



Reusable Fruit & Vegetable Crates Production Line

Complete Turnkey Business Proposal

PowerJet



Made-in-China supplier reference: real reusable fruit & vegetable crates production line equipment.

15-25 kg produce load class	400-550 t screened clamp range	1 mould launch geometry	8-14 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 medium injection-moulding cell producing one nestable or stackable reusable HDPE fruit-and-vegetable crate through resin lot release and controlled blending, drying only where specified, servo injection moulding in a dedicated high-flow crate mould, robot or guarded part removal, gate trimming, cooling/conditioning, visual and dimensional inspection, handle/stack tests, drop and compression testing, hot-stamp or moulded identification and palletized dispatch.

Why this project fits Afghanistan

- Reusable crates reduce bruising compared with weak one-way packaging.
- Local crate pooling can serve orchards, wholesale markets and cold chains.
- One geometry controls mould investment and stack compatibility.
- Impact, compression, hygiene and nest/stack fit determine useful life.

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

Launch one 15-25 kg produce crate geometry in virgin or tightly controlled qualified HDPE using a roughly 400-550 t servo injection machine selected by mould-flow analysis, shot weight, tie-bar spacing and clamp force. Include one hardened crate mould, robot, granulator for clean in-house runners, cooling system and drop/compression/stack laboratory. Mixed post-consumer waste is not acceptable without washing, sorting, compounding, odour and food-chain risk validation.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Reusable produce crate	Outer/inner dimensions, load, mass, material, ventilation, handles, stack/nest interface, drop/compression and washability	Orchards, traders, markets and cold chains
Pool-identifiable crate	Same approved geometry with durable owner/lot marking or RFID provision	Managed returnable packaging systems

Machine tonnage cannot be selected from product name alone. The approved mould design, projected area, flow length, shot weight, resin shrinkage, cooling, tie-bar spacing and cycle determine the press. Acceptance makes a sustained run and checks cycle, mass, warpage, short shot/flash, dimensions, stack/nest fit, handle load, drop, compression, creep, washability, odour and clean-runner recycle limits.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	400-550 t servo injection machine	Moulds one large crate geometry	Mould-flow selected
2	Hardened crate mould	Defines vents, handles and stack system	One cavity
3	Robot and guarded trim station	Removes parts safely and repeatably	Cycle matched
4	Chiller/cooling tower and mould controller	Controls cycle and warpage	Mould circuit balanced
5	Clean-runner granulator and blender	Recovers documented in-house runners	Controlled percentage
6	Crate performance laboratory	Tests dimensions, drop, stack and compression	Buyer protocol

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

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Made-in-China supplier reference: real reusable fruit & vegetable crates production line equipment.



Made-in-China supplier reference: second real machine configuration for reusable fruit & vegetable crates production line.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Virgin HDPE injection grade or qualified controlled recycled compound
- Approved pigment/masterbatch and only clean internal runner regrind to validated limit
- Mould release only if buyer-approved
- Pallets, labels and identification inserts

Utilities & infrastructure

- Stable three-phase electricity with verified connected load
- Closed-loop cooling water with chiller or cooling tower
- Dry covered resin/additive storage and segregated finished goods
- Ventilation, fire protection, safe lifting and guarded machinery
- Rated mould crane and safe heavy-mould storage

Quality, safety and environmental controls

- Verify resin identity, MFR, contamination and odour
- Monitor cycle, shot mass, pressure and cooling
- Inspect flash, short shot, weld lines and warpage
- Gauge stack/nest and handle interfaces
- Run loaded drop, compression, stack and creep tests
- Validate washing, marking and recycled-content claim

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 low online press price excludes the mould, robot, cooling, handling and tests. The credible entry is one well-tested crate geometry; a full mixed-waste recycling plant is a separate project.

Component	Indicative range	Notes
400-550 t servo injection machine	US\$75k-165k	Mould-selected press
One hardened crate mould and robot	US\$45k-120k	Geometry drives cost
Cooling, handling, granulator and laboratory	US\$28k-75k	Complete cell
Freight, installation, crane interface and spares	US\$30k-80k	Sustained mould trial
Indicative installed project total	US\$178k-440k	Building, resin and recycling wash line 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://wmpowerjet.en.made-in-china.com/product/DOfsygTaiaG/China-Servo-Full-Automatic-400-Ton-4000-Kn-Fruit-Basket-Making-Injection-Molding-Machine-Plastic-Box-Crate-Production-Line.html>

- <https://shenzhoumac.en.made-in-china.com/product/lwBTJzbKblcQ/China-Shenzhou-550ton-Plastic-Fruit-Vegetable-Crate-Container-Basket-Making-Injection-Molding-Machine.html>