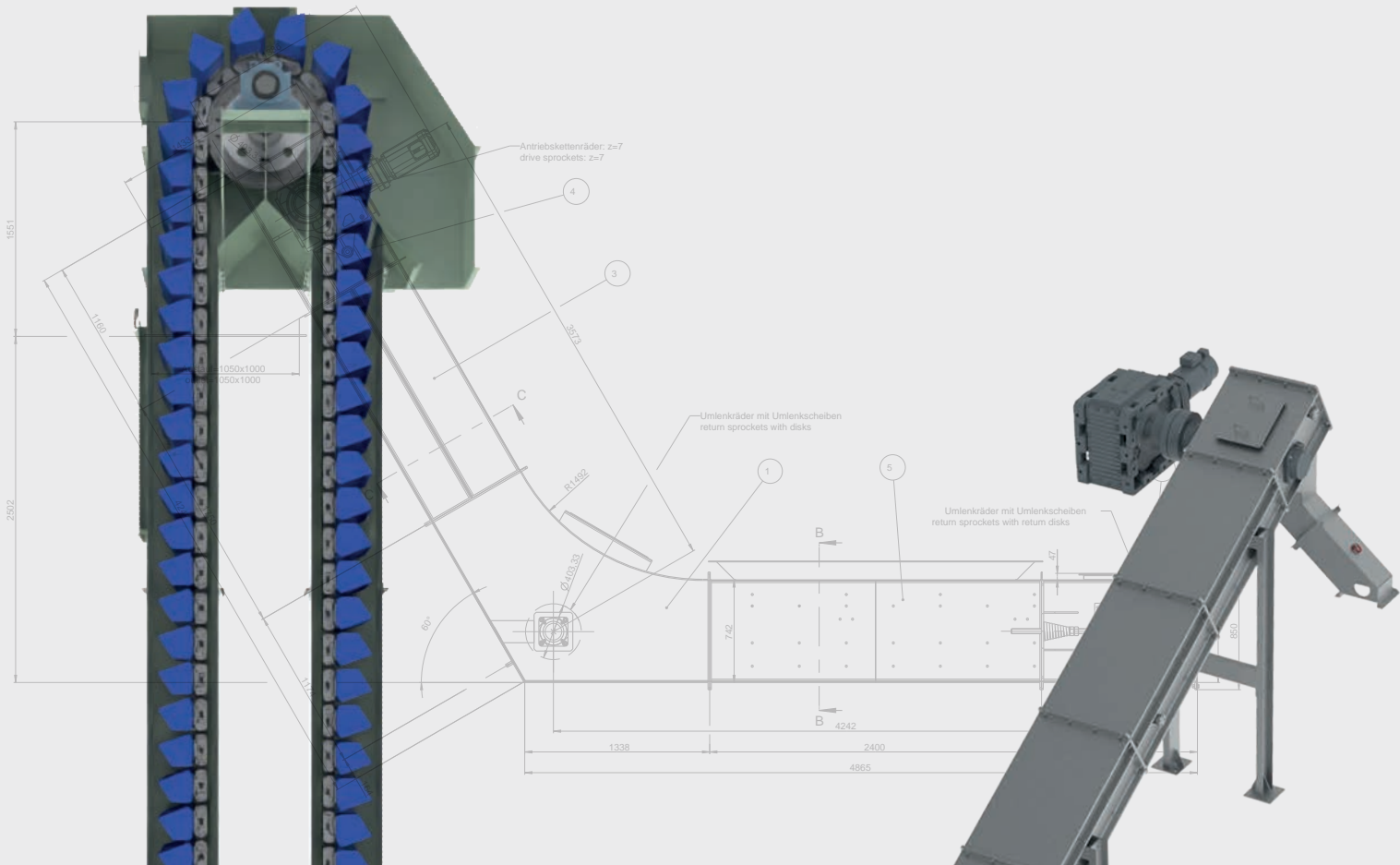


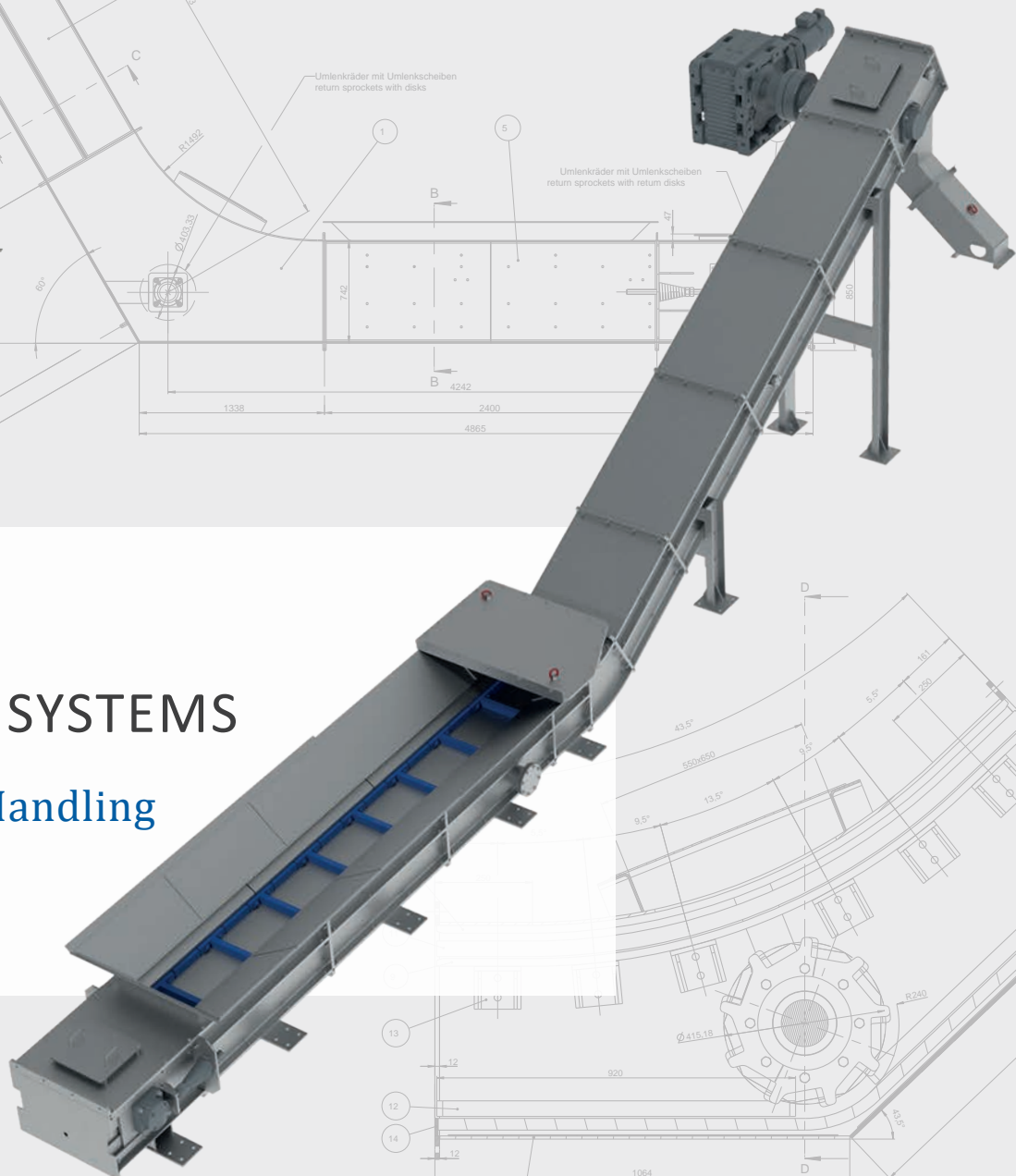


THIELE®



THIELE CONVEYOR SYSTEMS

Bulk Material Handling





THIELE – A PARTNER YOU CAN RELY ON

The Company

The THIELE Company, which was founded more than 90 years ago, has its roots in the production of chains and chain conveyors.

Chains and conveyor systems are developed in-house by our own design department using our own drawings or following instructions from clients. The engineers responsible for executing this work can draw on years of experience and specialist know-how in designing and building conveyor systems for every sector of industry. A highly skilled workforce and modern, high-performance production facilities stand guarantee for products of the finest quality

- Over 500 skilled workers and employees
- Production area: 41,000 m²



Production

A wide range of production options, including various welding processes, solid forging and cutting on modern multi-spindle CNC machines, and sophisticated heat treatment, enable the manufacture of:

- Round link chains
- Bushing chains
- Forged fork link chains
- Chain sprockets
- Scrapers
- Chain fasteners
- Numerous chain accessories

Quality „Made in Germany“

Reliable manufacturing methods ensure high quality, safety and innovation of THIELE products, confirmed by continuous monitoring in testing and laboratory facilities.

- Certificates: ISO 9001, ISO 14001, ISO 450001, ISO 50001

Unsere Anlagen werden in Deutschland entwickelt, gefertigt und nach internationalen Standards geprüft.

Consulting and Product Development

THIELE engineers provide on-site advice, analyze handling tasks with you, and help you design the chain system. Customized technical solutions are then developed down to the smallest detail in the THIELE construction department.



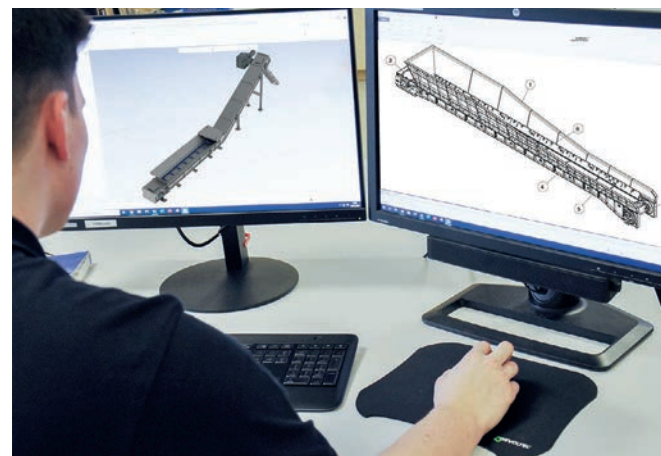
YOUR ONE-STOP-PROVIDER

Engineering Design & Simulation

Our in-house manufacturing base covers the entire process from raw material through to the final conveyor system.

High-level expertise and the latest design software leads to short developing times.

- Complete design
- System and components
- FEM simulation (stress analysis)
- DEM material flow simulation
- 3D measures on site



Manufacture

Our range of services:

- Bending
- Forging
- Different welding processes
- Laser, plasma and flame cutting
- Multi-spindle milling machines
- CNC machining
- Assembly and end production
- Heat treatment
- Painting and surface finishing



Service & After-Sales

Experience built up over several generations is now being used to provide the best service to our customers.

As well as supplying spare parts and consumables our range of services includes plant inspections and on-site analysis, hands-on support for equipment assembly work, system modifications and commissioning. We also work with plant operators to organise coordinated training in product and application techniques.



IN-HOUSE LABORATORY

Quality assurance in our own laboratory

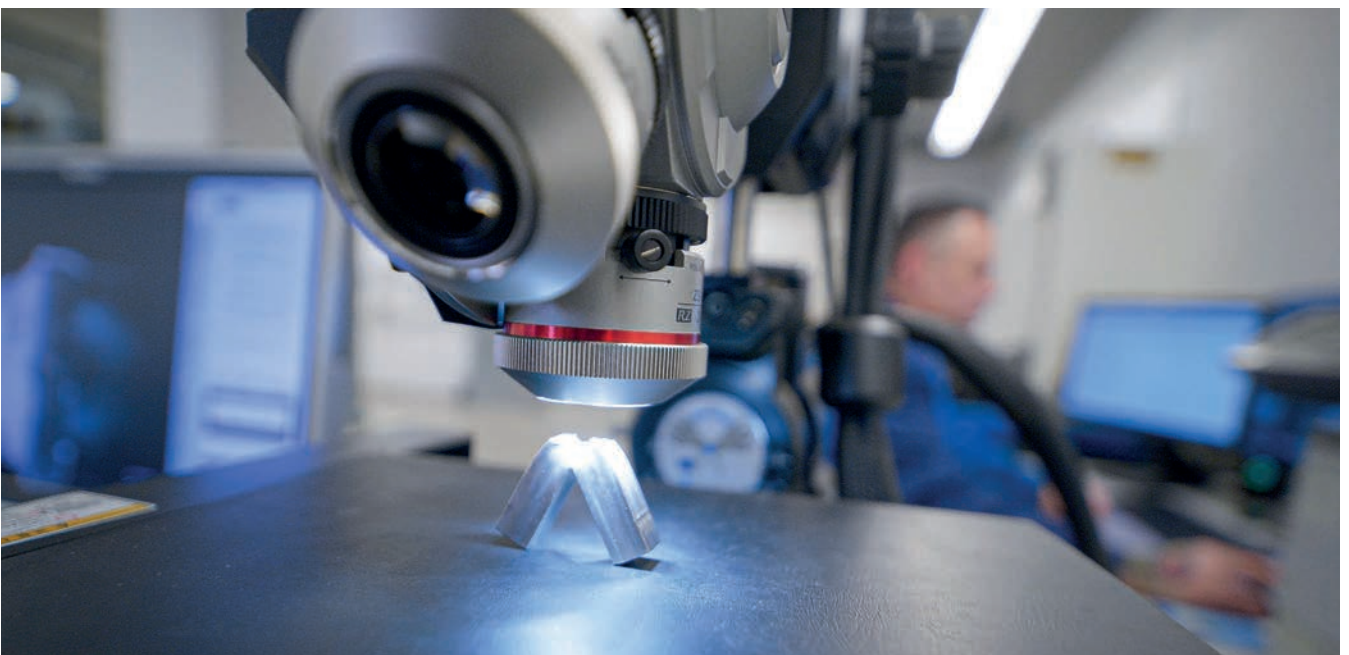
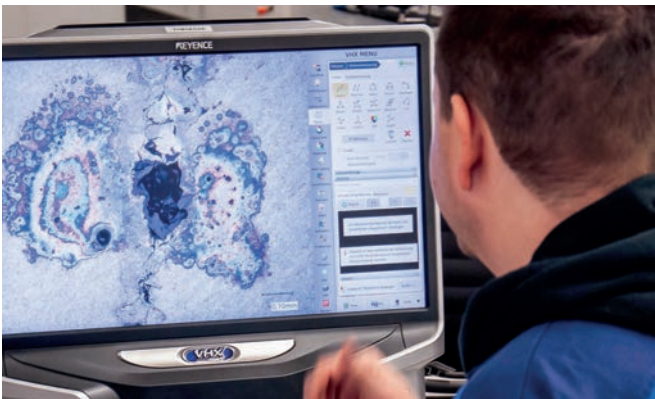
It is our aim to continuously improve our processes and give our customers a competitive edge with innovative products. To ensure this, every product is subjected to our extensive quality control process and tested in accordance with the stipulations of our QM system.

The conscientious application of our QM system and particularly the quality control measures that each product undergoes ensure that we fulfil all of our contractual, legal and other requirements. This comprehensive understanding of quality includes the involvement of every employee.

- Reliable manufacturing methods guarantee the high quality of THIELE products
- Compliance with the QS system according to ISO 9001, ISO 14001, ISO 50001
- Continuous monitoring in our in-house testing and laboratory facilities, as well as sustainable improvement of our processes

Our testing techniques

- Tensile tests according to DIN EN ISO 6892-2
- Notch impact tests (up to -40 °C)
- Non-destructive tests MT, PT, VT, roughness measurement
- Coordinated measuring technology for shape and profile measurement
- Metallography, materialography, identification of structure
- Weld analysis micro - and macro etching
- High temperature resistance tests (temperature range up to 900 °C)
- Coating thickness measurement
- Hardness testings



INDUSTRIES AND AREAS OF APPLICATION

Applications

- Suitable for all kinds of bulk material industries
- From normal to highly abrasive
- From powdered to coarse grained
- Operation temperatures up to 150 °C
- Can operate in highly corrosive atmospheres



Cement Plants



Steel Mills



Fertilizer Plants

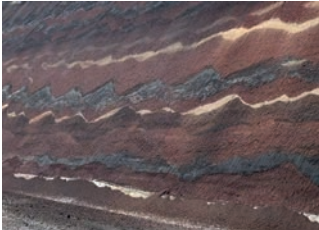


Chemical Plants

Clinker



Iron ore



Ammonium nitrate



Sulphur flakes



Limestone



Coke



Phosphat



Soda



Alternative fuels



Slag



NPK



Hot soot



We convey abrasive, hot and sticky materials. The materials listed are examples only. Please contact us to discuss your specific requirements.

Please refer to the THIELE website for more detailed information about the range of options: www.thiele.de
 Or contact our sales team by email: bulk-material@thiele.de

THIELE BUCKET ELEVATORS

Customised conveyor solutions

THIELE chain bucket elevators are used worldwide for conveying bulk materials – from the cement, lime and gypsum industries to energy production and chemical process engineering. Our systems are synonymous with maximum reliability, durability and energy efficiency.

Thanks to state-of-the-art manufacturing technologies and decades of experience, we not only offer standard solutions, but also develop tailor-made concepts that are precisely tailored to your process requirements.

Technical highlights

- High conveying capacity and operational reliability – for large conveying heights and bulk material throughputs
- Robust special chains – designed for extreme continuous loads
- Maintenance-friendly design – modular construction, easy replacement of components
- Low-dust and low-emission operation – thanks to precisely fitting housing construction

Temperature resistance – peak temperature

Our chain bucket elevators can also be used under extreme thermal conditions:

- Standard version up to 150 °C
- High-temperature versions up to 450 °C peak temperature
- Special solutions for industry-specific processes
- Level indicator Bucket elevator base

Options

THIELE offers a comprehensive portfolio of optional equipment for maximum operational safety and efficiency:

Safety and monitoring systems

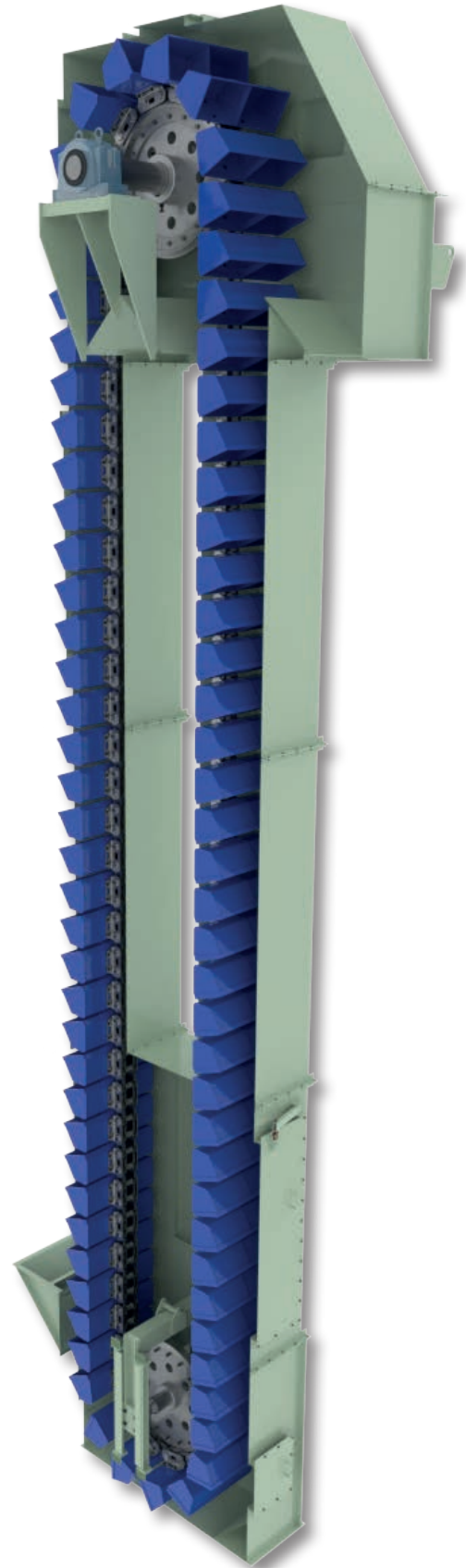
- Backstop
- Misalignment monitoring
- Clamping path monitoring
- Frequency-controlled drives

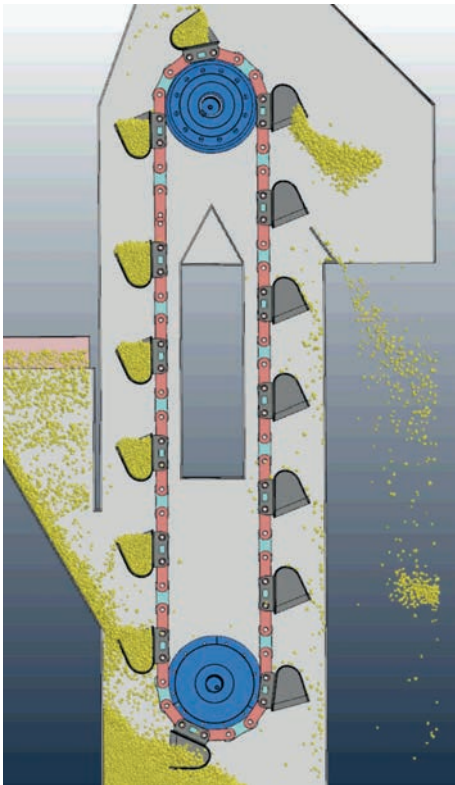
Customised bucket technology

- Various bucket types: standard, heavy duty, high capacity
- Special designs: hardened, armoured, rubberised
- Corrosion-resistant versions
- Patented bucket attachment via decoupled tabs

Chain technology

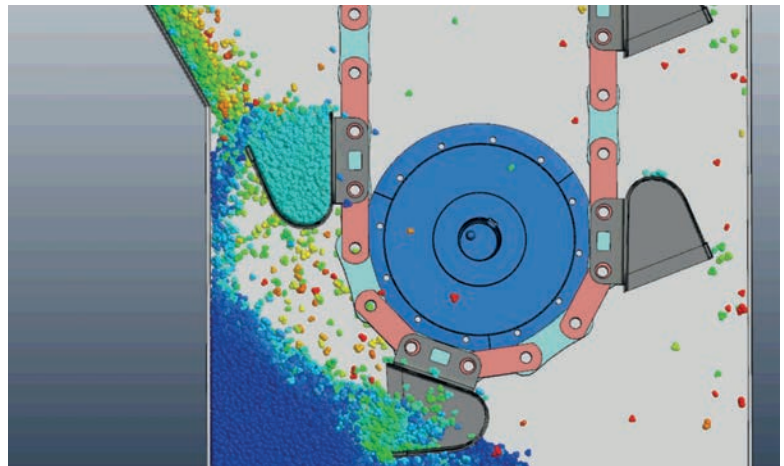
- Sealed chains for dust-intensive environments
- Designs for extreme load and temperature ranges





Simulation & Engineering

In addition to manufacturing customised bucket elevator solutions, THIELE also offers state-of-the-art DEM particle simulations. This computer-aided analysis enables optimal bucket elevator design – tailored to material properties, conveying capacity and plant geometry. This maximises efficiency, service life and operational safety.



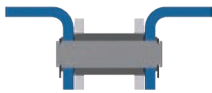
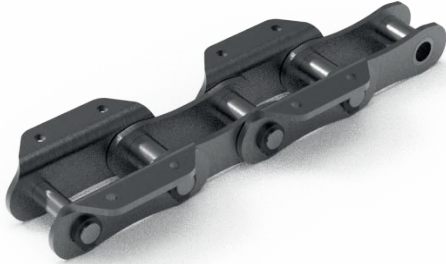
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BUCKET ELEVATOR CHAINS



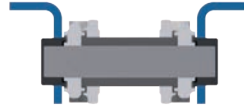
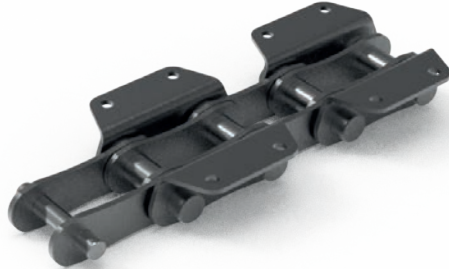
The overview shows the wide range of modern, technically developed products designed to suit every type of application.

THIELE HLB



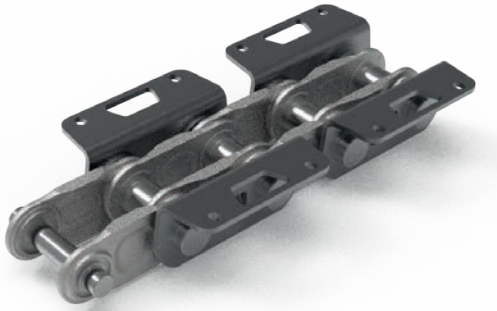
Rigid
A bucket plate is used as a rigid part of the design to create an outer link that is a press fit into the pin fixing.

THIELE HLB-W



Uncoupled
An additional bucket plate is used as a push-on fitting.

THIELE HLB-WG

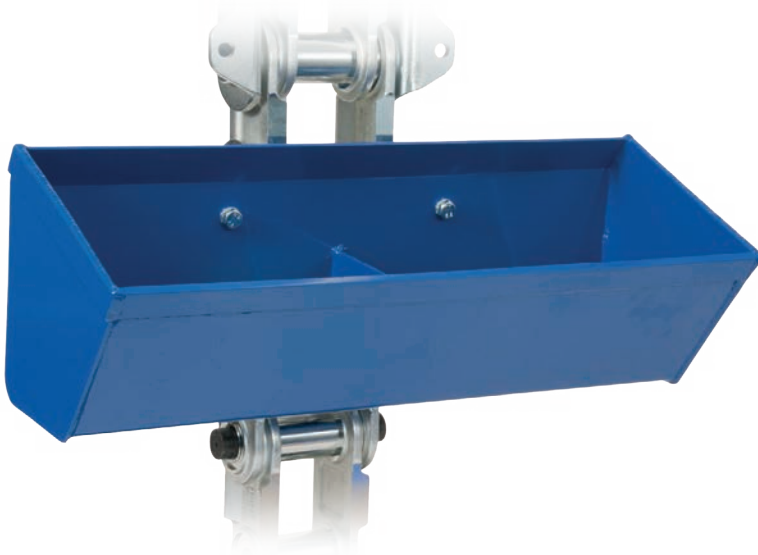


THIELE Round Steel Chains



≤ 15 m: centre distance	> 15 m: centre distance	
Toothed drive wheel Smooth return wheel	Smooth drive wheel Smooth return wheel	Smooth drive wheel Toothed return wheel



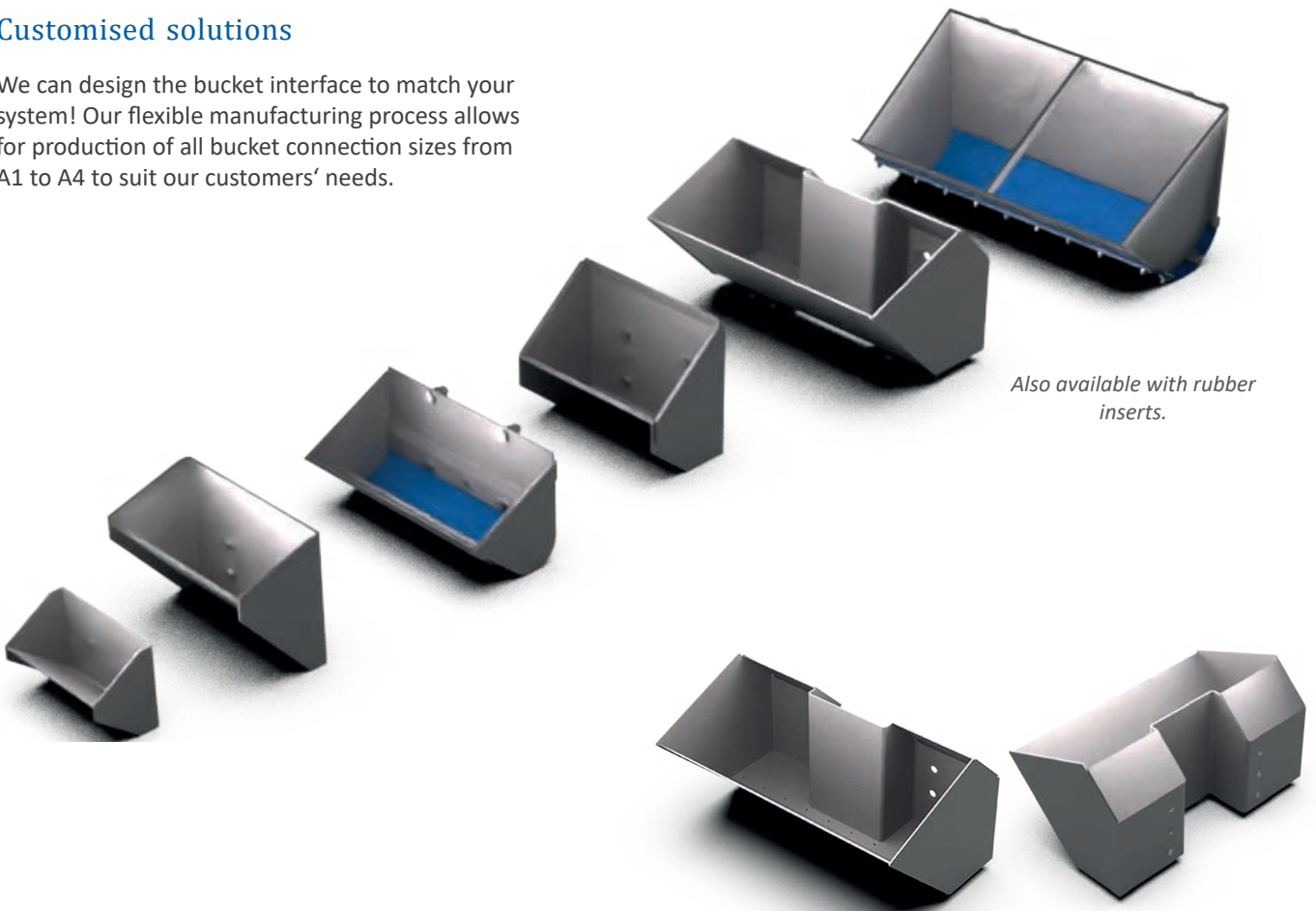


Standard Buckets

Our conveyor buckets are designed to suit the needs of our customers. As well as supplying a wide range of standard DIN buckets.

Customised solutions

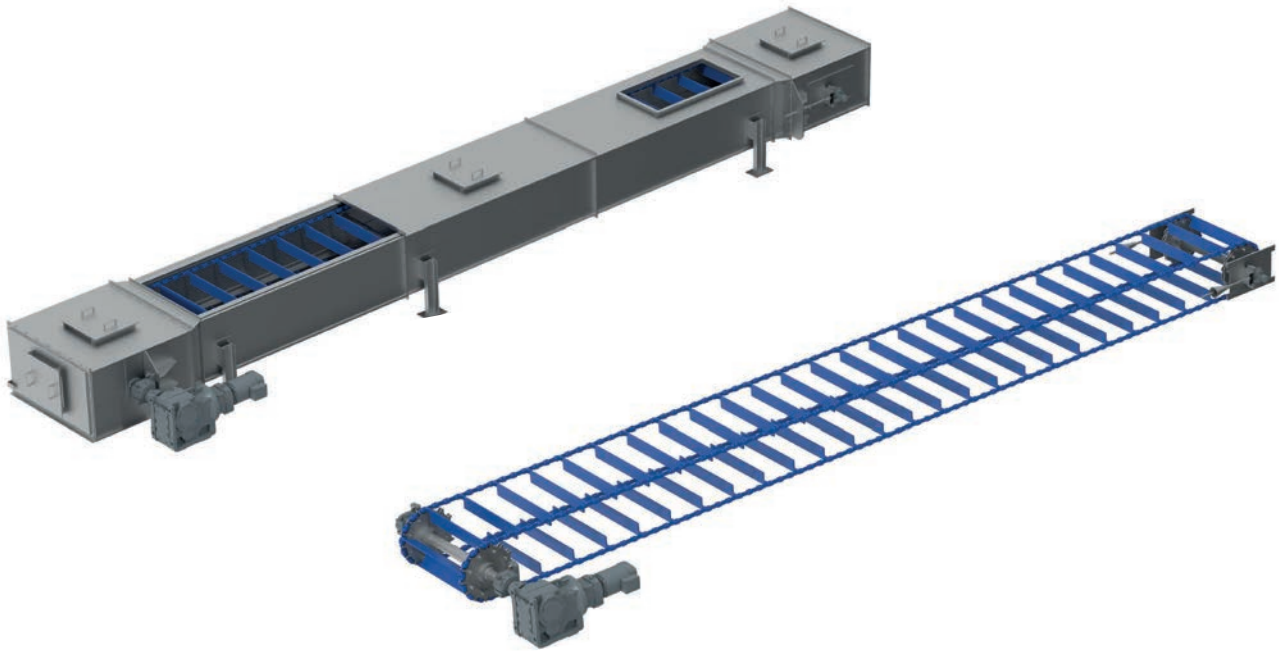
We can design the bucket interface to match your system! Our flexible manufacturing process allows for production of all bucket connection sizes from A1 to A4 to suit our customers' needs.



Also available with rubber inserts.

Please refer to the THIELE website for more detailed information about the range of options: www.thiele.de
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TROUGH CHAIN CONVEYORS



Steelwork and chain produced in-house!

Customised conveyor solutions

THIELE trough chain conveyors are used worldwide for conveying bulk materials – from the cement, lime and gypsum industries to energy production and chemical process engineering. Our systems are synonymous with maximum reliability, durability and energy efficiency.

Thanks to state-of-the-art manufacturing technologies and decades of experience, we not only offer standard solutions, but also develop tailor-made concepts that are precisely tailored to your process requirements.

Technical highlights

- Modern geared motors with variable-frequency control
- Easy replacement of tooth segments without opening up the chain
- Dirt wipers
- Trapezoid spindle and buffer spring ensure uniform chain tension
- Can operate in highly corrosive atmospheres

Temperature resistance – peak temperature

Our trough chain conveyors can also be used under extreme thermal conditions:

- Standard version around 200 °C
- High-temperature versions up to 450 °C peak temperature
- Special solutions for industry-specific processes

Options

THIELE offers a comprehensive portfolio of optional equipment for maximum operational safety and efficiency.

Customised troughs technology

- Troughs with interchangeable guide rails and wearing rails or easily replaced bottom plates
- Different lining options, e.g. high-manganese steel, cast basalt or hard facing
- Galvanised troughs and guide rails in wear-resistant plastic are also available for highly corrosive atmospheres (e.g. for handling alternative fuels)
- From powdered to coarse grained

Chain technology

- Designs for extreme load and temperature ranges
- Available with single-strand or double-strand chain assemblies or bush conveyor chains
- Forged links according to requirements, corrosion-resistant version also available
- Wide range of flight bars in wear-resistant steel or composite materials and in a variety of geometry

Single-strand forged link



All forged links are produced in our own drop forging plant.

Double-strand forged links

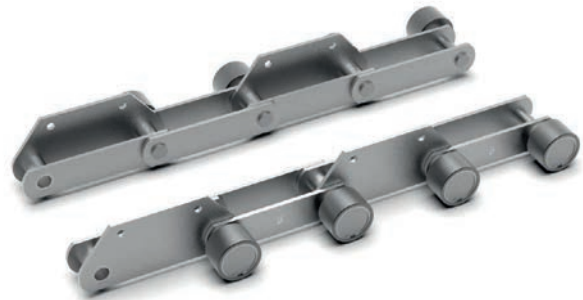


The double strand forged links are produced with solid-forged flight holders.

THIELE HDR-I



THIELE HDR-O



THIELE HDR-BO

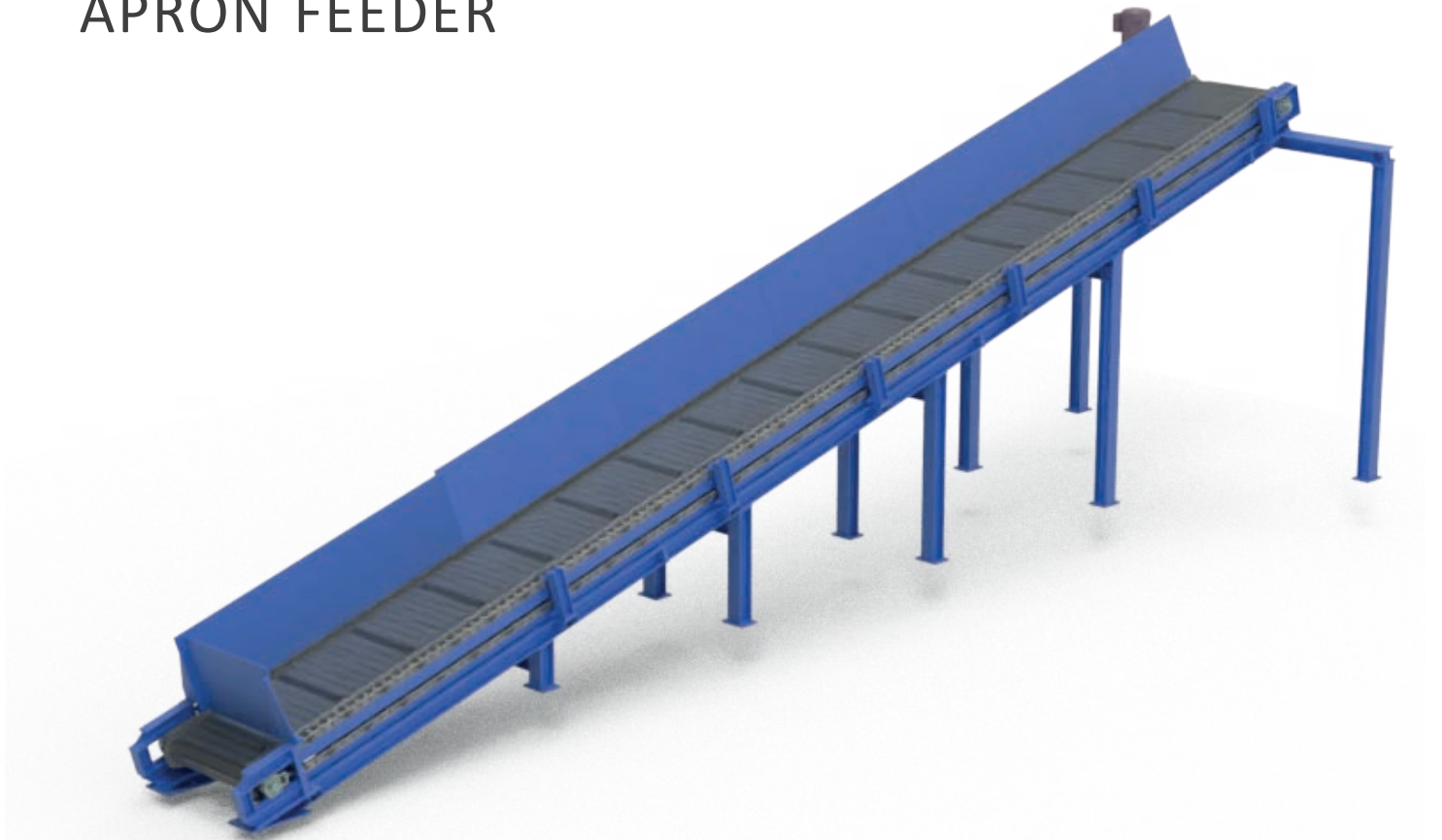


Customized



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APRON FEEDER



Customised conveyor solutions

The Thiele slat conveyor is the ideal solution for demanding conveyor processes where robustness, precision and durability are crucial.

Whether in the cement, fertiliser, steel, power plant, recycling or chemical industries, our slat conveyors are individually developed and manufactured to withstand even the toughest operating conditions.

Thiele tailor-made solutions that integrate seamlessly into your processes.

The result:

Maximum operational reliability, minimum downtime and sustainable cost-effectiveness – Made in Germany.

Technical highlights

- High load capacity: Optimised design for heavy loads and shock loads
- Precise guidance: Exact running stability thanks to robust chain or bolt guidance
- Low-wear design: Use of high-quality wear-resistant materials suitable for highly abrasive conveyed goods and surface treatments for maximum service life
- Flexible design: Available as closed or perforated plates, with or without cleats
- Easy maintenance: Modular design for quick replacement of individual elements
- Customised dimensions: Widths, pitches and plate thicknesses can be configured according to customer specifications

Temperature resistance – peak temperature

Our slat band conveyors are designed for use in extreme thermal conditions:

Standard version:

Temperature range from -40 °C to $+250\text{ °C}$

Special versions:

Heat-resistant variants up to $+600\text{ °C}$

Cold-resistant versions: Special materials for use in deep-freeze environments



Options

THIELE offers a comprehensive portfolio of optional equipment for maximum operational reliability and efficiency:

- Material variants: stainless steel, heat-resistant or acid-resistant steels
- Plate geometries: smooth or perforated
- Side guards and guide rails for safe guidance
- Drive options: Suitable sprockets, shaft couplings and tensioning systems

- Surface finishing: Galvanised, blasted, polished or coated depending on the operating environment
- Frequency-controlled drives

Chain technology

- Sealed chains for dust-intensive environments
- Designs for extreme load and temperature ranges



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CHAIN SPROCKETS AND GUIDE ROLLERS

To obtain optimum life expectancy from a THIELE chain assembly we strongly recommend fitting new chain wheels as part of the chain replacement process. In many cases this merely involves replacing the worn tooth rings or races.

Interchangeable cogwheel segments are available for all standard wheel sizes. THIELE can also supply complete chain wheels, guide rollers and spindles, if required.

- for various types of chains
- interchangeable/replaceable sprocket segments
- hardened tooth flanks
- special geometry for optimal interplay with the chain and accessories
- compatible with the existing drive systems



Sprockets with different chain guides available. For example low-maintenance split-segment chain wheels.

Specially hardened running surfaces and tooth faces deliver maximum service life



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THIELE CONVEYOR SYSTEMS - SPECIALISED SOLUTIONS

THIELE has been carrying out conveyor retrofits for many years.

Examples:

Conversion of a bucket elevator from round-link chains to central chain system

- Reclaimer upgrade with block plates replaced by plates running on anti-friction rollers
- Trough chain conveyor upgraded from link-plate chains to forged link chains
- Older installations can often be performance enhanced, with the added bonus of reduced maintenance and increased service life
- In such cases the conveyor parameters will be recalculated and the system reconfigured
- Depending on the level of optimisation specified the retrofit may comprise drives with new shafts and bearings and an upgrade to chains and chain guides



Example: apron conveyor retrofit ...

... including replacement of transmission system with the latest high-performance, efficient drive technology. The conveyor is fitted with a strengthened pan system with rollers mounted on maintenance-free, anti-friction bearings.



Example: upgrade of a conveyor handling alternative fuels ...

... from link-plate chain to THIELE forged link chain including the fitting of new guides and a replacement shaft with new chain sprockets.

