



FILLING FOOD – CONSIDER IT BAGGED!



FOOD AND ANIMAL FEED PROFESSIONALLY BAGGED

**BEHN+BATES FILLING SYSTEMS
FOR OPEN-MOUTH BAGS,
FFS BAGS AND BIG BAGS**

Optimum product protection, improved storage, high advertising impact, flexible filling volumes, simple opening and re-closing of the used bags – all these are convincing features of the open-mouth bag.

After considering these options you decide at the early project stage which packing material best meets your product and your marketing targets:

- a pre-fabricated open-mouth gusseted or flat bag made of paper, PE and/or PP
- an endless gusseted film made of plastic
- a big bag or an octabin

We advise you with regard to the proper filling technology – decisive factors are the required output and the question as to whether the machine is to be operated manually or automatically.

Our focus: Food and animal feed

It does not matter whether you fill

- cocoa powder
- starch & derivatives
- sugar, dextrose, maltodextrin & sorbitol
- flour, baking ingredients & premixes
- soybean products, rice & grain
- other food products
- animal feed, pet food & seed

we have the solution:

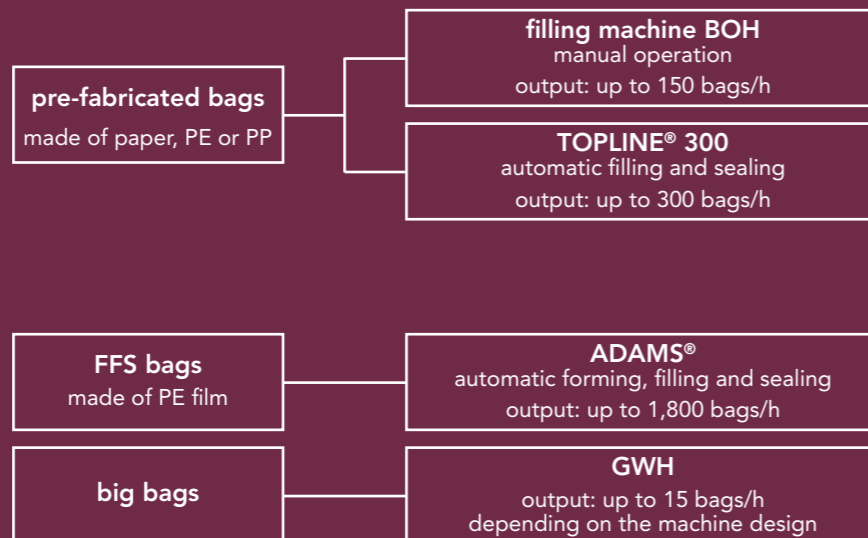
Packaging concepts that take into account your individual requests and modern standards such as GMP and HACCP – as well as the experience our experts have gained in their daily business and evaluated information about trends in the packaging market.



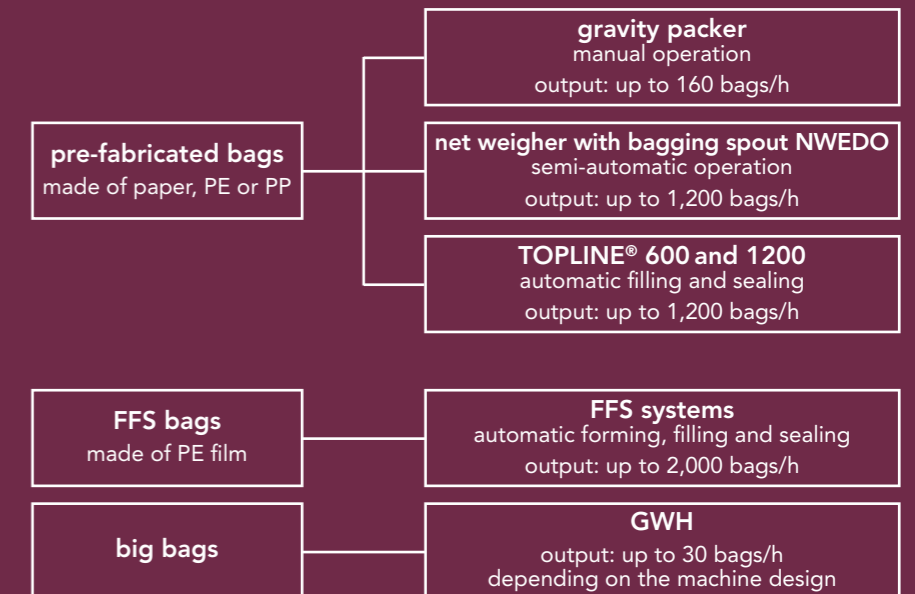
The linchpin: Your product – Our solution: The right filling technology



powders & flours
e.g.: starch, dextrose, maltodextrin, baking ingredients, premixes, second flours, fodders



granules & grains
e.g.: granulated sugar, rice, cereal, seed



Packaging companies with low production outputs or only occasional bagging needs do not normally require filling systems with automatic empty bag application and full bag discharge. Even so they still demand precise filling of their products. We offer the right solution:

- **BOH filling station**
powder filling par excellence in the case of manual applications
- **gravity packer**
the all-rounder for all granules, grains and pellets

In either case the open-mouth-bag is applied manually to the filling spout. The filling – normally carried out according to the gross filling principle – is started by a push-button. The product can be compacted during the course of filling by bag vibrators arranged underneath the bag chair. The filled bag is manually taken off the spout and transferred to the chosen closing station, e. g. sewing machine. Output: up to 160 bags/h.

Net weigher with bagging spout NWEDO
The quantity to be measured is the output

If high outputs of up to 1,200 bags/h are required in manual operations, the product is pre-weighed accurately by our net weigher before being filled into the bag in a quick and efficient way.

You profit from our experience:

- **clean bag filling**
due to product-specific chosen filling spout with all-side clamping jaws
- **space saving**
due to compact machine designs
- **cost saving**
due to low operating and maintenance costs
- **easy handling**
due to clear operator guidance, easy cleaning and maintenance
- **flexibility**
due to possible use of a moving frame to service different storage silos



The linchpin: Your product

Our solution: The right dosing and the adequate filling spout – regardless of the machine variant

you choose



The demanding products: powders & flours

Only the well balanced combination of dosing, filling spout and de-aeration provides optimum filling results when filling powders and flours. For low-air dosing we recommend:

- impellers
- augers

Filling is effected by a special powder spout. It seals the bag in a dust-tight way during the filling process – de-aerating it at the same time.

The less complicated products: granules & grains

The handling of granules and grains is easier. Their flowing action is excellent. They rarely raise dust. Depending on their grain size, we advise to dose them by:

- flaps
- flat slide valves
- vibrating chutes
- belt feeders

They are filled by either a gravity tube or a flap type spout thus pouring into the bag easily.



For the fully automatic clean packing of your pre-fabricated open-mouth bags we offer the TOPLINE® system. It was originally developed for powders and flours filled according to the gross filling principle. The net filling principle is used for granules and grains bagged at higher outputs. This means the product is weighed before filling.

The complete bag processing is carried out in a compact, dust-tight machine cabinet – starting with the bag feed and filling up to the densification and sealing. The bag magazine is chosen according to your individual project requirements. The packing outputs vary depending on the product and machine design – between 250 bags/h with gross weighing and 1,200 bags/h with net weighing.

In brief: The function

The separated empty bag is taken out of the magazine, exactly aligned and opened by sucker bars. Bag grippers take the pre-opened bag to apply it securely to the dust-tight powder or flap type filling spout. In order to compact your products during or after filling we equip the TOPLINE® with vibrators – in specially encapsulated food-grade design – and, if required, with an additional vacuum probe.

You profit in all respects:

- **high cleanliness**
due to product-specific dosing and filling within a dust-tight machine cabinet
- **exact weights**
due to separate coarse and fine flow filling with the gross principle for powders or due to the application of a net weigher for granulated products
- **attractive bag shapes**
due to efficient product densification by special bag vibrators and additional vacuum probes if required
- **good product protection**
due to project-specifically selected bag closure, e. g. folding, welding or hot-melt activation
- **high advertising impact**
due to application of appealing bag materials with high-quality imprints, e. g. in a gloss finish



The linchpin: Your product – Our solution: The fitting components



tailor-made:
empty bag magazine
(maximum capacity: 600 bags)



secure:
bag separation at the bag bottom for trouble-free operation without bag blockages



well-proven:
optimum empty bag opening for easy bag application



product-specific:
bag filling by dust-tight powder or flap type spout

In future an increasing number of food and animal feed producers will want to fill their products into plastic bags. The motive: Each producer is keen on keeping packing costs as low as possible. The FFS bag meets this requirement to the largest possible extent. It is formed out of a gusseted tubular film, filled and sealed thus enabling the bag size to be optimally adjusted to the product. As a result film consumption is reduced.

Our proven FFS systems are especially suitable for grains & granules, e. g. crystal sugar, rice, corn or animal feed pellets. They reach outputs of 600 up to 1,200 bags/h depending on the filling product and the machine variant.

In brief: The function

The film length needed for your product and your filling weight is automatically cut from the film reel. The bottom seam is welded with a minimum overlap. For an optimum bag shape and also for easy and complete bag emptying it can be fitted with special corner welds. Grippers take the pre-shaped, opened bag and apply it to the filling spout that fills your product according to its needs – de-aerating and densifying it at the same time. The filled and compacted bag is then welded tight at the top and transported to the palletizing system.

Profit maximization due to our trend-setter:

- **optimum protection against humidity**
due to tightly welded PE bags
- **emotive commercialization**
due to product packing in PE film bags that can be easily fitted with a high-quality imprint thus attracting a great deal of attention
- **optimum storage**
due to compact, box-shaped bags that are easy to stack and most suitable for automatic storage systems
- **environment friendly packing**
due to reduced packing material needs and application of energy-saving and low-maintenance components
- **high operating efficiency**
due to extended operating times with reduced cleaning and maintenance intervals
- **comfortable operation**
due to clear operator guidance with the help of modern touch panels and thanks to easy batch or size changes



The BEHN + BATES net weigher: High outputs – accurate weights – low maintenance



Gross weighing systems are most reliable when it comes to dosing products in a very gentle way or the available height is limited. If, however, high outputs are required, we recommend our net weigher equipped with a patent-registered dosing system for optimum filling times.

For decades it has proved its worth for the weighing, dosing and filling of bulk products as well as for the recording of production quantity data. More than 2,500 net weighers are used in industrial operations around the globe.

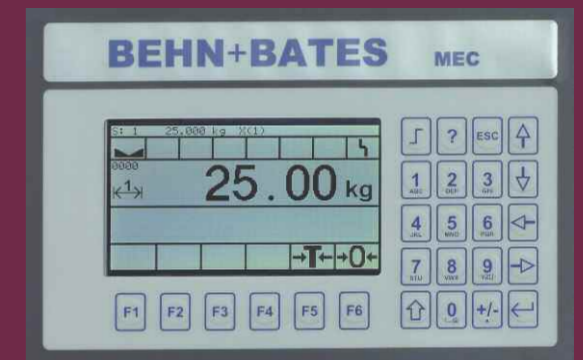
bin sizes: 66 – 120 l
output: up to 2,000 batches/h

The MEC® weighing and evaluating electronics

All our filling machines are equipped with the MEC® weighing electronics developed within our parent company specifically for the requirements of the packaging industry.

- The operational sequences are well and clearly structured.
- The programming is easy due to alpha-numeric keys.
- The operating personnel are guided through the menu by a clear text display in German, English or their native language.
- In case of product or bag change the individual filling parameters can be retrieved fast and easily by the 99 product sort storage.

Over 30,000 MEC® electronics are used around the globe. They all stand for high reliability in continual operations and correspond to international weighing standards as they are OIML approved.



In the beginning, only granules were reliably filled into FFS bags. But thanks to newly sophisticated technologies, the FFS packaging process now supplies excellent results for powders, e. g. starch and dextrose or flours and premixes, too.

Proven technologies form the basis of the ADAMS®

The proven filling machines ROTO-PACKER® and FFS system made by our parent company, HAVER & BOECKER, have been combined. The result is the ADAMS® – our new trendsetter for filling powders & flours into FFS bags. You tell us what products you want to handle at which speeds. We will design the ADAMS® to meet your requirements: Up to 8 filling spouts are possible.

In brief: The function of the ADAMS®

The empty bags, which are formed from an endless gusseted film, are applied onto the dust-tight BEHN + BATES powder spout filling your product into the bag according to the gross filling system – by using an air or impeller filling unit. Product compaction is carried out by vibrators adapted to the needs of your product – and if necessary, by a vacuum lance.

The upright standing bags are closed in a tight and hygienic way directly after filling. Then they are flattened and palletized.

Cleanliness and efficiency from production to consumption

- **product protection**
Your product is well protected from moisture and outside influences in tightly sealed PE bags allowing for a long shelf life.
- **cleanliness**
Dust-free filling, sealed filling spouts and de-dusting in the filling machine set standards: A clean packing environment is a reality.
- **compact bag shape**
A compact bag shape is achieved by filling and simultaneously de-aerating the bag. The integrated corner weld enhances the proven box shape of the filled bag. The result: Attractive palletized bags and optimum use of storage and shipping spaces.
- **tear resistance**
Modern films are extraordinarily durable and tear-resistant. Thus, bag breakage along the entire logistical supply chain is reduced to a minimum.
- **perfect advertising impact**
Premium products, packed in appealing bags with high-quality imprint and gloss finish, lead to increased acceptance among your customers – and thus to higher sales.



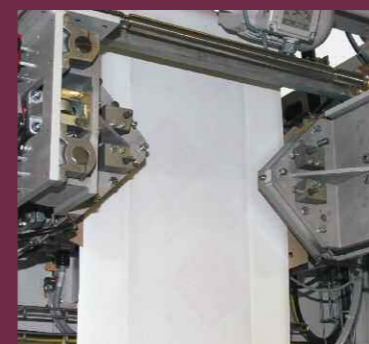
The details make the difference



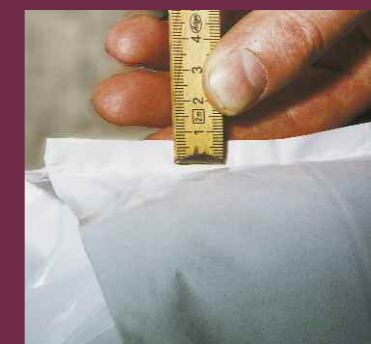
Optimally opened:
Shaping of the pre-opened bag for easy application to the filling spout



Hygienically filled:
Product filling by the dust-tight special powder spout with integrated residual air de-aeration



stable:
corner welding of the gusset for optimum bag shapes and easy complete emptying



cost-saving:
reduced film consumption due to minimum weld seam overlaps



time-saving:
automatic reel changer – in variants for 2 or 3 reels – for reduced standstill times in case of film reel changes

WEIGHTY: THE BIG BAG FILLING

In the logistics chain big bags are a cost-effective alternative to conventional bags. They are available in different designs, e. g. with internal stiffening for better stability. But what all of them have in common is they must allow quick and clean processing – goals that can be easily reached with our big bag filling station.

Operator convenience

The rear fixing hooks for the big bag loops can be slewed towards the front thus being easily reached by your operating staff. All 4 hooks open automatically after the filling process.

Cleanliness

For clean product filling the big bag is sealed by an inflatable sleeve with counter pressure ring.

Stable bags

Product dosing and densification are decisive factors for stable big bags. We use vibrating tables to compact your product. Highly fluidised products can be additionally de-aerated by vacuum probes during or after filling.

Tight bag closure

For optimum product protection against outside influences the filled big bag can be closed by turning the filling spout – our so-called tulip forming. On request, this process can also be carried out automatically.

Cleanroom filling

Special requirements apply for the filling of big bags under cleanroom conditions. In order to assure that no forbidden materials such as wooden pallets get into the cleanroom we have developed a special shuttle system. After filling it takes over the big bag, transports it out of the cleanroom and puts it onto a pallet for further processing – and all this to comply with the required hygiene standards.

Accessories

For trouble-free big bag processing right from the beginning up to the end we offer you a large selection of additional components, e. g. automatic pallet separator, cover sheet dispenser or full pallet transport systems. You specify the degree of automation – we supply you with the equipment you need.



Big bag filling: Product-suited, clean and user-friendly



fixing of the big bag loops onto the slewable hooks



fixing of the filling spout – with inflatable sleeve for dust-tight big bag sealing during filling



manual closing of the filled big bag – as an option, by our so-called tulip forming



transport of the filled big bag to the full bag storage

ALL FROM THE ONE SOURCE:

Your convincing and attractively packaged bags are the result of a detailed planning, a carefully selected filling technology and an overall concept incorporating the prior and subsequent plant components.

We plan, project and deliver the single filling machine as well as complete packing lines with palletizing and transport packaging. Depending on your requirements, we can offer robotic palletizing or a conventional high-level palletizer in conjunction with stretch wrapping or stretch hooding.

In addition to this, our plant engineering includes the product feed with storage silos, metal detectors or filter plants. We thus are able to develop comprehensive solutions for hygienic, reliable and economic packing processes – all this in close co-operation with you.

Our experience is your profit:

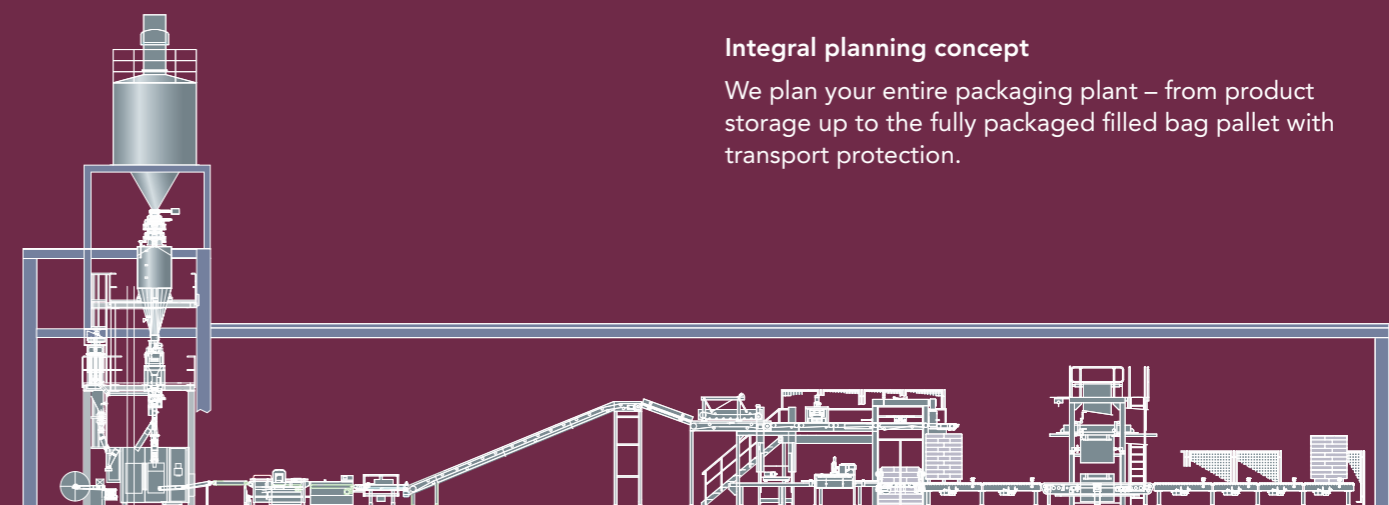
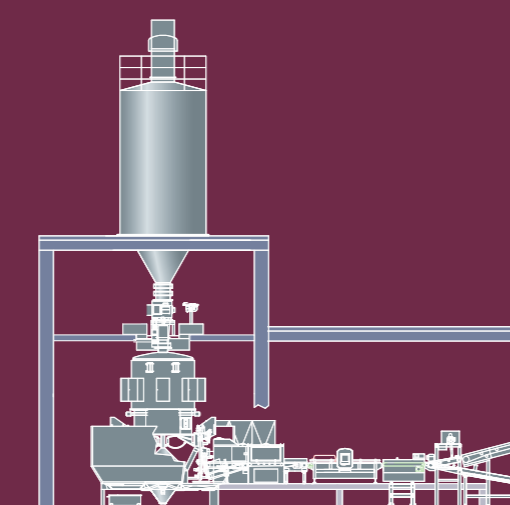
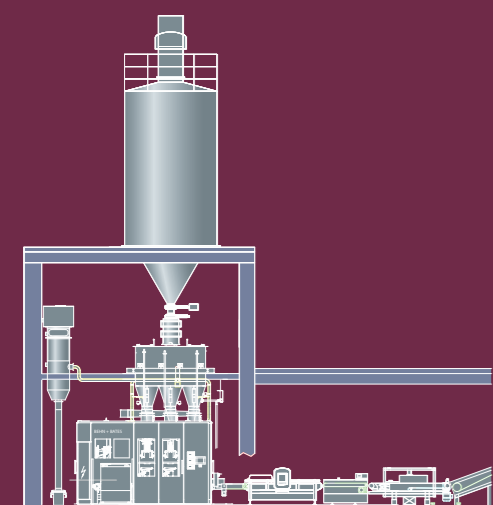
From single filling machines up to complete packing lines – all are planned and realized on a turnkey basis from one source.

Service around your filling plants: It is important to us to commission your packaging plant successfully – and moreover, to keep it running trouble-free over the years.

A team of well-trained service technicians, who have extensive experience in packaging technologies, is at your disposal to quickly install and commission your plant and offer regular maintenance to achieve the highest possible reliability in continuous operation. Should problems still occur, they are solved rapidly. Our large stock enables the quick delivery of spare parts.

On request, we are able to equip your machine for our remote service. We can then log into the control of your machine for remote diagnosis to best assist you in case of any problems.

BEHN + BATES solutions are perfect solutions – for all food, pet food and animal feed products!



Integral planning concept

We plan your entire packaging plant – from product storage up to the fully packaged filled bag pallet with transport protection.

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