

Tomato paste canning line İÇİ½ filling, seaming and pasteurization for cans 70 g to 4.5 kg

Target application: tomato paste canning line

Reference configuration: Packing section downstream of bulk paste, 1,000İÇİ½3,000 kg/h finished product

Canning is the format that supports export and food service: rigid, tamper-proof, ambient-stable. MCF supplies the canning line downstream of aseptic bulk or directly after a paste plant İÇİ½ hot filling, seaming with steam-vacuum control, pasteurization or sterilization tunnel and packing İÇİ½ sized on the can portfolio the brand actually sells, from 70 g single-serve to 4.5 kg catering.

SCOPE OF SUPPLY

- Bulk paste emptying, standardization and recipe dosing
- Hot filling at controlled temperature with volumetric or mass-flow fillers
- Can rinsing / air cleaning, seaming with steam or nitrogen vacuum control
- Seam inspection, checkweighing and metal-detection
- Pasteurization tunnel or retort autoclave depending on acidity and format
- Cooling, drying, labelling and date coding
- Case packing, shrink bundling and palletising
- Automatic CIP, utilities skid and SCADA traceability per batch

TYPICAL OUTPUTS

Cans 70 g, 140 g, 400 g, 800 g, 2.2 kg, 4.5 kg İÇİ½ Double concentrate 28İÇİ½30 İÇİ½Brix and standardized paste 22İÇİ½28 İÇİ½Brix
Peeled and diced tomato in cans (with dedicated upstream section) İÇİ½ Export-ready palletised cases

DIMENSIONS AND BUILDING ENVELOPE

Packing hall footprint	350İÇİ½650 mİÇİ½ depending on format mix and number of lanes
Clear height	5İÇİ½6 m under beam, 4.5 m minimum over the filler and tunnel
Filling island	90İÇİ½160 mİÇİ½ including buffer tank, filler, closing and vacuum control
Thermal treatment	80İÇİ½130 mİÇİ½ for pasteurization tunnel or retort area with cooling zone
End of line	120İÇİ½220 mİÇİ½ for coding, labelling, case packing, shrink wrapping and palletizing
Packaging material store	200İÇİ½450 mİÇİ½ for empty cans, jars, laminate reels, caps and cartons

LAYOUT İÇİ½ FUNCTIONAL ZONES IN FLOW ORDER

1 İÇİ½ Product buffer	Pasteurized product buffer tank with level and temperature control
2 İÇİ½ Container feed	Depalletiser, rinser or air cleaner, format changeover parts
3 İÇİ½ Filling	Volumetric or mass-flow filling heads sized on the format range
4 İÇİ½ Closing	Seamer with steam-vacuum control, capper or sealing jaws with seal integrity check
5 İÇİ½ Thermal treatment	Pasteurization tunnel or retort with validated F-value recipe
6 İÇİ½ Inspection	Checkweigher, metal detection, seal and fill-level inspection with rejection
7 İÇİ½ End of line	Coding, labelling, case packing, palletizing and pallet wrapping

UTILITIES AND CONSUMPTION

Installed power	180İÇİ½320 kW for the packing section
Steam	0.8İÇİ½1.8 t/h at 6İÇİ½8 bar for filling temperature and tunnel
Water	5İÇİ½10 mİÇİ½/h process and tunnel cooling water, with recirculation
Compressed air	250İÇİ½450 NmİÇİ½/h at 7 bar, oil-free on product contact points
Format changeover	20İÇİ½45 minutes between formats, 45İÇİ½90 minutes with recipe change and CIP
Manning	4İÇİ½7 operators per shift on the packing section

CAPEX, OUTPUT AND PAYBACK

Canning line İÇİ½ capacity, CAPEX, payback

Canning capacity is expressed both in cans/min and kg/h of finished product; the CAPEX range below refers to the packing section downstream of bulk paste.

500 kg/h finished product	Turnkey CAPEX: İÇİ½0.6 İÇİ½ 0.9 million Annual output: 1 500 İÇİ½ 2 200 t/year packed EBITDA: 12 İÇİ½ 18% of revenue Payback: 3 İÇİ½ 4.5 years Commissioning: 7 İÇİ½ 9 months contract-to-commissioning
1 000 kg/h finished product	Turnkey CAPEX: İÇİ½0.9 İÇİ½ 1.4 million Annual output: 3 000 İÇİ½ 4 400 t/year packed EBITDA: 14 İÇİ½ 19% of revenue Payback: 3 İÇİ½ 4 years Commissioning: 8 İÇİ½ 10 months contract-to-commissioning
2 000 kg/h finished product	Turnkey CAPEX: İÇİ½1.5 İÇİ½ 2.3 million Annual output: 6 000 İÇİ½ 8 800 t/year packed EBITDA: 15 İÇİ½ 20% of revenue Payback: 3 İÇİ½ 4 years Commissioning: 9 İÇİ½ 12 months contract-to-commissioning
3 000 kg/h finished product (reference)	Turnkey CAPEX: İÇİ½2.2 İÇİ½ 3.2 million Annual output: 9 000 İÇİ½ 13 000 t/year packed EBITDA: 16 İÇİ½ 21% of revenue Payback: 2.5 İÇİ½ 4 years Commissioning: 10 İÇİ½ 13 months contract-to-commissioning
5 000 kg/h finished product	Turnkey CAPEX: İÇİ½3.4 İÇİ½ 4.8 million Annual output: 15 000 İÇİ½ 22 000 t/year packed EBITDA: 17 İÇİ½ 23% of revenue Payback: 2.5 İÇİ½ 3.5 years Commissioning: 12 İÇİ½ 15 months contract-to-commissioning

Assumptions behind the figures

- 250İÇİ½300 working days per year, 16İÇİ½20 productive hours per day: the feedstock is stored aseptic concentrate, not seasonal fresh tomato.
- Inbound bulk paste at 36İÇİ½38 İÇİ½Brix in 220 L bag-in-drum or 1 000 L IBC, standardized in line to 22İÇİ½28 İÇİ½Brix.
- Finished product filled in tinplate cans, glass jars or sachets, with pasteurization and end-of-line packing included.
- CAPEX is turnkey scope: emptying station, mixing, standardization, pasteurizer, filler, closing, CIP, automation, installation, commissioning and training; civil works, land and bulk paste stock excluded.
- EBITDA and payback assume retail or food-service pricing of the packed product and no financing cost inside the operating margin.
- Canning configuration: hot filling, seaming with steam-vacuum control, pasteurization tunnel or retort, 60İÇİ½600 cans/min depending on format.

Indicative engineering ranges used by MCF Technology for budget screening of rework projects, not a quotation and not the audited result of a specific plant. Final figures are fixed in the feasibility study, once inbound İÇİ½Brix, packaging formats, utilities cost and working hours 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

Pasteurization tunnel or retort?

For acidified paste and passata (pH <= 4.5) a pasteurization tunnel is sufficient; for low-acid or large catering formats MCF supplies a static or rotary retort autoclave with validated F0.

Which can sizes on one line?

Typically two to three formats with format-change kits on filler and seamer; changeover is 60'±120 minutes including CIP. A wider portfolio is handled with a second seamer branch.

What capacities are available?

From 60 to 600 cans per minute depending on format, corresponding to roughly 500'±5 000 kg/h of finished product.

How is seam integrity controlled?

Automatic seam monitoring plus periodic teardown inspection during production, with steam-vacuum control at closing to limit residual oxygen and protect colour.

Utilities and layout?

Indicatively 150'±500 kW installed power, 800'±3 500 kg/h steam, cooling water for the tunnel, treated water for dilution and can rinsing; 400'±1 000 m'± process area plus empty-can and pallet storage.

NEXT STEPS

- Full technical page: <https://mcftechnology.group/en/tomato-paste-canning-line>
- 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'±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.