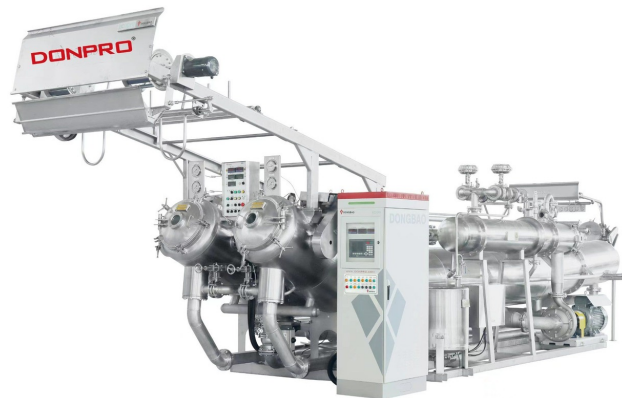


Fabric Dyeing & Finishing Line

Complete Turnkey Business Proposal



Made-in-China supplier reference: real fabric dyeing & finishing line machinery.

100-250 kg screened jet batch	1 fabric family launch process basis	180-240 cm screened finished width	22-45 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 medium-industrial wet-processing plant converting released greige knitted or woven fabric into dyed and dimensionally controlled fabric through batch preparation, scouring or bleaching, jet or selected open-width dyeing, washing, dewatering, opening, padding, stenter drying and heat setting, optional compacting, final inspection, laboratory release and roll packing. It requires substantial steam, water, heat recovery and wastewater treatment.

Why this project fits Afghanistan

- Domestic fabric finishing can support garment, uniform and home-textile manufacturers.
- A controlled dyehouse reduces dependence on imported finished shades and widths.
- One fabric family lowers recipe, handling and finishing complexity.
- Environmental compliance and repeat shade are prerequisites, not optional extras.

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

Proceed only after fixing one fabric family, fibre composition, width, GSM, monthly tonnage, shade programme and buyer finishing standard. A modest integrated basis includes one 100-250 kg low-liquor jet dye machine, preparation and dosing tanks, hydro-extractor or slitter opener, compact six-chamber stenter, inspection/rolling, laboratory, boiler, water treatment and complete effluent plant. Used wet equipment needs pressure, corrosion and control-system inspection.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Dyed cotton or cotton-blend fabric	One fabric family with buyer-defined width, GSM, shade, fastness, skew and shrinkage	Garment, uniform and home-textile factories
Synthetic knit expansion	Separate high-temperature recipe and heat-setting programme	Sportswear and technical buyers after trials

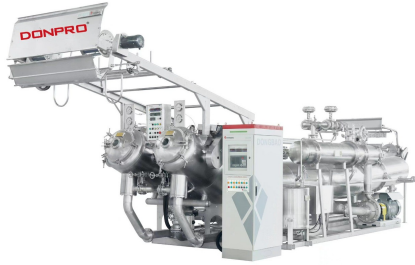
The dye machine is only one part of the plant. Pretreatment, water quality, recipe dosing, wash-off, dewatering, opening, stenter overfeed, width, temperature and residual moisture determine finished performance. Chemical storage, ventilation, pressure safety, heat recovery, effluent colour/COD/salt and sludge require engineered controls.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Low-liquor jet dyeing machine	Pretreats and dyes rope-form fabric	100-250 kg launch batch
2	Preparation and dosing kitchen	Measures and adds dyes and auxiliaries	Recipe and interlock controlled
3	Hydro-extractor or slitter opener	Removes water and opens tubular fabric	Matched to fabric form
4	Padder and compact stenter	Applies finish, dries and controls width	Six-chamber entry basis
5	Optional compactor or calendar	Controls hand and residual shrinkage	Buyer specification only
6	Inspection and rolling machine	Grades and forms dispatch rolls	Defect map and meter counter
7	Laboratory and colour instruments	Develops recipes and approves fabric	Shade, fastness and physical tests
8	Boiler, water and effluent systems	Supplies process utilities and treats discharge	Complete engineered balance

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 fabric dyeing & finishing line machinery.



Made-in-China supplier reference: second real industrial configuration for fabric dyeing & finishing line.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Released greige fabric by fibre, construction, width, GSM and lot
- Buyer-approved dyes, salt/alkali or acid, auxiliaries and finishes with safety data
- Process water, steam/fuel and laboratory standards
- Paper tubes, roll wrap, labels, pallets and machine 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

- Approve greige absorbency and master shade before bulk batch
- Control liquor ratio, pH, temperature, dosing and fabric speed
- Measure wash-off, shade difference and levelness
- Control stenter width, overfeed, temperature and residual moisture
- Test GSM, tensile, tear, pilling, fastness, skew and shrinkage
- Monitor water, energy, chemical balance, effluent, sludge and exposure

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 plant processes one fabric family on a modest jet machine and compact stenter with complete water and effluent systems. Printing, multiple fibre routes, land and working stock are excluded.

Component	Indicative range	Notes
100-250 kg jet dye machine and dosing	US\$110k-330k	One fabric family
Dewatering, opening, inspection and handling	US\$80k-230k	Matched fabric form
Compact stenter and selected finishing	US\$220k-720k	Width and chamber count
Boiler, water treatment, laboratory and effluent plant	US\$210k-620k	Mandatory utility/environment scope
Civil works, freight, erection and contingency	US\$160k-500k	Wet-process building
Indicative installed project total	US\$780k-2.40m	Land, fabric, dyes 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

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

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