



Marble Block-Cutting Line

Complete Turnkey Business Proposal



Made-in-China supplier reference: real marble block-cutting line equipment.

30 blades screened starter gang saw	20-30 mm launch slab thickness	1 block typical cutting batch	10-16 entry 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 small/medium stone-processing line converting sound quarry marble blocks into calibrated rough slabs through block receiving and geological defect inspection, yard handling, block squaring where required, trolley loading, multi-blade gang-saw cutting or selected multi-wire cutting, slurry-water circulation, slab unloading and washing, thickness inspection, slab racking and dispatch to polishing. It does not polish finished slabs.

Why this project fits Afghanistan

- Afghan marble can retain substantially more value when exported or sold as accurately cut slabs rather than irregular blocks.
- A single stone family and thickness simplify blade settings, yield analysis and buyer approval.
- Closed-loop water and slurry recovery reduce freshwater demand and uncontrolled dust/sludge disposal.
- Block quality, cracks and handling discipline influence saleable yield more than headline cutting speed.

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

For a credible Afghan entry plant, contract one block-size envelope and one slab thickness. Screen one 30-blade marble gang saw with block trolley, overhead or gantry crane sized for the heaviest block, slab-handling clamps, blade-tensioning and dressing tools, water pumps, two-stage settling pits and filter press or equivalent closed-loop solids management. Confirm foundation dynamics and local blade/segment service before purchase.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Rough-cut marble slabs	Buyer-approved stone variety, nominal thickness, tolerance, flatness, crack and surface limits	Local polishing plants and regional slab buyers
Cut-to-order rough slabs	Separate block plan and thickness schedule with yield agreement	Fabricators with confirmed project dimensions

Gang-saw capacity depends on block dimensions, stone hardness, blade count, stroke, abrasive/segment system and cutting rate. Supplier acceptance must use a representative Afghan marble block and measure setup time, cut duration, slab count, thickness variation, flatness, kerf loss, breakage and usable yield. Structural foundations, lifting capacity and water/slurry engineering are part of the plant.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Block yard and gantry/overhead crane	Receives and safely handles quarry blocks	Rated above the heaviest contracted block
2	Block trolley and alignment system	Positions and restrains block during sawing	Matched to saw chamber
3	Thirty-blade marble gang saw	Cuts one block into parallel rough slabs	Stone-specific blade and stroke
4	Blade tensioning, dressing and workshop tools	Maintains straight accurate cutting	Local service capability
5	Slab clamps, racks and transfer trolley	Prevents breakage during unloading	Non-marking contact surfaces
6	Water pumps and spray system	Cools cutting zone and transports fines	Duty/standby pump design
7	Settling pits and filter press	Recovers water and forms manageable sludge cake	Closed-loop process target
8	Stone inspection and thickness tools	Maps defects and releases slabs	Buyer tolerance plan

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 marble block-cutting line equipment.



Made-in-China supplier reference: second real machine configuration for marble block-cutting line.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Sound quarry marble blocks by variety, dimensions and mapped defect class
- Gang-saw blades, diamond segments or specified abrasives
- Clean makeup water and approved process consumables
- Slab separators, rack protectors, labels and critical pump/saw spares

Utilities & infrastructure

- Industrial three-phase power, transformer and saw motor-starting study
- Engineered reinforced foundation isolated for saw vibration
- Rated block and slab lifting systems with certified operators
- Closed-loop cutting-water, settling and filter-press system
- Safe slurry-cake storage and licensed reuse or disposal route

Quality, safety and environmental controls

- Map block cracks, veins, repairs, dimensions and mass before cutting
- Verify crane, sling, clamp and trolley inspection before every lift
- Control blade tension, alignment, water flow and cutting rate
- Measure thickness and flatness across every slab
- Record kerf loss, breakage and saleable yield by block
- Trace slabs to quarry block and retain photographic defect maps

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 credible plant installs one supported gang saw and safe lifting/water-recovery systems for one slab thickness. Quarry equipment, polishing, building, blocks and working capital are excluded.

Component	Indicative range	Notes
Thirty-blade gang saw, trolley and saw tools	US\$105k-240k	New economy or inspected supported machine
Block/slab crane, clamps, racks and handling	US\$45k-120k	Rated lifting is mandatory
Water recovery, settling and filter press	US\$25k-75k	Closed-loop slurry control
Foundation, freight, erection, blades and spares	US\$65k-180k	Site and block size dependent
Indicative installed project total	US\$240k-615k	Land, building, blocks and polishing 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

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Research and image references

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