



Ring-Spun Cotton-Yarn Mill

Complete Turnkey Business Proposal



SALE



Made-in-China supplier reference: real ring-spun cotton-yarn mill machinery.

6,000-10,000 screened starter spindles	Ne 10-30 initial yarn-count window	1.5-3.0 t/day indicative yarn output	80-140 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 large strategic spinning mill converting tested cotton lint into ring-spun yarn through bale laydown and mixing, blow-room opening and cleaning, carding, optional combing for fine counts, two drawing passages, roving, ring spinning, automatic or manual doffing, cone winding with yarn clearing and splicing, conditioning, laboratory release and packing. It is an integrated mill requiring reliable fibre supply, power, humidity, skilled maintenance and yarn offtake.

Why this project fits Afghanistan

- Afghan cotton can retain more value through local spinning when fibre grading is reliable.
- Ring yarn serves knitting, weaving and sewing-thread customers requiring better strength and evenness.
- A mill creates demand for lint testing, maintenance, packaging and transport services.
- The project is viable only with contracted fibre supply, power and yarn buyers.

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

Start only after a bankable study proves annual cotton-lint supply by grade, one repeat yarn count and buyer, continuous power, humidity water, technician availability and working capital. Screen a minimum commercially coherent mill around one blow room, 4-6 cards, two drawing passages, one roving frame, 6,000-10,000 ring spindles and one auto-coner. Do not quote a single ring frame as a complete mill.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Carded ring-spun cotton yarn	One launch count with buyer-defined strength, twist, evenness, hairiness and contamination	Knitting and weaving mills
Combed ring yarn expansion	Fine-count yarn after dedicated combing and fibre trials	Higher-grade knitting and textile buyers after Phase 1

A ring frame does not constitute a spinning mill. Count, twist, spindle speed and output depend on lint staple length, micronaire, strength, trash and preparation quality. Bankable engineering must balance every stage, central suction, humidification, transformer, fire protection, workshop area, laboratory and spare-spindle capacity.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Bale plucker, blender and blow room	Opens, mixes and cleans cotton lots	One validated fibre mix
2	Four to six carding machines	Individualises fibre and forms controlled sliver	Matched to mill balance
3	Drawing frames, two passages	Levels and blends card sliver	Final autoleveller preferred
4	Optional lap former and comber	Removes short fibre for finer yarn	Phase 2 only
5	Roving frame	Prepares drafted roving packages	Capacity balanced to ring frames
6	Ring frames	Draft and twist roving into yarn	6,000-10,000 launch spindles
7	Automatic cone winder	Clears faults, splices and forms buyer packages	Electronic clearer and air splicer
8	Laboratory, humidity and waste systems	Controls yarn quality and mill environment	Complete installed scope

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 ring-spun cotton-yarn mill machinery.



Made-in-China supplier reference: second real industrial configuration for ring-spun cotton-yarn mill.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Contracted cotton lint by grade, variety, staple, micronaire and contamination
- Yarn cones, bags, cartons, labels and pallets
- Card clothing, travellers, rings, aprons, cots and winding spares
- Humidification water-treatment and laboratory consumables

Utilities & infrastructure

- Stable three-phase electricity with transformer, power-quality and motor-starting study
- Central dust or lint extraction with fire-safe collection and housekeeping
- Controlled temperature and humidity suited to the confirmed fibre, yarn or fabric
- Dry covered raw-material and finished-product storage with lot traceability
- Compressed air, process water, steam and wastewater treatment where the selected process requires them

Quality, safety and environmental controls

- Classify every cotton lot using calibrated fibre tests
- Control blow-room waste and card sliver count and neps
- Verify both drawing deliveries and roving count
- Test yarn count, twist, strength, elongation, evenness, imperfections and hairiness
- Run knitting or weaving trials before commercial release
- Monitor humidity, end breaks, spindle efficiency, dust and fire controls

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 credible mill targets one carded yarn count and may combine inspected preparation equipment with supported new spinning/winding machinery. Combing, land, cotton inventory and financing costs are excluded.

Component	Indicative range	Notes
Feasibility, fibre/yarn trials and engineering	US\$100k-300k	Bankable prerequisite
Blow room, cards and drawing	US\$900k-2.4m	New economy or inspected mixed scope
Roving and 6,000-10,000 ring spindles	US\$1.0m-3.0m	Balanced production core
Auto-coner, lab, humidity and utilities	US\$650k-1.8m	Quality and environmental systems
Civil works, freight, erection and contingency	US\$900k-2.5m	Specialist installation
Indicative strategic project basis	US\$3.55m-10.0m	Land, cotton and working capital excluded

Implementation sequence

Phase 1	3-6 weeks	Confirm product, buyer specification, feedstock, capacity, site and utility basis
Phase 2	3-8 weeks	Run representative material and product trials and freeze the complete equipment list
Phase 3	8-24 weeks	Manufacture or refurbish, inspect and ship the approved equipment scope
Phase 4	4-16 weeks	Install, commission, train and pass contracted performance and quality 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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- <https://china-lebon.en.made-in-china.com/product/CQHYsuFyLKRD/China-Fully-Automatic-Textile-Ring-Spinning-Machine-Production-Line-for-Spinning-Cotton-Yarn.html>