

Equipment Information



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1 Description and key features

1.1 Description

The Cryovac® ST12 is an automatic hot water dip tank designed specifically to shrink Cryovac bags. It is used in Cryovac packaging systems to remove the wrinkles caused by the vacuum process and optimise pack appearance and improve pack security.

It is controlled by a PLC (programmable logic control) which monitors and sequences the machine during operation. Water temperature is regulated by PLC to ensure that a consistent shrink and pack appearance is obtained. Two versions are available: the ST12 E electrically heated model and the ST12 S steam heated model.

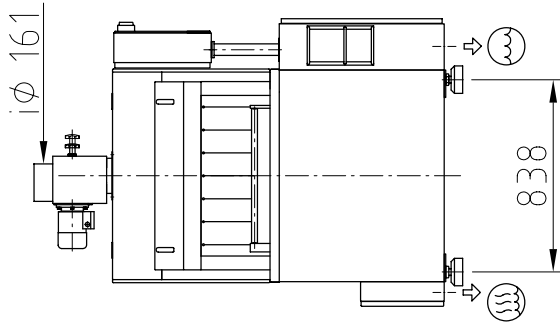
An insulated water tank minimises heat loss and an automatic system ensures that the correct water level is maintained. A motorised conveyor is used to transfer packages into the machine, immerse them in the water for a pre-determined time and then discharge them.

Construction is simple and robust. All critical parts are treated against the corrosive environment often found in food production and packaging rooms. Designed with ergonomics safety and hygiene in mind it is easy to use and clean, simple to maintain and meets all relevant European legislation for safety and hygiene.

1.2 Key features

- Machine achieves up to 5 cycles/min
- Hygienic design makes cleaning easy and effective
- Good access for maintenance
- Easy and quick removal of dip conveyor cylinders - makes maintenance easier
- Easy and quick removal of water level sensor - makes maintenance easier
- Shut-off valves - allow maintenance without draining the tank
- Robust, high quality build standard using food approved materials throughout
- PLC temperature control for consistent and repeatable results
- Vertical water vapour duct - makes installation easier
- Alarm message to indicate failure of conveyor motor or fan motor - gives early warning of breakdown
- Separate adjustable run times for conveyor during infeed and outfeed - allows process to be customised to suit system configuration
- Adjustable dip time - allows shrink process to be optimised
- Fully automatic control of water level
- Continuous conveyor function - allows packages to be transferred through the ST12 without immersing them
- Run-down function for water vapour extractor - avoids escape of water vapour when production is finished
- Interlocked guards and a category 1 fail safe control system combined to provide a state of the art safety system

2 Layout



Only for steamversion
 Nur bei Dampfversion
 Solo per versione vapore
 Seulement pour version vapeur

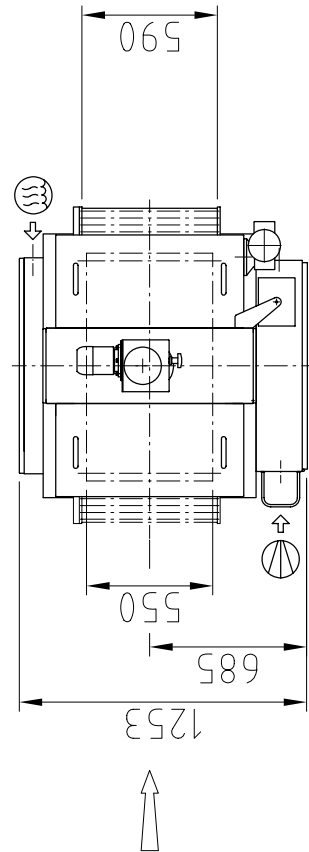
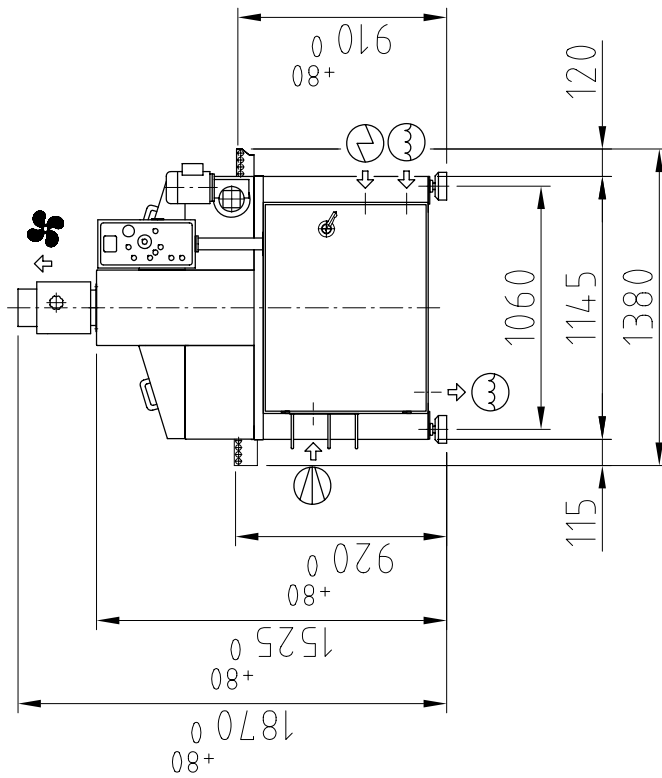
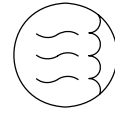
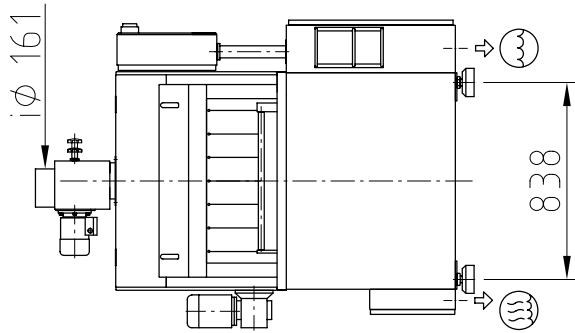


Fig. 2-1, Layout LH



Only for steamversion
 Nur bei Dampfversion
 Solo per versione vapore
 Seulement pour version vapeur

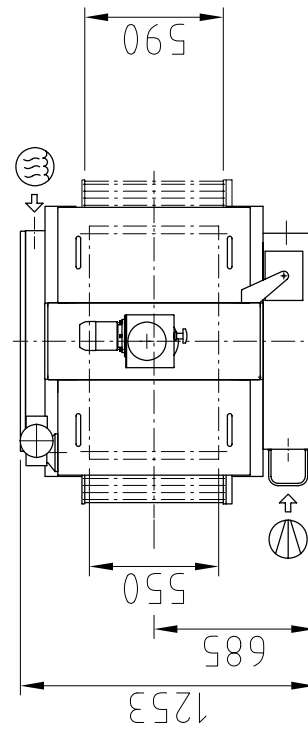
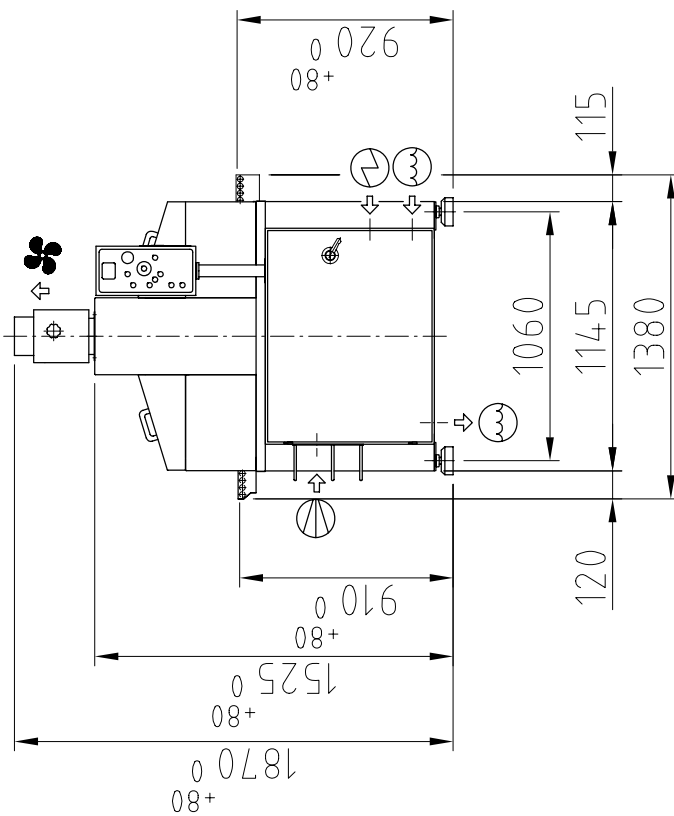


Fig. 2-2, Layout RH

3 Nominal Technical data

3.1 Machine dimensions

Length, width & height See machine layout

3.2 Weight

Water tank empty 410 kg approx.
 Water tank full 750 kg approx.

3.3 Utilities

3.3.1 Compressed air



Air type Clean and dry
 Pressure 6 bar
 Supply pipe diameter 13 / 20 mm
 Consumption 4 Nm³/h
 Connecting fitting G ½" hose fitting (13 mm)

3.3.2 Steam (for steam version only)




Supply pipe diameter Min. ¾"
 Connecting fitting G 1" Inside
 Working pressure 2 - 4 bar
 Consumption 60 kg/h
 Drain connection G ¾" Outside

3.3.3 Water




Pressure 2 - 6 bar
 Consumption (average) 40-80 l/h
 Connecting fitting G ½" hose fitting (13 mm)
 Tank volume 340 l
 Drain connection G 1 ½" Inside
 Supply pipe diameter 13 / 20 mm

3.3.4 Electrical (electrically heated version)

	Voltage	400 V
	No. of phases	3 + earth
	Frequency	50 Hz
	Energy consumption per hour (average)	29 kWh
	Installed power	36.5 kW
	Current protection	63 A

3.3.5 Electrical (steam-heated version)

	Voltage	400 V
	No. of phases	3 + earth
	Frequency	50 Hz
	Energy consumption per hour (average)	0.5 kWh
	Installed power	1 kW
	Current protection	10 A

3.4 Working characteristics

3.4.1 Product dimensions

Length	900 mm max.
Width	550 mm max.
Height	200 mm max.
Weight	75 kg max.

3.4.2 Functional details

Shrink temperature	Up to 92°C
Heating time	From 50 to 60 min (with cold water)
Working speed	3 - 5 cycles/min
No. of operators	1 to monitor only
Noise level	< 70 dB (A)

4 Configuration

4.1 Standard

- Siemens PLC S7-200
- Automatic water level control
- PLC temperature controller
- Soft conveyor with silicone covered rods
- Electric fan for vapour extraction
- Powered exit rollers
- Spare parts kit
- Installation kit
- Technical Manual
- Declaration of Conformity

Note: We strongly recommend the installation of a water softener unit for electrically heated versions of the ST12.

4.2 Versions

- ST12 RHE (right hand electric)
- ST12 LHE (left hand electric)
- ST12 RHS (right hand steam)
- ST12 LHS (left hand steam)
- Mesh belt conveyor

Note: A right hand machine has the product infeed on the right when standing facing the electrical cabinet.

4.3 Options

- Powered infeed rollers
- Optional steam kit, consisting of:
 - Steam pressure regulator
 - Safety valve
 - Pressure gauge
- Frequency converter for belt speed regulation

4.4 Recommended line assembly

- VS20 / VS30, powered conveyor, ST12, powered conveyor.