

# Butter Packing Line, Type CAF

Semi-automatic carton filler  
for flexible operation



# Butter Packing Line Type CAF

## Field of application

In the dairy and food industry for automatic filling of cartons.

## Capacity

- Carton size from 5 kg to 25 kg
- Semi-automatic operation
- CAF-1: Max. 145 cartons/h, corresponding to 725 kg/h - 3,625 kg/h.
- CAF-2: Max. 270 cartons/h, corresponding to 1,350 kg/h to 6,750 kg/h.

## Standard design

The Carton Filler line comprises primary dosing, precision dosing and internal check weighing.

The Carton Filler Type CAF-1 has one filling station and one after-dosing system.

The Carton Filler Type CAF-2 has two filling stations and two after-dosing systems.

On the Carton Filler Type CAF-2, two different sizes of cartons can be filled at the same time.

The entire packing process is controlled and checked by a PLC control system.

All product-contacting parts are made of stainless steel, AISI 304.

## Function

The flat carton is manually unfolded, taped and liner is placed in the carton.

The carton is placed on the conveyor and then automatically conveyed to the filling station where the carton is filled with product -see fig. 1.



Fig. 1

After this, the carton is automatically conveyed to the internal check weight and precision dosing where the carton is topped up to the required weight with an accuracy of +/- 6 g for a full day's production.

The carton now leaves the carton filler and is manually closed and sealed.

## Filling station

On the Carton Filler Type CAF-2, the two filling stations are working alternately.

## Net weight and precision dosing

The product filled into the cartons is net weighed and the result is used for adjusting the primary dosing level in the subsequent cartons.

Precision dosing is effected through an injector, which is inserted into the product between 50 and 100 mm below the surface.

A calculated and accurately measured quantity of product is now pumped into the carton.

When precision dosing has been completed, information about the individual cartons is stored in a database.

The CAF weighing system is an internal system for exact filling of the cartons, but it is not designed for an official approval by the local weight and measures authorities; however, the components used are approved individually.

## CIP

The Carton Filler line is automatically Cleaned-In-Place by an external CIP system. The butter packing line is automatically cleaned in place, and a CIP loop also cleans the connected silo and piping system from the continuous buttermaking machine. Butter-packing machines (e.g. 250 g packets), which can be fed with butter from the same silo, can also be included in the CIP programme.

## PLC control

As standard, the packing line is delivered with a Siemens PLC or with an Allen-Bradley PLC. A 15" TFT touch screen provides a user-friendly operator interface - see fig. 2.



Fig. 2

**The PLC control has the following fully-automatic functions**

- Control and supervision of the entire packing process
- Coarse filling of the cartons
- Precision dosing
- Net weighing
- Recording of the content in the individual carton
- Alarm in case of operational interruptions
- Control of the automatic internal CIP process

The internal check-weighing system and precision-dosing system secure that no carton leaves the filling line with a carton weight under the selected set point.

A modem for remote service of the control system is included.

**Data collection**

Data from the production and CIP is collected on an industrial PC. Reports from the production and CIP can be shown on the operator panel, but data can also be transformed via Ethernet to a management system or external printer. The following reports are available:

**Production report:**

- Batch/operator name
- Number of boxes
- Average weight
- Total kg packed
- Packing time
- Running time
- Standard deviation

**CIP report**

- Start time
- Type of CIP
- Stop time
- Temperature set point

Besides the above summary report, a report is made with details of each box, such as:

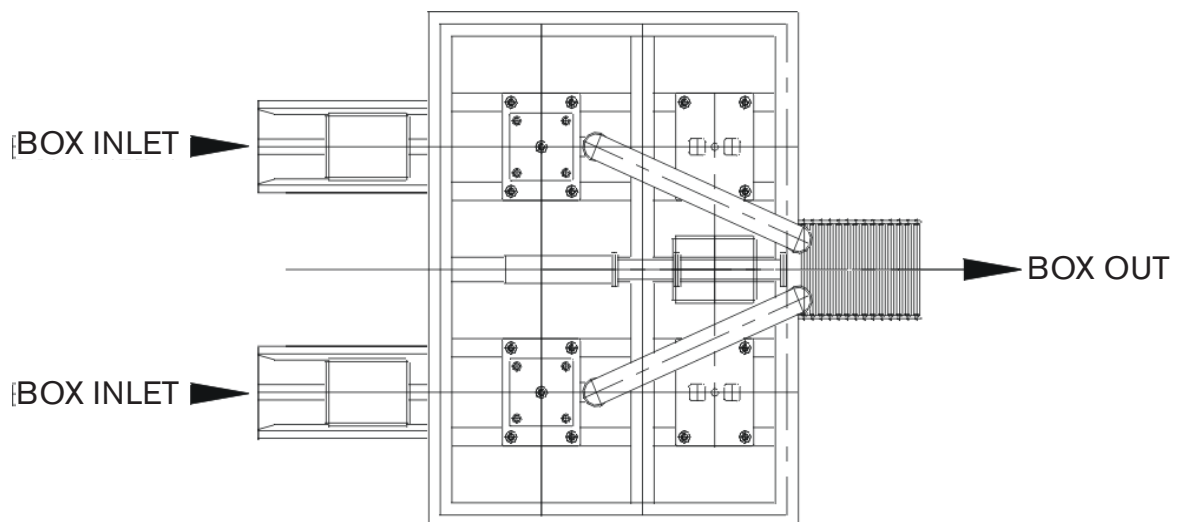
- Packing time
- Running number
- Weight before dosing
- Total tare weight
- Final net weight
- Number of fine dosing

**Optional extras**

- Filling heads for different sizes of cartons can be supplied
- Carton erector and bag inserter

**Technical data**

Voltage:	240 V, 50 Hz
Installed effect:	Max. 6 amp.
Air pressure:	6 to 8 bar (min./max.)
Air consumption, CAF-1:	350 NL/min.
Air consumption, CAF-2:	700 NL/min.
Dimension CAF-1 (LxWxH) - mm:	2300 x 900 x 3000
Dimension CAF-2 (LxWxH) - mm:	2300 x 1700 x 3000





APV, An SPX Brand  
Pasteursvej  
8600 Silkeborg, Denmark  
Phone: +45 70 278 278 Fax: + 45 70 278 330

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