



Innovative solutions for flexible packaging

in the food and beverage industry



a coesia company



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Why is flexible packaging unique?



Let's get started: What is flexible packaging?

Flexible packaging on the other hand, is literally flexible. It is defined as, "capable of bending easily without breaking" so you can bend it, fold it, and shape it. This includes pouches and bags used for a variety of products, including juice pouches, chip bags, pouches of granola and protein bar wrappers.

Stand-up pouch a.k.a. Doypack

Stand-up pouch, is a type of flexible packaging which is able to stand erect on its bottom for display, storage, and use.

Nowadays, stand-up pouch technology has evolved to the point at which it is almost possible to cover all market demands (shapes, double pockets, pouring stoppers, straws, valves, zippers, lasers, etc.).

Is there any other packaging used for such a wide range of products?



Benefits of Flexible Packaging for Food

1 Convenience and ease of use.

Flexible packaging is lightweight as well as easy to open, carry, store and reseal with features like zip locks and spouts. The convenience factor makes food products more attractive to consumers, which translates to greater sales opportunities for brands.

3 Extended shelf life.

Flexible packaging extends the shelf life of many food products, because it leverages materials capable of maintaining appropriate temperatures and controlling the transmission of oxygen, carbon dioxide, ethylene and water vapors.

2 Environmental friendliness.

Flexible packaging requires less energy to manufacture and transport, and it generates smaller quantities of carbon footprint. Recyclability and sustainability of today's flexible packaging materials (such as paper, mono-material plastics, etc.) can boost product appeal to consumers, who prefer buying from companies that take steps to reduce their environmental impact and ecological footprint.

4 Visibility and functionality for brands.

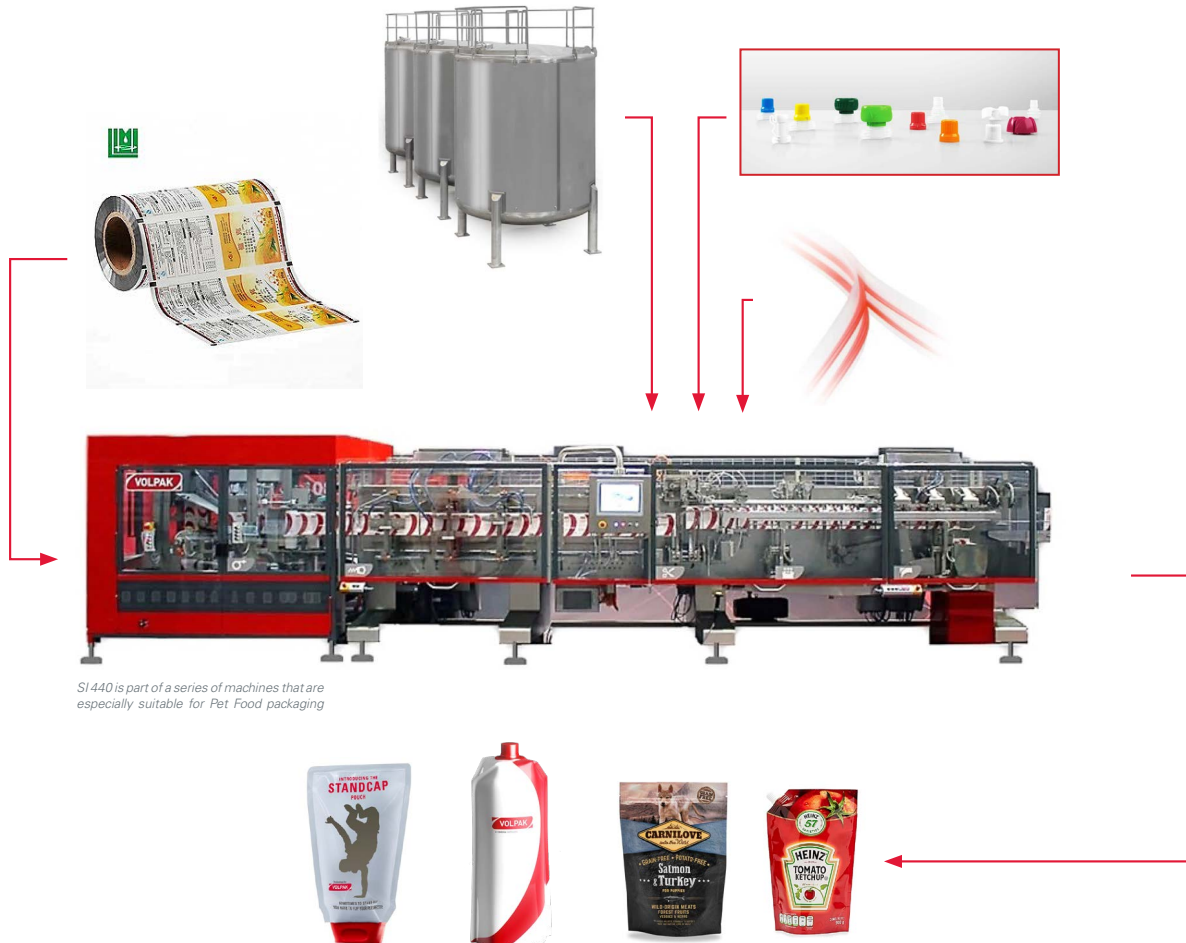
Flexible packaging provides an opportunity for brands to maximize shelf appeal, make their products more visible and employ creative presentation and marketing options.



What does HFFS technology stand for?

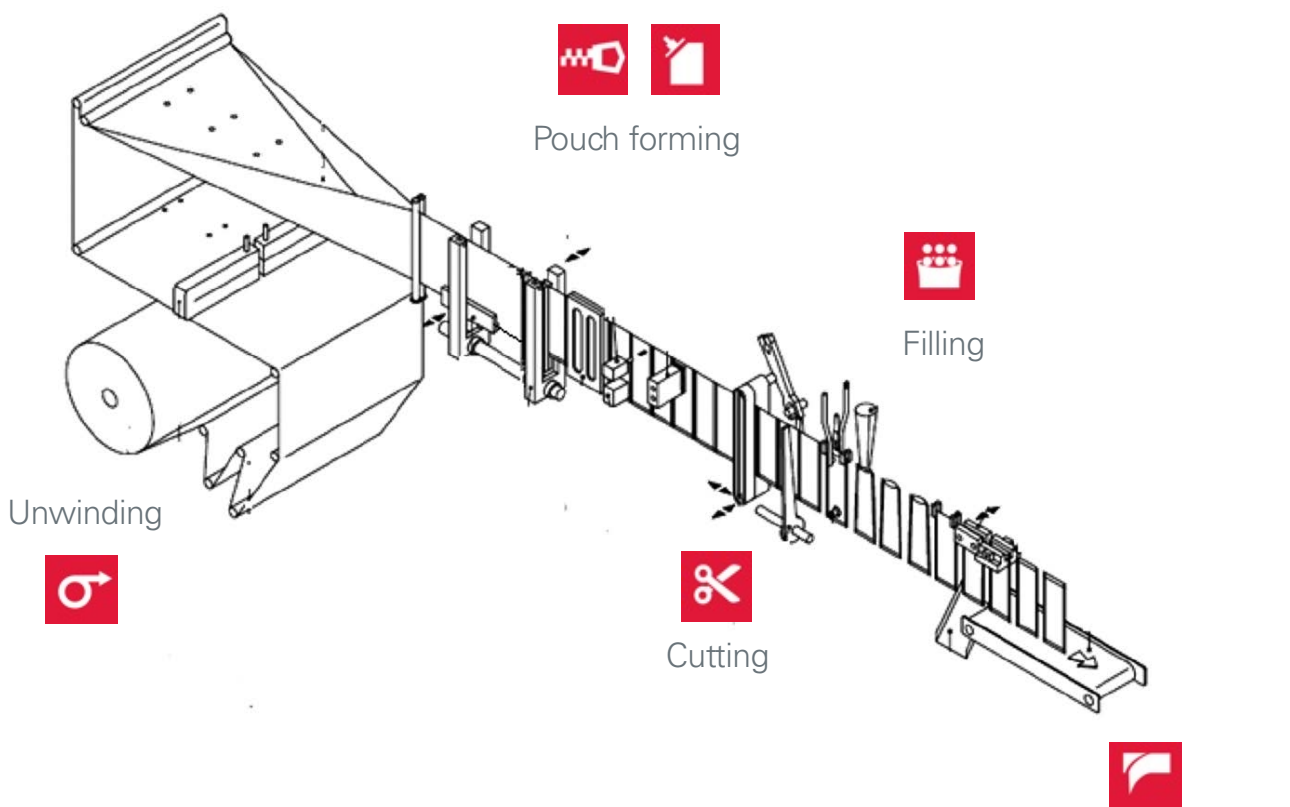
Horizontal Form-Fill-Seal is a piece of equipment that both produces a pouch from a film reel and fills it in the same operation. The film travels through the machine in an horizontal direction, which gives the machine the “horizontal” description. This process encompasses all areas of pouch manufacturing: from film unwinding, pouch forming, filling and sealing.

Furthermore, it is possible to incorporate a wide range of closures and finishes to the pouches.





What does HFFS technology stand for?



1. Optimizes total cost of ownership.
2. More production flexibility (size & shape change).
3. Complete accessibility to working stations (all mechanics & electrics).
4. Control of operation end-to-end.
5. Easy to clean.
6. Easy maintenance due to the accessibility to all machine components.

Beverage on the go!

(Liquid products ready to be consumed anytime, anywhere)



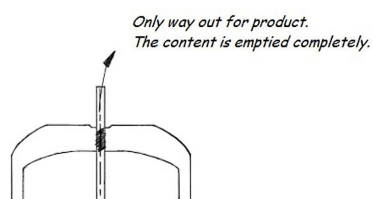
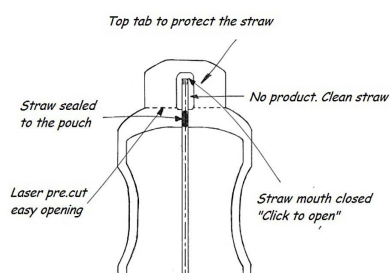
Flexible packaging is lightweight thus providing easy portability to the consumer. In addition, thanks to the possibility of adding multiple closures (such as a cap or spout), the pouch can be re-closed without any leaking risk.

This is the right combination of safety and convenience that will position your product on top of consumers mind.



The ideal flexible pouch for beverages :

- Easy to open
- Handy
- Attractive
- Hygienic: put a safe, clean straw into your mouth
- Playful package
- Ideal for drinking at any moment and any place
- Drink down to the last drop





Beverage on the go!

Volpak, specialist in flexible packaging, brings you know-how in the beverage industry:



- 100 machines sold for beverages world wide.
- From hot fill installations to aseptic machines.
- **1994**
Volpak patent for the straw in the pouch solution.
- **2009**
DUO pouch born for beverages.
- **2011**
Aseptic stand up pouch with valve top cap for beverages and liquid tea.
- Brickpouch for orange juice.



Sauces and dressings welcome flexible packaging!

The ideal flexible pouch for sauces & dressings:

- Allows multiple closing applications such as top cap, front cap, corner cap.
- Ideal for shaped packaging, improved consumption and product utilization, but also for a better brand image.
- Easy storage due to its light weight and reduced volume.



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Let us share with you our experience in flexible packaging for sauces and condiments:

- Over 500 machines sold in this market segment with Strong References in key market players.
- Fastest Machine in the market SC+ / SC+ Premade.
- Specialists in multiple cap type applications.
- Flow meters, magnetic & masic for non-conductive products with automatic CIP.
- Specific filling nozzles for liquids with particles or chunks.



Fruit compote, for the youngest (and not so young) ones.

Compotes are no longer a product devoted to the youngest ones in the house. Adult consumption habits are more focused on health, and compote is an ideal way to use fruit as a snack. This “on-the-go” use means that the compote packaging needs to be upgraded, lighter (to allow for portability) and re-closable.



- Hot fill project with highest standards of hygiene to prevent product (oxidation).
- Periodic machine reviews, agreed re-designs for continuous improvement.
- Highest efficiency line >97% line efficiency.
- Strong References in key market players.
- Hot filling technology (filling technology performed with the hot product).
- Experience in all kinds of spouts (top spout & corner spout).
- Expert in Retort product execution.
- Complete accessibility to all working stations, mechanics and electrics.



The new golden age of Dairy

The pandemic, along with climate change, is radically reshaping consumer habits. Today's consumers often prioritize their health and well-being when faced with a purchasing decision. Dairy is the sector that has seen the greatest change. The use of yogurts and vegetable based products has significantly increased. And so have the multiple formats and packaging. Increasing the shelf life of its health properties is a major challenge, and hygienic packaging is therefore a critical point in the product preservation chain.



HFSS machine ULTRACLEAN

- Volpak develops the Hygienic product line for Food products, beverage, dairy and some dressing
- Clean machine design, Wash down, cleaning of caps and film with UV or Peroxyde to grant log3 reduction
- Machines for 100 ppm and 200ppm

Volpak has installed more than a hundred machines for dairy, yogurts, desserts and creams.



Hygienic packaging: extend shelf life of your products

Aseptic packaging is aimed for products with a long shelf life expectation at ambient temperature. If the shelf life of the product is short, it can be extended by maintaining the cold chain during storage and transport, as well as by hygienic packaging or heat-treated packaging (retort).

	Pasteurised	ESL (UP)	Retort	Aseptic High Acid	Aseptic Low Acid
Heat Treatment	72°C 15 sec	89°C < 2 sec	121°C 20 - 40 min	90°C 15 - 30 sec	138°C 2 sec
Shelf Life	30 days Chilled	< 20 days ambient or < 90 days chilled	24 months ambient	6+ months ambient	< 6 months ambient
Taste	Fresh	Fresh	Cooked, high loss of flavor	Fresh	Slightly cooked
Nutritional affect	No destruction of nutrients	Minimal nutrient loss	High nutrient loss	No destruction of nutrients	From 6 to 10 months
Advantages	Better taste, higher nutritional value	Wider distribution	Wider distribution, longer shelf life	Wider distribution, longer shelf life	Ambient distribution

Volpak is Ready to bring Sustainability to the packaging industry

Scenario:

- Retailer making commitments for their private label (owned) packaging.
- Retailers also putting pressure on brand owners to improve their packaging.
- Targets include recyclability, composability and PCR content.
- Also pledging to facilitate collection and recycling systems.



EU Strategy for
Plastics in a
Circular Economy



TESCO



coop



M&S
MARKS & SPENCER

Flexible packaging makes the difference

	FOSSIL FUEL USAGE (MJ-EQUIVALENT) '000	GREENHOUSE GAS EMISSION (KG-CO ₂ EQUIVALENT) '000	WATER USAGE (LITERS) '000	PRODUCT TO PACKAGE (WEIGHT PERCENTAGE)	TRANSPORT (EMPTY UNITS PER TONNE) '000
FLEXIBLE PACKAGING	89	5	12	3%	204
COMPOSITE CARTON	95	6	72	4%	108
ALUMINIUM CAN	276	27	92	5%	109
GLASS BOTTLE	327	26	210	35%	6



Hygienic Machine Design

- All stainless steel construction
- 100% Wash-Down
- Self-draining surfaces

Sanitary Filler

- Flowmeter Dosing
- Automatic CIP & SIP
- 3A Components

Packaging Material

- Pouch Laminate Disinfection
- Cap Fitment Disinfection

Keep It Clean

- HEPA Filter Laminar Flow
- Overpressure on Cap Feeding



Tomato paste – Following the trend of mayo and dressings

Tomato sauce is everywhere in the world's cuisine. It is a basic ingredient. You can find an infinite number of tomato sauce packages, to adapt to the infinity of uses and consumption it has. But the trend is becoming increasingly clear: lightweight, recyclable and re-closable packaging to avoid leftover product waste.



Tomato sauce packaging specifications:

- Product is filled hot at 95°C
 - Globally 65% of tomato paste is consumed in packaging of 100-300gr followed by 28% for 300-500gr.
 - In latam 340gr is the most popular.
 - Single serve pouches (70-100gr) is a growing category.
- Most projects include products with chunks (max size 20x20).
- Machine filling area "protection" (AISI316L) against product acidity.

We have the expertise of more than 500 tomato sauce machines around the world.



Coffee: The most consumed beverage in the world

The coffee industry has dramatically widened its formats in recent years. From coffee beans to coffee powder, including capsules. There are endless ways of dosing and drinking this beverage. Therefore, the ways of packaging and preserving it today must be modified and updated..

For instant coffee

- Auger filler specific for coffee to prevent breaking the granules.
- Auger type is a closed system minimizing dust.
- Accuracy: same as auger (1%).

Inert gas is required only when customer adds a drop of flavour into the pouch (4.5% residual O2).

Also in this case, each customer has its own rules regarding O2, but dust exhaust and inert gas are not compatible, and exhausting dust is more important.

Coffee beans or ground coffee

Depending on the quality of the coffee, customer will ask for degassing valves.

- Ground coffee degasses faster than beans

Experience with:

- Button type valve – ultrasonic seal (Goglio, Wipf).
- Label type valve – Stick to the film (Acrapply).
- Valve in the film – Amcor.

Volpak is Ready to bring Sustainability to the packaging industry

All of our solutions are ready to work with sustainable material.

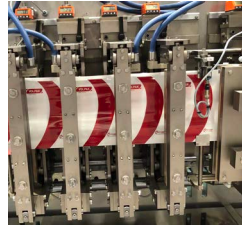
Its all about machine and film interaction (smoothness, accuracy, control)



Continuous unwinding for smooth film fold at constant tension



Control and regulation of film tension at pouch forming area



Precise temperature, Seal on print system, Optimum seal parameters (time, pressure and t°)



Main film drive with no over tension for pulling and straight cutting



Servo drive pouch opening programming synchronization of top and bottom opening

Volpak Ready for Sustainability:

Pouch Lab

An R&D Excellence Center to support our customers and stakeholders in developing sustainable pouch solutions, combining knowledge and experience of machine and materials.

Confidentiality



Dedicated area in Volpak premises with maximum confidentiality for your packaging solution.

Control of all parameters



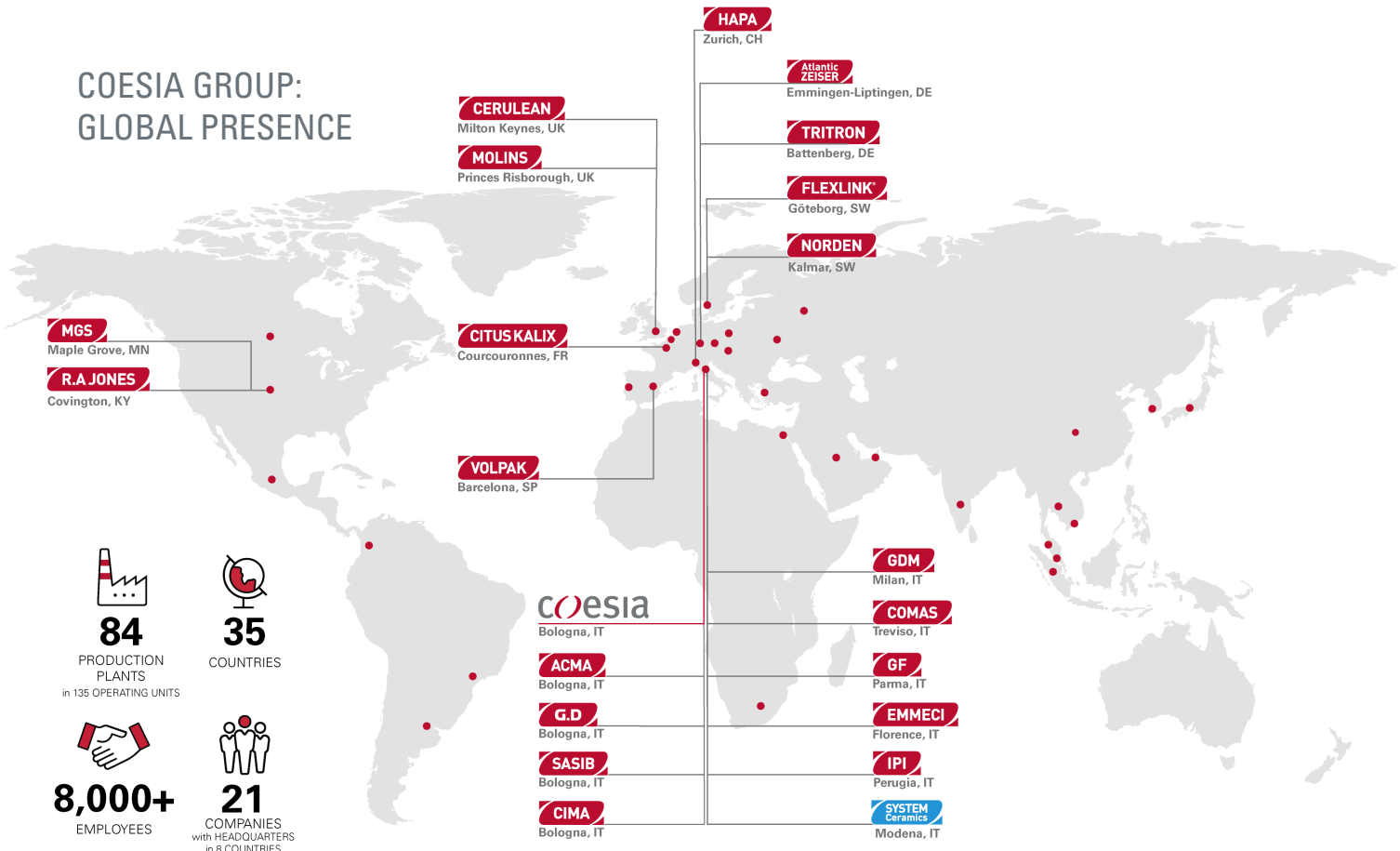
Pouch forming machine with all controls to record behaviour of film throughout the whole process

Dedicated area



Equipment, also for rent and use at your discretion. Testing your material, pouch-making & quality testing, all in a controlled environment with Volpak technical expertise.

COESIA GROUP: GLOBAL PRESENCE



84
PRODUCTION PLANTS
in 135 OPERATING UNITS

35
COUNTRIES

8,000+
EMPLOYEES

21
COMPANIES
with HEADQUARTERS
in 8 COUNTRIES

COESIA Company Headquarter COESIA in the World

coesia

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Coesia is a group of innovation-based industrial and packaging solutions companies operating globally, headquartered in Bologna, Italy.

- Coesia's companies are leaders in the sectors of:
- Advanced automated machinery and packaging materials
 - Industrial process solutions
 - Precision gears



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