

# Equipment Information



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## 1 Description and key features

### 1.1 Description

The Cryovac® ST85 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 ST85 E electrically heated model and the ST85 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

- No operators required
- 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
- PakFormance® Compliance Kit as an option upon Customization Request, enabling access to the Sealed Air PakFormance® functionalities through networking of the machine
- Continuous conveyor function - allows packages to be transferred through the ST85 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

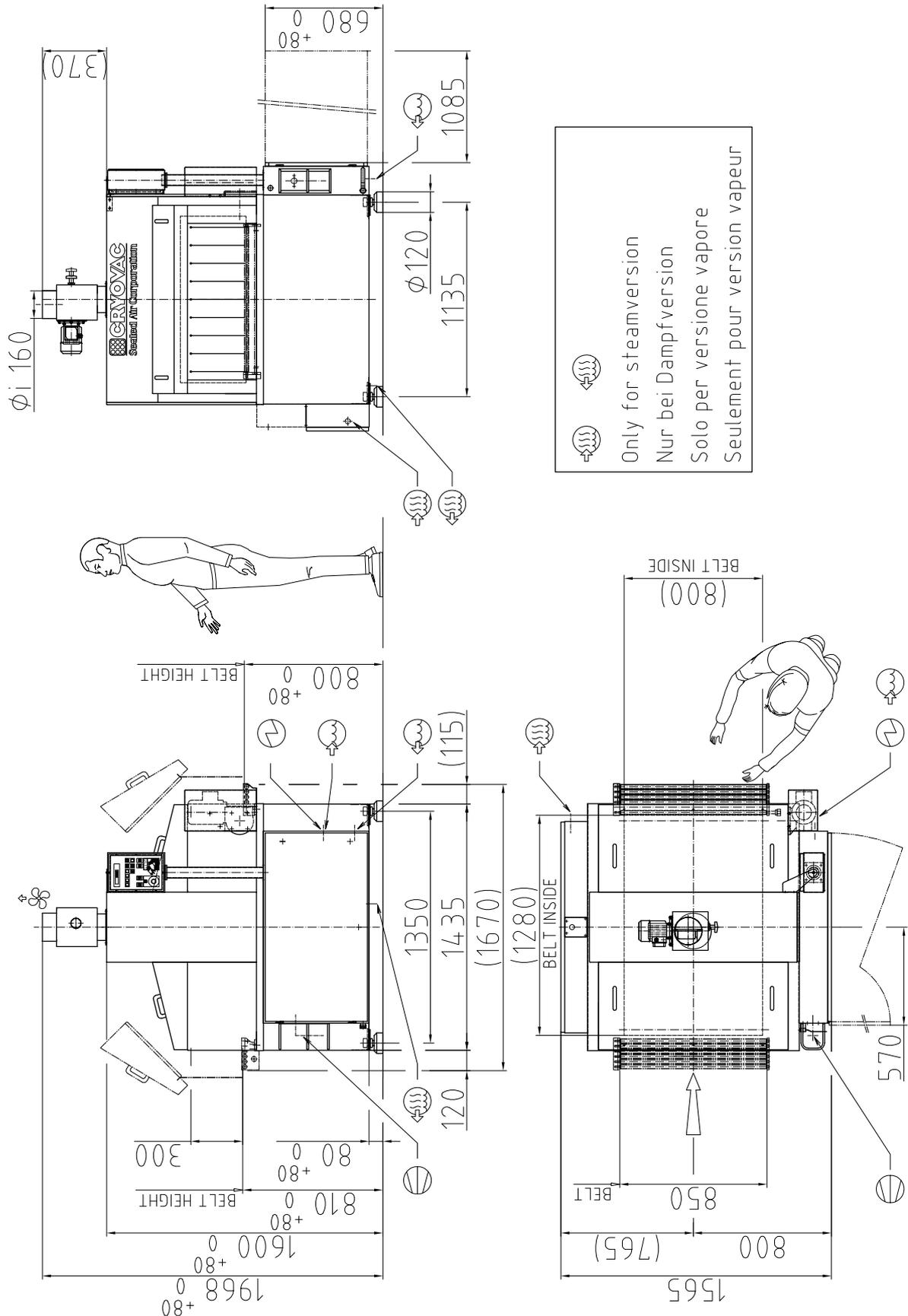


Fig. 2-1, Layout LH (left hand)



### 3 Nominal technical data

#### 3.1 Machine dimensions

Length, width & height      See machine layout

#### 3.2 Weight

Water tank empty      640 kg approx.  
 Water tank full      1190 kg approx.

#### 3.3 Utilities

##### 3.3.1 Compressed air



Quality (ISO8573-1:2001)

Class 5.4.4  
 Class 3.4.2 when using oils containing esters  
 Class 3.3.2 when equipment is used below 5°C

Pressure  
 Connecting type  
 Consumption

0.6 MPa (6 bar)  
 G 1/2" external thread  
 6 Nm<sup>3</sup>/h

##### 3.3.2 Steam (for steam version only)



Supply pipe diameter  
 Connecting fitting  
 Working pressure  
 Consumption  
 Drain connection

Min. 1"  
 1" socket (female)  
 0.2 - 0.4 MPa (2 - 4 bar)  
 70 kg/h  
 G 3/4" Outside

##### 3.3.3 Steam outlet



Blower output

500 m<sup>3</sup>/h max. at 0 bar back pressure

### 3.3.4 Water

	Pressure	0.2 - 0.6 MPa (2 - 6 bar)
	Consumption (average)	60 - 100 l/h
	Connection fitting	½" hose fitting (13 mm)
	Tank volume	550 l
	Drain connection	G 1 ½" Inside
	Supply pipe diameter	13 / 20 mm

### 3.3.5 Electrical (for electrical version only)

	Voltage	400 V
	No. of phases	3 + earth
	Frequency	50 Hz
	Energy consumption per hour (average)	48 kWh
	Installed power	54.5 kW
	Current protection	Min. 80 A, max. 100 A Type C according to IEC 60898-1

### 3.3.6 Electrical (for steam version only)

	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	Min. 10 A, max. 16 A Type C according to IEC 60898-1

## 3.4 Working characteristics

### 3.4.1 Product dimensions

Length	1200 mm max.
Width	810 mm max.
Height	250 mm max.
Weight	95 kg max.

### 3.4.2 Functional details

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

## 4 Configuration

### 4.1 Standard

- Siemens PLC S7-200
- Automatic water level control
- PLC temperature controller
- Frequency converter for belt speed regulation
- Soft conveyor, incorporating:
  - Mechanical variable speed
  - Silicone covered rods
- Electric fan for vapour extraction
- Powered exit rollers
- Spare parts kit
- Technical manual
- Declaration of Conformity

**Note: We strongly recommend the installation of a water softener unit for electrically heated versions of the ST85.**

### 4.2 Versions

- ST85 RHE (right hand electric)
- ST85 LHE (left hand electric)
- ST85 RHS (right hand steam)
- ST85 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

**On special request (please ask for delivery time and price):**

- PakFormance® Compliance Kit

### 4.4 Recommended line assembly

- VS95TS + exit conveyor short + exit rollers to conveyor + ST85 + WR81-800