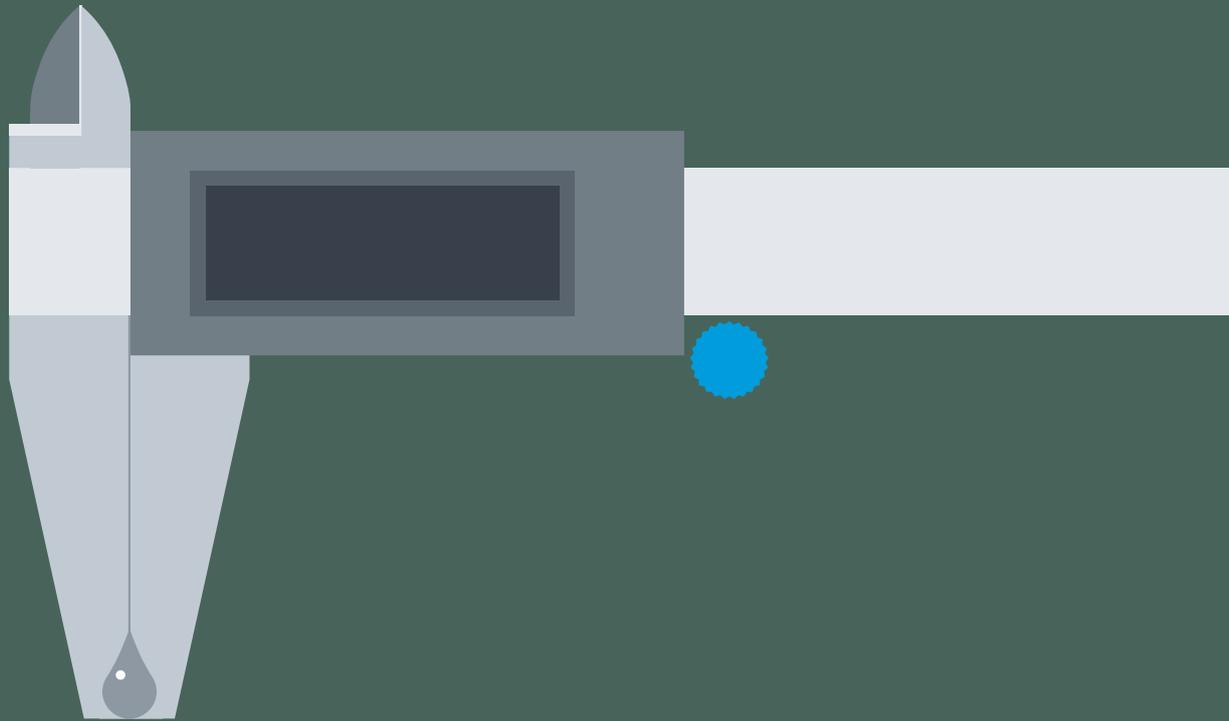


DECISION-MAKING SUPPORT FROM THE INVENTORS OF BLOW-FILL-SEAL TECHNOLOGY





LONG NARRATIVE OR SHORT PROCESS

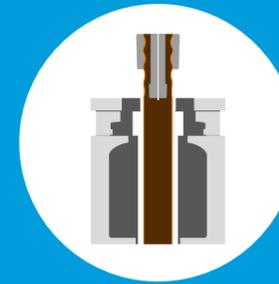
IT'S BEEN OVER 50 YEARS SINCE WE FIRST CAME UP WITH THE PERFECT ALTERNATIVE TO CONVENTIONAL LIQUID FILLING PROCESSES FOR OUR CUSTOMERS – PARTICULARLY THOSE IN THE PHARMACEUTICAL SECTOR. OUR AIM? TO MAKE SURE THAT EVERY LAST PRECIOUS DROP IS PACKAGED MORE RELIABLY, MORE FLEXIBLY, AND IN A MORE USER-FRIENDLY WAY. IT IS BASED ON THIS PRINCIPLE THAT BLOW-FILL-SEAL TECHNOLOGY CAME TO LIFE: THE WORLD'S FIRST ASEPTIC FILLING PROCESS OF ITS KIND FOR LIQUIDS, SEMISOLIDS, AND EVEN SOME HIGHLY SENSITIVE PRODUCTS.

Customers from all over the world now place their trust in the German engineering and Swiss precision that make each and every aseptic bottelpack system so special. With several billion packaging units per year, our invention is instrumental in protecting something of real value: ideas that help people, down to the very last drop. We are Rommelag – the inventors of BFS technology.

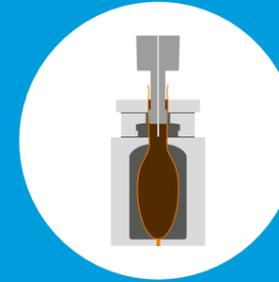
BLOW-FILL-SEAL OR UNNECESSARY COMPLEXITY

Every BFS process begins with the extrusion of a sterile polymer parison directly within the system. Once complete, the container can then be moulded, filled, sealed, and immediately demoulded – all in a single process, in a self-contained system, and without the need for any external intervention. This eliminates the need for expensive logistics, not to mention time-consuming cleaning and sterilization processes for prefabricated containers. All of the filling processes – including the dosing system – are designed with CIP/SIP in mind. What this means is that all of the product-handling lines are cleaned, sterilized with pressurized steam, and dried with sterile-filtered air by automatic programs. This makes bottlpack technology the most reliable aseptic filling method.

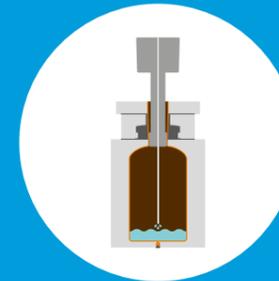
The experts at Rommelag ENGINEERING make sure that the end product from your bottlpack system is always exactly what you wanted and just what your customers need.



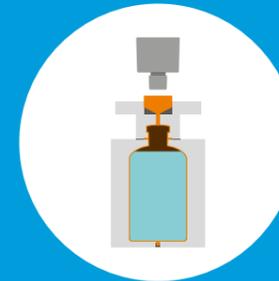
EXTRUDING – The polymer parison is extruded from granulate and positioned inside the open mould.



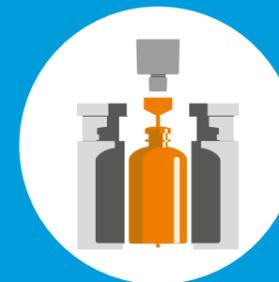
BLOWING – The mould closes and, in doing so, welds the base. The mandrel is positioned on the neck of the container and blows sterile air into the parison to create the desired shape. Small containers are created using a vacuum.



FILLING – The exact amount of filling as measured by the dosing system is fed into the container via the mandrel.



SEALING – Once the mandrel is removed, the head mould comes together to form the desired closure type.



DEMOULDING – Opening the mould releases the container from the system and the next cycle begins.



CONVENTIONAL OR CONGENIAL

Rommelag's bottletack machines are capable of manufacturing up to 34,000 containers an hour in a wide variety of forms and plastic blends, with filling volumes ranging from 0.04 to 10,000 ml, up to 100 percent aseptically, and taking all the applicable pharmaceutical regulations into account.

PROFITING OR PROFILING

OUR EXPERIENCE HAS SHOWN THAT THE ASEPTIC FILLING TECHNIQUE USED IN THE BFS PROCESS IS A MORE FLEXIBLE AND COST-EFFECTIVE ALTERNATIVE TO CONVENTIONAL FILLING METHODS IN VIRTUALLY ALL CASES. BUT OF COURSE THAT'S WHAT WE'D TELL YOU, SO IT'S A GOOD THING WE'VE GOT SOME CONVINCING ARGUMENTS TO BACK IT UP.

Proven quality

Whether you're interested in bespoke containers, a bottletack system itself, or the BFS process, at Rommelag we don't put our name to anything until it's been checked down to the last detail to ensure it's in perfect condition. To this end, we even have our own, purpose-built laboratory testing and production facilities.

Minimal spatial requirements

From bottles to ampoules: the chosen vessel is produced directly in the system, where it is then aseptically filled and reliably sealed before finally being dispensed as a completed container. As a result, there's no need to waste valuable space on stockpiling, cleaning, and disinfecting containers.

Perfect coordination

Our specialists design and set up every bottletack system with maximum precision to ensure seamless production processes: from the ideal choice of components right through to the integration of the bottletack system into your production line and beyond.

Exact dosing

Thanks to the exact individual dosing in each cavity, it is always possible to add just the right amount of fluid or semisolid to each container as specified from the outset.

Maximum convenience

As every bottletack system is unique, the software and user interfaces to go with it are also individually tailored to its scope of services.

Exceptional vertical integration

Virtually every component in our bottletack systems is manufactured by us. And by that, we're talking about a whole lot of equipment. But we do this because it's the only way to be sure that you can always count on every one of our parts and components to function flawlessly. The extreme durability of our systems is the perfect testament to this philosophy on quality. We also offer professional maintenance and a prompt spare parts service to support you every step of the way. With Rommelag ENGINEERING, there's no more dealing with third parties: it's simply you and us, saving valuable time, money, and unnecessary stress.

Certified processes

Rommelag bottletack systems are compliant with the strict requirements of the pharmaceutical industry, meaning our production processes are respected around the world.



BOTTLES OR AMPOULES

Whether a bottle or an ampoule is to be filled, how it is filled, and what additional functions the container needs are usually based on the intended use. But whatever your packaging requirements may be, bottlpack systems are capable of handling virtually anything: canisters, bottles, parisons, ampoules, drop bottles, bellows containers, and portion packaging made of polyethylene, polypropylene, or other types of plastic, complete with guarantee seals, mounting brackets, or applicators, as a single-dose or multidose application, for pharmaceuticals, in-house chemicals, beauty or soft drinks, in production quantities of 100 to over 34,000 items per hour, from 0.04 to 10,000 ml every day, around the clock, worldwide. With bottlpack, anything is possible. And the benefits of our packaging don't stop there, as it is also counterfeit-proof, easy to open, and perfectly suited to its applications – not forgetting, of course, exceptionally resistant to breakage!

If it's important to you, then it's important to us, which is why we develop solutions that both you and your customers can enjoy.



ALL FOR ONE OR ONE FOR ALL

The pharmaceutical industry is still one of the main sectors to rely on BFS technology. The level of care required to handle pharmaceutical fluids is greater than in any other field: Products have to be stored a certain way, dosed with the utmost precision,

bottled to suit the specific application, aseptically packaged, and transported safely. Fortunately, Rommelag's BFS technology is outstanding at dealing with each of requirements and more besides.

The blow-fill-seal process is an excellent choice in many fields when flexible, rapid, and cost-effective manufacturing solutions are required:

- ✦ Pharmaceutical industry (injection solutions, ophthalmic products, etc.)
- ✦ Chemical industry (cleaning products, lubricating oils, antifreeze, etc.)
- ✦ Veterinary medicine (medication, etc.)
- ✦ Food industry (functional food, etc.)
- ✦ Automotive (oil, grease, lubricant, etc.)
- ✦ Agriculture industry (pheromones, etc.)
- ✦ Cosmetics industry (creams, gels, lotions, etc.)
- ✦ And much more

REGIONAL OR GLOBAL

Rommelag is part of a global network with an active presence in more than 80 countries. From Germany's Kocher valley to Kenya and a whole host of places in between, our comprehensive

support extends far beyond national borders and cultural barriers. No matter when or where you may need us, we're always right by your side.

FROM A TO Z OR WHATEVER YOU LIKE

From your initial idea for a new product right through to launching it on the market, we'll be on hand to support you with our business expertise and in-depth technical knowledge. So whether it's planning your bottelpack system, connecting the interfaces properly, testing the equipment, or getting everything installed, our support ensures that everything runs smoothly and according to plan – just the way you want it. It also helps that we work in close partnership with our customers to develop individual

packaging designs, test new materials and material compositions, and offer filling tests.

Even once your system is up and running, we'll still be happy to help at any time with compact employee training courses, professional system service, a first-class spare parts supply, and an open ear for our customers whenever they need to get in touch. You could call it a comprehensive service. We like to think of it as a trusting partnership.

THE END? **OR** JUST THE BEGINNING?

WELL THAT'S ENTIRELY UP TO YOU. THIS BROCHURE IS DESIGNED TO GIVE YOU A TASTE OF WHAT ROMMELAG ENGINEERING AND BFS TECHNOLOGY CAN DO FOR YOU, AS WELL AS AN INSIGHT INTO THE KEY BENEFITS AND POSSIBILITIES OF PACKAGING MANUFACTURED USING THE BLOW-FILL-SEAL PROCESS. AS FAR AS BROCHURES GO, THIS IS AS MUCH AS WE CAN EXPECT TO ACHIEVE.

We are firm believers that nothing beats personal contact. After all, each of our systems is as individual as your requirements. This is why we think it's best to speak to our customers directly, and we look forward to learning more about you and your needs. Contact us via www.rommelag.com and we'll be glad to pay you a visit.

We're always by your side

With its four specialist divisions of ENGINEERING, CMO, FLEX, and SERVICE, the Rommelag brand represents a strong network of local, independent companies across Germany and Switzerland that each share the same end goal: reaffirming to you on each and every project that choosing Rommelag was the best decision you ever made.

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