

Aggregate Crushing & Screening Line

Complete Turnkey Business Proposal



Made-in-China supplier reference: real aggregate crushing & screening line equipment.

50 t/h screened starter capacity	0-40 mm typical product envelope	3 products launch stockpiles	16-28 plant workforce
--	--	--	---------------------------------

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 quarry line converting blasted or excavated sound rock into graded construction aggregates through controlled feed receiving, scalping and metal removal, primary jaw crushing, secondary impact or cone crushing selected for the rock, closed-circuit vibrating screening, recirculation of oversize, stockpile conveying, dust suppression or extraction, laboratory grading and dispatch by product size.

Why this project fits Afghanistan

- Roads, concrete and masonry markets require controlled aggregate gradation rather than unsorted crushed rock.
- A 50 t/h modular plant fits regional demand better than an oversized 200-500 t/h installation.
- Rock-specific crusher selection protects wear cost and particle shape.
- A quarry licence, reserves, blasting route and environmental controls are prerequisites, not optional extras.

Sanaatchi delivery scope

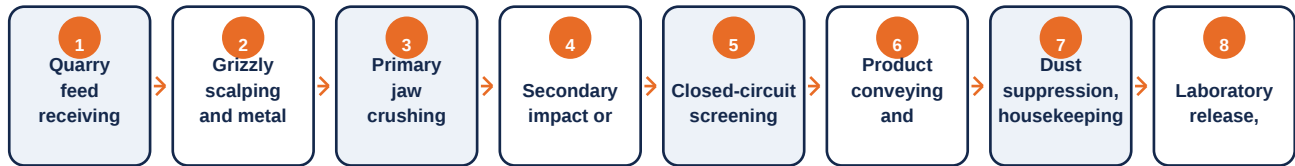
- Factory setup planning, supplier pre-qualification, and technical comparison
- Complete production-line and individual equipment supply
- Factory layout, utilities, civil-work coordination, installation, and commissioning
- Raw-material sourcing, trial-batch qualification, and repeat supply planning
- International logistics, customs documentation, operator training, spare parts, and after-sales support

Recommended configuration

Proceed only after quarry testing confirms one rock source, feed top size, abrasion, strength, clay and required aggregate standards. Screen a 50 t/h stationary plant with hopper, grizzly feeder, jaw crusher, impact crusher for suitable limestone or cone crusher for abrasive hard rock, two- or three-deck screen, return conveyor, product conveyors, dust control, magnet and laboratory. Include foundations, guarding and a loader/excavator interface.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Coarse concrete aggregate	Buyer-standard nominal size, grading, shape, abrasion, soundness, cleanliness and absorption	Ready-mix, precast and infrastructure contractors
Road base and fine aggregate	Specified grading, plasticity, fines and compaction performance	Road, civil and block-production projects

A supplier capacity claim is valid only for the contracted rock, feed grading and closed-circuit product. Hard abrasive rock may require a cone crusher and higher wear budget; soft limestone may use impact crushing for shape. Acceptance measures tonnes per hour, kWh/t, crusher setting, screen efficiency, recirculating load, gradation, flakiness, dust, wear rate and saleable yield.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Feed hopper and grizzly feeder	Meters quarry rock and removes natural fines	Loader-compatible
2	Primary jaw crusher	Reduces top-size rock for secondary crushing	50 t/h balanced duty
3	Impact or cone secondary crusher	Develops target size and shape	Selected by rock test
4	Two- or three-deck vibrating screen	Separates contract product sizes	Replaceable media
5	Return and product conveyors	Closes circuit and forms clean stockpiles	Covered transfer points
6	Magnet, metal detector and control panel	Protects crushers and controls interlocks	Emergency-stop system
7	Dust suppression/extraction and drainage	Controls airborne dust and dirty runoff	Site-specific environment plan
8	Aggregate laboratory and weighbridge	Releases graded product and records sales	Applicable buyer standards

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 aggregate crushing & screening line equipment.



Made-in-China supplier reference: second real machine configuration for aggregate crushing & screening line.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Licensed sound rock reserve with confirmed petrography and test results
- Crusher jaw plates, blow bars or cone liners and screen media
- Water for dust suppression and road control where appropriate
- Lubricants, conveyor idlers/belts, filters and critical electrical spares

Utilities & infrastructure

- Reliable three-phase power or engineered generator/fuel basis
- Reinforced foundations and geotechnically stable plant platform
- Quarry haul road, loader/excavator and safe truck circulation
- Dust, noise, vibration and stormwater controls
- Guarding, pull cords, platforms, fire protection and lockout facilities

Quality, safety and environmental controls

- Sample and test the quarry face and every geology change
- Monitor feed top size, moisture, clay and metal contamination
- Record crusher settings, motor loads and wear
- Check screen efficiency and each stockpile gradation
- Test particle shape, abrasion, absorption and deleterious fines
- Prevent cross-contamination and trace dispatch lots

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 is a 50 t/h stationary three-product circuit matched to one tested rock. Quarry acquisition, drilling/blasting fleet, loaders, trucks, land and working capital are excluded.

Component	Indicative range	Notes
Hopper, feeder, jaw and secondary crusher	US\$180k-480k	50 t/h rock-specific configuration
Screens, conveyors, controls and dust systems	US\$110k-300k	Three-product closed circuit
Foundations, platforms, laboratory and handling	US\$90k-260k	Safe installed plant
Freight, erection, commissioning and wear spares	US\$110k-310k	Remote-site allowance
Indicative installed project total	US\$490k-1.35m	Quarry rights, mobile fleet and working capital 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

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

- <https://baichygroup.en.made-in-china.com/product/gJwpfuGPTLUI/China-Complete-Set-Stationary-Rock-Granite-Limestone-Gravel-Complete-Quarry-Crushing-Stone-Crusher-Plant-100-Tph.html>
- <https://anvik888.en.made-in-china.com/product/JNCxTunjAdVO/China-50tph-Complete-Stationary-Stone-Crushing-Plant-for-River-Stone.html>