Perfectly packaged bit by bit

Food in *combibloc* and *combisafe*

SIG Combibloc

Just the way you want it

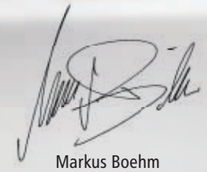
Food manufacturers have a choice. For long-life foods, there's a wealth of packaging options they can choose from to place their products on the market. Many of these options have been around for decades, and their acceptance has developed over time.

However, for any manufacturer looking to select a packaging system these days, the smart money is looking beyond the tried and trusted. What is needed are modern packaging solutions that provide optimal protection for the foods they contain, offer flexibility, are convenient to use, have a superlative environmental profile – and, at the end of the day, are cost-effective as well.

This is where carton packs from SIG Combibloc tick all the boxes: our aseptic *combibloc* carton packs and the retortable *combisafe* carton packs for foods with particulate content, ensure food products are optimally protected and retain their high quality over a prolonged period. Carton packs are among the most environmentally friendly packaging solutions available for long-life foods.

Thanks to their rectangular base and their light weight, carton packs are not just hugely convenient in the consumer's daily routine – they're unbeatably efficient when it comes to transport logistics as well. And on the warehouse pallets and supermarket shelves of the retail chain too, carton packs are real space-saving miracles, permitting an optimal use of shelf space and an efficient distribution process.

With flexible packaging and filling options, high performance and low wastage rates, food filling machines from SIG Combibloc are designed to pave the way to a profitable future for your business, and help you create modern packaging solutions today that will continue in the future to give consumers an appetite for your product.



Markus Boehm
Chief Market Officer SIG Combibloc

Welcome to SIG Combibloc

SIG Combibloc is one of the world's leading system manufacturers of carton packs and filling machines for beverages and food. The company is part of the Rank Group of New Zealand, and employs around 4,950 people. With production plants and branches in more than 40 countries, we guarantee customer-focused cooperation and support wherever you are, and develop systems solutions that are optimally tailored to the needs of our customers, which we implement together with you.

Each year, SIG Combibloc's packaging plants manufacture more than 25 billion carton sleeves. Palletised to save space, the flat carton sleeves are delivered to the food manufacturers, where they are filled using filling machines designed and manufactured by SIG Combibloc.
SIG Combibloc supports its customers every step of the way – from market analysis and the development of new product concepts right up to designing the carton. The engineering and installation of the filling equipment, and full after-sales service, are also integral components of our offer.

Certified for quality, environment and hygiene
For SIG Combibloc as a supplier to the food industry, quality, safety, environmental management and hygiene are essential pre-conditions to enable us to cater to the needs of our customers across the globe. For this reason, accredited quality management systems in accordance with ISO 9001 and environmental management systems in accordance with ISO 14001 are implemented at all production sites and at SIG Combibloc's research and development centres. In addition, accredited hygiene management systems in compliance with the internationally established HACCP (hazard analysis and critical control points) principles are in place. Since 2013 all packaging plants have also been certified in accordance with the BRC / IoP standard.

page 10
All the possibilities
SIG Combibloc's extensive portfolio of products for long-life foods includes not just liquid foods, but viscous and chunky products as well. Every day, millions of people around the world buy foods packaged in *combibloc* and *combisafe* cartons from SIG Combibloc. And there are a lot of good reasons for this: in our aseptic *combibloc* carton packs, and in the retortable *combisafe* carton packs for foods with a very high particulate content, food products are perfectly protected, have a long shelf life and retain their high quality – even without refrigeration and preservatives. The key to filling long-life food products containing particulates is the sleeve system SIG Combibloc uses.

page 22
A real logistical marvel
Thanks to their compact, rectangular shape, carton packs have a number of advantages over other packaging solutions when it comes to transport and distribution logistics. They stack extremely well – in a truck, in a warehouse and on a supermarket shelf. Secondary packaging can be kept to a minimum, and resources used efficiently. This reduces, for example emissions, cuts consumption of fossil resources, and lowers costs.

page 16
Renewable. Sustainable. Unique.
Carton packs are more than just an alternative to food metal cans or glass jars. They are also an excellent choice for the environment. A life-cycle assessment has shown that, compared to other packaging solutions, using carton packs can reduce CO_2 emissions and the consumption of fossil resources, respectively, by up to 60 per cent. Because no other packaging is made almost entirely from a natural material that grows back: carton packs are made up to around 75 per cent from wood, a renewable resource. In addition, SIG Combibloc was the first carton packs manufacturer to have all its production sites world-wide certified in accordance with the criteria of the Forest Stewardship Council® (FSC®) for a continuous product chain of custody (CoC). This means we can offer our customers worldwide carton packs displaying the FSC® label.

page 24
Maximum convenience
For consumers, convenience is a key consideration. In this respect, carton packs are ideal for everyday use: lightweight and easy to use, space-saving, stackable, unbreakable and, equipped with perforation and closures, very convenient.

page 26 Brought to the table flexibly and efficiently
Packaging solutions and filling technologies designed with the future in mind offer maximum flexibility and a high level of production efficiency – and they do it all at competitive production costs. Our modern food filling machines with an output of up to 12,000 carton packs per hour offer the unique product-, volume-, and decor flexibility our customers know from SIG Combibloc.

page 28 Unrivalled product flexibility
The flexibility of SIG Combibloc filling machines provides the basis for filling a huge variety of foods. Liquid and viscous foods, and food products with a high particulate content, can all be filled and packed for long-life quickly, safely and using a technique that is gentle on the product.

page 32 Unique volume flexibility
When it comes to volume, there are many options for carton packs with the same base dimensions: in just a few steps, the filling machines can be adjusted for a specific volume.

page 34 Unbeatable decor flexibility
With the filling technology from SIG Combibloc, a change of carton design can be implemented without interrupting the production process and with no wastage at all.

page 36 Our service for your efficiency
To make sure your production processes run smoothly and efficiently, we also give our customers a wide-ranging service offer.

page 38 At a glance: *combibloc* Food Aseptic

page 40 At a glance: *combisafe* Food Retort

page 42 Our food filling portfolio, your options

All the possibilities

combibloc and *combisafe*

Every day, millions of people all over the world buy foods packaged in *combibloc* and *combisafe* carton packs from SIG Combibloc. There are a lot of good reasons for this.

In our *combibloc* aseptic carton packs, and in the retortable *combisafe* carton packs for foods with a very high particulate content, food products are perfectly protected and retain their high quality: whether it is soups, tomato products, sauces, vegetables and pulses, fruit, convenience foods, baby food or desserts.

In *combibloc* and *combisafe*, foods are hygienically and securely protected from light, oxygen and external odours. The flavours, colours and nutrients, vitamins and aromas of the food products are retained over an extended period, without refrigeration and without preservatives.

Our experience – your opportunity

SIG Combibloc has more than 35 years' experience and solid know-how in filling long-life foods and beverages in carton packs. In the truest sense of the words, we have expanded 'piece by piece' the filling and carton options we offer.

The first soup containing chunky particulates was aseptically packaged in *combibloc* in 1988 using a SIG Combibloc filling machine – this was a revolution in food packaging. Since then, SIG Combibloc has steadily built on and further developed the food filling technology that puts a vast range of product options at your fingertips. Today, food products containing particulates up to 25 millimetres in size can be aseptically filled – long, thin product pieces and individual fibres can even be up to 40 millimetres long. Products can have up to 50 per cent particulate content.

combibloc Food Aseptic:
particulate size up to 25 millimetres

combibloc Food Aseptic:
long, thin product particulates and individual fibres up to 40 mm long

combibloc Food Aseptic:
up to 50 % particulate content

Even more options with
combisafe Food Retort

With the introduction of the heat-resistant *combisafe* carton pack, which can be sterilised in an autoclave, the range of products that can be filled and packaged for long life in carton packs from SIG Combibloc is even bigger: more viscous products and products containing even bigger particulates have been added to the mix. This includes, for instance, vegetables and pulses, fruit, convenience foods and stews.

SIG Combibloc's extensive product portfolio thus offers the perfect package for any kind of food product. For our customers in the food industry, this expertise and variety means they are able to respond to trends and thereby take advantage of market opportunities.

Food products: the sleeve system makes it possible

The key to filling long-life food products that can even contain large particulates is the sleeve system SIG Combibloc uses. Our customers receive the packaging material for filling their foods as flat pre-fabricated and pre-sealed sleeves, printed with the requested design. At our customer's premises, the carton packs are being filled using SIG Combibloc filling machines. After the filling process has taken place, the carton packs are ultrasonically sealed above the filling level, and not through the product. This prevents product ingredients from getting caught in the sealed seam. Once the carton pack has been sealed, optional closure mechanisms may be applied to the packaging.

The tried and tested sleeve system is also used to fill food products with a very high particulate content in *combisafe* cartons. After the carton pack has been ultrasonically sealed, product and packaging are sterilised in an autoclave.

High quality requires perfect protection

The special composite structure of the carton and the filling process selected in each case are important conditions for safeguarding product quality. With their original seal left intact, food products packaged in our carton packs can be stored for up to three years even outside the cold chain or refrigerator, and still retain their high quality.

outer polymer layer
cardboard
middle polymer layer
aluminium
inner polymer layers

The packaging material used to make a *combibloc* aseptic carton is composed primarily of raw paperboard and polymers. At around 75 per cent, cardboard is the main ingredient, and gives the carton stability. The inner polymer layers form a liquid barrier for the food or beverage; the outer layer keeps moisture out. Added to this is a razor-thin aluminium layer, which protects the food from light, oxygen and external odours.

With the heat-resistant *combisafe* carton packs the special nature of the polymer and the composite structure of *combisafe* are perfectly harmonised to permit the heat treatment of product and packaging in a static or rotative autoclave.

Carton packaging from SIG Combibloc is naturally BPA free.

Renewable. Sustainable. Unique.

combibloc and *combisafe*

It is in the nature of things that when it comes to long-life foods, carton packs are more than just an alternative to well-known packaging systems such as food metal cans or glass jars. Because no other packaging solution is made almost entirely from a natural raw material. Our carton packs are manufactured up to around 75 per cent from wood, a renewable resource. If the wood originates from forests that are managed properly and responsibly, this natural raw material is available in a virtually infinite supply. And because wood is largely carbon-neutral, it does not alter the CO_2 balance in the atmosphere. That makes our carton packs unique in the packaging mix for long-life foods and beverages, and has a positive effect on the environmental performance of the products and the manufacturing processes of our customers.

This crucial competitive advantage is set to carry even more weight in the future: without sustainable manufacturing processes that turn out sustainable products, long-term sales success will be difficult – and that includes the packaging. By opting for our carton packs, our customers are therefore making a sustainable decision: environmentally, and financially.

Of course, our carton packs and closures are fully recyclable and suitable for all local and national recycling and waste management options.

75%

Our carton packs are made up to 75 per cent from wood, a renewable resource.

Best environmental performance

combibloc* and *combisafe

-60%

Using carton packs can reduce CO_2 emissions
and fossil resource consumption, respectively, by up to 60 %.

A Europe-wide, independently verified and ISO-compliant life-cycle assessment conducted in 2009 has shown that, compared to other packaging solutions for long-life foods, using carton packaging can save CO_2 emissions and the consumption of fossil resources, respectively, by up to 60 per cent. In this study, the Institute for Energy and Environmental Research (IFEU) compared food metal cans, glass jars, carton packs and plastic stand-up pouches.

In the life-cycle assessment, all the key environmentally relevant factors and processes that come into play throughout the product life-cycle of the packaging were critically examined and evaluated: beginning with the extraction and refining of the raw material used to make the packaging, through the processes of manufacturing and transporting the finished packages, the packaging of the food, and distribution up to the retailing stage, right up to the recycling or disposal of the packaging after use. This type of evaluation is the only assessment method that examines the environmental profile of a packaging as a whole, rather than just focusing on a single aspect.

In the study, the combibloc aseptic carton pack and the retortable combisafe carton pack have the best results in virtually all environmental impact categories – in respect of resource management and emissions. The most striking findings are the positive results in the impact categories 'Consumption of fossil resources', 'Use of primary energy sources', and 'CO_2 output/climate change'. The study shows that in terms of fossil resource consumption and CO_2 emission, the carton generates up to 60 per cent less environmental loading than the other packaging solutions considered in the study.

Certified. Traceable.

combibloc and *combisafe*

FSC
www.fsc.org
FSC® C020426

The mark of responsible forestry

For food manufacturers, it is a given that many of the ingredients for their products originate from controlled cultivation and are traceable. In our carton packs, these manufacturers find the perfect partner, because what is true for the food should naturally be no different for the packaging. To manufacture our carton packs, we use only wood fibres originating from certified, responsibly managed and other controlled sources.

To ensure that this happens, we have had our production sites and sales organisations world-wide certified in accordance with the internationally binding criteria of the Forest Stewardship Council® (FSC®) for a continuous product chain of custody. All our suppliers of raw paperboard are also certified in accordance with the FSC product chain of custody standard. This means we are able to offer our customers all over the world carton packs displaying the FSC label. The label provides a verification that appropriate quantities of wood originating from FSC-certified, well-managed forestry or other controlled sources were used to manufacture the raw paperboard.

100%

SIG Combibloc is the first manufacturer of carton packs for food products to have all its production sites world-wide certified in accordance with the criteria of the FSC® for a continuous product chain of custody (CoC).

95%

A truck transporting full carton packs is carrying around 95 per cent product, and just 5 per cent packaging.

A real logistical marvel

combibloc and *combisafe*

The exceptionally good transport and distribution logistics properties of carton packs have a beneficial impact on the environment, and at the same time help to lower costs. SIG Combibloc carton packs are transported to the food manufacturers' production plants as flat folded sleeves. This means the loading volume of a lorry can be used to maximum benefit.

And even after the carton packs have been filled, a truck transporting full packages to distributors is carrying around 95 per cent content, and just 5 per cent packaging. Because carton packs, thanks to their compact, rectangular shape and their unbreakableness, stack extremely well and utilise the full capacity of palettes, and therefore also trucks and warehouse facilities. Compared to glass containers for food products, carton packs can reduce package weight by up to 93 per cent – another logistical advantage that speaks for itself.

Every saving on space and weight means emissions are reduced, the consumption of fossil resources is cut, and costs are lowered.

And they also make very good use of the space on the supermarket shelves: Thanks to their rectangular form, carton packs need 30 per cent less space than food metal cans.

100%

Thanks to their light weight and the range of opening solutions, SIG Combibloc carton packs are 100 per cent user-friendly.

Maximum convenience

combibloc and *combisafe*

It is not just food manufacturers and retailers who want convenient handling when dealing with food packaging. These days, convenience is a key consideration for consumers. In this respect, carton packs are ideal for everyday use: lightweight, space-saving, stackable, unbreakable and, with perforations and closures, very convenient.

Perforations for even greater convenience
A variety of special partial perforations enables consumers to open our carton packs without the use of additional aids such as scissors or knives. The products can be poured out easily. Specifically for chunky food products, SIG Combibloc's packaging portfolio also includes carton packs with a complete perforation. The complete perforation allows the carton pack to be opened all the way across the top, and the food can then be emptied out completely.

For an easy twist: combiSwift and combiSmart
Optional closures can also be applied to some food carton packs. Examples of handy closure solutions on carton packs are the modern screw caps combiSwift for medium-size packages and combiSmart for small-size carton packs. Both can be opened and reclosed effortlessly with a single twist. Thanks to the closure, food products can also be measured out in perfect portion sizes.

Brought to the table, flexibly and efficiently

combibloc and *combisafe*

The food industry moves at a rapid pace. A packaging system for food products thus has to offer a high level of production efficiency and competitive manufacturing costs. The modern food filling machines from SIG Combibloc have an output of up to 12,000 carton packs per hour and consistently low wastage rates. That adds up to highly cost-effective production. The robust, well-engineered design of the filling machines assures the food manufacturer of a long, dependable operating life. The same applies for the applicators used to apply the closures, which are also part of SIG Combibloc's scope of delivery.

The filling machines from SIG Combibloc offer food manufacturers also great flexibility, enabling them to respond to trends quickly and cost-effectively. With the volume, design and product flexibility of filling machines from SIG Combibloc, food manufacturers have every option covered in this respect.

Only with *combibloc* Food Aseptic: liquid, viscous or chunky – you choose, we provide the options

Unrivalled product flexibility

combibloc Food Aseptic

The filling flexibility of SIG Combibloc food filling machines offers food manufacturers the basis for filling a huge variety of foods: liquid foods and even food products with a pasty or chunky consistency can be filled and packaged for long life, quickly, safely, and using a technique that is gentle on the product.

For more than 25 years, SIG Combibloc has been a leader in the aseptic filling of food products. Using our food filling machines, food products containing particulates up to 25 millimetres long can be aseptically filled in carton packs – individual fibres can even be up to 40 millimetres. Products can have up to 50 per cent particulate content.

In the aseptic process, the foods are rapidly heated to ultra-high temperature using the UHT process, immediately cooled again, and only then filled into the aseptic carton packs, which have also been sterilised. Our food filling machines are equipped with two separate dosing systems allowing food manufacturers to increase the scope of their aseptic food portfolio. Ingredients can be filled either in one single phase, which is the standard process, or in two separate phases.

Two-phase filling means splitting the product into two components which are processed and filled separately. This becomes necessary if the product is not viscous enough to carry its particulate content evenly through the process. A typical product which requires two-phase filling is a low viscous soup containing large pieces of vegetable. The vegetable pieces are filled together with a viscous carrier liquid in a first step. In a second step, additional water or broth is filled into the package, adjusting the desired viscosity level.

Once the product has been filled into the carton pack, the carton top is ultrasonically sealed above the fill level, inside the SIG Combibloc filling machine. This makes even the filling of chunky products safe and easy: there is no risk of product ingredients getting caught in the sealed seam. That is a big plus for aseptic product safety.

Even more possibilities

combisafe

With the introduction of the heat-resistant *combisafe* carton pack, the range of options available for the long-life packaging of food products is further expanded. In addition to the aseptic filling process, this packaging system is also suitable for particularly chunky foods such as vegetables and pulses, fruit, convenience foods and stews, and for all food products that cannot pass through a pumping system and an aseptic process.

The tried and tested sleeve system is also used with the *combisafe* packaging system. Through the use of three modular filling units, including a high-precision multi-head weigher, a hugely diverse range of products can be filled in *combisafe* – the size and quantity of the chunky product ingredients can vary in virtually any respect and can be measured out precisely. In the first stage, products that can be pumped are filled, the second deals with dry pieces. In the third stage, the package is topped up with an infusion. That is a big plus for cost-effective production, because individual product ingredients can be added to the recipe continuously and in precisely the right quantities, using the 3-stage filling technology. That really adds up in the product calculation too.

After the products have been filled into the carton pack, the carton top is sealed ultrasonically. The carton packs are then automatically conveyed into an autoclave, which can be either static or rotary – depending on the product requirements and customer preferences. Package and product are sterilised together.

In the area of carton packs for long-life food, the use of a rotary autoclave is a world first. Not only do these autoclaves guarantee maximum product quality. Through the continuous movement of the carton packs while they are undergoing the effects of heating, they also make it possible to fill and process certain products in the first place – particularly highly viscous foods containing extra-large particulates, such as the popular baked beans.

Only with the *combisafe* retortable carton system: rotary autoclave for optimal product quality; multi-head weigher for precise portioning and the ultimate in cost-effective production

Using a single machine: up to seven different volumes – and switching takes next to no time at all

Unique volume flexibility

combibloc and *combisafe*

Food filling machines from SIG Combibloc offer flexibility that can be controlled smoothly, quickly and safely. When it comes to volume, for instance, there are many options for carton packs with the same base dimensions: in just a few steps, the filling machines can be adjusted for a specific volume. There is no need to re-clean or sterilise the machinery.

The rapid volume change brings with it numerous possibilities for positioning products in just the right way to suit specific target audiences. Up to seven different volumes can be filled using a single machine.

An example: two target groups, two volumes. A soup that sells well in the 1-litre family carton pack is supplemented with a smaller volume size that is especially suited for one-person households. Promotional carton packs in which, for a specified period of time, more content is to be offered than in the standard packs can also be implemented without any difficulty. With the flexibility these filling machines offer, food manufacturers can select the perfect volume for each product in no time at all.

Unbeatable decor flexibility

combibloc and *combisafe*

With food filling machines from SIG Combibloc, a change of carton design can be implemented entirely without interrupting the production process, and with no wastage at all. All you need to do is switch the carton sleeves in the filling machine magazine. This flexibility makes it possible to fill the same product in carton packs with a range of different designs, for instance, for different brands or for a range of language regions. This means maximum accuracy of fit for the markets and distribution channels you will be dealing with in each case.

Change the design without interrupting the production process, and with no wastage

Our service – always there when you need it

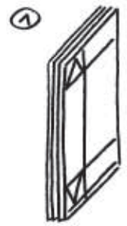
Our service for your efficiency

The unrivalled performance offered by our food filling machines is complemented by a wide-ranging service offer. With our Technical Service team, a network of experts located around the globe, we support our food industry customers as part of a reliable partnership: from installation and commissioning to support with production, plant maintenance and a spare parts service, through to technical upgrades for the installed filling lines.

Our service ensures a smooth, efficient start to production, the filling lines are constantly operating with a high degree of efficiency, and you are getting the best out of the equipment installed at your premises. We also offer our customers a range of complementary added-value services that serve directly to optimise the production processes. The service portfolio is rounded off with a range of training offers for employees who are already familiar with the SIG Combibloc packaging system and need even more in-depth training in specific areas.

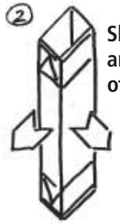
As a further additional service offer, the Operational Excellence Consulting programme focuses on improving operational performance and, as a consequence, lowering production costs. In operating this programme, SIG Combibloc incorporates its many years of experience in handling production processes with customers across the globe, together with examples from best practice. Based on these tools, we develop individual ideas and solutions to further increase efficiency in our customers' factories.

At a glance: *combibloc* Food Aseptic



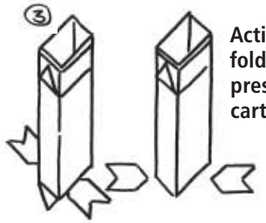
Magazine

The magazine holds the sleeves. The magazine is filled with sleeves by the machine operator or by the optional CAM module (Combibloc Automatic Magazine).



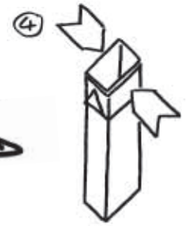
Sleeve extraction and opening up of sleeve

The individual sleeves are extracted by a suction mechanism, opened up into rectangles and placed on a mandrel. This ensures they are in the correct position for the base sealing process.



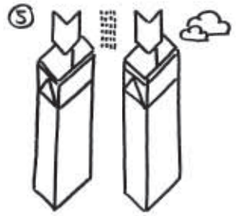
Activating, folding and pressing of carton base

The carton base is activated by hot air at two stations. While the mandrel conveys the sleeve to the base-pressing station, rotating lateral folding arms and a longitudinal folder pre-fold the carton base. Base-pressing dies and the front face of the mandrel press and seal the carton base.



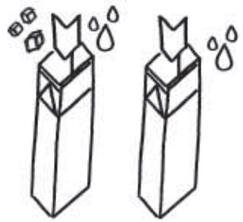
Pre-folding of carton top

The top of the carton is pre-folded precisely along the grooves, to ensure the correct top shape after filling.



Aseptic zone

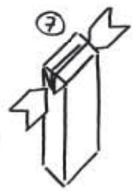
In the aseptic zone, the packages are sterilised with hydrogen peroxide (H_2O_2) and dried with heated sterile air.



The carton pack is filled with sterile product in two stages.

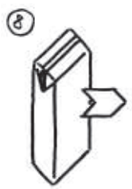
Ultrasonic sealing of carton top

Ultrasound tools fold the carton top and seal it above the fill level. Before it is sealed with ultrasonic energy, steam is injected into the carton pack, which reduces to a minimum the head space volume after cooling.



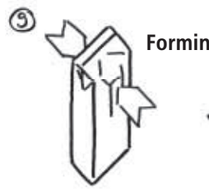
Top-forming station

Hot air is used to heat the polymers at the top triangles and the narrow side of the carton pack. The top triangles are folded down and sealed to the carton.



Ejector and discharge station

The carton pack is ejected from the filling machine, placed upright and moved onto the discharge conveyor.



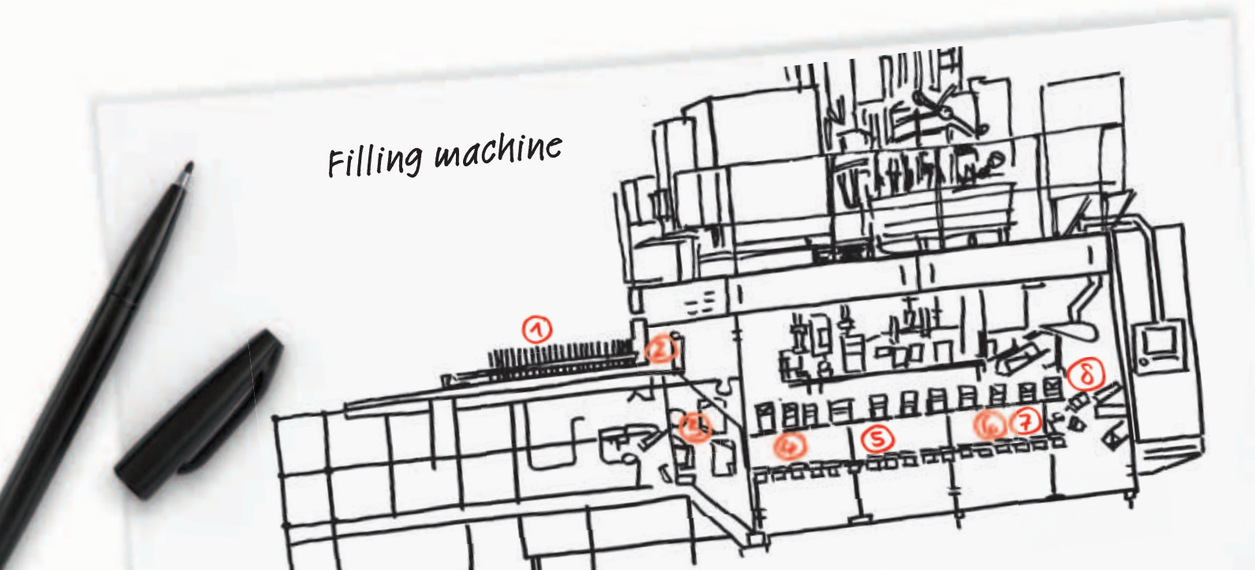
Forming station

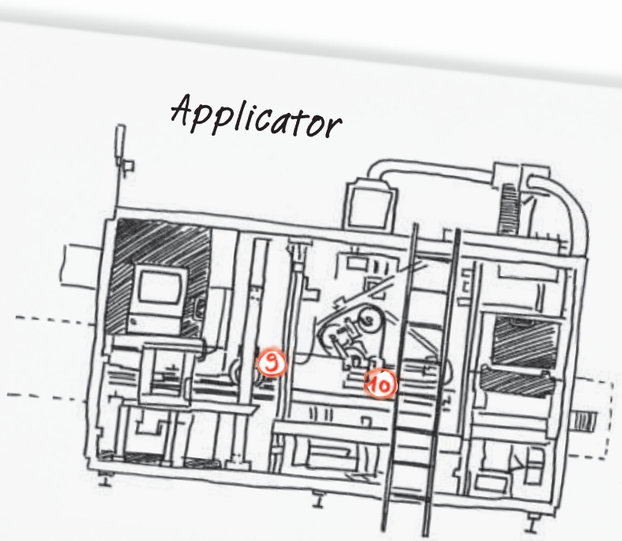
If *combifit** packages are filled, the typical slanted top of the carton is formed.

*provided they have the same base area, *combibloc* and the corresponding *combifit*-format with its distinctive slanted top can be filled on the same filling machine.

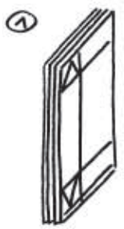
Application unit

The closure is applied to the carton pack.



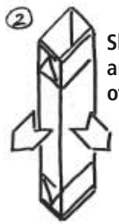


At a glance: *combisafe* Food Retort



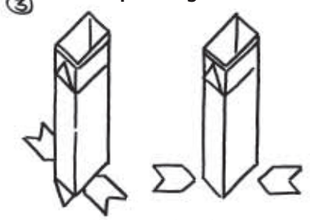
Magazine

The magazine holds the sleeves. The magazine is filled with sleeves by the machine operator.



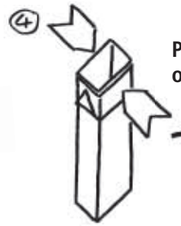
Sleeve extraction and opening up of sleeve

The individual sleeves are extracted by a suction mechanism, opened up into rectangles and placed on a mandrel. This ensures they are in the correct position for the base sealing process.



Activating, folding and pressing of bottom

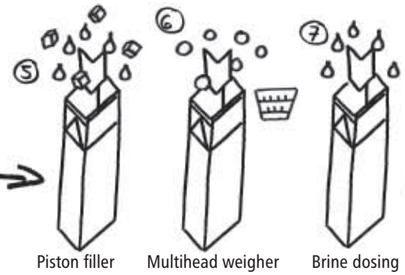
The packaging bottom is activated by hot air at two stations. While the mandrel conveys the sleeve to the base-pressing station, rotating lateral folding arms and a longitudinal folder pre-fold the carton base. Base-pressing dies and the front face of the mandrel press and seal the carton base.



Pre-folding of carton top

The top of the carton is pre-folded precisely along the grooves, ensuring a perfect sealing after filling.

Filling area



Piston filler | Multihead weigher | Brine dosing

Filling is done in several stages: Three stages can be chosen and combined. In the first stage, products that can be pumped are filled (5), while the second deals with dry pieces (6). In the third stage, the package is topped up with an infusion that, depending on product, can range from pure water to tomato sauce (7).

Ultrasonic sealing of carton top

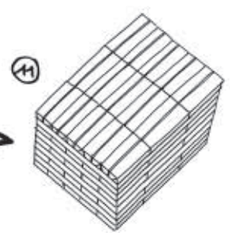
Using ultrasonic equipment, the carton top is folded and sealed above the fill level. Before it is sealed, steam is injected into the carton pack, which reduces to a minimum the head space volume after cooling.

Top-forming station

Hot air is used to heat the polymers at the top triangles and the narrow side of the carton pack. The top triangles are folded down and sealed to the carton.

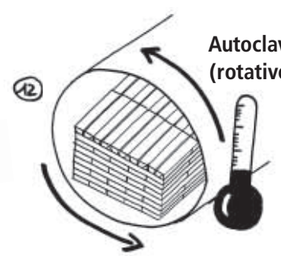
Ejector and discharge station

The carton pack is ejected from the filling machine, placed upright and moved onto the off-conveyor.



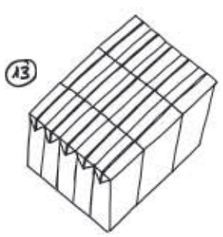
Tray loading device

The packages are lined up and put on the trays.



Autoclaves (rotative or static)

The autoclaves are automatically loaded with trays by the shuttle. Depending on customer demand and product requirements, there can be rotative or static autoclaves.



Tray unloading device and downstream

The trays are moved to the tray unloading device where the single packages are placed on the belt conveyor. The packages are then moved to the traypacker for optional final packaging.

Our food filling portfolio, your options

	Filling machine	Package base area	Opening solutions	Filling machine output (packs / h)
combibloc*Small*	CFA 712 – 32	63 x 40 mm	Standard perforations	12,000
combifit*Small*	CFA 712 – 32	63 x 40 mm	combiSmart	12,000
combibloc*Compact*	CFA 612 – 35 CFA 612 – 36 Food	76 x 47.5 mm	Standard perforations Complete perforation combiSmart	12,000
combibloc*Standard*	CFA 512 – 35 CFA 512 – 36 Food	95 x 63 mm	combiLift combiSwift Standard perforations	12,000
combibloc*Slimline*	CFA 312 – 35	90 x 59 mm	combiLift combiSwift Standard perforations	12,000
combibloc*Midi*	CFA 812 – 35 CFA 812 – 36 Food	72 x 70 mm	combiLift combiSwift Standard perforations	12,000
combibloc*Maxi*	CFA 406 – 32	114 x 74 mm	combiLift combiSwift Standard perforations	6,000
combisafe	CFR 612 – 35	76 x 47.5 mm	Complete perforation	12,000

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For any further questions or comments,
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