



Scrap-Steel Melting & Billet Casting Plant

Complete Turnkey Business Proposal



Made-in-China supplier reference: real scrap-steel melting & billet casting plant equipment.

15-40 t/hour strategic casting screen	billet only controlled launch	continuous cast process core	100-180 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 licensed strategic mini-mill converting classified ferrous scrap into certified billets through scrap inspection, electric-arc or induction melting, ladle metallurgy, continuous casting, cooling, cutting, chemistry testing and traceable dispatch. It excludes downstream rebar rolling unless separately engineered.

Why this project fits Afghanistan

- Local scrap can create value only with disciplined chemistry control.
- Molten-metal safety, energy and emissions dominate feasibility.
- Billet chemistry and internal quality govern rebar mill acceptance.

Sanaatchi delivery scope

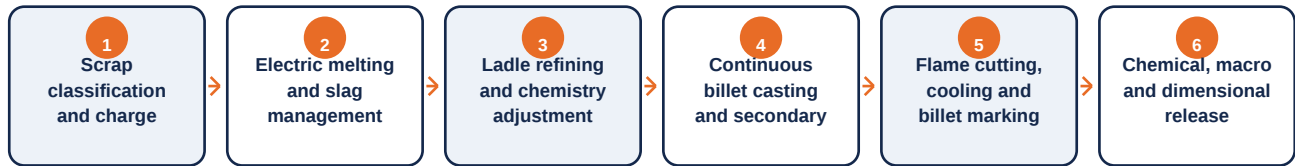
- Factory setup planning, supplier pre-qualification, and technical comparison
- Complete production-line and individual equipment supply
- Factory layout, utilities, civil-work coordination, installation, and commissioning
- Raw-material sourcing, trial-batch qualification, and repeat supply planning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

Recommended configuration

Screen a billet-only plant only after documenting scrap chemistry, grid/furnace power, refractory and electrode supply, cooling-water treatment, emissions controls, slag route, licensed steel engineer and contracted billet/rebar buyers.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Certified steel billets	Section, chemistry, carbon equivalent, inclusions, surface quality and traceability	Qualified Afghan rebar mills and regional steel buyers

A supplier must prove the defined process with representative material, utilities and documented acceptance testing.

Core Equipment Schedule

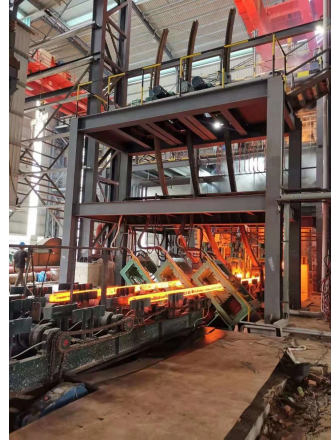
Step	Equipment	Function	Indicative parameter
1	Scrap yard, furnace and fume plant	Melts approved scrap safely	Licensed molten-metal system
2	Ladle furnace and alloy dosing	Controls billet chemistry	Buyer steel grade
3	Continuous caster and billet handling	Forms marked billets	Defined section/strand
4	Water treatment, lab and slag system	Protects process and releases billets	Chemistry/quality records

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 scrap-steel melting & billet casting plant equipment.



Made-in-China supplier reference: second real machine configuration for scrap-steel melting & billet casting plant.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Classified ferrous scrap, electrodes/refractories, alloys and mould consumables
- Tags, bundles and laboratory consumables

Utilities & infrastructure

- Stable three-phase electricity with verified connected load
- Guarded machinery, lockout, ventilation and fire protection
- Covered raw-material and finished-goods storage
- Maintenance tools, safe lifting and critical spare parts
- High-capacity electricity/furnace energy, cooling-water loop and compressed air
- Full fume extraction, slag handling, hot-zone barriers and emergency response

Quality, safety and environmental controls

- Inspect incoming scrap and prohibited contamination
- Record melt chemistry, temperature, casting speed and cooling water
- Test chemistry, billet dimensions, surface quality, macrostructure and traceability

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

A scrap-to-billet plant is a controlled steelmaking investment, never an entry-scale workshop. Start only with licences, power, emissions controls and buyer-grade acceptance secured.

Component	Indicative range	Notes
Scrap yard, melting and fume treatment	US\$15m-35m	Licensed furnace scope
Ladle metallurgy, caster and billet handling	US\$12m-30m	Billet-only core
Utilities, water, civil and environmental controls	US\$10m-25m	Energy/emissions intensive
Indicative strategic project total	US\$37m-90m	Land, grid upgrade and scrap stock 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

- <https://www.alibaba.com/showroom/steel-billet-continuous-casting-machine.html>
- https://www.made-in-china.com/products-search/hot-china-products/Continuous_Casting_Machine.html