

Milk-Powder Production Line

Complete Turnkey Business Proposal



Made-in-China supplier reference: real milk-powder production line equipment.

20-50 t/day liquid milk intake	1 powder grade controlled launch	<4°C milk reception target	90-160 three-shift 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 strategic dairy plant converting tested liquid milk into a defined whole-milk or skim-milk powder grade through chilled reception, standardisation, separation where required, pasteurisation, evaporation, spray drying, fluid-bed cooling, sieving, nitrogen-controlled packing and laboratory release. It is not a simple milk bottling line.

Why this project fits Afghanistan

- Milk quality and collection discipline decide powder yield and safety.
- Spray drying needs continuous steam, power, clean air and strict CIP.
- A single grade lowers blending, laboratory and market complexity.
- Seasonality requires validated raw-milk and off-take contracts.

Sanaatchi delivery scope

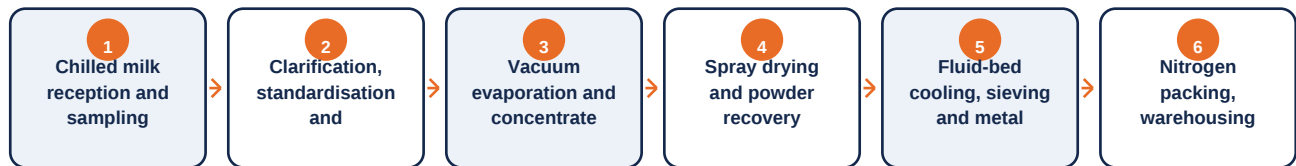
- Factory setup planning, supplier pre-qualification, and technical comparison
- Complete production-line and individual equipment supply
- Factory layout, utilities, civil-work coordination, installation, and commissioning
- Raw-material sourcing, trial-batch qualification, and repeat supply planning
- International logistics, customs documentation, operator training, spare parts, and after-sales support

Recommended configuration

Screen one 20-50 t/day liquid-milk intake and one powder grade only. Secure year-round tested milk collection, chilling, boiler/steam, water, CIP, laboratory, fire protection, hygienic packing and a licensed dairy technical partner before equipment purchase.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Whole or skim milk powder	Moisture, fat, protein, solubility, microbiology, foreign matter and bag mass	Qualified Afghan dairy, bakery, beverage and retail buyers

Supplier selection must be based on representative buyer material, utilities and a documented acceptance test for this exact product.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Chilled reception, separation and pasteurisation	Stabilises safe liquid milk	Validated dairy hygiene system
2	Evaporator and spray dryer	Concentrates and dries milk solids	Specified powder grade
3	Fluid bed, sieve and packing	Cools and protects powder	Hygienic low-moisture zone
4	CIP, laboratory and cold-chain utilities	Maintains safety and traceability	Dairy acceptance testing

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 milk-powder production line equipment.



Made-in-China supplier reference: second real machine configuration for milk-powder production line.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Tested raw milk with defined fat, protein, antibiotics and microbiology limits
- Food-grade bags, nitrogen and approved cleaning chemicals

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
- Reliable steam boiler, treated water, chilled reception and oil-free compressed air
- CIP recovery, powder dust control, hygienic dry room and wastewater treatment

Quality, safety and environmental controls

- Test every milk tanker for temperature, antibiotics, fat, protein and microbiology
- Track pasteurisation, concentrate solids, dryer temperatures and powder moisture
- Release powder only after solubility, microbiology, metal-detection and pack-mass checks

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 responsible entry is one powder grade with contracted chilled milk collection; a dairy dryer cannot be priced as a small general food machine.

Component	Indicative range	Notes
Reception, pasteurisation and evaporation	US\$1.5m-4m	20-50 t/day intake
Spray drying, cooling and powder packing	US\$3m-8m	Food-grade dry system
Utilities, CIP, laboratory and installation	US\$2m-5m	Steam and hygiene intensive
Indicative strategic project total	US\$6.5m-17m	Land, milk working capital and collection fleet 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

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

- <https://www.alibaba.com/showroom/milk-powder-production-line.html>
- https://www.made-in-china.com/products-search/hot-china-products/Milk_Powder_Production_Line.html