



FILLING FOOD – CONSIDER IT BAGGED!



INNOVATIVE COCOA PACKAGING

OUR PASSION: OPTIMUM COCOA PACKAGING

Do you pack cocoa products? If so, we are your partner, as we are specialized with your products. We supply packaging machines for:

- Valve bags
- Pre-fabricated open-mouth bags
- FFS bags
- Big bags

As well as for:

- Cans
- Pails
- Drums
- IBCs

Originally grown in the Amazon region only, the cacao is now cultivated in the warm and humid climate around the equator. The cocoa beans are also processed in countries outside the equatorial belt. They are converted into cocoa products with diverse characteristics playing a decisive role in the selection of the right packaging technology. Knowing about these specialties, we are able to offer you an optimally adapted packaging solution for each type of packaging, for manual or automatic operation.

Modern standards such as GMP and HACCP are not foreign words to us but terms used in our daily work. Together with our customers we regularly develop packaging solutions, taking into account the most recent regulations of the food packaging industry as well as the experience our experts have gained in their daily business.

The packing machine is a main part of your value added chain. Being supplied specifically for your product and your conditions, it provides considerable and lasting advantages:

- Maximization of profit due to clean and weight-accurate product processing
- Maximization of benefit due to improved product protection and protection against humidity
- Reduced cost due to a clean packing environment and reduced clean work
- High advertising impact due to optimally filled bags that can be efficiently processed by your customers
- Reduced delivery costs due to optimum use of shipping spaces

Tread new paths – with us – because you profit from our experience.



The company BEHN + BATES

Founded in Krefeld/Germany in 1933, BEHN + BATES rapidly became known for robust and high quality bag filling machines. Since being taken over in 1994 by HAVER & BOECKER, Oelde/Germany, one of the world-wide leading packing machine manufacturers, we have specialized in the food industry from the end of the 90s. Since then, leading groups of food companies have trusted in our technology, as have small factories.

Presence around the globe

Our representatives and service network, located in more than 60 countries, are readily available to support your installation. They consist of HAVER & BOECKER subsidiaries as well as independent agencies, all of which are highly trained. They know the specialties of food packaging and are able to advise and fully support you from the first project idea up to the ready-to-use installation and subsequent regular maintenance.



HIGHLY PRODUCTIVE: THE VALVE BAG FILLING TECHNOLOGY

A lot of cocoa producers prefer the valve bag. It represents easy handling, high outputs, good weighing accuracies and compact bag shapes with high advertising impact.

The BEHN+BATES gravity packer is the all-round solution for grainy, granular and lumpy products, e. g. cocoa kibbles or chocolate chips. The product is filled according to the gravity principle – without additional conveying air or mechanical assistance. For optimum product densification the packer can be extended to incorporate a vibrating compactor.

Machine output:
Up to 160 bags per hour per spout with gross weighing
Up to 600 bags per hour per spout with net weighing

Your advantages:

- Cost efficiency through the compact, low-maintenance machine design
- Ease of operation through the clear machine design
- Flexibility in combination with a mobile frame enabling positioning of the machine under different silos

The BEHN+BATES impeller packer has proven to be the most reliable solution for fat-containing cocoa powders. It fills your products at a high filling pressure thus ensuring low-air and compact product packaging. The bulk density and the flowability of your product are paramount for the selection of the correct impeller filling system:

- Vertical impeller for fine powders
- Horizontal impeller for heavily flowing and light products

The diameter of the impeller wheel is selected according to your product properties.

Machine output:
Up to 160 bags per hour per spout

Your advantages:

- Optimum pallet shape through the especially compact, low-air bag filling
- Improved product shelf life through the reliable filling of tight bags
- No product loss due to the weight-accurate filling by the product-selected filling impeller
- High packing outputs through bag filling without over-pressure and minimum de-aeration times

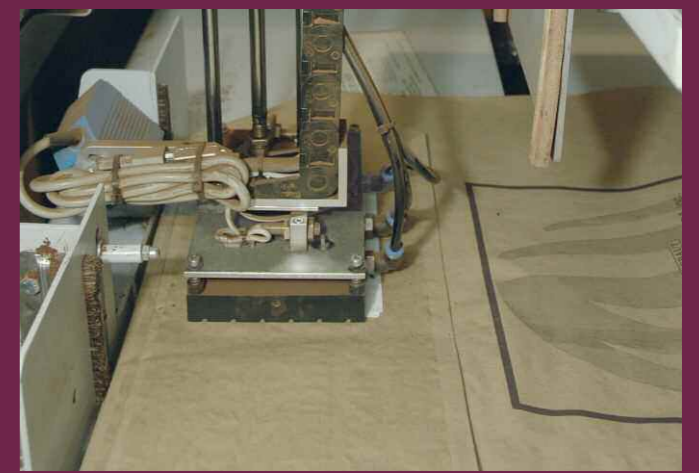


The linchpin: Your product – Our solution: The right filling technology

The exact analysis of the product and its characteristics as well as the used materials is one of the basic preconditions for all processes in the bulk goods handling industry. Our practice-orientated tests lead to economic packaging solutions and facilitate the collection of process-relevant product data.

You have special demands. Our flexible modular machine design provides you with the right solution.

- Motor-driven bag length adjustment
- Metal detectors – integrated or external
- Printer and labeler for bag marking
- Check weigher for checking the weights and communicating them to the central control system
- Complete stainless steel design



Each packing machine manufacturer is confronted with the special challenge of supplying you with a customized solution allowing you to either automatically apply or seal the bag on request.

The **BEHN + BATES FRONTLINE bag applicator** applies all common bag types and sizes in a reliable, fast and secure way. It ensures minimum product losses and high application rates.

Machine output:
Up to 650 bags per hour

Your advantages:

- Cost reduction through the linear bag application and controlled valve opening
- Ideal space use from the project-specific selection and positioning of the empty bag magazine
- Reduced maintenance through the free access of the filling machines from the front
- Flexibility from the easy change-over to different bag sizes and types
- Optimum production planning through the possible future extension of the existing filling machine

The **BEHN + BATES ultrasound sealing station** closes all valves with PE coating in a clean and tight way thus preventing even the smallest product particles escaping from the filled bag.

Machine output:
Depending on the filling machine output

Your advantages:

- Optimum product protection through tightly closed bags
- Maximum cleanliness through bag sealing directly at the filling spout
- Space and cost savings from the integration of the sealing station within the filling machine frame
- Dust explosion protection with certification according to ATEX for application in the dust-explosion zones 21 or 22



Empty bag feed from the horizontal magazine into the bag applicator



Controlled valve opening for optimum automatic bag application



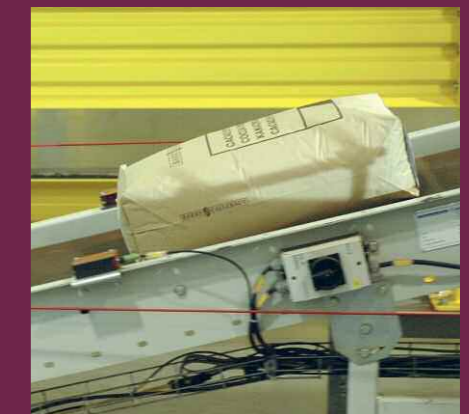
Automatic valve bag application onto the filling spout



Valve bag filling



Valve bag sealing by ultrasound directly at the filling spout



The clean and tightly closed bag on its way to the palletizer

Valve bag filling to perfection:

The BEHN+BATES "Plug 'n Pack" design INTEGRA FD

Clean, silent and ready for operation within the shortest possible time – Our "Plug 'n Pack" design INTEGRA FD sets standards! It integrates the application, filling and sealing stations in a compact dust-tight cabinet that is completely assembled and cabled prior to delivery.

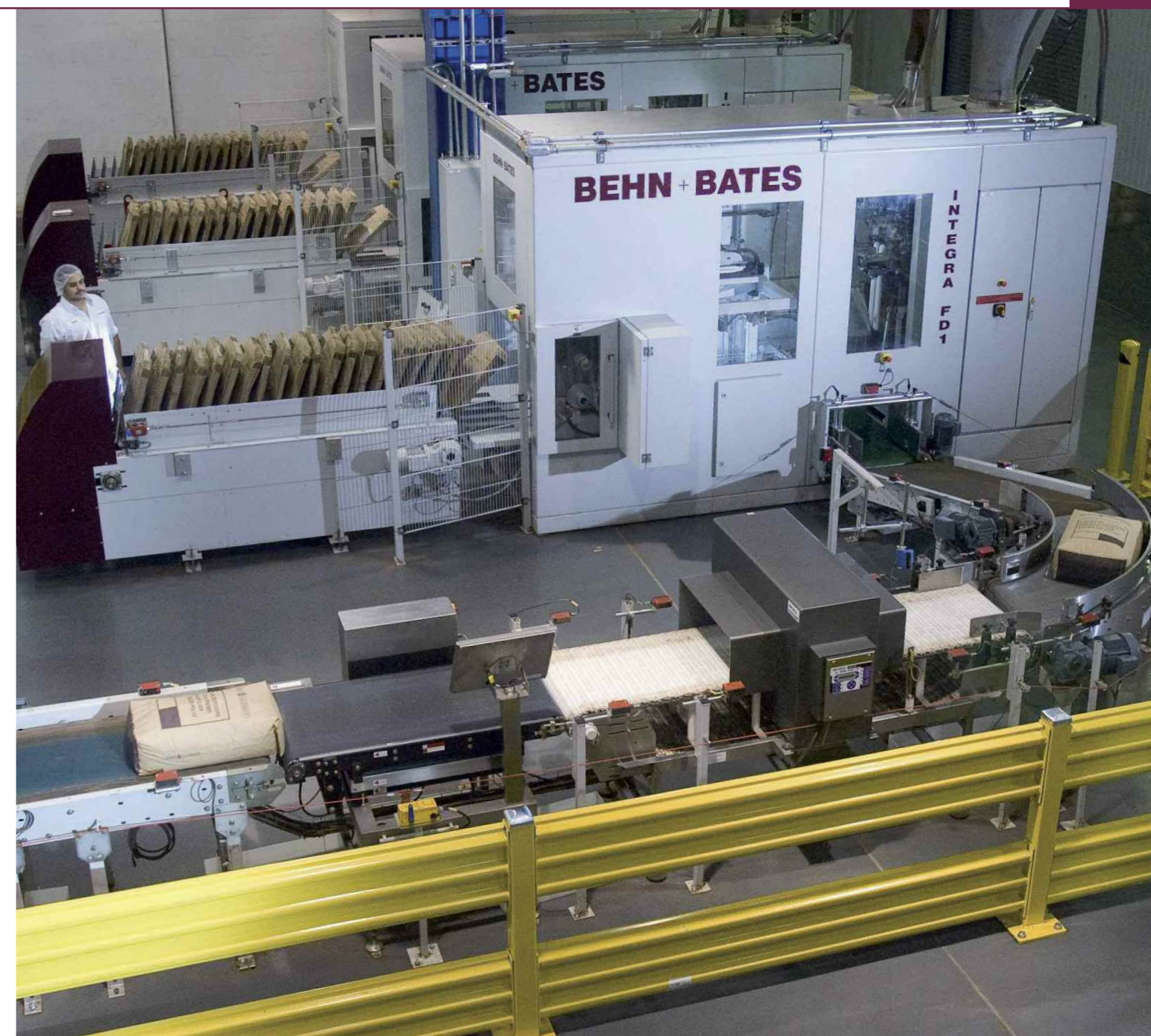
The INTEGRA FD can be supplied with 1 to 4 filling spouts – or alternatively in expandable version for your flexible production planning.

Machine output:

Up to 650 bags per hour

Your advantages:

- Improved cleanliness from the dust-tight, noise-absorbing cabinet with large-area access doors
- Low commissioning costs due to the delivery of a completely assembled and tested filling machine
- Low space requirements from the compact design
- Comfortable operation with the integrated touch panel and the use of polycarbonate windows for the visual control of the packing process



Optimum product protection

Checking the product for contamination by metal particles is part of the standards in modern food installations. We can offer you various solutions for the integration of a metal detector and testing devices to support you in your quality control and the observation of food regulations.

Sensitivity depending on the product:

- 1.2 mm for iron particles
- 1.5 mm for stainless steel particles

The details make the difference: Label printer for labeling the empty bags

The traceability of products plays an important role in the food industries. Carefully marked bags include information on all important production data. We offer solutions for the printing of full bags – as well as for the labeling of empty bags providing you with the very special advantage of having the labels reliably applied and always in the same position on the clean bottom of the empty bags. A scanner guarantees that only accurately labeled bags are filled. In order to avoid the dust deposit areas, the label printer can, for example, be installed in such a way as to be flush with the cabinet of the INTEGRA FD.



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

However, the filling of cocoa powder requires very special sensitivity as powder can be dusty. Only the well balanced combination of low-air filling, a dust-tight filling spout and efficient de-aeration provides optimum filling results – and this is our main strength.

For the fully automatic clean packing of cocoa powder into your prefabricated open-mouth bags we offer the BEHN+BATES TOPLINE® system. 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.

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 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.

Machine output:

120 bags per hour with 25-kg-bags and gross weighing

Your advantages:

- 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 vacuum probes
- 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



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



Tailor-made:
Empty bag magazine
(maximum capacity: 500 bags)



Secure:
Bag separation at the bag bottom for troublefree operation without bag blockages



Well-proven:
Bag opening by sucker bars



Product-specific:
Bag filling by dust-tight powder type spout

Each producer is keen on keeping packing costs as low as possible – combined with maximum cleanliness. 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.

The ADAMS® technology is the BEHN + BATES FFS system for filling cocoa powder.

In brief: The function of the ADAMS®

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 dust-tight BEHN + BATES powder filling spout that fills your cocoa powder either by air or impeller units according to the gross filling principle. Thanks to the combination of gross filling and product densification we reach brilliant weight accuracies.

The upright standing bags are closed in a tight and hygienic way directly after filling. Then they are flattened and palletized. The result: Perfectly filled bags requiring just a minimum of film.

Your advantages:

- High cleanliness due to dust-free filling, sealed filling spout and de-dusting in the filling machine
- Excellent product protection from moisture and outside influences in the tightly sealed PE bags
- Attractive bag shape due to simultaneous bag filling and de-aerating as well as through the integrated corner weld for the proven box shape of the filled bag
- Compactly palletized bags for optimum use of storage and shipping spaces
- High tear resistance of modern films to minimize bag breakage along the entire logistical supply chain for higher cleanliness and reduced maintenance
- Perfect advertising impact due to appealing high-quality imprints with gloss finish – for increased acceptance among your customers and thus higher sales
- Environmentally-friendly packaging due to tailor-made bags and minimized packing material consumption



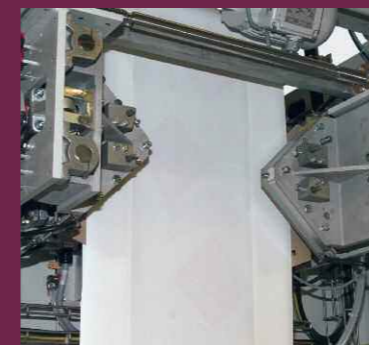
The details make the difference



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 the BEHN + BATES 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 fluidized 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

Regardless whether you process cocoa butter or cocoa mass – your product can be filled in a fast, safe, clean and gentle manner and placed in non-perishable storage. For more than 40 years, our sister company FEIGE FILLING has been a leading name in the filling of liquid or pasty products and a guarantor for the gravimetric filling with calibrated accuracy.

Upon request, we are able to supply from a manually operated filling station to a complete system from one source: Filling, closing, labeling, carton packaging, palletizing, storing, dispatch and logistics.

In brief:

The function of the semi-automatic fillers

After aligning the opened empty container and the filling lance, the operator starts the automatic filling process by pressing a push button. Each container is precisely filled within Weights & Measures specifications using coarse and fine flow. After filling, the operator closes the container and opens the following empty container whilst another container is being filled.

And:

The function of fully automatic fillers

Empty, clean and closed containers are transported to the filler. The filling opening is automatically positioned for the tools, in order to automatically open, fill and close the container. The filled, clean and closed container leaves the filler. Other functions such as labeling, nitrogen purging, overpressure bunging or leak testing can be integrated into the automatic process.

Your advantages:

- High cleanliness through level controlled ascent, drip cup, drain funnel and cleaning station – or on request, a closed protective cabin with lock gates
- Product-adapted filling according to the below-surface or above-surface filling principle
- Additional product adaptability through a heated filling lance or with additional inerting
- No product cross-contamination through rapid-change filling lances
- Sealed containers through overpressure bunging, leakage test or pail sealing
- Optimum operation through simple operator guidance, easy product change and cleaning processes as well as tool-less operation in daily production processes
- Short and simple commissioning through the delivery of pre-assembled and tested filling stations and clear operator guidance
- Special machine variants executed according to ATEX regulations or in stainless steel design – tailor-made to your needs



Everything starts with the selection of your container

We are able to process anything - from 0.5 kg tins or pails, cans, bags, steel and plastic drums to IBCs. The different containers can either be filled by means of simple semi-automatic filling systems or by fully automatic turnkey equipment. Again and again, we turn the wide variety of our customers' project scope into the challenge of finding and implementing individual customized solutions.



PailFill:
Filling of pails – on request, with automatic lid placer



CanFill:
Filling of cans



DrumFill:
Filling of drums



PalletFill:
Filling of pallets and IBC's

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.

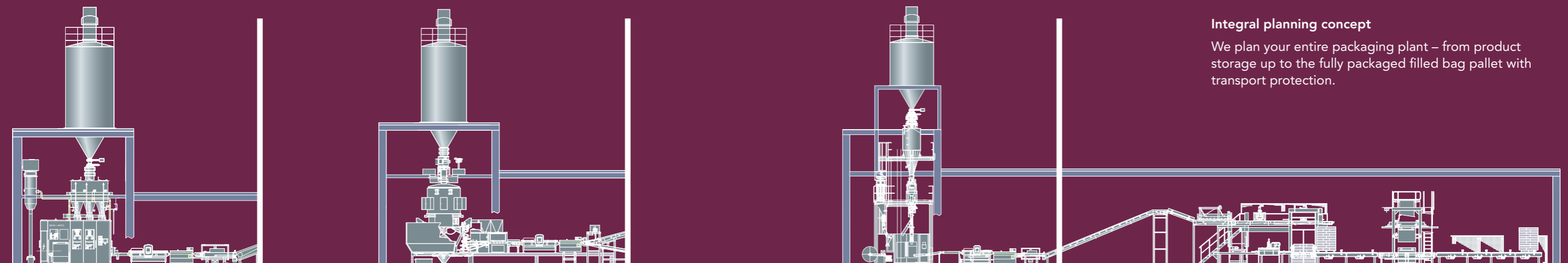
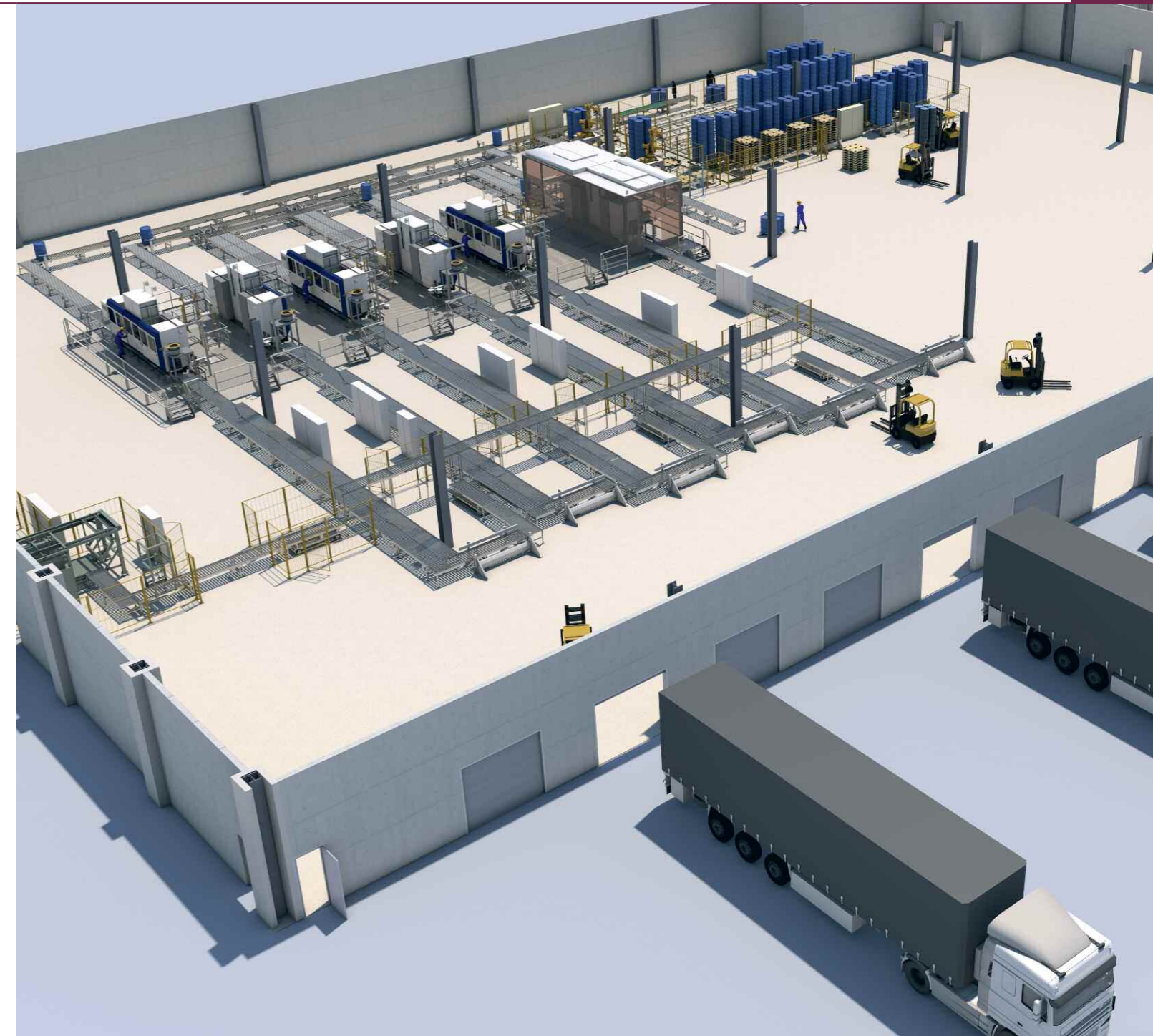
Service around your filling plants: It is important to us to commission your packaging plant successfully – and moreover, to keep it running trouble-free over the years.

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 powders and granules as well as liquid and pasty 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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