



# **BEUMER LOADING TECHNOLOGY** **EFFICIENT BULK MATERIAL** **TRANSPORT**



# SAFE AND RELIABLE FROM A TO Z

The right loading technology is crucial for efficient and safe delivery of your products to your customers. No one knows these key factors for success better than BEUMER Group, looking back on years of experience in this field. We can offer up-to-date, high-quality products and efficient operation due to our comprehensive know-how and continuous commitment to innovation. If you want the best loading technology – you want BEUMER.



# BULK MATERIAL LOADING WITH AN EXPERIENCED PARTNER ON YOUR SIDE



BEUMER Group is one of the leading providers of systems for bulk material loading. We offer our customers a high degree of availability and economical operation through our many years of experience, high-quality products, extensive know-how and the continuous development of our product line.

## BEUMER – ALWAYS THE APPROPRIATE MEANS OF TRANSPORT

Bulk material has to be conveyed in large quantities via motorways and railways. Building materials, coal, cereals, fodder, mineral compounds or products of the chemical industry are often loaded at the production location in suitable vehicles and transported as bulk cargo to other locations.

It is particularly important to provide technical loading and handling systems designed specifically for the product and adapted to the installation conditions. When dimensioning these systems, characteristics of the goods like bulk density, product temperature as well as flow properties are to be taken into account. Other important criteria are the loading capacity, weight and volume monitoring and dust-free, environmentally friendly operation.

BEUMER Group offers in-depth knowledge in this field and is your perfect partner for finding the best loading system for you.

## HIGHLIGHTS

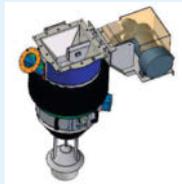
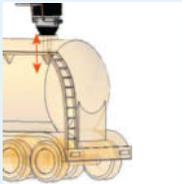
- › Wide range of products for a different range of applications
- › Efficient and ecological loading
- › Individually adjustable loading systems
- › Comprehensive support
- › Continuous updates for your system

# BULK LOADING HEADS FAST AND DUST-FREE



Bulk material loading at Dyckerhoff

## ... FOR BULK TRANSPORTER VEHICLES



Bulk transporter vehicles can be loaded quickly and free of dust with the BEUMER bulk loading head. It is designed according to the double-wall system, i.e. the material inlet and the dedusting unit are separated from each other. The bulk loading head has to be connected to a dedusting air system. The hoist equipment is either a motor cable winch or a hand-operated winch. Material feed must be metered. An operator panel is used for operation.

When placing the bulk loading head on a silo inlet, the sealing cone is lowered and opens the outlet spout. The fill level in the vehicle is adjustable due to the variable lowering level of the sealing cone. In order to balance out any minor positional deviations of the vehicle, the bulk loading head can be moved laterally during placement. When the loading process has been terminated, a vibrating motor shakes off any material still adhering to the unit in order to avoid soiling of the vehicles.

## ... WITH AN INTEGRATED FILTER



The BEUMER bulk loading head is equipped with an integrated compressed-air filter and can operate independently from centralised dedusting systems and dust transporting devices. The dust removed from the bulk transporter vehicle is fed again to the material flow during loading.

The compressed-air filter consists of filter hoses which are positioned between the telescopic tube and the bellows. The suction is carried out by a fan fastened at the outside. The cleaning is carried out by timed compressed-air shock (4-6 bar) which has to be provided by the customer.

## ... WITH FILL LEVEL INDICATORS



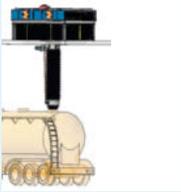
The fill level indicators accurately shut off the material feed to the bulk loading head when the vehicle is full. Different types of fill level indicators are required depending on the properties of the material. The primary criteria used to select the correct switch are bulk density, flow behaviour as

well as product temperature. All systems are interchangeable. This ensures quick and trouble-free modification if required.

# LOADING SYSTEMS

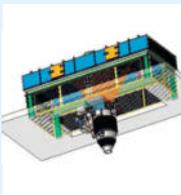
## THE BEST SOLUTION FOR EVERY TYPE OF TRANSPORT

### ... FOR BULK TRANSPORTER VEHICLES



Stationary bulk loading heads are often not sufficient in case of high loading capacities as, for example, in the cement industry, especially if the bulk transporter vehicle is standing on a weighbridge and may not be moved during the loading process. It should be possible to move the bulk loading head to each filler neck of the vehicle.

Depending on the properties of the materials to be loaded and the length of the vehicle, a choice of different sliding or swivelling loading systems is available. These mobile loading systems can be fitted with either one or two loading heads, depending on the space available.



*Mobile hopper*



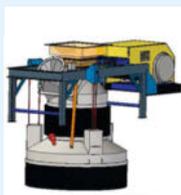
*Mobile screw conveyor*



*Mobile airslide*

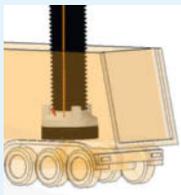


### ... FOR OPEN VEHICLES



Various types of telescopic loading systems are available for dust-free loading of open vehicles. When the loading process starts, the bulk loading head is lowered to the floor of the vehicle and the material feed is switched on. The bulk loading head is raised automatically by a fill level switch in the lower dedusting hood, which is activated by the rising material.

The edge of the dedusting hood always rests on the material cone while it rises, so that no dust can escape. The bellows or the telescopic tubes for the dust extraction have to be connected to a central dedusting air system. The material is fed with the appropriate conveying or dosing systems as, for example, flow control gates.



## ... FOR TRAIN LOADING



Another important element in the overland conveying of bulk material, besides the transportation with trucks, are rail vehicles. BEUMER offers different solutions with telescopic loading systems for loading the waggons.

Sophisticated BEUMER technology allows the loading of coarse bulk materials such as clinker or lumpy ores into open railway waggons, efficiently and without dust.

## ... FOR SHIPS



We offer two different systems for ship loading. Coarse bulk materials, such as clinker or lumpy ores, are loaded into bulk carriers via belt conveying systems and a vertical telescopic tube, efficiently and without dust.

The loading of powdered goods is handled by fully enclosed loading machines – a remarkably eco-friendly solution.

## DISPATCH AUTOMATION



Today, bulk material loading systems are automatically checked and controlled. Integration as well as shipping logistics often require tailor-made concepts.

BEUMER Group offers solutions for specific requirements of each customer, from single loading controls to full material flow control.

These are implemented using the following system components which have been tested and tried many times:

- › material flow control via PLC
- › computers for processing weighing information and customer data, implemented as Windows NT workstation
- › connection between material flow control and computer-controlled weighing process via a fieldbus system or alternatively via a data medium with corresponding writing and scanner stations
- › online connection to commercial computers

# BAG LOADING A SMART SOLUTION



*BEUMER Group products for bag loading allow for even and safe distribution on the transport carriages.*



*Tailor-made bag delivery to the truck*

BEUMER Group holds a patent for a bag loading machine with a bulk loading head, making BEUMER a specialist in loading technology. Whether on trucks or railway waggons, BEUMER Group products make loading and unloading your transport vehicles easy and efficient.

## BEUMER BAG LOADING

The concept of the bag loading machine with three-dimensional adjustment and with a loading head for loading trucks and railway waggons can be traced back to a German patent issued to BEUMER Group several decades ago. In the meantime, BEUMER Group has supplied many loading machines, both standard and special models, for road and rail vehicles and, in addition to supplying individual machines, has equipped various packing plants worldwide with such equipment.

Mechanized and semi- or fully automatic bag loading machines have become a BEUMER Group speciality. Bag transport systems, devices for cleaning bags and for rejecting broken bags, and system controls expand the bag loading machine into complete installations.

# AUTOMATED LOADING AND PALLETISING FOR PRECISE STACKING



BEUMER autopac® allows you to determine individually the number of rows and layers for the material to be transported.

The fully automated BEUMER autopac® efficiently handles two tasks at once: loading and palletising of bagged material. BEUMER has pioneered in this field for decades. Due to its particularly gentle loading process, BEUMER autopac® leaves the bags in shape and undamaged when loading them onto trucks as well as on railway waggons. Relying on BEUMER means relying on experience, innovation and the confidence of a strong partnership.

## TWO IN ONE: AUTOMATED LOADING AND PALLETISING

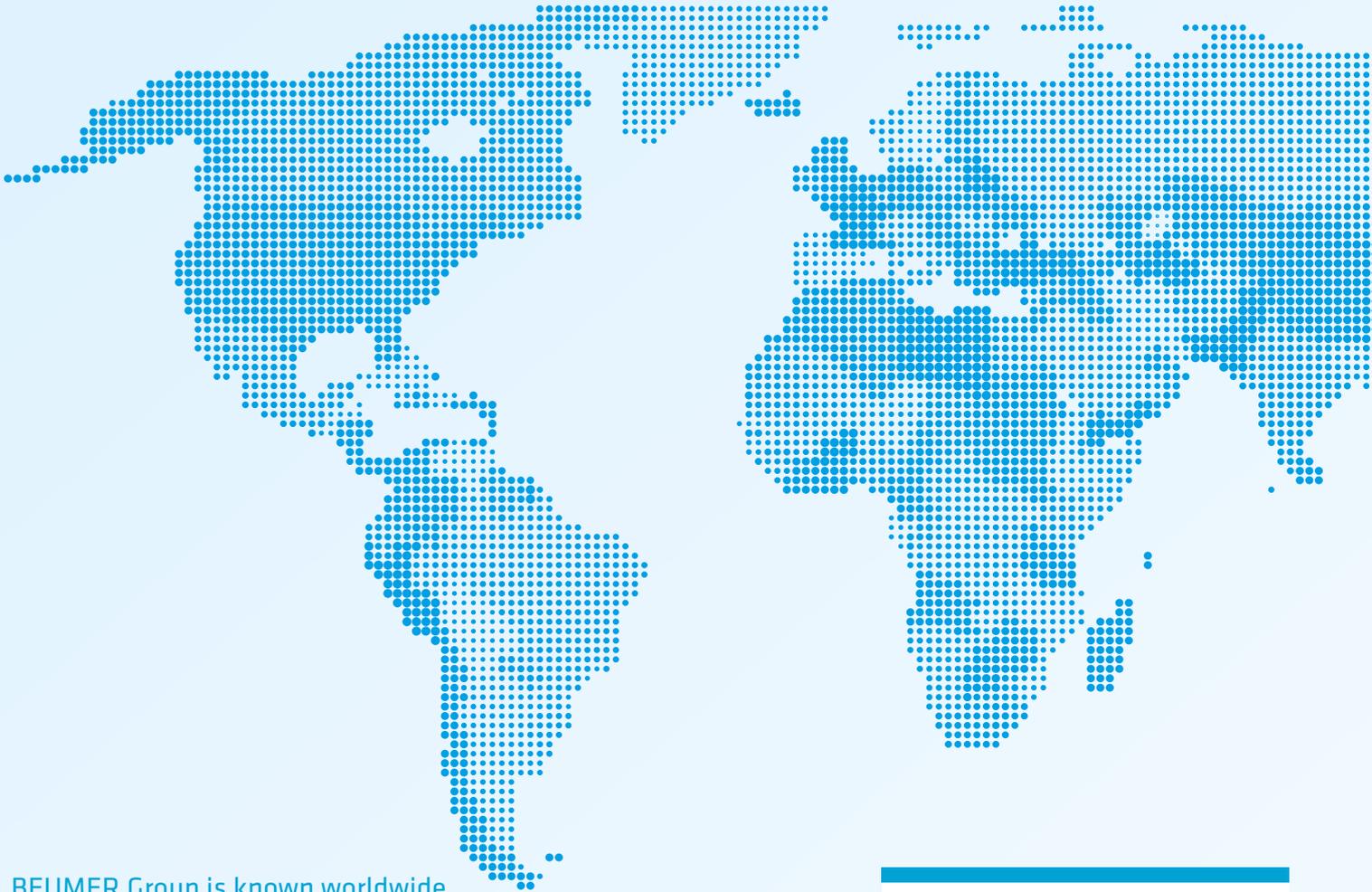
Efficient and powerful: The BEUMER autopac® offers simultaneous loading and palletising of bagged material like cement, fertilisers, and other products. There are two types available: BEUMER autopac® 2400 and 3000. Depending on the version, the machine can process either 2400 or 3000 bags per hour with or without pallets. This means that the BEUMER autopac® can be perfectly integrated into the configuration of your system.

The BEUMER autopac® has a heavy-duty construction built to resist extreme ambient conditions. It is dimensioned for low space requirements. It provides a simple design, easy maintainability, maximum reliability, and operational safety. Constructed solely from electro-mechanical components, eliminating the need for hydraulic or pneumatic power stations or water-cooling, it excels with outstanding availability and efficiency.

## HIGHLIGHTS

- Available as BEUMER autopac® 2400 or 3000
- Automated loading and palletising of bagged goods
- Careful bag handling
- Built for rough environments
- Unmatched availability and reliability
- Easy to operate and maintain
- Flexible packing patterns
- Extremely low power consumption
- Individual bag feed
- A variety of bag materials are supported, including paper valve bags, HDPE bags, and PP valve bags; other materials on request

# SIMPLY WORLD-CLASS CUSTOMER SUPPORT

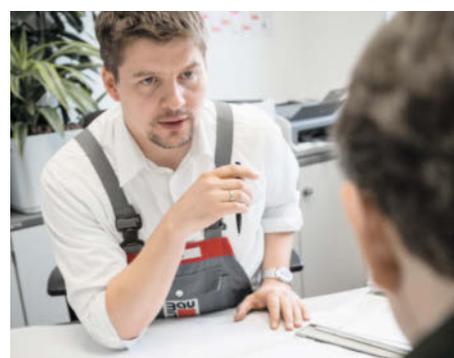


BEUMER Group is known worldwide for its individually tailored customer support. This is based on a global network of regional service centres. Our support solutions will keep your systems operating 24 hours a day, 365 days a year.

## BEUMER GROUP – EVERYTHING FROM ONE SINGLE SOURCE

We also act as the main contractor on behalf of our customers providing comprehensive, highly customised concepts from product filling to palletising and packaging.

Competent engineering, fast and reliable on-site service as well as optimal spare parts supply complete the picture and ensure high reliability of the systems.



*At BEUMER Group, the focus is always on people. We build strong partnerships through personal relationships and individual attention.*



### CUSTOMER CARE

Our customer care programme entitles you to multiple service options, such as maintenance and repair on site through our field service engineers or regular safety checks according to statutory rights. If hardware replacements are needed, our comprehensive warranty service ensures you are always covered.



### MODERNISATION

We are constantly developing new ways to upgrade our software and hardware to extend a system's lifetime, lower energy costs and increase efficiency.

We will keep you informed of all relevant upgrade opportunities, based on an understanding of your business and system needs.



### TRAINING AND QUALIFICATION

We offer standard and tailored customer training programmes to make sure your teams are fully qualified to operate your systems. With hands-on guidance, conducted either on-site or at BEUMER Group locations, your teams can maintain optimal operational performance.



### PARTS LOGISTICS

We guarantee spare part replacements around the world through our local companies.

As a BEUMER Group customer, you

will have your own individual contact to assist you with technical inquiries, warranty issues or repair orders and to secure that your order is delivered on time.



### HOTLINE SUPPORT

Our hotline support is manned 24/7 by highly trained, multi-skilled engineers who all have at least four years of direct field experience. Most cases are solved remotely, however, should the problem require more specialised attention, a BEUMER Group engineer will be quickly sent out.



### RESIDENTIAL SERVICE

With our residential service, we are on-site every day to take complete responsibility for your system uptime, performance and operational efficiency. We can take care of all maintenance and management, including system improvements, contingency plans, specialist advice and repairs.

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Ident. no.: 83958-BE-300-V1-1.5-EN0717-LDT1706333



*Products and technologies carrying BEUMER's  
"made different" seal are characterised by their  
sustainability based on their economic, environ-  
mental and social performance as measured by  
the BEUMER Sustainability Index (BSI).*