Acmi | Omnia Technologies
Enabling Evolution

FORMFILLSEAL

Packaging machines for the food and dairy industries

The safe, high performance, flexible solution for thermoforming, filling, sealing and decorating beverage, food and dairy containers.

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Packaging machines for the food and dairy industries

THE SAFE, HIGH PERFORMANCE, FLEXIBLE SOLUTION FOR THERMOFORMING, FILLING, SEALING AND DECORATING BEVERAGE, FOOD AND DAIRY CONTAINERS.

UNRIVALLED SAFETY AND VERSATILITY

The form-fill-seal line merges thermoforming, filling and labeling, all in a single solution.
With an extensive machine pool installed worldwide, this solution sets the market standard in terms of:

- high **performance** (from 6.000 to 100.000 containers per hour)
- excellent **configurability** (fast changeover/double reel, hygienic and/or aseptic configuration)
- **user-friendliness** and **easy maintenance**
- an aseptic high performance solution with low chemical consumption

THE MOST VERSATILE ON THE MARKET

This solution is suitable for **all commercially available resins**, such as PS, PP and PET.

- **Multi-layer roll** suitable for premium products and/or aseptic products with a long shelf life (for instance barriered PS or barriered PP)
- Suitable for **hot filling** (PP)
- **High transparency** (PET) for soft drinks
- **Biodegradable materials** (i.e. corn, wheat, sugar beet), suitable for deep-freezing.

A BROAD RANGE OF PRODUCTS AND RESINS

An **ultra-wide application range** covering the food, dairy and beverage sectors

PRODUCT EXAMPLES:

Food

- Soup with chunks
- Baby food
- Ketchup
- Margarine
- Mayonnaise
- Fruit puree
- Dessert
- Honey
- Tomato sauce
- Jam
- Sauces
- Caramel on top/bottom
- Butter

Dairy

- Creamer (UHT milk)
- Tvorog
- Dahi or Curd
- Yoghurt (set)
- Yoghurt (stirred)
- Yoghurt with pre-mixed fruit pieces
- Quark
- Cheese
- Milk
- Pudding
- Chocolate (cream)
- Butter

Beverage

- Juice (clear)
- Juice (with pulp)
- Tea
- Water (still only)

FORMFILLSEAL

Total «in-line» process

HEATING AND THERMOFORMING (WITH BRUSHLESS SERVOMOTORS)

Max **5 minutes for mold changeovers** using trolley

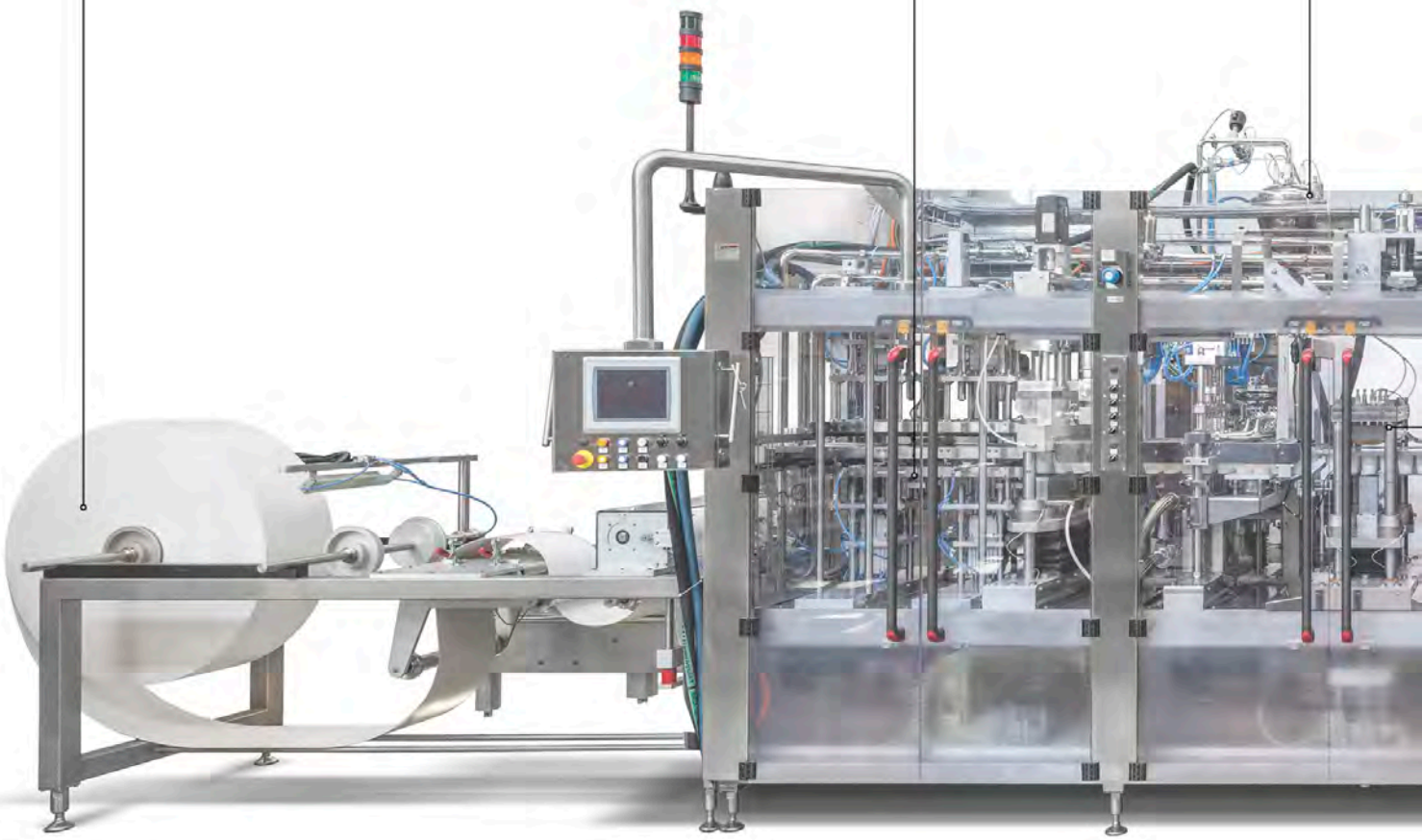
Energy and cost savings (zero downtimes, lower compressed air consumption)

Flexible **mold shape**

FILM UNWINDING

Reel and sensors, double reel unwinder to aid **quick changeovers**

Flexibility/easy maintenance



FILLING

Manufacturers can fill at the same time **2 products with different characteristics** thanks to the double filling unit

Outstanding **hygiene** (all units designed for CIP)

Just-in-time fruit injection (fruit can be dosed directly
in the machine, without using external tanks)

Mass or magnetic flowmeter, recommended respectively for:

- **syrups, milk** and **dairy products**
- **liquid products** with electrical conductivity higher than 20 microS/cm (**water, juices**)

Wide range of **filling valves** (membrane, rotative, shutter), suitable for all product characteristics

SEALING

Broad range of **lid materials** (Alu, Alu-PET, plastic multilayer, paper multilayer with plastic or aluminum)

Peelable or sealable lids that match product use

Low maintenance/energy consumption

CUTTING (FOR SINGLE SERVE UNITS OR MULTIPACK)

Flexible **cup layout**

No intermediate scrap

Material consumption savings

Hygienic

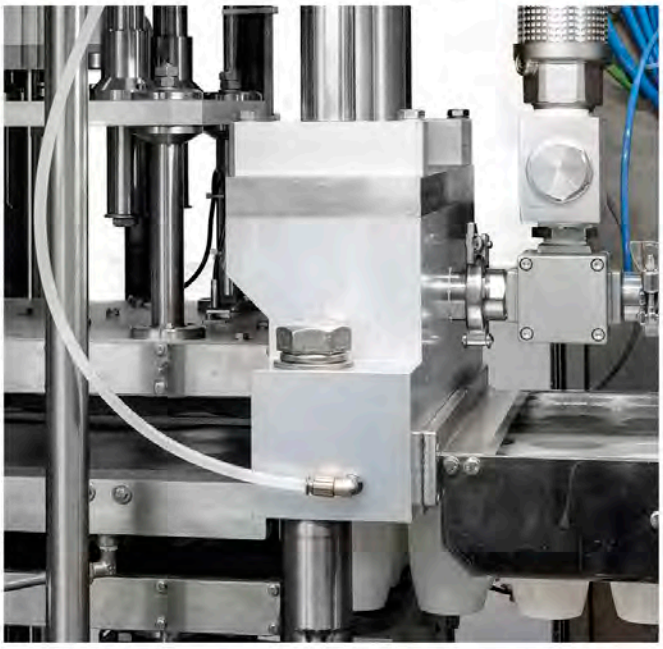
SUITABLE FOR PREMIUM PRODUCTS WITH A LONG SHELF LIFE

ACMI FFS is an up-to-standard solution for managing premium product lines, preserving their quality and maximizing their shelf life.

In the hygienic configuration, ultra-filtered air inside the tunnel helps preserve both container and product from any external contamination.

SPECIFICATIONS

- The tunnel, with **pressurized sterile air** that closes on the plastic film, never comes into contact with the product, thus **protecting both container and product** from the external environment
- The lid material is sanitized using **UV lamps** (optional) that kill any bacteria, thus **reducing contamination**



Extended Shelf Life

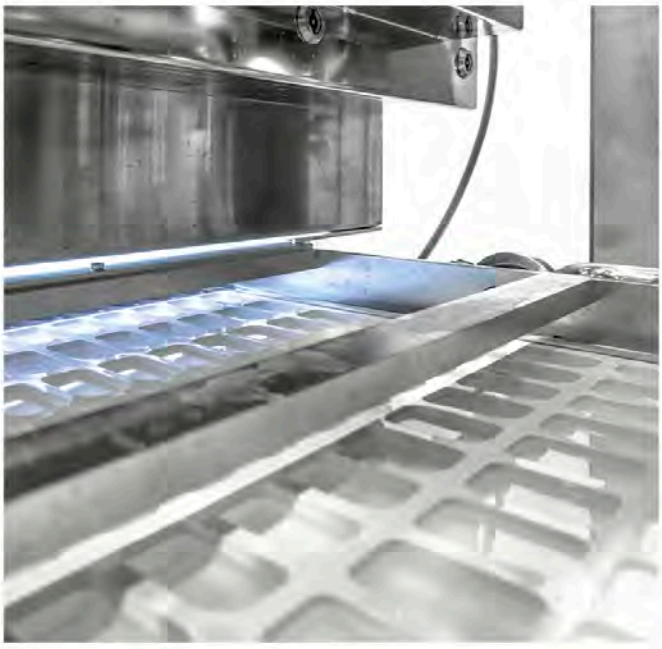
ESL (EXTENDED SHELF LIFE)

ESL configuration is the step forward to **maximize the shelf life of the product**, minimizing the risk of external contamination and consequent risks of loss of quality during the entire life-cycle of premium product.

In this case, the machine is equipped with **closed tunnel with full-sterile pressurized air**, as far as the tank.

SPECIFICATIONS

- Both **tunnel** and **tank** are **pressurized** with sterile air
- The lid material is sanitized with **UV lamps**
- Total hygiene is ensured by **steam treatment** of filters and piping
- Sterilization of all **sterilized air** piping
- All air **filters** are steam-sterilized



Full aseptic configuration

The full-aseptic configuration is **the ultimate solution** to eliminate, any risk of contamination by external agents, bacteria, etc. Let's see how it works and what are the main advantages.

PROCESS

Integral part of the packaging line

- Machine **pre-sterilization** carried out in 2 different stages programmed in sequence (water steam sterilization cycle, H_2O_2 sterilization cycle)
- **H_2O_2 vapor exhaust system** protects the **packaging environment from contamination** by conveying the vapor coming from the sterilization system outside the filling room via a discharge port
- All mechanical drives inside the aseptic tunnel are **protected by a steam barrier**
- End-of-production **cleaning** (CIP)

BENEFITS

The aseptic unit consists of valves, filters, special circuits and devices and runs the machine pre-sterilization sequences and cycles before production and during operation.

- Continuous production of **up to 48 hours** under aseptic conditions
- Sterile machine conditions are **permanently controlled**
- **Packaging materials** (cup and lid) are continuously sterilized during the machine production cycle
- H_2O_2 tanks designed for **continuous sterilization** by immersion of forming and lidding materials, continuously **recirculated** and measured according to **film width** to ensure contact with all surfaces
- **No contamination** thanks to **completely separated steam sterilization and hydrogen peroxide vapor circuits**
- H_2O_2 residue is removed by mechanical squeezers, aseptic air blowers and infrared lamps

In-Mold Labelling (IML)

With in-mold labeling systems (IML) using paper labels, the roll-fed labeling process is seamlessly integrated directly into the forming machine, creating a fully automated and highly efficient production flow. During this transformation phase, the label becomes an integral part of the container itself, as the decoration and forming processes occur simultaneously. The paper label is applied inside the mold and perfectly fused with the container's surface as the material takes shape under heat and pressure.

This innovative method allows a **high degree of personalization** and visual quality, ensuring that the final product features a smooth, durable, and premium finish without the need for additional labeling steps. The IML system is particularly well-suited for containers with vertical or slightly tapered walls, where precision in alignment and adhesion are essential to maintain aesthetic consistency.

BENEFITS

Among its main advantages are the **significant reduction in decoration costs** compared to traditional post-molding labeling systems, as well as the possibility to use the **same container shape and size for different brands** or product lines simply by changing the printed label design.

This flexibility makes it an ideal solution for companies aiming to optimize production efficiency, streamline logistics, and enhance their product's shelf appeal through consistent, high-quality decoration.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