Verifies formula and uniformity	Retained lot sample

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 npk fertiliser blending & bagging line equipment.

Made-in-China supplier reference: second real machine configuration for npk fertiliser blending & bagging line.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Certified compatible granular urea or other nitrogen source
- Certified granular DAP/MAP or selected phosphate source
- Certified granular potash source
- Approved micronutrient granules only after compatibility validation
- Moisture-barrier 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
- Low-humidity segregated ingredient warehouse
- Dust extraction and corrosion-resistant contact surfaces
- External laboratory access for nutrient verification

Quality, safety and environmental controls

- Approve certificates and sample every incoming ingredient
- Verify compatibility, granule size and moisture
- Calibrate every weigh hopper and bag scale
- Record recipe, batch sequence and cleanout
- Sample beginning, middle and end for NPK uniformity
- Check caking, segregation, label, code and net 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 physically blends one approved grade from three compatible purchased granular fertilisers. Chemical production, granulation and a large multi-grade warehouse are excluded.

Component	Indicative range	Notes
Feed bins and gravimetric batching	US$22k-55k	Three to four ingredients
Blender, conveyors and surge hopper	US$18k-48k	2-5 t/h
Bagging, dust control and quality station	US$15k-38k	25-50 kg
Freight, installation and spares	US$14k-35k	Formula trials
Indicative installed low-entry total	US$69k-176k	Warehouse and fertiliser inventory 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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