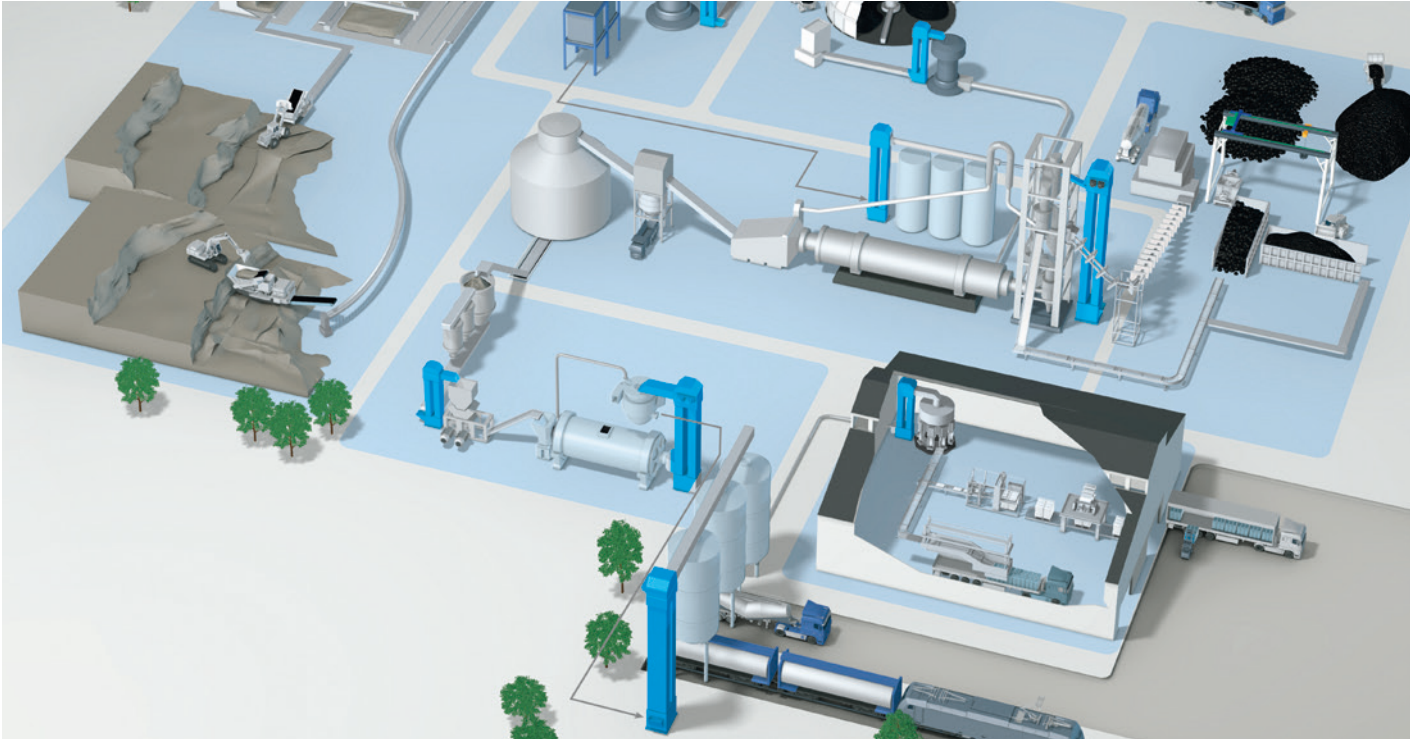


BEUMER BUCKET ELEVATORS POWERFUL VERTICAL CONVEYING

BEUMER BUCKET ELEVATORS MAXIMUM VERTICAL CONVEYING OF BULK MATERIALS



BEUMER bucket elevators in cement plants

Whether hot or cold: BEUMER bucket elevators are the economical solution when it comes to vertical transport of bulk material. As the market leader, BEUMER Group has developed special technical designs for this type of conveying system for a number of decades now. Therefore, BEUMER Group can offer the perfect configuration for many different applications.

VERTICAL TRANSPORT FOR VARIOUS INDUSTRIES

Whether they are used for cement, fertilisers or building materials, in the mining industry or in power plants: bucket elevators are required in many industries for the vertical transport of bulk materials. BEUMER Group bucket elevators have been continuously developed further over the last decades and are always state of the art, so that they can meet the high requirements of the different application.

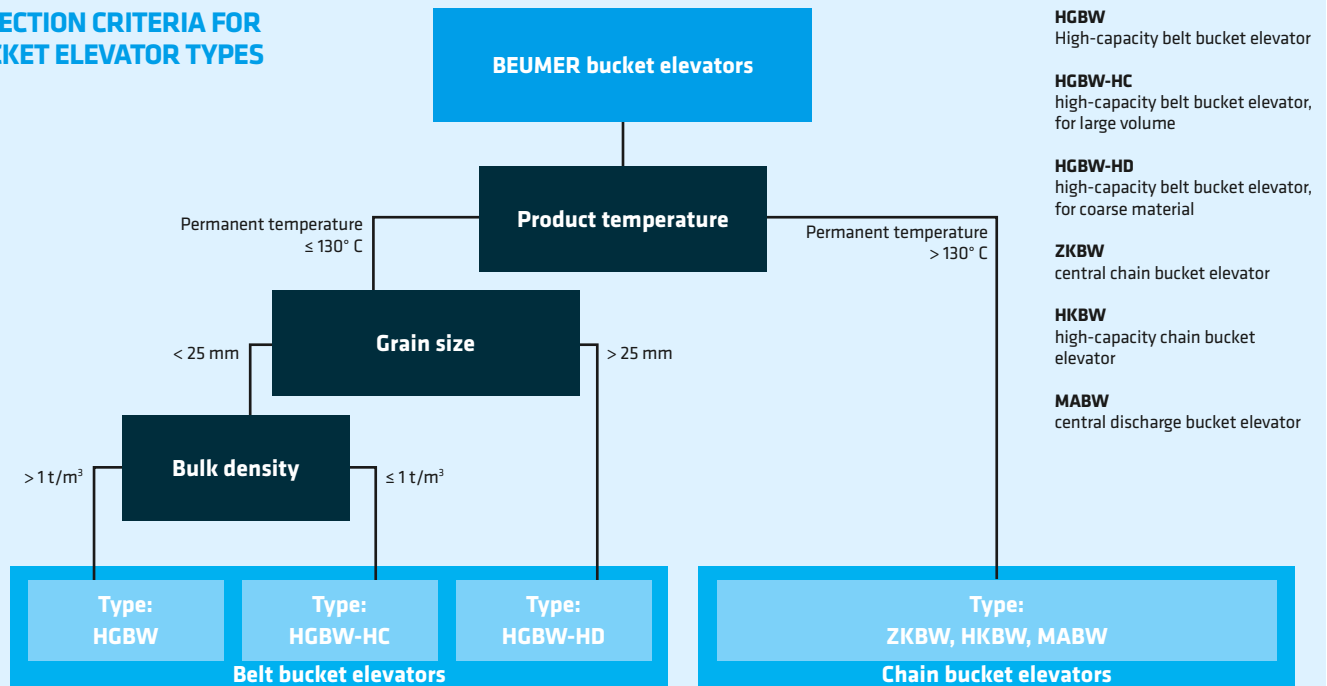
Examples of use for BEUMER bucket elevators in different industries:

- cement
- fertilisers
- mining
- power plants
- building materials

HIGHLIGHTS

- > Vertical transport of:
 - fine bulk material (raw meal, cement etc.)
 - coarse bulk material (limestone, clinker, coal, phosphates etc.)
- > Product properties ranging from sticky to highly abrasive
- > Conveying heights up to 200 m and more
- > Conveying capacity up to 2,000 m³/h and more
- > Explosion-proof designs possible, e.g. in compliance with ATEX

SELECTION CRITERIA FOR BUCKET ELEVATOR TYPES



Decision criteria for bucket elevator types

THE QUESTION OF TYPE: BELT OR CHAIN?

Belt bucket elevators use is becoming increasingly common, because they offer many advantages compared to chain bucket elevators. The BEUMER steel wire belts, for example, allow considerably longer lifetime than chains.

BEUMER central chain bucket elevators are only used, when the material temperature of the bulk material to be transported permanently exceeds 130°C . This means that only the permanent temperature of the bulk material decides whether a belt bucket elevator or a chain bucket elevator is required.

HIGHLY ROBUST STEEL WIRE BELTS

The belt is the key component of the belt bucket elevator. As a market leader, BEUMER Group has developed highly strong steel wire belts with wire-free zones for the bucket fixing.

BEUMER high capacity steel wire belts are available with belt strengths of up to $3,300\text{ N/mm}$. Fabric belts are available for lower strengths.

For an even distribution of the retention forces, the buckets are mounted with forged segment fastening. This kind of fixing is reliable in preventing the buckets from getting loose. Additional rubber plattes between bucket and belt reinforce the bucket/belt connection.

BEUMER BELT BUCKET ELEVATORS BRING FINE OR COARSE BULK MATERIAL TO THE VERY TOP



BEUMER belt bucket elevators for the mechanical vertical conveying of powdery to coarse-grained bulk material

Whether for vertically transport hot or cold materials – BEUMER belt bucket elevators ensure an economic vertical transport of fine or coarse bulk material up to large heights. They are highly reliable with long service time, even under strong ambient conditions. They have proven their reliability in thousands of installations in continuous operation, e.g. for silo feeding or in the cement industry for feeding the preheater tower.

HIGH CAPACITY FOR BULK MATERIAL

Limestone, raw meal, clinker, cement, fertilisers, gravel, coal, ore – BEUMER belt bucket elevators convey fine to coarse bulk materials reliably, and dust-free, up to conveying heights of more than 200 m. Depending on the application and the required conveying capacity, specially designed buckets with different widths are used for the respective bulk materials. This means that flow rates of 2,000 m³/h and more can be realised. BEUMER belt bucket elevators can also be used for conveying hot material with a permanent temperature of up to 130 °C.

ECONOMIC CONVEYING

Large-volume buckets are used for specifically light material. Also, the energy consumption of mechanical BEUMER belt bucket elevators is much less than pneumatic conveying systems, reducing of operational costs.

HIGHLIGHTS

- › Special solutions for sticky materials
- › Corrosion resistant – completely or partly in stainless steel
- › Belt misalignment monitoring, electronically or mechanically
- › Speed monitoring
- › Boot casing level monitoring
- › Explosion-proof designs possible, e.g. in compliance with ATEX

BEUMER TYPE HGBW BELT BUCKET ELEVATORS CONVEY FINE MATERIALS



Secure belt end connection



High-capacity steel wire belt with wire-free zones for fixing the buckets



Feeding a preheater tower

Perfect for powder to fine bulk materials, e.g. raw meal, cement, sand or ore pellets: the BEUMER type HGBW belt bucket elevators.

PERFECT TRANSPORT FOR EVERY DAY
BEUMER type HGBW belt bucket elevators are standard for bulk materials with grain size of 0 to 25 mm. They convey the material to heights of up to 200 m and more. Bucket widths of 160 to 2,000 mm are available.

HIGHLIGHTS

- › Vertical conveying of bulk material with grain size of up to 25 mm
- › Heights up to 200 m and more
- › Capacities of up to 1,860 m³/h
- › Highest wear resistance even with very abrasive materials
- › Permanent material temperatures of up to 130 °C
- › Explosion-proof designs possible, e.g. in compliance with ATEX

HGBW BUCKET WIDTH mm	160	200	250	315	400	500	630	700	800	900	1,000	1,100	1,250	1,400	1,600	1,800	2,000
VOLUME FLOW RATE, 100 % FILLING m ³ /h	40	60	90	130	210	300	470	560	660	840	940	1,020	1,160	1,300	1,500	1,680	1,860

BEUMER TYPE HGBW-HC BELT BUCKET ELEVATORS FOR HIGH VOLUMES



Raw meal vertical conveying

Particularly for conveying large volumes of fine, light bulk material: BEUMER type HGBW-HC belt bucket elevators.

TOP PERFORMANCE FOR LARGE VOLUMES

BEUMER belt bucket elevators type HGBW-HC are equipped with high-volume buckets. The reduced outer bucket elevator size requires less installation space for the system. The reduced weight due to the smaller BE size simplifies the transport of all bucket elevator parts to the place of use and reduces the footprint. This reduces not only the construction and assembly time, also the material expenses and investment costs.

HIGHLIGHTS

- › Higher transport volume with the same bucket width
- › Grain size ≤ 1 mm
- › Bulk density up to max. 1 t/m^3
- › Conveying capacities of up to approx. $2,350 \text{ m}^3/\text{h}$
- › Permanent material temperatures of up to $130 \text{ }^\circ\text{C}$
- › Explosion-proof designs possible, e.g. in compliance with ATEX

HGBW-HC BUCKET WIDTH mm	500	630	710	800	900	1,000	1,100	1,250	1,400	1,600	1,800	2,000
VOLUME FLOW RATE, 100 % FILLING m^3/h	410	580	800	940	1,060	1,080	1,300	1,470	1,650	1,880	2,110	2,350

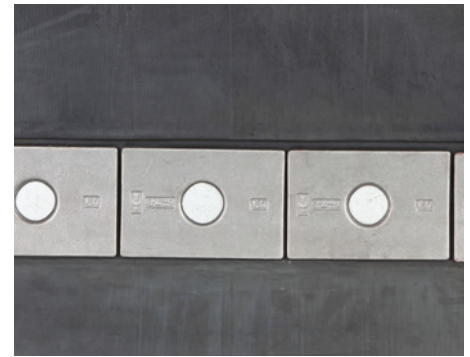
BEUMER BELT BUCKET ELEVATORS TYPE HGBW-HD FOR COARSE MATERIAL



BEUMER High-capacity belt bucket elevator type HD



Gap-free bucket-belt connection



Durable bucket-belt connection

The conveying of coarse, sharp, heavy and highly abrasive bulk material, e.g. of clinker and ore, requires special bucket elevators: BEUMER high-capacity belt bucket elevator type HD.

THE SOLUTION FOR COARSE MATERIAL

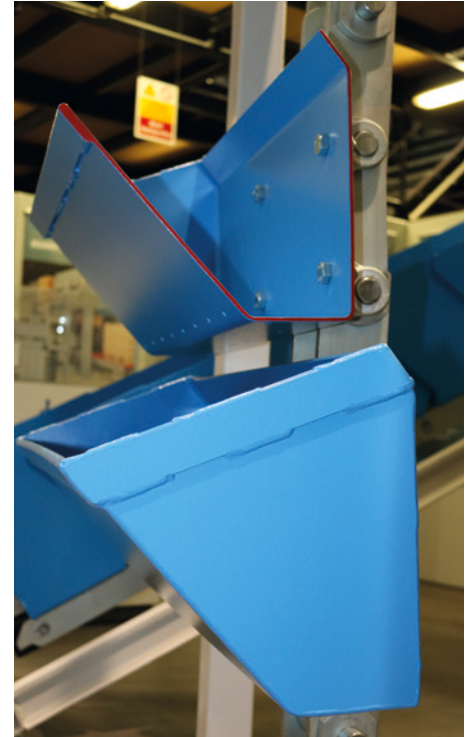
This belt bucket elevator has been developed for bulk material of grain sizes up to 120 mm, heights over 150 m and quantities of 1,700 m³/h. They impress with very smooth running and large centre distances compared to chain bucket elevators. The special seal between bucket and belt ensures a safe operation. The BEUMER HGBW-HD are used for example as circulation bucket elevators behind high pressure roller mills in the cement and ore industries. The explosion-proof version allows to convey even potentially explosive material such as coal, coke, petcoke etc.

HIGHLIGHTS

- › Vertical transport of bulk material with grain sizes up to 120 mm
- › Conveying heights of over 150 m
- › Conveying capacity up to 1,700 m³/h
- › Permanent material temperatures of up to 130 °C
- › Explosion-proof version possible, e.g. according to ATEX
- › Retrofit of existing bucket elevators is possible
- › Low noise level compared to chain

HGBW-HD BUCKET WIDTH mm	315	400	500	630	800	900	1,000	1,100	1,250	1,400	1,600	1,800	2,000
VOLUME FLOW RATE, 100 % FILLING m ³ /h	136	340	420	520	680	770	850	940	1,060	1,160	1,370	1,530	1,700

BEUMER CENTRAL CHAIN BUCKET ELEVATORS FOR HIGH TEMPERATURES



BEUMER central chain bucket elevator

BEUMER central chain bucket elevators are in the field of high permanent temperatures of the material, e.g. for hot clinker.

RELIABLE VERTICAL TRANSPORT WHEN MATERIAL IS HOT

BEUMER central chain bucket elevators have been developed for conveying maximum capacities of hot material. In order to ensure the safety of the chain different chain sizes are available. Due to special bucket chain, vibrations are not transmitted to the buckets. Conveying heights of up to 70 m are possible. The central chain bucket elevators are also used in the circulation process of grinding plants.

HIGHLIGHTS

- › Vertical transport of hot bulk material with grain size up to 100 mm
- › Conveying capacity up to 1,900 m³/h
- › Centre distances up to 70 m and more
- › Different chain sizes with breaking forces up to 2,500 kN available

ZKBW BUCKET WIDTH mm	315	400	500	630	710	800	900	1,000	1,100	2x630	2x710	2x800	2x900	2x1,000	2x1,100
VOLUME FLOW RATE, 100 % FILLING m ³ /h	120	300	370	470	530	690	770	860	950	1,080	1,220	1,380	1,540	1,710	1,900

WELL-PROVEN BEUMER BUCKET ELEVATORS



SOME OF OUR REFERENCES:



BEUMER BELT BUCKET ELEVATORS HGBW

- › The Siam Cement , Thailand
- › Bamburi Cement, Kenya
- › Mordovcement, Russia
- › Yara Sluiskil, Netherlands
- › D.G. Khan Cement, Pakistan



BEUMER BELT BUCKET ELEVATORS HGBW-HD

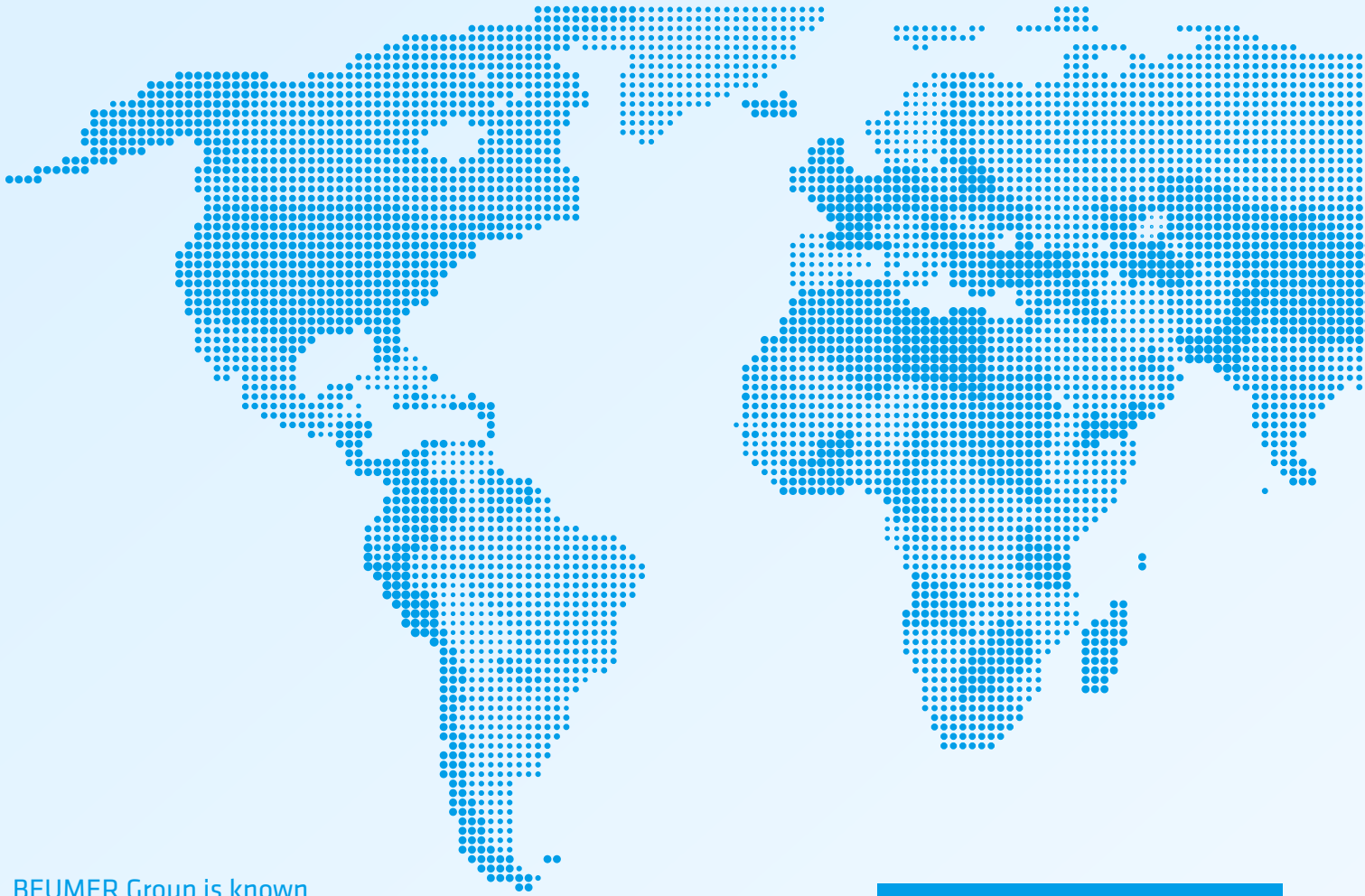
- › Opterra Wössingen, Germany
- › Jurong Power Plant, Singapore
- › Holcim, Sri Lanka
- › Dangote, Nigeria
- › Holcim Siggenthal, Switzerland



BEUMER CENTRAL CHAIN BUCKET ELEVATOR

- › Cemex, Poland
- › Cementos Fortaleza, Mexico
- › Bilim Makina, Turkey
- › Golden Bay Cement, New Zealand
- › Cementos Minetti, Argentina

SIMPLY WORLD-CLASS CUSTOMER SUPPORT

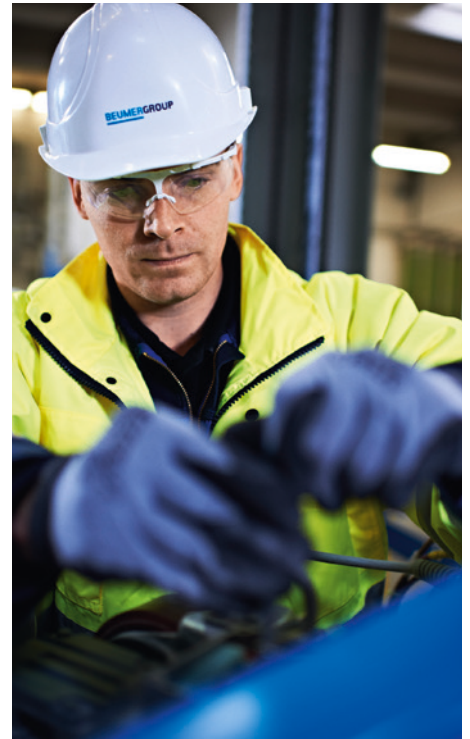


BEUMER Group is known worldwide for its individually tailored customer support. This is based on a global network of regional service centres. Our support solutions will keep your systems operating – 24 hours a day, 365 days a year.

BEUMER GROUP – EVERYTHING FROM ONE SINGLE SOURCE

We also act as the main contractor on behalf of our customers and provide comprehensive, highly customised concepts.

Competent engineering, fast and reliable on-site service as well as optimal spare parts supply round out our offering 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.



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.



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.



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.



SPARE 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.



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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mental and social performance as measured by
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