

Concrete Blocks Production Line

Complete Turnkey Business Proposal



Full automatic concrete block manufacturing plant

15-18 s molding cycle	3-6 line operators	36-60 kW press section
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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

This proposal covers a fully automatic vibration-molded concrete block plant with aggregate dosing, intensive mixing, block forming, elevator and finger-car handling, controlled curing, cubing and pallet return. Interchangeable molds allow hollow blocks, solid blocks, pavers and curbstones, giving one plant several construction-market channels.

Why this project fits Afghanistan

- Urban housing and infrastructure require consistent masonry products.
- Local aggregates and cement support domestic value addition.
- Multiple molds diversify revenue without replacing the core press.
- Automation improves dimensions, density, labor productivity and curing discipline.

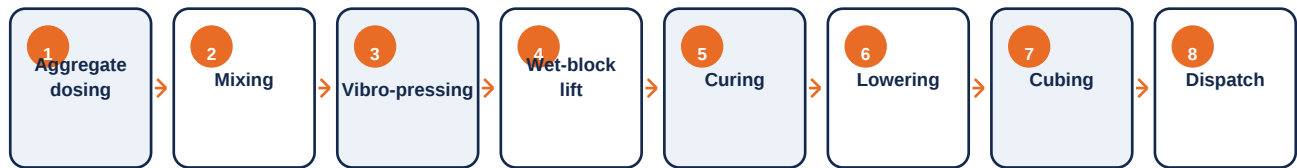
Sanaatchi delivery scope

- 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

QT9-15 class automated line with 15-18 second molding cycle, 1,400 x 750 mm pallet, automatic curing transfer and cuber; approximately 17,000 standard blocks per 8-hour shift depending on mold.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Hollow block	Typical 400 x 200 x 200 mm	Wall construction
Solid block	Custom thickness and strength	Foundations and heavy walls
Paving stone	Colored face-mix option	Roads and landscaping
Curbstone	Replaceable heavy-duty mold	Municipal infrastructure

Concrete formulation must be validated for local aggregate grading, moisture, cement strength and target compressive strength. Curing temperature and humidity are as important as press force. The plant should include a laboratory, controlled aggregate storage and routine mold-maintenance program.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Aggregate bins	Store and dose sand and stone fractions	3-4 bins
2	Cement silo and screw	Store and meter cement	50-100 t typical
3	Planetary mixer	Produce low-slump concrete	Automatic water correction
4	Block forming machine	Vibration and hydraulic compaction	15-18 s cycle
5	Face-mix unit	Apply colored wearing layer	Optional
6	Pallet conveyor	Transfer fresh products	Servo indexed
7	Elevator and finger car	Load curing racks	Programmed handling
8	Curing chamber	Control moisture and temperature	Ambient or steam assisted
9	Lowerator and cuber	Unload and stack cured blocks	Automatic
10	Pallet return	Clean and recirculate pallets	Integrated loop

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



Full automatic concrete block manufacturing plant



Central-control and material-handling configuration



Integrated block molding and curing line

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Washed sand and graded aggregates
- Portland or blended cement
- Clean mixing water
- Pigments for colored products
- Plasticizers or performance admixtures
- Wood, bamboo-composite or steel production pallets

Utilities & infrastructure

- Three-phase electrical service and control room
- Water storage with moisture-compensation system
- Covered aggregate bins and cement silo foundation
- Curing chambers and drainage
- Forklift lanes, product yard and pallet storage
- Compressed air and maintenance workshop

Quality, safety and environmental controls

- Aggregate sieve analysis and moisture checks
- Calibrated batching and water correction
- Fresh-block dimensions and surface inspection
- Curing records and compressive-strength testing
- Pallet flatness and mold-wear monitoring
- Machine guarding and cement-dust extraction

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

Afghanistan entry case: economical Chinese equipment, locally fabricated noncritical items, local civil works and labor, phased automation, and land excluded. Optional automation can be added after sales are established.

Component	Indicative range	Notes
Entry machinery	US\$120k-350k	Semi-automatic or basic automatic Chinese line
Local curing and civil works	US\$45k-140k	Simple chambers, local shed, foundations and yard
Freight and commissioning	US\$35k-100k	Containerized shipment and local installation labor
Molds, pallets and spares	US\$25k-80k	Start with the highest-demand product molds
Working capital	US\$25k-70k	Cement, aggregates, labor and launch stock
Low-entry project total	US\$250k-740k	Land excluded; add cubing automation later

Implementation sequence

Phase 1	3-5 weeks	Product mix, aggregate tests and capacity definition
Phase 2	5-8 weeks	Supplier selection and plant layout
Phase 3	10-18 weeks	Manufacture, molds and civil works
Phase 4	4-8 weeks	Shipping and customs clearance
Phase 5	3-6 weeks	Installation, curing trials, training and launch

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

- Hongfa Group - full automatic concrete block production line: <https://sinohongfa.com/product/full-automatic-concrete-block-production-line/>
- Made-in-China - QT9-15 automatic block machine specifications: <https://tyblockmachine.en.made-in-china.com/product/lqSxbIQuYFRf/>