

30 t/h tomato processing plant İÇİ½ entry industrial line with aseptic filling

Target application: 30 t/h tomato processing plant

Reference configuration: 60 t/h fresh tomato at the reception (10İÇİ½200 t/h configurable)

A 30 t/h line is the smallest configuration that still behaves like an industrial tomato plant: continuous hot break, one evaporation train and aseptic filling for export-grade bulk paste. It is the size chosen by regional producers moving from seasonal packing to concentrated paste.

SCOPE OF SUPPLY

- Reception, washing, sorting: 30 t/h fresh tomato
- Hot break 85İÇİ½95 İÇİ½C with enzyme inactivation
- Single falling-film double or triple effect evaporation train
- One aseptic filling head: 220 L bag-in-drum or 1 000 L IBC
- CIP station, steam and cooling utilities sized for one train
- SCADA supervision with remote assistance

TYPICAL OUTPUTS

30 İÇİ½Brix tomato paste in drums or IBC İÇİ½ Passata as secondary campaign İÇİ½ Diced tomato (optional module)

DIMENSIONS AND BUILDING ENVELOPE

Process building footprint	2,200İÇİ½3,200 mİÇİ½ for 60 t/h (1,200İÇİ½1,800 mİÇİ½ at 30 t/h, 4,000İÇİ½5,500 mİÇİ½ at 120 t/h)
Clear height	9İÇİ½12 m under beam in the evaporation bay, 6İÇİ½7 m in reception and filling
Reception yard	1,500İÇİ½3,000 mİÇİ½ paved area for truck queuing, weighbridge and water dumping channels
Evaporator height	12İÇİ½18 m overall for double / triple effect calandria, outdoor or enclosed tower
Aseptic filling room	120İÇİ½200 mİÇİ½, controlled area, 4.5 m clear height
Bulk storage	600İÇİ½1,200 mİÇİ½ covered area per 10,000 t of 30 İÇİ½Brix paste in drums or IBCs
Heaviest single lift	18İÇİ½26 t (evaporator body) İÇİ½ crane access to be verified at layout stage

LAYOUT İÇİ½ FUNCTIONAL ZONES IN FLOW ORDER

1 İÇİ½ Reception	Weighbridge, water dumping, roller and brush washing, destoner, elevators
2 İÇİ½ Sorting	Optical and manual sorting platform, reject collection, waste conveying
3 İÇİ½ Break section	Chopper, hot break 85İÇİ½95 İÇİ½C or cold break 65İÇİ½75 İÇİ½C, pulper / refiner / finisher
4 İÇİ½ Evaporation	Multi-effect falling-film or forced-circulation train, vacuum unit, condensers
5 İÇİ½ Sterilization	Tubular or scraped-surface steriliser with hold cell and aseptic buffer tank
6 İÇİ½ Aseptic filling	Bag-in-box 3İÇİ½20 L, 220 L bag-in-drum, 1,000 L IBC, sterile air and steam barriers
7 İÇİ½ Utilities & CIP	Steam distribution, cooling towers, chilled water, compressed air, CIP/SIP skid
8 İÇİ½ Warehouse	Bulk storage, packaging materials, laboratory and QC office

UTILITIES AND CONSUMPTION

Installed power	1,600İÇİ½2,400 kW at 60 t/h (900İÇİ½1,300 kW at 30 t/h)
Steam	12İÇİ½20 t/h saturated at 8İÇİ½12 bar, MVR option reduces demand by 45İÇİ½60%
Cooling water	900İÇİ½1,600 mİÇİ½/h circulating, cooling towers sized on site design ambient
Process water	60İÇİ½120 mİÇİ½/h treated, with washing water recovery loops
Compressed air	700İÇİ½1,200 NmİÇİ½/h at 7 bar, oil-free for the aseptic zone
Effluent	40İÇİ½90 mİÇİ½/h to treatment, COD load dependent on washing recovery
Manning	18İÇİ½26 operators per shift including sorting, QC and maintenance

CAPEX, OUTPUT AND PAYBACK

30 t/h tomato line İÇİ½ investment profile

Entry industrial size for a regional producer or a first export campaign, with a single evaporation train and one aseptic filling head.

30 t/h fresh tomato (reference)	Turnkey CAPEX: İÇİ½4.5 İÇİ½ 6.5 million Annual output: 9 000 İÇİ½ 12 000 t/year of 30 İÇİ½Brix paste EBITDA: 18 İÇİ½ 24% of revenue Payback: 4.5 İÇİ½ 6 years Commissioning: 12 İÇİ½ 15 months contract-to-commissioning
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Assumptions behind the figures

- Campaign of 90İÇİ½110 days per year, 20İÇİ½22 productive hours per day.
- Hot break line, evaporation to 28İÇİ½30 İÇİ½Brix, aseptic filling in 220 L bag-in-drum or 1 000 L IBC.
- Yield 5.5İÇİ½6.5 t of fresh tomato per tonne of 30 İÇİ½Brix paste, depending on inbound İÇİ½Brix.
- CAPEX is turnkey scope: process equipment, automation, installation, commissioning and training; civil works and land excluded.
- EBITDA and payback assume export bulk paste pricing and no financing cost inside the operating margin.

Indicative engineering ranges used by MCF Technology for budget screening. Final CAPEX, EBITDA and payback are fixed only in the feasibility study, once inbound İÇİ½Brix, campaign length, utilities cost and target packaging are confirmed.

INSTALLATION, SITE CONDITIONS AND SCOPE BOUNDARIES

- Scope of supply: process equipment, automation, mechanical and electrical erection, commissioning, FAT/SAT, HACCP validation and operator training.
- Excluded from the ranges: land, civil works, building steelwork, external utility generation and import duties.
- Installation, commissioning and after-sales service are delivered worldwide by MCF crews, with remote diagnostics on the SCADA.

TECHNICAL FAQ

How much fresh tomato does a 30 t/h line consume per campaign?

About 55 000İÇİ½70 000 t of fresh tomato over 90İÇİ½110 days at 20İÇİ½22 productive hours per day, which converts to roughly 9 000İÇİ½12 000 t of 30 İÇİ½Brix paste depending on inbound İÇİ½Brix.

Is one evaporation train enough?

Yes at this capacity. A single falling-film train handles 30 t/h with acceptable steam consumption; a second train only makes sense if the plant plans to double capacity within a few years, in which case utilities are pre-sized.

What plot size and utilities are required?

Indicatively 2 500İÇİ½4 000 mİÇİ½ of covered process area, 8İÇİ½12 t/h of steam, 900İÇİ½1 400 mİÇİ½/h of cooling water on a closed circuit and 600İÇİ½900 kW of installed electrical power. Final figures come from the feasibility study.

How many operators per shift?

Typically 8١٢½12 people per shift including reception, process, filling and quality control, plus maintenance on a day shift.

Can the line be upgraded later?

Yes. Reception, CIP and automation are specified with headroom so a second evaporation train and a second aseptic head can be added without rebuilding the plant.

NEXT STEPS

- Full technical page: <https://mcftechnology.group/en/tomato-processing-plant-30-tph>
- Configure the line and request the feasibility study: <https://mcftechnology.group/en/configurator>
- Run the ROI simulator: <https://mcftechnology.group/en/roi-simulator>
- Build the bankable financial plan (3١٢½10 years): <https://mcftechnology.group/en/financial-plan>
- Request a quotation: <https://mcftechnology.group/en/contact>

DISCLAIMER

All figures in this datasheet are indicative engineering ranges used by MCF Technology for budget screening and layout discussion of the reference configuration. They are not a quotation, not a performance guarantee and not the audited result of a specific plant. Final specification, dimensions, utilities and CAPEX are fixed in the feasibility study on your product, packaging formats, utilities cost and site conditions.