



Conveying and Storage Systems for Chemical & Fertilizer Industry





Rotary Discharge Machine (BEW)



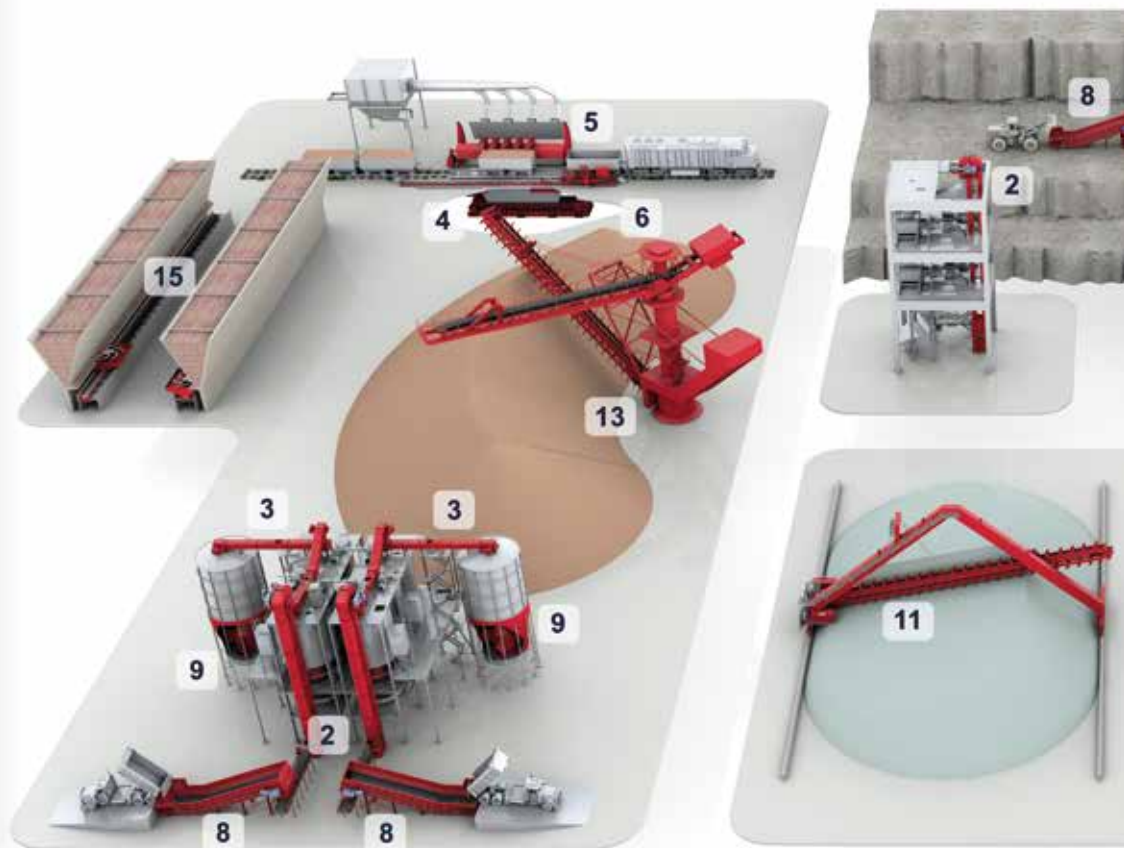
STORMAJOR®



Heavy-Duty Apron Feeder

Bulk Materials

- Urea
- NPK
- DAP
- MAP
- CAN
- Chalk
- Potassium chloride (MOP)
- Potassium nitrate (NOP)
- Potassium sulphate (SOP)
- Silvinit
- Ammonium nitrate
- Ammonium sulphate
- Superphosphate
- Phosphorite
- Apatite
- Natrium sulphate
- Sulphur
- Soda light
- Soda heavy
- Magnesite
- Limestone
- Lime
- Aluminum fluoride
- Phosphogypsum
- Rock Salt
- Dolomite
- Sand



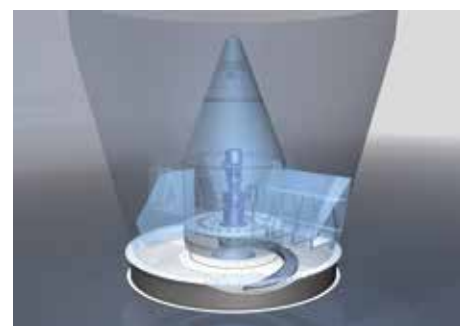
- | | |
|--------------------------------------|-------------------|
| 1. Chain Bucket Elevator | 4. Apron Feeder |
| 2. Belt Bucket Elevator | 5. Wagon Tippler |
| 3. Drag Chain Conveyor (type LOUISE) | 6. Wagon Indexer |
| | 7. Shiploader |
| | 8. Samson® Feeder |



Drag Chain Conveyor (type LOUISE)



Samson® Feeder



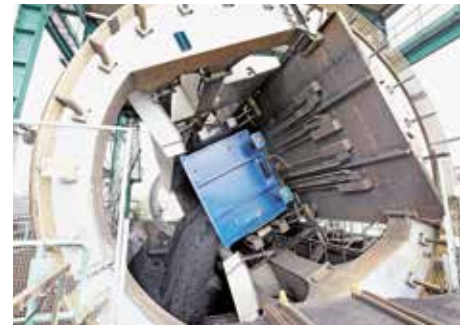
CENTREX® Silo Discharge



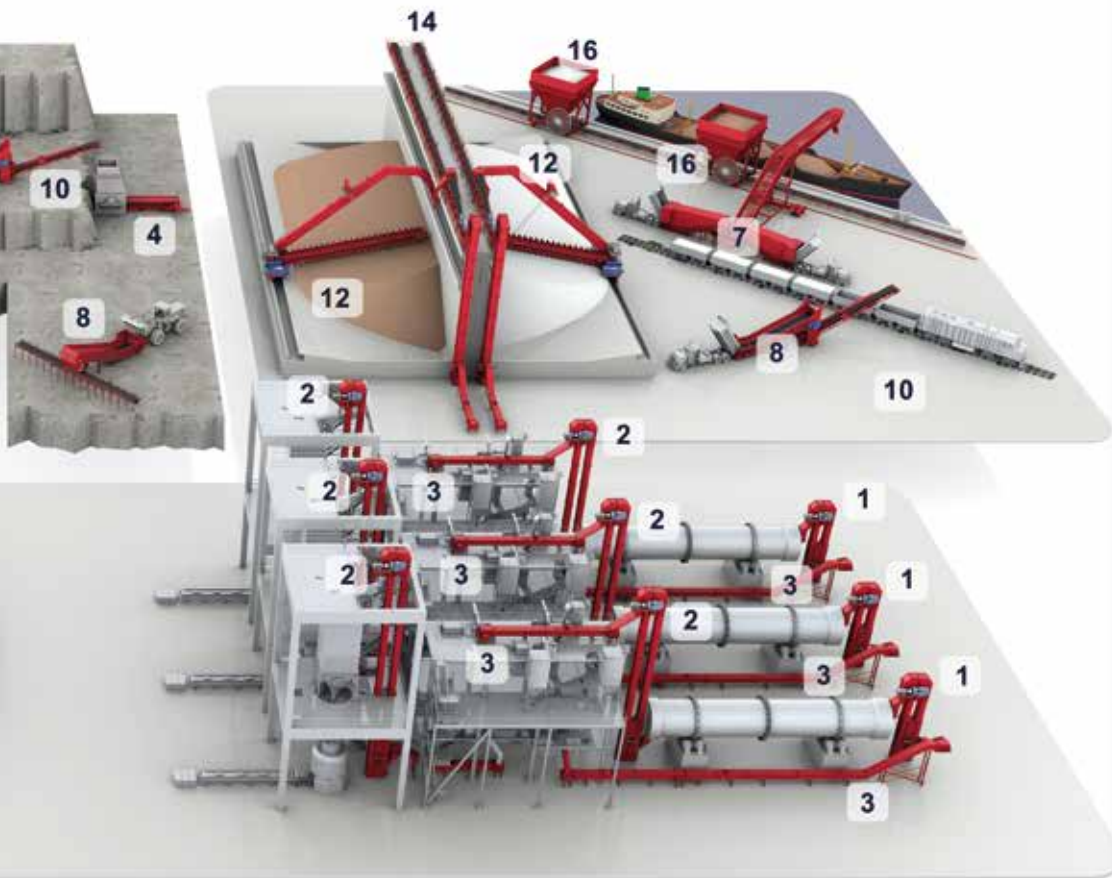
Semi Portal Reclaimer
& Tripper Car



Shiploading System



Wagon Tippler



- 9. CENTREX® Silo Discharge
- 10. STORMAJOR®
- 11. Combined Portal Reclaimer
- 12. Semi Portal Reclaimer
- 13. Circular Storage

- 14. Tripper Car
- 15. Rotary Discharge Machine
(type LOUISE BEW)
- 16. Eco Hopper

Our References

- K+S
- OCP
- BASF
- Mosaic
- Vale
- Yara
- ICL
- Uralkali
- EuroChem
- PhosAgro
- ACRON
- Gazprom
- Mendeleevscazot
- Rososh Fertilizer
- Ma'aden
- SAFCO
- MOPCO
- PETRONAS
- SORFERT
- AlexFert
- Dead Sea Works
- CNPC
- Pupuk Kaltim
- Haifa Chemicals
- Solvay
- Soda Sanayi
- Sisecam Soda Lukavac
- Turkmenhimiya



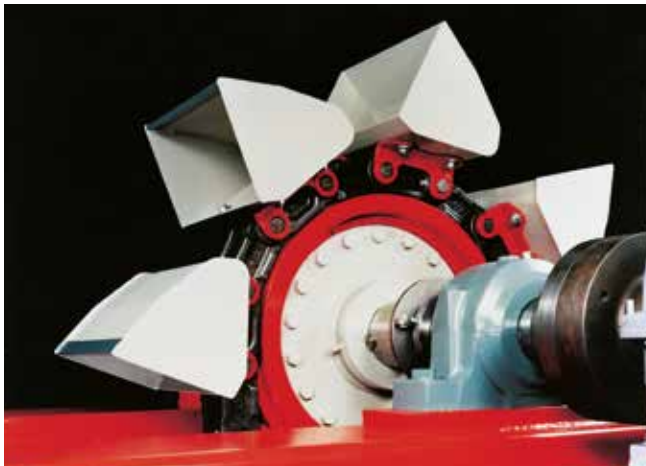
Combined Portal Reclaimer



Belt Bucket Elevator



Chain Bucket Elevator



Chain Bucket Elevator

AUMUND Chain Bucket Elevators with central chain are the ideal solution to elevate granular, coarse, hot and abrasive materials.

- Conveying capacities exceeding 900 m³/h
- Lifting heights up to 90 m
- Maximum temperature 450 °C
- Bucket widths ranging from 200 mm up to 1,200 mm
- Forged lubricated chain with oversized links, bushings and pins
- Angular brackets for easy bucket fixing
- Segmented drive ring, exchangeable without opening the chain
- Maintenance casing for easy access
- Outstanding service life – in continuous operation
- Low maintenance
- High degree of availability
- Self supporting casing structure (single or double casing design)
- Special casing for maintenance
- Drive unit is supported by head section only no loads transfer into the platform



Different bucket configurations are available

Gravity or centrifugal discharge for sticky and abrasive materials or large lumps

Sensors

Motion sensor, filling rate sensor, motor power, hydraulic coupling oil temperature

Optional sensors

Tensioning control, motor bearing, gear box bearing, drive shaft bearing, vibration sensor



Special materials for different elevator elements

Chromium-manganese steel, stainless steel, rubber, plastic, aluminium, wear protection with Hardox, Ni-Hard, Vauthid

More than 3,500 installations worldwide

Type BWZ-D

- Twin strand Chain Bucket Elevators
- Two central chain strands
- Centrifugal discharge
- Bucket width 2 x 400 up to 2 x 1,100 mm



Type BWZ-S

- Single strand Chain Bucket Elevators
- Central chain
- Gravity discharge
- Bucket width 200 up to 1,200 mm



Type BW-DK

- Double strand Chain Bucket Elevators
- Two chains with side bucket fixing
- Gravity discharge
- Bucket width 205 up to 2,400 mm



Type BW-DKH

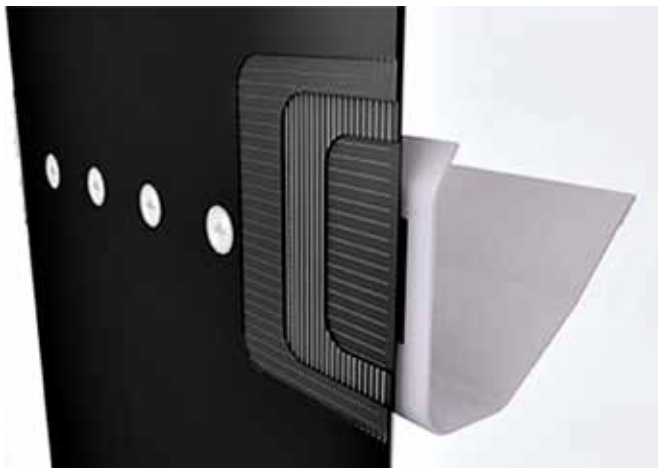
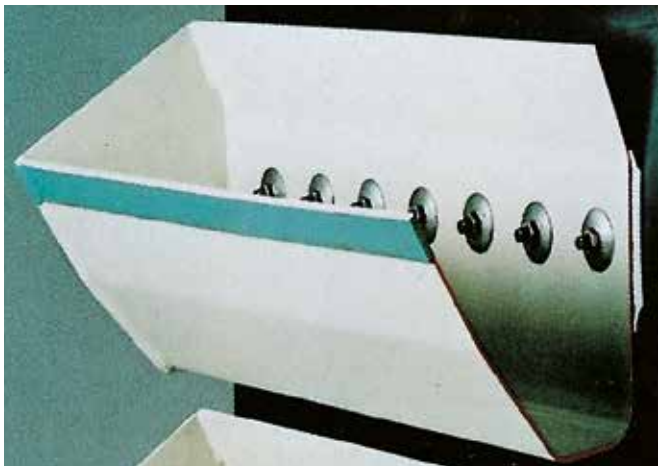
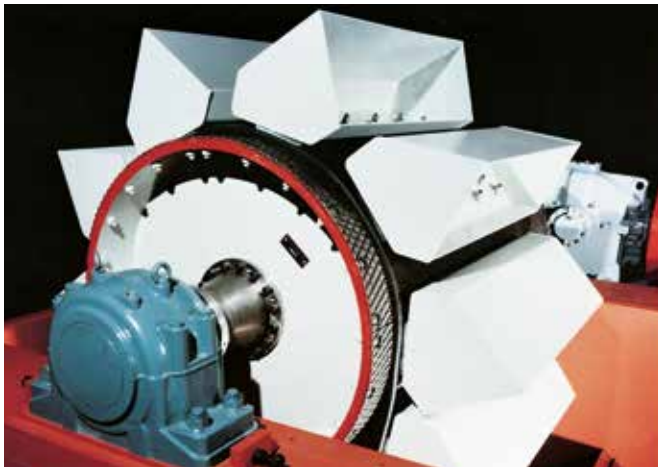
- Double Chain Strand Bucket Elevators
- Two chains fixed behind the buckets
- Centrifugal discharge
- Bucket width up to 2,400 mm



Type BW-DKHS

- Double Chain Strand Bucket Elevators
- Two chains fixed on the back of the bucket
- Gravity discharge
- Bucket width up to 2,400 mm





Belt Bucket Elevator

AUMUND Belt Bucket Elevators with steel reinforced belt are the ideal solution to raise granular material and powder with exceptional lifting height and high conveying capacity.

- Conveying capacities from low to a very high 2,400 m³/h
- Lifting heights can exceed 170 m and more
- Heat resistant up to 150 °C
- Bucket widths ranging from 200 mm up to 2,000 mm
- Steel cord belt with three layers
- High tensile strength up to 4,200 N/mm
- Heat resistant belts
- Segmented drive pulley, exchangeable without opening the belt
- Maintenance casing for easy access
- Outstanding service life – in continuous operation
- Low maintenance
- High degree of availability
- Self supporting casing structure (single or double casing design)
- Special casing for maintenance
- Drive unit is supported by head section only no loads transfer into the platform

Different bucket configurations are available

Gravity or centrifugal discharge for sticky and abrasive materials

Special materials for different elevator elements

Chromium-manganese steel, stainless steel, rubber, plastic, aluminium, wear protection with Hardox, Ni-Hard, Vauthid

Sensors

Motion sensor, filling rate sensor, motor power, hydraulic coupling oil temperature, belt misalignment

Optional sensors

Tensioning control, motor bearing, gear box bearing, drive shaft bearing, belt temperature sensor, belt clamping connection, vibration sensor

Standard design up to 15 mm grain size.
For coarse material special design is available.

Type BWG-GK

- High capacity Belt Bucket Elevators for coarse material
- Steel reinforced belt protected from material contact
- Bucket width from 400 up to 1,250 mm

More than 4,000 installations worldwide

Retrofits and modernisation

- Capacity increase
- Geometrical changes
- Technological changes
- Availability
- Original manufacturer doesn't exist any more
- Update to state of the art technology

Advantages of a retrofit

- Less dismantling and erection time and cost
- Less investment than a new machine
- No changes in the equipment foot print and surrounding equipment



3 steps of AUMUND retrofit solution

Level 1

Exchange of internal chain and rims / belt only (Retrofit of chain and belt bucket elevators)

Level 2

Exchange of drive shaft, tensioning assembly and drive unit. The steel structure of the machine remains unchanged.

Level 3

The steel structure will be modified to new conditions (geometrical and technological reasons)

All machines retrofitted by AUMUND will be incorporated in the AUMUND After Sales and Maintenance Program serviced by AUMUND service specialists on site.



More than of 1,200 retrofits including over 600 retrofits of bucket elevators worldwide



Drag Chain Conveyor

With lengths of 50 m and even more, the Drag Chain Conveyor TKF, type LOUISE, is designed for a wide range of bulk materials. It is supplied with forged and surface-hardened fork-link chains for optimum tensile strength. For each project, the Drag Chain Conveyor is individually adjusted to the bulk materials properties and the geometrical requirements.

- Reduced dedusting capacities required
- Up to 3.5 bar shock proof (optional)
- Available in gas-, pressure-, and water-tight versions as well as in single- or double-chain designs
- No spillage
- Long operational lifetime
- Complete enclosed, no pollution of the environment, no contamination of the product from outside

Functions

- Material transport
- Material distribution
- Material discharge
- Combined functions



Samson® Material Feeder

The Samson® Feeder concept satisfies the demands for an easy solution to bridge over bulk materials in a controlled rate to an ongoing conveying system.

- Surface installation
- No underground pits
- Minimum civil works
- Maximum flexibility
- Minimum dust generation
- Fast truck turnaround
- Controlled output rate

Rotary Discharge Machine

The Rotary Discharge Machine type LOUISE BEW reclaims materials like ores, coal, raw material of fertilizer from large longitudinal stockpiles. For different requirements, various variants are available, e.g. fast travelling and single or double side extraction. With installation of more than one machine in one tunnel, a mixture of different materials at a determined recipe can be extracted.

Rotary Discharge Machines ensure the reliable discharge of various difficult materials with poor flow properties. Equipped with an electrical control system, the machine travels inside the discharge channel in both directions.

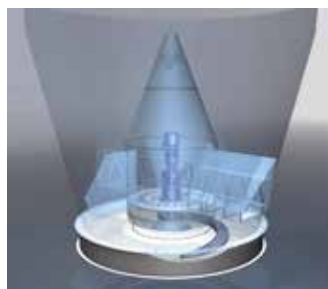
- Even discharge of all types of bulk materials
- Travel distance up to 300 m
- Discharge capacities up to 5,000 m³/h infinitely adjustable
- Double-/ single-side reclaim
- Fast travel option
- Suitable for blending
- First-in-First-out-concept

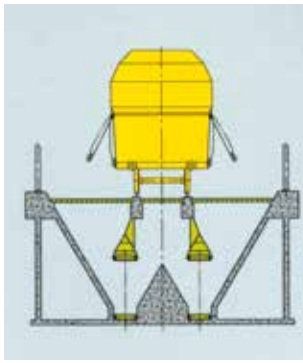


Silo Discharge with CENTREX[®] and BEW-K

The CENTREX[®] and Rotary Discharge Machine type LOUISE BEW-K are especially suitable for the discharge of sticky materials from silos. By means of a logarithmically formed clearing arm, bulk materials are passed from the silo wall radially under the inner cone and onto the centrally located discharge unit. Thanks to the compact and inherently stiff design, the CENTREX[®] is suitable for installation in existing silos and bunkers.

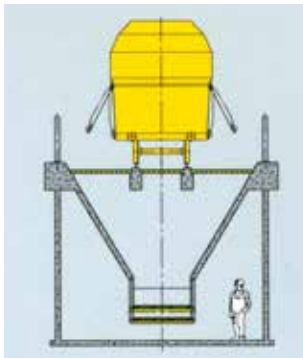
- CENTREX[®] for up to 8 m silo diameter
- BEW-K for up to 14 m silo diameter
- First-in-First out-concept
- 100 % live capacity





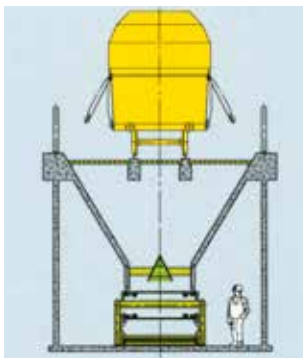
Drag Chain Conveyor type LOUISE TKF

The special design of the Drag Chain Conveyor TKF type LOUISE in this example used for discharge of raw coal, fertilizer or other not abrasive materials, allows to build the receiving hopper with a relatively small depth.



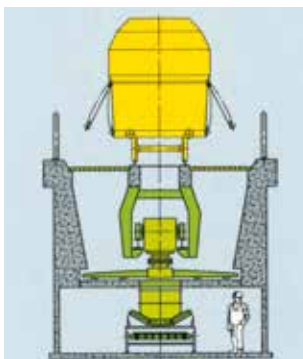
Armoured Chain Conveyor type PKF

Solution with low construction height and tight connection to the hopper. This solution ensures reclaiming of material without any dust or spillage. For sticky material a paddle wave can be installed.



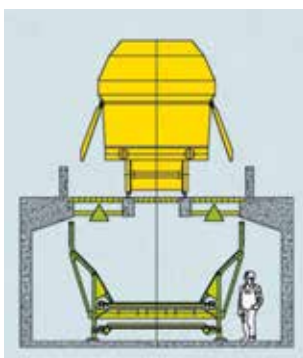
Apron Feeder type BPB

Hopper discharge with the Apron Feeder allows to intake material with very big lump size including frozen lumps. For reclaiming of materials with high bulk density like iron ore or gold ore a relief saddle is recommendable. For conveying of fines a special spillage conveyor of low design can be installed underneath the apron feeder.



Rotary Discharge Machine type LOUISE BEW

For discharge of the long rectangular hoppers for two and more wagons the Rotary Discharge Machine type LOUISE BEW is an economically and technically recommendable solution. With this type of machine material up to 300 mm lump size can be handled.



Material Feeder type Samson[®] MF-UF

Under rail Samson[®] Feeder is an universal receiving unit. Due to robust and dust free design different types of material can be received. The big body of the Samson[®] Feeder reduces investment into concrete hopper. Apron width of 2,600 mm ensures that all material can be reclaimed without any bridging risk. One single Samson[®] unit can be designed for two wagons.



SCHADE Stockyard Technology

SCHADE is among the world's leading suppliers of bulk materials stockyards and blending-bed equipment and railcar-unloading systems (Wagon Tipplers) catering for all major industries.

SCHADE offers the largest variety of stackers and scraper reclaimers for a handling rate between 100 and 5,000 t/h. Covered storage systems and more. Open-air stockyards widths can reach up to 75 m.

SCHADE
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SAMSON Mobile Material Handling Solutions

With 50 years of experience in bulk materials handling, covering a huge variety of materials and industries, SAMSON is uniquely positioned to offer optimum solutions for mobile bulk material operations. Extensive experience is a guarantee for effective performance and long-term satisfaction with maximum reliability and absolutely minimum overall investment cost.

A comprehensive range of equipment for feeding, loading, materials intake and stockpiling is designed for the specific requirements of the bulk shipper or bulk terminal operator.

SAMSON
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AUMUND GROUP SPANNING THE GLOBE

The AUMUND Group offers efficient solutions for conveying and storage of bulk materials. A particular strength is the technologically mature and extremely reliable machinery for handling all kinds of bulk materials, even hot, abrasive or sticky. Nearly 24,000 installations worldwide substantiate the excellent reputation and good market position of the Group. The companies of the AUMUND Group are active in about 150 countries with 20 locations all over the world and a global network of almost 100 representatives.

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AUMUND Fördertechnik GmbH / Germany
Branch Office Dubai / U.A.E
Branch Office Wroclaw / Poland

AUMUND S.A.R.L. / France

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AUMUND Machinery Technology (Beijing) Co. Ltd / China

AUMUND Asia (H.K.) Ltd / Hong Kong / China
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SCHADE Lagertechnik GmbH / Germany

SAMSON Materials Handling Ltd / GB
Branch Office Bristol / GB

AUMUND Group Field Service GmbH / Germany

TILEMANN GmbH / Germany

AUMUND Logistic GmbH / Germany

The AUMUND Group operates Service Centres and Warehouses for spare parts in Germany, the USA, Brazil, Hong Kong, Saudi Arabia, and in Great Britain. Almost 60 dedicated Supervisors tend to clients' needs across the globe and a specialized PREMÁS® Team provides Preventative Maintenance and Service support including inspection and consulting.



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