

PPR Water-Pipe Extrusion Line

Complete Turnkey Business Proposal



Made-in-China supplier reference: real ppr water-pipe extrusion line equipment.

20-63 mm launch diameter range	100-120 kg/h single-line output	30 m typical line length	8-13 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 hygienic plastic-pipe line producing 20-63 mm single-layer PP-R hot- and cold-water pipe from certified virgin PP-R compound through sealed material handling, controlled colour dosing, single-screw extrusion, spiral-die forming, vacuum calibration, staged cooling, synchronized haul-off, permanent printing, dust-free length cutting and stacking, followed by dimensional, opacity, thermal-reversion and hydrostatic pressure testing.

Why this project fits Afghanistan

- Reliable hot/cold-water plumbing is needed in Afghan housing and institutions.
- Local pipe production reduces bulky imports and supports distributor stock.
- A 20-63 mm family addresses common internal plumbing diameters.
- Hygienic compound, socket-fusion compatibility and hot-water pressure life are essential.

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 single-layer 20-63 mm PP-R pipe family at 100-120 kg/h from certified hygienic virgin compound. Screen an SJ65/30 or 65/40-class extruder, colour-strip unit if specified, contracted dies and copper calibrators, dual-chamber vacuum/cooling tanks, two-belt haul-off, permanent printer, dust-free cutter and stacker. Fittings require a separate injection-moulding line. Do not market hot-water service until pipe-series, thermal-cycling and hydrostatic tests meet the named standard.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
PP-R cold-water pipe	OD, pipe series/SDR, wall, material designation, opacity, marking and socket-fusion system	Buildings and institutional plumbing
PP-R hot-water pipe	Named temperature/pressure class backed by hydrostatic and thermal-cycling qualification	Domestic hot-water systems after full validation

PPR and HDPE are not the same material, joining system or service. The supplier must demonstrate PP-R processing and contracted dies at every launch size. Pipe and fittings must be qualified as a system; fittings are made by injection moulding, not this extrusion line. Acceptance checks material identity, dimensions, opacity, longitudinal reversion, impact where applicable, socket-fusion joint quality and hydrostatic pressure life at specified temperatures.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Sealed loader and colour dosing	Feeds hygienic PP-R without contamination	Virgin compound only
2	SJ65-class single-screw extruder	Provides stable PP-R melt	100-120 kg/h
3	Die, copper calibrators and stripe unit	Forms 20-63 mm pipe series	Contracted sizes
4	Dual vacuum/cooling tanks	Controls roundness and thermal history	Closed clean-water loop
5	Haul-off, printer, dust-free cutter and stacker	Finishes straight marked lengths	Synchronized line
6	PP-R pipe and joint laboratory	Validates hygienic, thermal and pressure service	Named standard

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 ppr water-pipe extrusion line equipment.



Jwell PPR PERT PEX Cool and Hot Water Pipe Extrusion Line



Made-in-China supplier reference: second real machine configuration for ppr water-pipe extrusion line.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Certified virgin hygienic PP-R compound by lot
- Approved compatible colour masterbatch
- Qualified matching PP-R fittings from an approved supplier or separate injection line
- Caps, labels, packing and socket-fusion test pieces

Utilities & infrastructure

- Stable three-phase electricity and verified transformer/motor-starting capacity
- Closed-loop clean cooling-water system with chiller or cooling tower
- Dry covered resin store and finished-pipe storage racks
- Compressed air, ventilation, fire protection and calibrated laboratory power
- Clean handling practices that prevent dust, oil and mixed-polymer contamination

Quality, safety and environmental controls

- Verify PP-R identity, certificate and melt-flow rate
- Control OD, wall, ovality and mass per metre
- Inspect surface, colour, opacity and permanent marking
- Measure longitudinal heat reversion and dimensional stability
- Validate socket-fusion parameters and joint section
- Run hydrostatic pressure and thermal-cycling tests to the named service standard

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 PP-R project makes straight single-layer pipe only and buys qualified fittings. Multi-layer glass-fibre pipe, double-strand output and fitting injection moulding are later phases; hygienic and pressure testing cannot be omitted.

Component	Indicative range	Notes
Extruder, die, calibrators and controls	US\$40k-82k	Single-layer 20-63 mm
Vacuum/cooling, haul-off, printer, cutter and stacker	US\$34k-76k	Balanced 100-120 kg/h
Laboratory, clean handling and water system	US\$20k-50k	Hot/cold-water validation
Freight, installation, dies and spares	US\$18k-46k	Launch pipe series
Indicative installed low-entry total	US\$112k-254k	Building, resin, fittings and injection moulding 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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