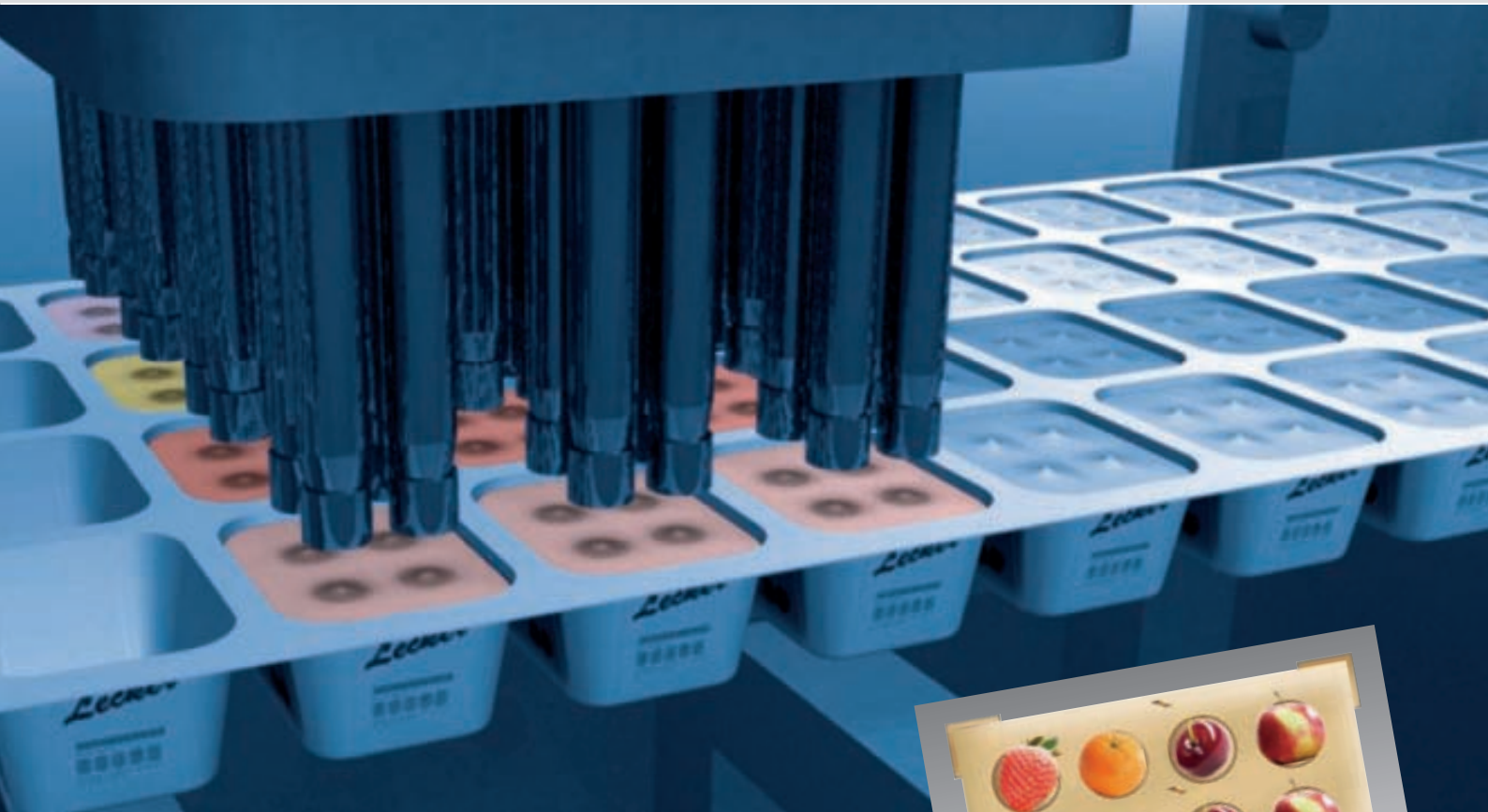


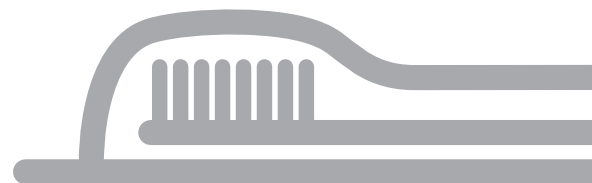


Form, Fill and Seal Lines

FS 48 | FSL 48



New Perspectives for
Excellent Packaging



ILLIG – Superior Technology for

1968 First packaging line with integrated form, fill and seal functions.

1994 First fully aseptic form, fill and seal line for the production of 700 000 yogurt cups daily.

2005 First In-Mold Labeling Technology for form, fill and seal lines (FS).

2011 With new FS 48 and FSL 48 lines ILLIG once again sets a milestone in packaging technology for food products.

The newly designed FS 48 and FSL 48 form, fill and seal lines demonstrate how seriously ILLIG takes customer orientation. The lines are the utmost in food packaging.

Development, design and construction are subject to an essential goal: To produce packs for yogurt, curd, water or bread spreads in such a way that highest demands are met with respect to hygiene, pack design and efficiency.

For more than 60 years ILLIG has been focusing on thermoforming of plastics and finding innovative solutions for the packaging industry. The comprehensive performance range comprises all stages from development through to global after-sales service.



Excellent Products.



Thermoforming
Packaging Technology
Molds and Tools

In the Team to Success

At ILLIG highly motivated technicians, engineers and sales managers meet complex challenges in packaging technology every day.

This dedication has made ILLIG one of the leading companies worldwide in its sector with numerous customers in more than 80 countries.

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Unique Aspects in favor of ILLIG.

Brilliant Decoration for Strong Buying Impulses

Brilliant colors on five sides can be used in pack design. No vertical areas are required for this. There are new, attractive options to make your product a star on the dairy shelf.



Limitless Label Combinations

All label materials can be combined with the cup material – for dominant marketing ideas, e.g. PP labels on PP, PS labels on PS, Paper labels on PP, PS or APET.



4 - 5

Flexibility in Material Processing

A variety of different materials can be processed, such as PP, PS, APET, PLA container materials and numerous compounds (multilayer), thanks to variably controllable heating technology.



Make Your Comparison.



Top Speed in Production

A high working speed is achieved with state-of-the-art high-speed servo motors in conjunction with latest control modules (Motion Control). Subject to material more than 30 cycles per minute are achieved. Short tool conversion time from 250 to 500 gram cups.



Increased Efficiency

The layout of the forming area is suitable for all standard-sized cups. One cycle output each is placed in the crate or in the tray by the end packer without requiring prior re-sorting.



Highest Hygiene Standards

The VD 48 filler is equipped for CIP (Cleaning in Place) and SIP (Sterilization in Place) and thus allows sterile filling – also in conjunction with sterilization of lid material and UV radiation.

All in all FS 48 and FSL 48 lines are unrivaled in terms of flexibility, quality and efficiency.

ILLIG FS 48

Top Performance in Series

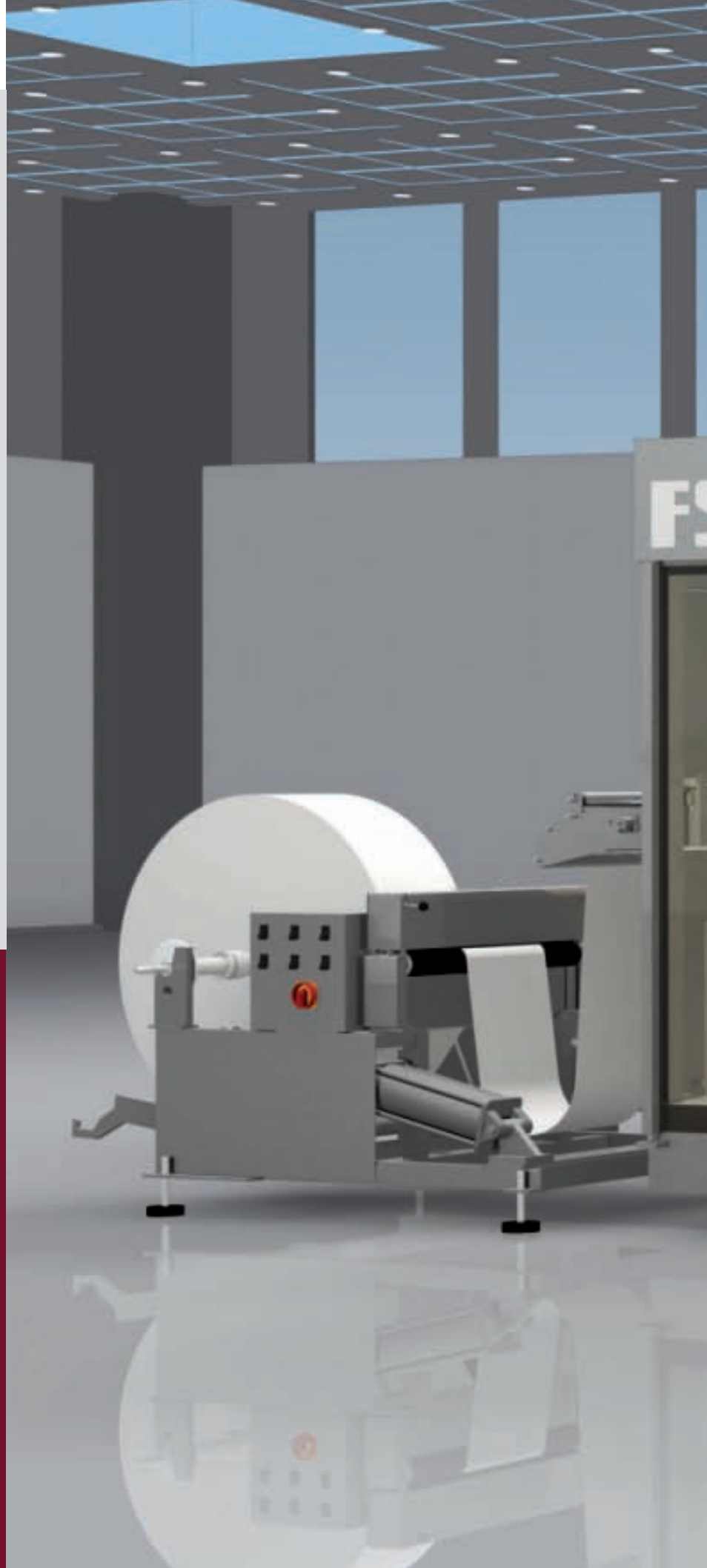
This innovative form, fill and seal line is equipped with an automation level previously unachievable and it features consistent precision in all process phases at the same time.

Geared to utmost efficiency from variable material application through to economical end packing.

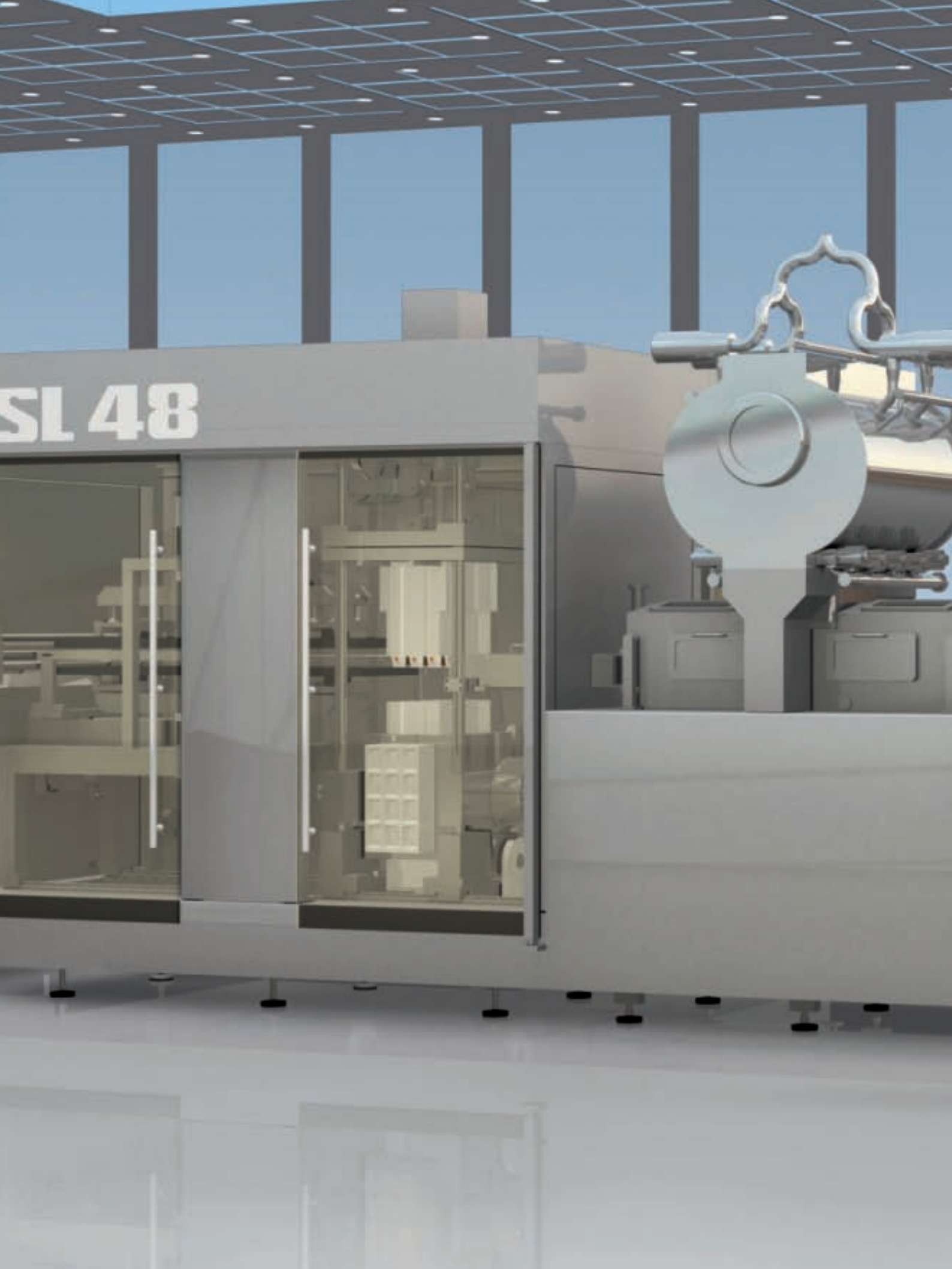


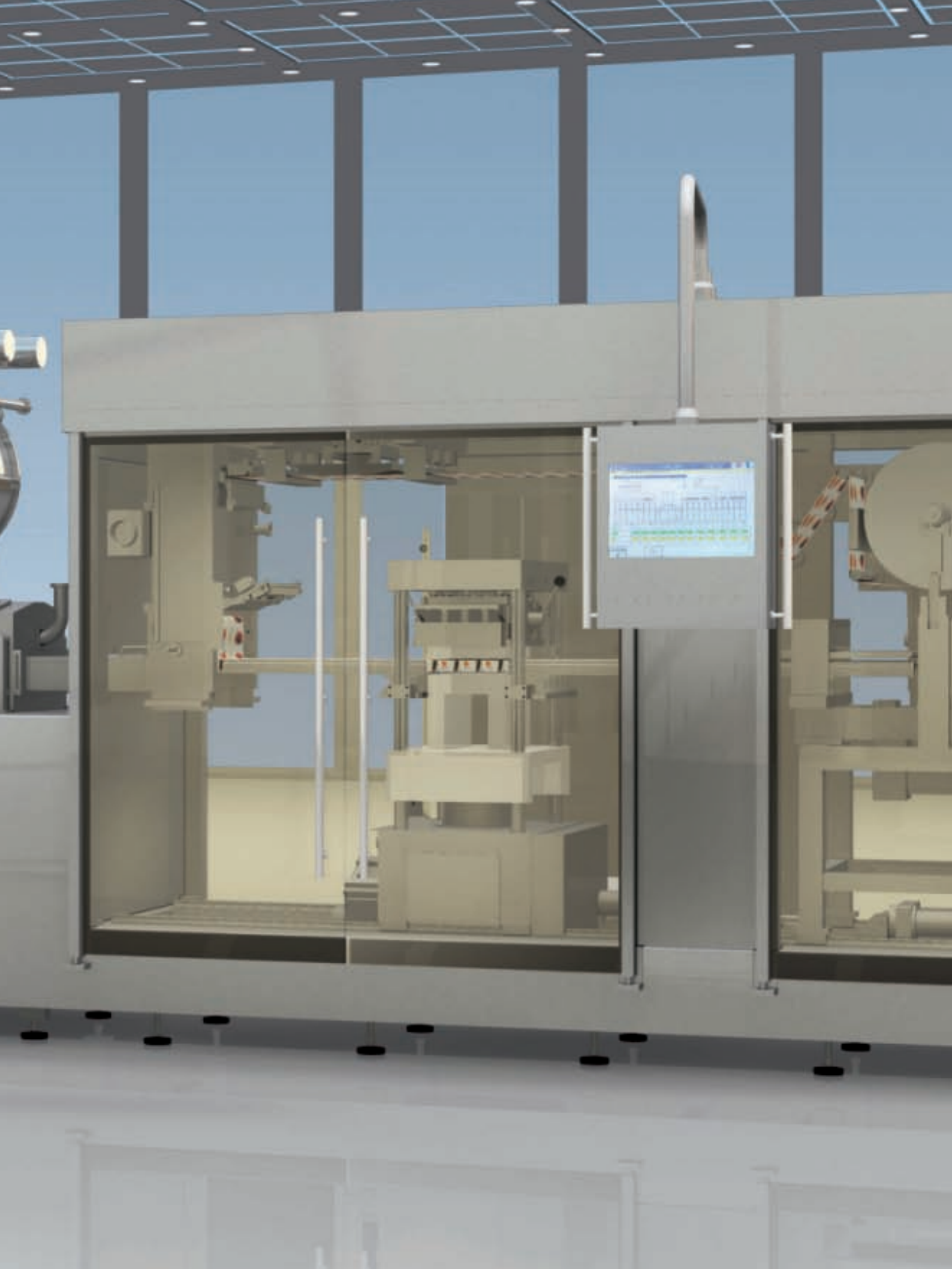
Exemplary

The decision is made in the supermarket in front of the shelf. Here - at the POS – the finals of the „Winning the Consumer’s Favor“ competition take place. Produced on ILLIG lines, high-quality brand products have a better chance to convince with enhanced eye appeal.



SL 48

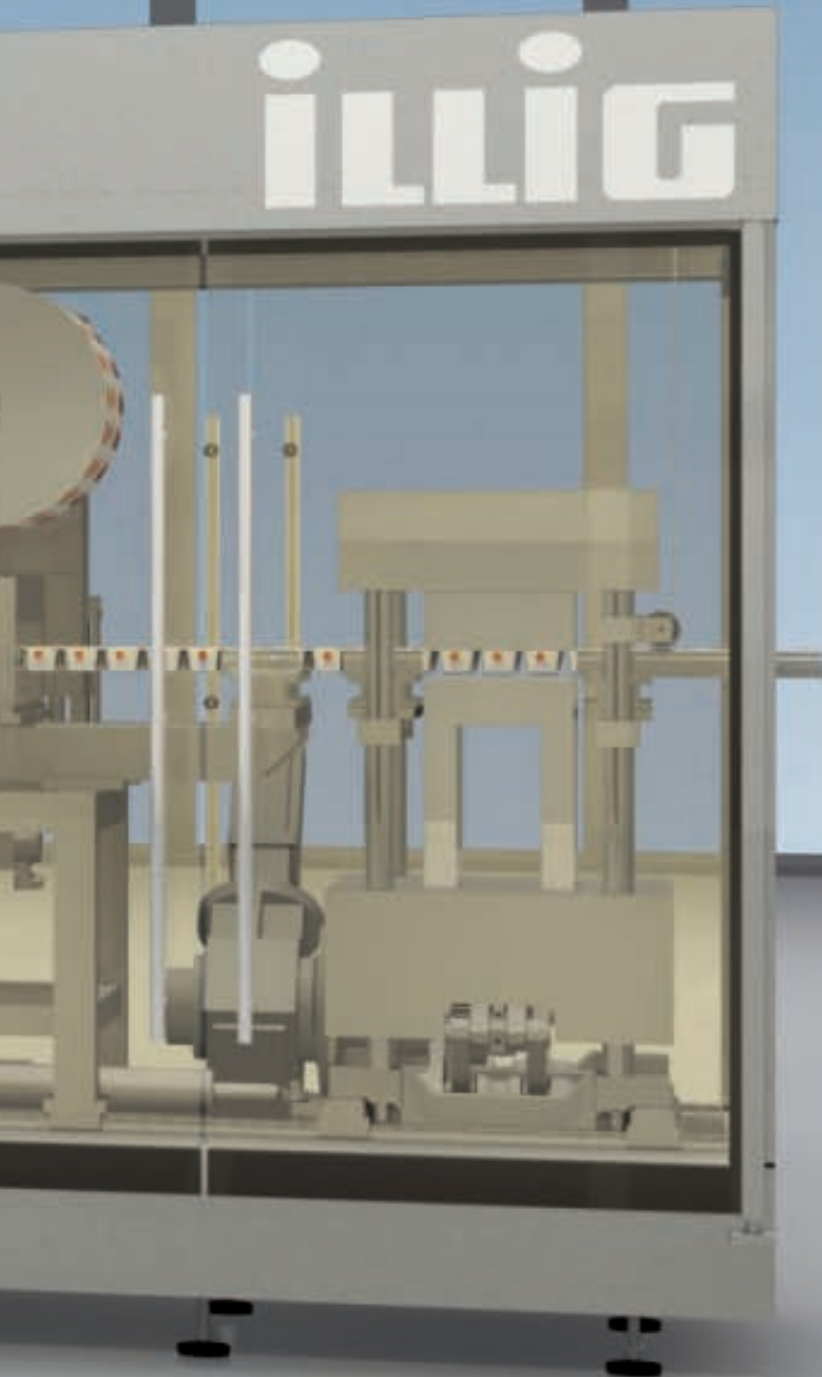




ILLIG FSL 48

Innovation on the World Market
FSL 48 is the modular expansion of FS 48 by adding the IML module (In-Mold Labeling).

This station provides best conditions for outstanding, brilliant decoration. New spaces open up for creativity in pack design - for effective realization on individual products.



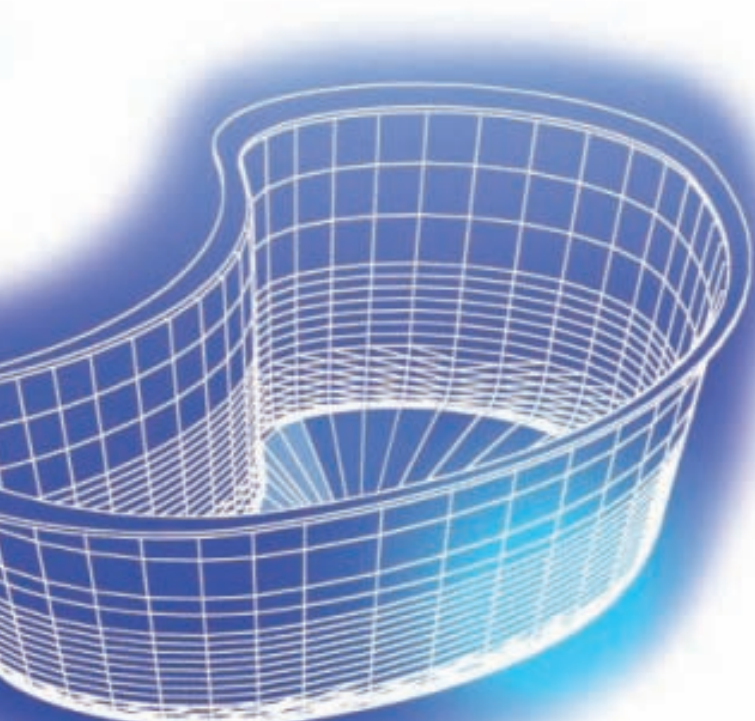
The Pack

It is the intention of every food pack to be appetizing and inviting. Produced on ILLIG's FSL 48, design elements and information in impressive quality can be placed on all five areas of a pack. The pack will be an eye catcher on the shelf and thus further buying impulses.

Efficiency all Along the Line.



10 - 11



Most Materials can be Processed Thanks to Multiple Contact Heating

The heating requirement can be individually controlled thanks to format-milled and Teflon-coated contact heating plates with individual zone control and gradual heating up.

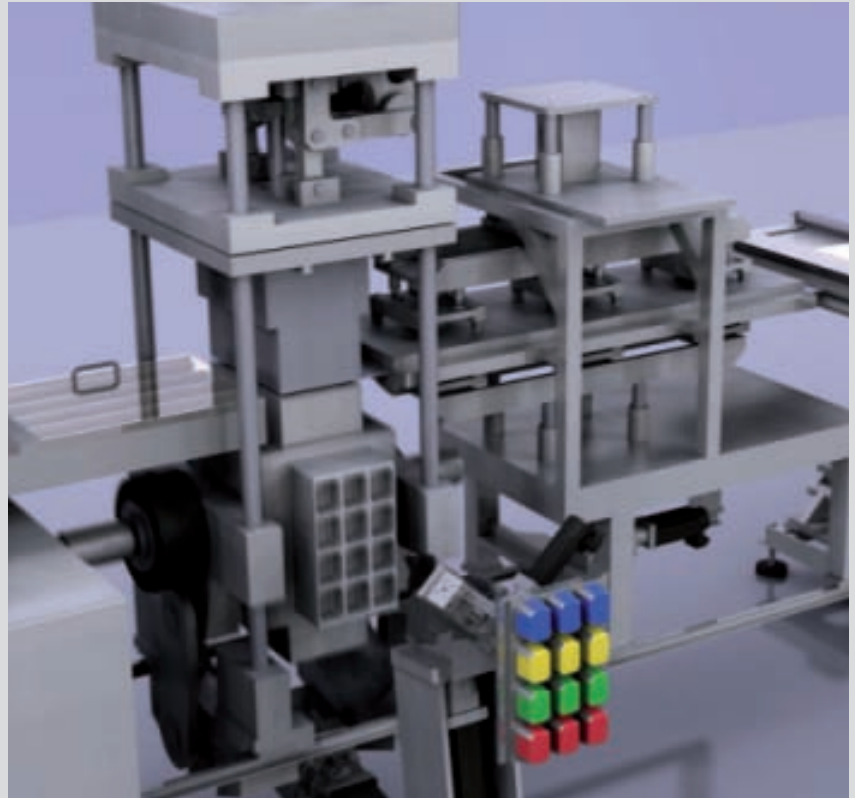
Thus most conventional materials can be processed: PS, PS-multilayer (such as PS/EVOH/PE), PP-multilayer (such as PP/EVOH/PP) as well as APET, even materials made of PLA (polylactic acid) biopolymer. Exact temperature control due to cast-in heating elements. Same conditions apply to lid materials in heat sealing method.

The hinged multiple-zone contact heater is easily accessible for cleaning and maintenance.

Typically ILLIG.

Lines are in demand that work most economically, reliably and with high performance, so fresh yogurt, creamy fruit curd and tasty spreads can be presented in the supermarket in a food-safe way.

ILLIG's FFS lines are designed for maximum format layout and maximum speed always adapted to the product to be packed. The design is sturdy, maintenance-friendly and reliable in production. FS 48 and FSL 48 lines work reliably also in 3-shift operation.



FSL 48 Labeling station with heating.

Servo Motors Featuring High Running Smoothness

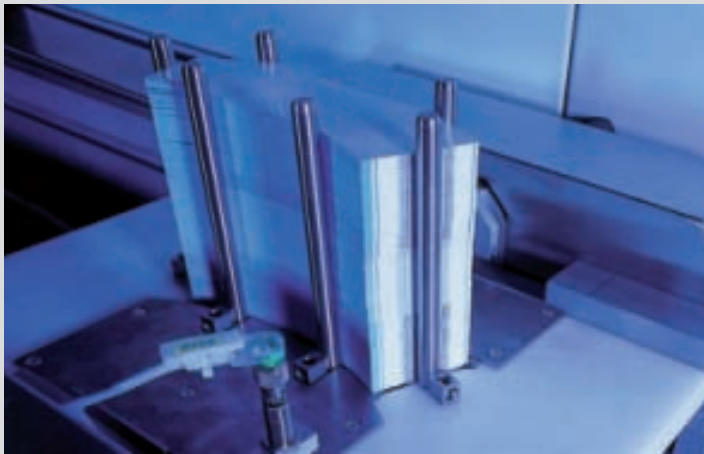
All stations of the process chain are equipped with state-of-the-art, energy-efficient servo motors. The entire motion sequencing is very quiet and happens with maximum working speed at the same time with no product overspilling at all.

Subject to material used, over 30 cycle per minute can be achieved. With optimum format layout and plastic packs adjusted to product, up to 60 000 packs can be produced per hour.

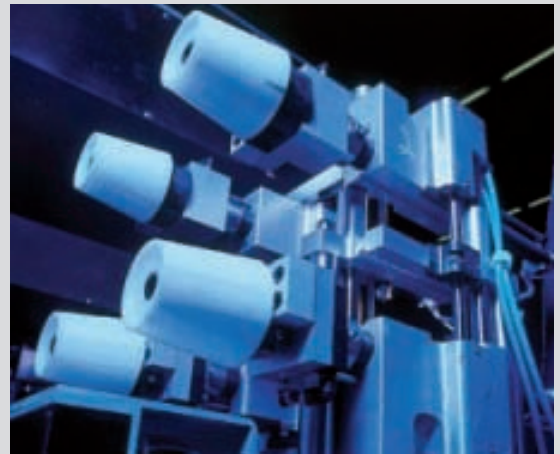
The discharge system can be adjusted to any pack shape: round, oval, rectangular or asymmetrical. The thermoformer's format area of 480 mm x 320 mm (without decoration up to 350 mm) allows a complete cycle output to be placed directly in a box adapted in size to the dimensions of a Euro pallet.

New Scope for Your Ideas. Design

With ILLIG's FLS 48 In-Mold labeling station 1, 2, 3, 4 or 5 areas can be labeled. At the same time up to 8 different flavors can be filled and decorated differently. In contrary to conventional banding no vertical walls are required for this. The IML module for impressive decoration of thermoformed cups works with printed blanks from the magazine. Go-ahead for eye-catching, dynamic marketing ideas.



12 - 13 Processing of pre-punched labels from magazine.



Label transfer into forming tool.



More Options in Label Design

Label materials can be combined with cup materials without effort, e.g. PP labels on PP, PS labels on PS, paper labels on PP, PS (without additional adhesives) or APET.

ILLIG IML System Technology - for impressive appearance of your premium products on the shelves.



Design on Five Areas.



Eye Catcher on the Shelf

Your pack can be designed cost-effectively and variably on 5 sides with great freedom in terms of cup geometry at the same time.

The bar code on the bottom area, for example, makes scanning easier at the checkout and does not have a disturbing effect on the outside areas.

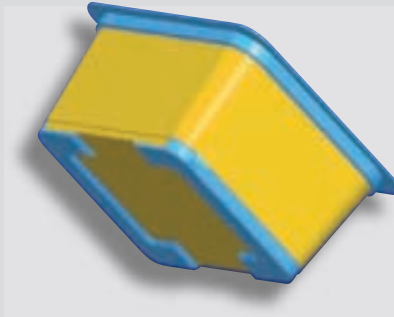
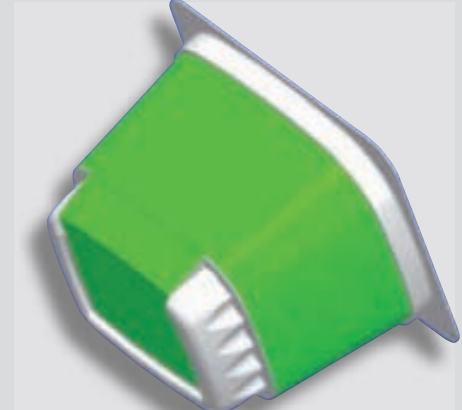


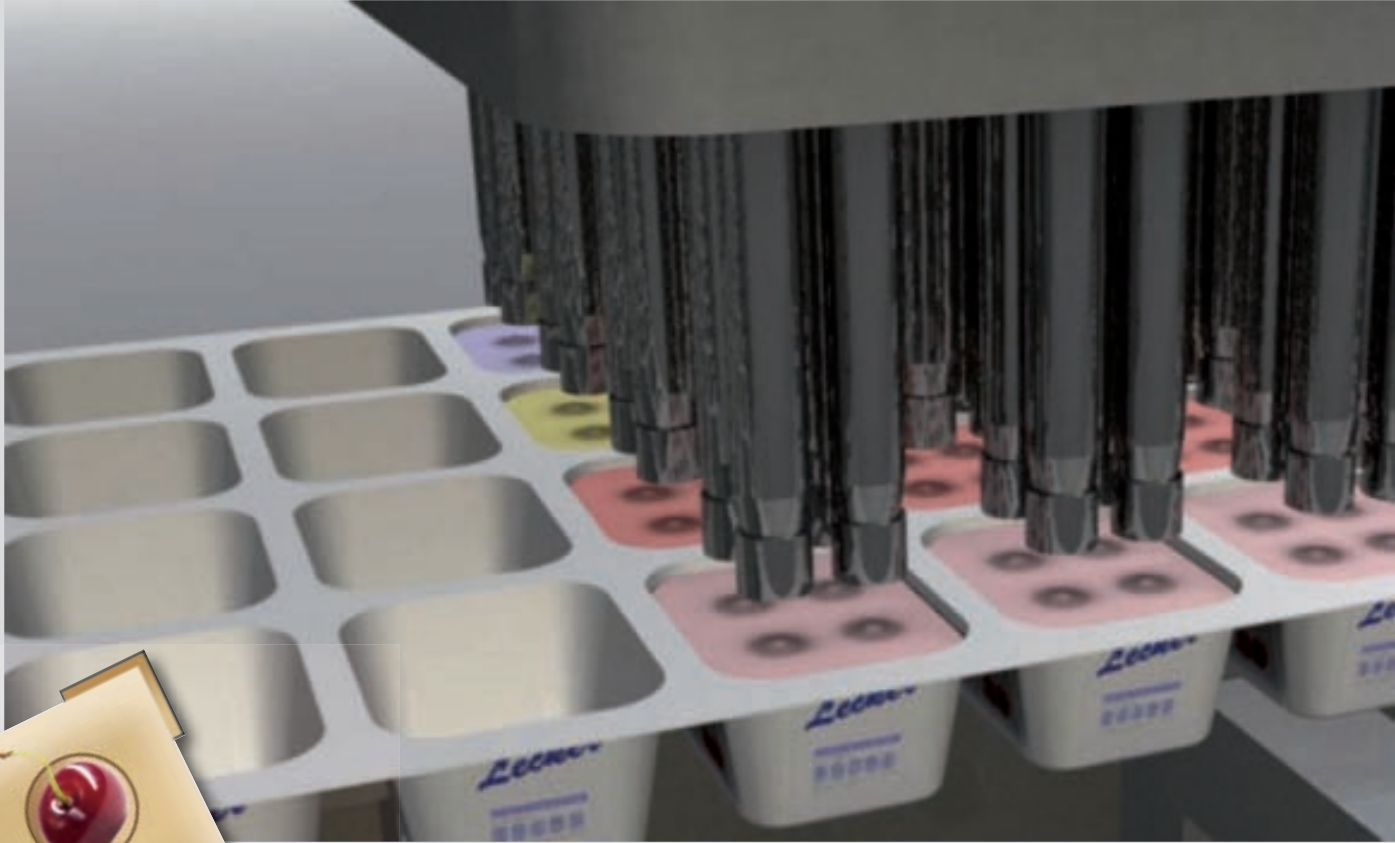
Photo-realistic IML Decoration

It is important to present high-quality products appropriately in terms of optical effects. In this way consumers can recognize right away the content's special quality.

As well known, the more impressive and appetizing the decoration the more likely the consumer will reach for the product. ILLIG IML technology helps to achieve the brilliance required.



Combined Filling in Only One Fo



VD 48 Filling station



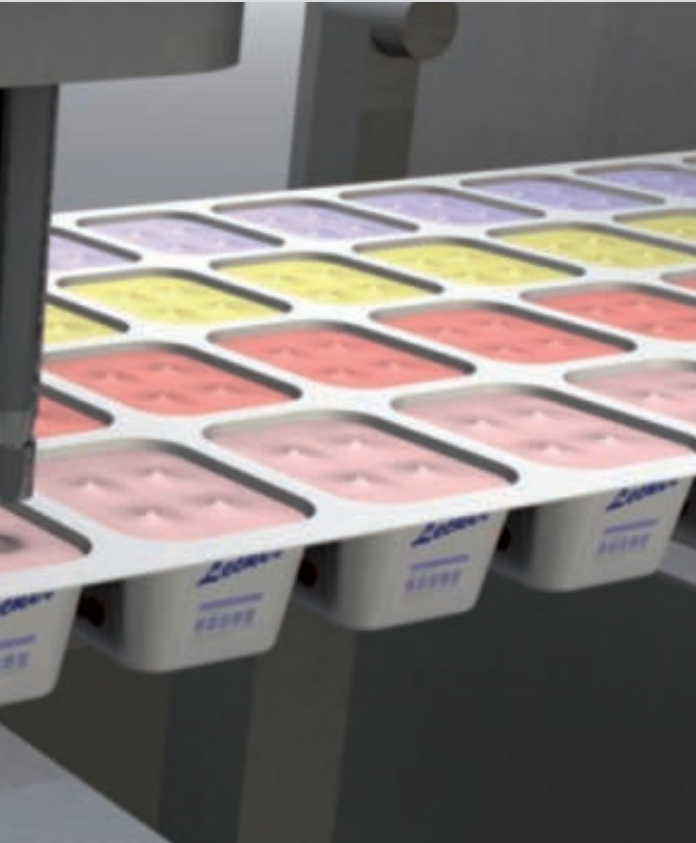
Filling and Labeling according to Fruit Flavor

Different flavors can be filled in one machine format, e.g. strawberry, orange, banana, cherry. This is possible thanks to the variable ILLIG IML system with use of pre-punched labels.

Trade and consumers can find their 4, 6 or 8 favorite flavors at a glance in the crate or box, subject to format layout of ILLIG FSL 48. Manual re-sorting is no longer required.

From the line directly into crate or tray

Format – with Maximum Hygiene.



The ILLIG multi-lane filler sets the standard for form, fill and seal lines: Now, several flavors can be filled in one machine format with same or different labeling. In all production phases utmost hygiene conditions for food packs are ensured.

Different Cup Heights. No Problem

By maintaining punching and sealing dimensions, ILLIG lines produce different cup heights (e.g. 100 g, 250 g or 500 g). Only the drawer equipped with cavities must be changed.



VD 48 Filling station

Sterile Filling

ILLIG lines for filling and packing absolutely meet the standards up to hygiene class IV according to VDMA.

FS 48 and FSL 48 are equipped for CIP (Cleaning in Place) and SIP (Sterilization in Place). Equipped with this technology they are most suitable for sterile food filling.

The hygiene levels of the line range from forming with sterile air, complete covering of filling ranges (also available in CIP/SIP) through to lid material sterilization by UV radiation. The machine is connected to a special module for generation of sterile air and hot steam for peroxide spraying of the filling tunnel.

From Operation through to Pick

Forming, filling, punching and sealing – complex sequencing within the machine in terms of technical control. ILLIG makes it easy for the operator to follow every process from a central position and control it. He can master the whole production at any time without having to walk long distances.

Controlled Quality

For process optimization all variable parameters of the machine are clearly displayed to the operator on the monitor. Diagnostic aid and monitoring of limiting values facilitate process settings and considerably contribute to quality assurance. The result is obvious: Maximum line availability by minimization of operating mistakes with high productivity at the same time and uncompromisingly reproducible production parameters.

16 - 17

Intelligent Control Electronics

The user interface for central operation makes line control easy and effective throughout all processes.

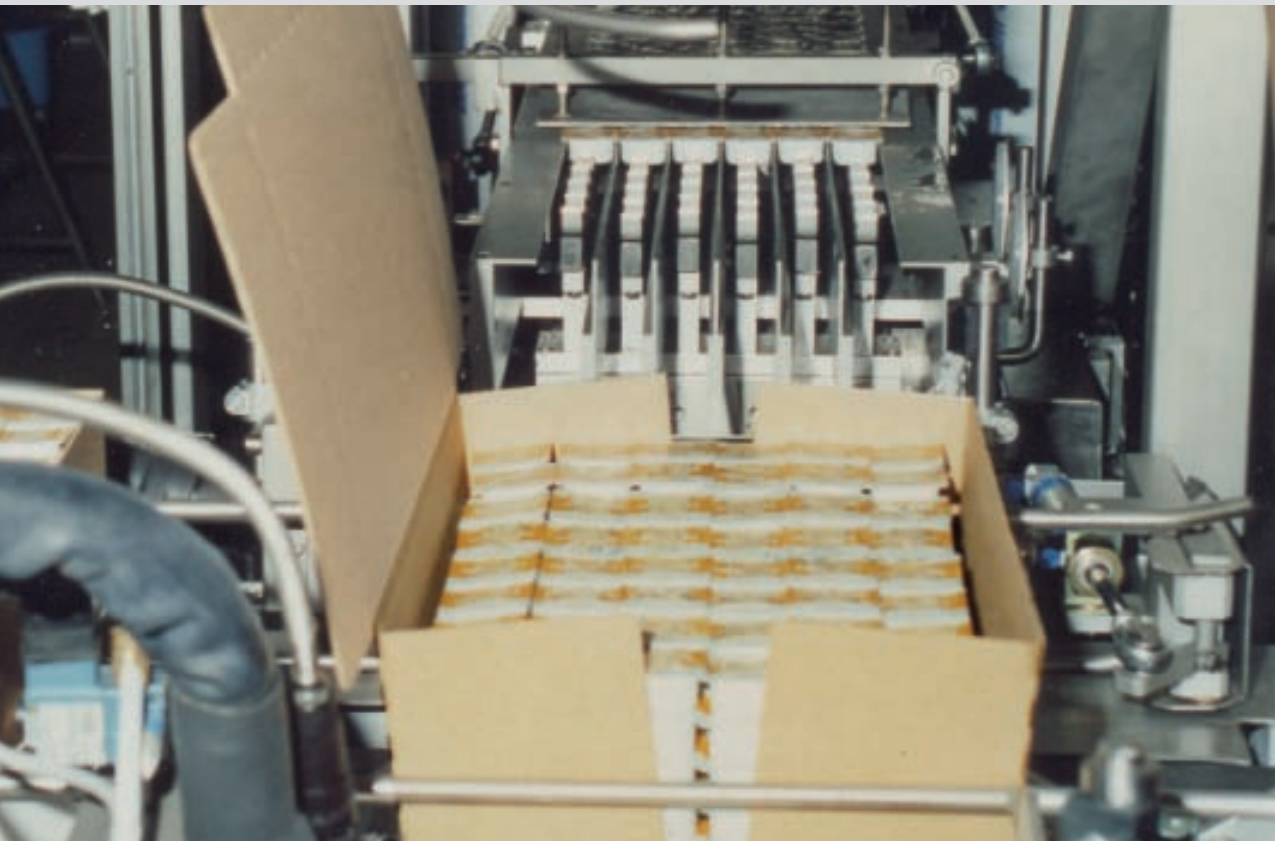


and Place. Everything Runs Smoothly.

The machine format of ILLIG form, fill and seal lines is suitable for standardized crates, trays and Euro pallets. One cycle output each (e.g. 12 packs) gets from the end packer into the available means of transportation. Thus, additional re-sorting motions by the robot are not required. This is a cost advantage in the Pick and Place method.

Customer-specific solutions are optimally adjusted to the lines and ensure absolutely gentle handling with best possible transportation protection – so your products will reach the markets in perfect condition.

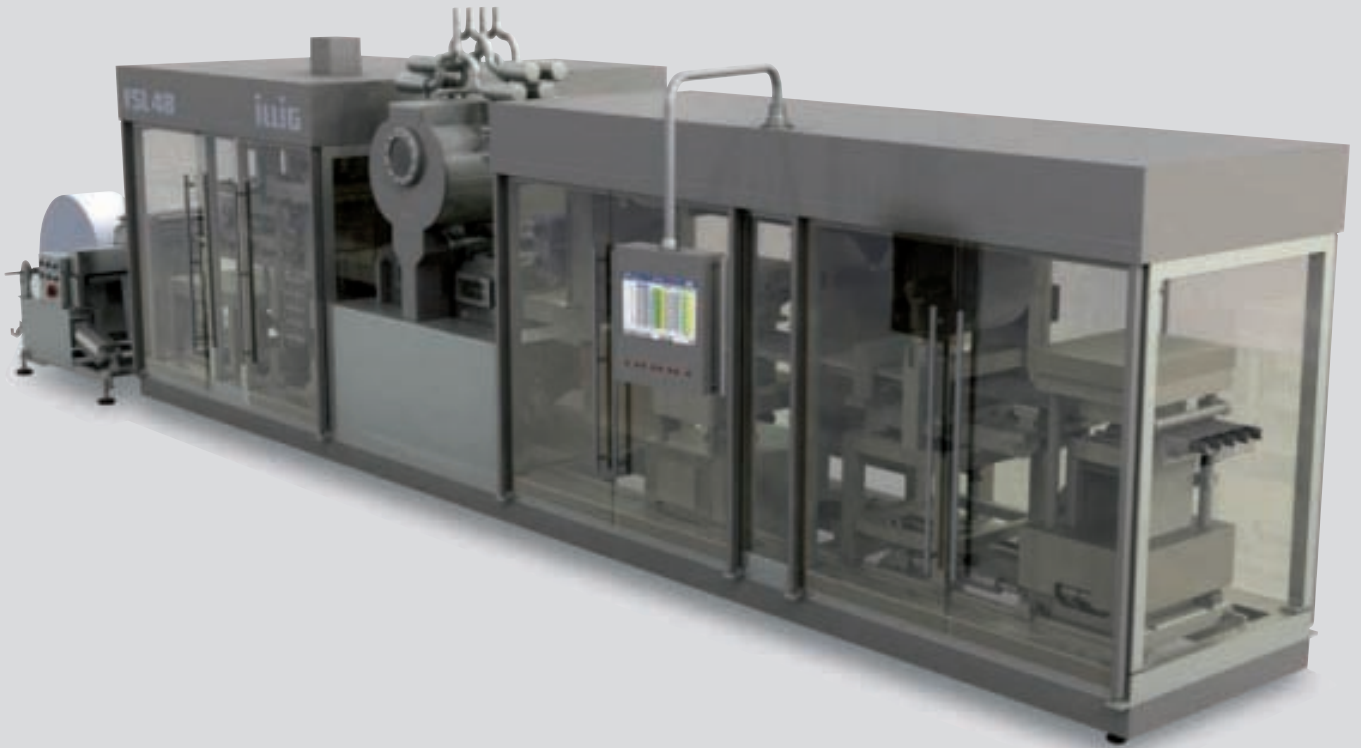
Goal achieved. The appetizing, fresh dairy product has arrived.



End Packing without Re-sorting
Fast, economical and gentle, these are characteristics of ILLIG end packing machines.

(Example ILLIG FS 48)

Setting the Standard in Technology and Performance



18 - 19

FS 48/FSL 48 Form, fill and seal lines

for forming areas up to 480 x 330 mm

Applications

Material width	mm	max.	480
Index length	mm	max.	350
	with IML	max.	330
Depth of draw	mm	max.	100
Production cycles with reference material PS 0.8 mm and depth of draw 450 ms	min-1		30

	FS 48	FSL 48
Packs, rectangular or round, made of PS, PP, APET, PLA or compounds with aluminum lid material, plastics or compounds	✓	✓
For curd	✓	✓
For yogurt	✓	✓
For desserts	✓	✓
For fruit mush	✓	✓
For soft cheese	✓	✓
For liquid products	✓	✓
For portion packs	✓	
For other food products	✓	✓

ILLIG Tool Technology – Your Individual Success System



Like ILLIG, whoever has the competence to realize revolutionary machine technology, also has best conditions for developing corresponding tools. When we launch new machine concepts we also offer suitable forming and punching tools that have been tested on original machines – customized for your individual requirements, developed and manufactured at ILLIG.

Your Benefits:

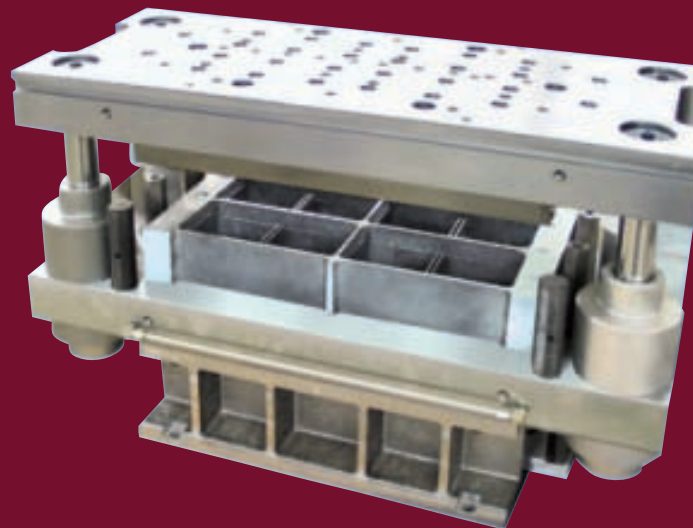
- Optimal processing quality: Through unique technical details
- Efficient and safe operation: Through minimum downtimes, less time spent on maintenance and long service life
- Future-proof: Through unique performance data



ILLIG – Everything Matches

Our system solutions guarantee simple and quick integration in most diverse production lines.

Even incorporation in highly complex overall systems, interlinked from material manufacturing through to completed, decorated cup, is a routine task for us which we successfully manage on a daily basis.





ILLIG-Systems for Thermoforming and Packaging Technology

- Sheet processing machines
- Automatic roll-fed thermoformers for forming/punching tools
- Automatic roll-fed thermoformers separate forming and punching
- Skin- and blister packaging machines
- Form-, fill and seal lines
- Produced Tooling

Tradition forms future



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