

Tomato processing plant feasibility study İÇİ½ from capacity to committed scenario

Target application: tomato processing plant feasibility study

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

A feasibility study is what turns an idea into a decision. MCF Technology delivers it before any equipment commitment: mass balance on real inbound İÇİ½Brix, utilities and staffing, CAPEX schedule, operating cost, cash flow and a bankability assessment. If the numbers do not hold, the study says so İÇİ½ that is its purpose.

SCOPE OF SUPPLY

- Raw material assessment: varieties, inbound İÇİ½Brix, campaign window, logistics
- Mass and energy balance for the selected capacity
- Utilities sizing: steam, electricity, water, effluent
- CAPEX schedule and phasing options
- Operating cost model: energy, labour, packaging, maintenance
- Cash flow, EBITDA, payback, DSCR and sensitivity analysis

TYPICAL OUTPUTS

Committed technical scenario İÇİ½ CAPEX and OPEX model İÇİ½ Cash flow with DSCR İÇİ½ Bankability assessment (AİÇİ½D grade)

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

What the feasibility study fixes

The feasibility study converts the screening ranges below into one committed scenario, with mass balance, utilities, staffing and a bankable cash-flow model.

30 t/h fresh tomato	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
60 t/h fresh tomato (reference)	Turnkey CAPEX: İÇİ½8 İÇİ½ 11 million Annual output: 19 000 İÇİ½ 24 000 t/year of 30 İÇİ½Brix paste EBITDA: 20 İÇİ½ 26% of revenue Payback: 4 İÇİ½ 5.5 years Commissioning: 14 İÇİ½ 18 months contract-to-commissioning
120 t/h fresh tomato	Turnkey CAPEX: İÇİ½14 İÇİ½ 19 million Annual output: 38 000 İÇİ½ 48 000 t/year of 30 İÇİ½Brix paste EBITDA: 22 İÇİ½ 28% of revenue Payback: 3.5 İÇİ½ 5 years Commissioning: 16 İÇİ½ 20 months contract-to-commissioning

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

What does the feasibility study contain?

Raw material assessment, mass and energy balance, plant layout concept, utilities sizing, CAPEX schedule, operating cost

model, cash flow with EBITDA, payback and DSCR, plus a sensitivity analysis on içİ½Brix, energy tariff and paste price.

Do I need it if I already have quotations?

Quotations price a scope; a feasibility study verifies that the scope produces a profitable, financeable plant. Without it, the mass balance, utilities and cash flow behind the quotation are unverified assumptions.

Which inputs must the client provide?

Available raw material and expected inbound içİ½Brix, target product and packaging, site location with utility tariffs and, where known, the intended debt structure. Everything else is engineered by MCF.

How long does the study take?

Typically 3içİ½6 weeks depending on how much raw-material and site data is already available.

Is the study reusable with a bank?

Yes içİ½ it is written to be submitted. The financial section carries the DSCR profile, break-even revenue and a bankability grade with the underlying risk matrix and document checklist.

NEXT STEPS

- Full technical page: <https://mcftechnology.group/en/tomato-processing-plant-feasibility-study>
- 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 (3içİ½10 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.