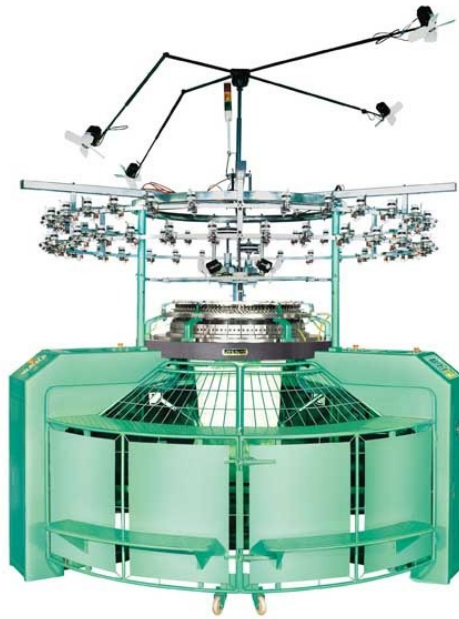


Circular Knitted-Fabric Production Line

Complete Turnkey Business Proposal



Made-in-China supplier reference: real circular knitted-fabric production line machinery.

1 machine starter knitting cell	30-34 in screened cylinder diameter	24-28G launch gauge	180-300 kg/day indicative supplier range
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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 small/medium dry textile line converting released cotton, polyester or blend yarn into tubular or open-width single-jersey knitted fabric through yarn conditioning, creeling, positive feeding, circular weft knitting, online stop monitoring, roll take-down, relaxation, grey-fabric inspection, weighing, coding and packing. Dyeing and finishing are separate unless a compliant wet plant is added.

Why this project fits Afghanistan

- T-shirt, underwear, sportswear and basic garment producers consume single-jersey fabric.
- A dry knitting unit avoids dyehouse complexity by selling greige fabric or using pre-dyed yarn.
- One diameter, gauge and construction simplify cylinders, needles and buyer approval.
- Capacity can grow by adding identical machines after efficiency and sales are proven.

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 with one buyer-approved single-jersey construction using one 30-34 inch, 24-28 gauge circular knitting machine with positive feeders, yarn-break and needle detectors, automatic lubrication and roll take-down. Add a fabric inspection machine, compressor, humidity control, spare cylinder/needles and a small GSM/loop-length laboratory. An open-width frame is optional only when its saving justifies the cost.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Single-jersey greige fabric	One buyer-approved fibre, yarn count, gauge, width, GSM, loop length and defect limit	Dyehouses and T-shirt or underwear makers
Lycra single jersey expansion	Separate elastane feeder, plating, relaxation and dimensional standard	Sportswear buyers after Phase 1

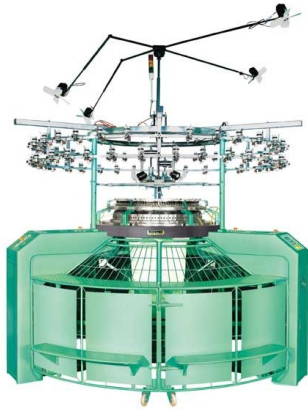
Machine diameter, gauge, feeder count and yarn count must match the fabric construction. Output claims change with speed, feeders, GSM, efficiency and yarn stops. Acceptance must use the contracted yarn and verify loop length, stitch density, width, GSM, barre, holes, oil marks and roll length after relaxation.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Yarn creel and positive feeders	Presents yarn at controlled feed rate	Matched to feeder count
2	Single-jersey circular knitting machine	Forms the launch knitted construction	30-34 inch, 24-28G basis
3	Yarn and needle stop motions	Stops defects before long fabric damage	Every feeder monitored
4	Lubrication and lint-cleaning system	Protects cams, needles and fabric	Automatic controlled oil
5	Roll take-down system	Builds stable tubular or open-width rolls	Tension matched to fabric
6	Fabric inspection machine	Finds and maps knitting defects	Illuminated roll inspection
7	Compressor and humidity system	Supports controls and yarn behavior	Room-specific balance
8	Knitting laboratory and spares	Checks GSM, loop length and construction	Needles, sinkers and cams

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 circular knitted-fabric production line machinery.



Made-in-China supplier reference: second real industrial configuration for circular knitted-fabric production line.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Released cotton, polyester or blend knitting yarn by count, twist, strength and lot
- Optional elastane only for a separately approved construction
- Paper tubes, roll wrap, labels and pallets
- Needles, sinkers, cams, lubricants and cleaning 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

- Verify yarn count, strength, twist, evenness, shade and package
- Set feeder tension, loop length and machine speed from the master fabric
- Record efficiency, yarn stops, needle breaks and defects
- Inspect holes, drop stitches, barre, oil marks and contamination
- Measure width, GSM, course/wale density and roll length after relaxation
- Run dyeing or garment trials before commercial approval

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 knits one single-jersey construction on one machine and sells greige fabric or uses pre-dyed yarn. Dyeing, stenter finishing, building and yarn inventory are excluded.

Component	Indicative range	Notes
Single circular knitting machine	US\$15k-32k	Economy or supported new model
Inspection, compressor and humidity equipment	US\$5k-14k	Dry-process essentials
Laboratory, spares and handling	US\$3k-9k	Needle and fabric controls
Freight, electrical and installation	US\$5k-16k	Local commissioning support
Indicative low-entry total	US\$28k-71k	Dyeing, building and yarn 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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