

Tomato processing plant $\frac{1}{2}$ complete fresh tomato line from reception to bulk product

Target application: tomato processing plant

Reference configuration: 60 t/h fresh tomato at the reception (10 $\frac{1}{2}$ 200 t/h configurable)

This is the fresh-tomato page: the complete campaign plant that starts from the truck at the reception pit and ends with bulk product ready for storage or downstream packaging. If you are looking specifically at concentrate production $\frac{1}{2}$ evaporation to 28 $\frac{1}{2}$ 38 $\frac{1}{2}$ Brix and aseptic paste $\frac{1}{2}$ see the tomato paste processing plant; if you already own aseptic bulk paste and want to repack it into retail formats, see the tomato paste rework line. MCF Technology delivers the fresh-tomato line worldwide with civil works coordination, mechanical installation, commissioning and operator training.

SCOPE OF SUPPLY

- Truck weighing, water dumping reception, roller washing, destoning and optical sorting
- Hot break (85 $\frac{1}{2}$ 95 $\frac{1}{2}$ C) or cold break (65 $\frac{1}{2}$ 75 $\frac{1}{2}$ C) with enzyme inactivation
- Turbo-extraction and refining sized on the target particle size
- Dicing, pulping and juice sections for single-strength products
- Buffer storage, CIP / SIP station and full utilities skid
- SCADA campaign supervision, yield accounting and remote assistance

TYPICAL OUTPUTS

Tomato pulp and purée $\frac{1}{2}$ Passata di pomodoro $\frac{1}{2}$ Diced tomato $\frac{1}{2}$ Single-strength tomato juice $\frac{1}{2}$ Semi-finished feed to the evaporation section

TECHNICAL DATA

Throughput	Compact 10 $\frac{1}{2}$ 30 t/h $\frac{1}{2}$ Industrial 30 $\frac{1}{2}$ 120 t/h $\frac{1}{2}$ High Capacity 120 $\frac{1}{2}$ 200 t/h fresh tomato
Final Brix	28 $\frac{1}{2}$ 30 $\frac{1}{2}$ / 36 $\frac{1}{2}$ 38 $\frac{1}{2}$ concentrated paste
Aseptic filler format	220 kg drum $\frac{1}{2}$ 1000 kg IBC $\frac{1}{2}$ 20 kg bag-in-box
Sterilisation	Tubular / scraped-surface, hold cell $\geq$ 90 s
Utilities	Steam 8 $\frac{1}{2}$ 12 bar, chilled water 2 $\frac{1}{2}$ C, N2 for headspace

PROCESS FLOW

1. Reception, water flume washing and optical sorting of fresh tomatoes.
2. Chopping and hot- or cold-break with enzyme inactivation.
3. Pulper / refiner and finisher to control pulp fineness and serum ratio.
4. Multi-effect falling-film evaporation to target Brix.
5. Tubular or scraped-surface sterilisation with hold cell.
6. Aseptic filling machine for drums, IBC or bag-in-box in a Class 100 sterile zone.
7. CIP/SIP recovery and utility integration (steam, chilled water, compressed air).

ENGINEERING HIGHLIGHTS

- End-to-end food processing equipment: from fruit reception to aseptic bulk filling for paste and passata.
- Aseptic filling machine engineered for 220 kg drums, 1000 kg IBC and bag-in-box, with sterile air and steam barriers.
- Evaporator train sized for 28-38 $\frac{1}{2}$ Brix with vapour recompression to minimise steam demand.
- Full CIP/SIP loop, PLC + SCADA supervision and remote assistance included.
- Turnkey delivery worldwide $\frac{1}{2}$ civil works coordination, mechanical erection, commissioning and HACCP validation.

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

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 throughput can an MCF tomato processing plant reach?

MCF designs tomato lines in three explicit tiers: Compact 10 $\dot{\text{t}}/\text{h}$ to 30 $\dot{\text{t}}/\text{h}$, Industrial 30 $\dot{\text{t}}/\text{h}$ to 120 $\dot{\text{t}}/\text{h}$ and High Capacity 120 $\dot{\text{t}}/\text{h}$ to 200 $\dot{\text{t}}/\text{h}$ of fresh tomato at the reception. Capacity is sized on the campaign duration (usually 90 $\dot{\text{t}}/\text{h}$ to 110 days per year) and on the final Brix target.

Is hot break or cold break more suitable for tomato paste?

Hot break (85 $\dot{\text{t}}/\text{h}$ to 95 $\dot{\text{t}}/\text{h}$ $^{\circ}\text{C}$) preserves viscosity and is standard for concentrated tomato paste. Cold break (65 $\dot{\text{t}}/\text{h}$ to 75 $\dot{\text{t}}/\text{h}$ $^{\circ}\text{C}$) is used when the customer targets brighter colour and higher soluble solids at lower viscosity $\dot{\text{t}}/\text{h}$ for example, for pizza sauces.

Which evaporator configuration does MCF supply?

Falling-film double or triple effect for capacities up to about 80 $\dot{\text{t}}/\text{h}$, forced-circulation triple / quadruple effect for higher throughputs, and mechanical vapour recompression (MVR) when energy cost is critical.

Do you supply the aseptic filling machine?

Yes. The tomato processing plant includes an aseptic filler for 5 $\dot{\text{t}}/\text{h}$ to 20 L bag-in-box, 220 L drums or 1000 L IBCs, integrated with the sterilization tunnel and steam skid.

What certifications does the plant meet?

Machines are supplied CE-marked (EU Machinery Directive), with EHEDG-compliant hygienic design; food-contact surfaces are AISI 304L / 316L. Documentation is issued in English by default.

NEXT STEPS

- Full technical page: <https://mcftechnology.group/en/tomato-processing-plant>
- 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 (3 $\dot{\text{t}}/\text{h}$ to 10 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.