



THIELE



Conveyor Chains for Coal-Fired Power Stations

CHANGE[®]
for Success

THIELE – your Partner for Coal-Fired Power Stations



The Company

THIELE has been a leading manufacturer of industrial chains for more than 70 years. The company's reputation is based on years of experience in chain development and manufacturing. THIELE's highly skilled workforce and modern, high-performance production facilities ensure products of the highest quality.

Chain production

All chain components are manufactured in house. Our facilities include modern multi-axle CNC milling machines as well as the company's own drop forging shop. The vertically integrated manufacturing processes which include machining and massive forming, as well as various welding processes (such as flash butt welding and upset butt welding) enables "state of the art" manufacturing. In 2000 THIELE also installed automated laser cutting machines capable of handling the latest fine-grain steels.

Product development

To meet individual customers' specifications, THIELE can provide chains in special-purpose steels with corresponding heat treatments. The company has its own testing and laboratory facilities for ongoing product development. Special orders for chain and sprocket



Example: T-ALPHA patented punch holes

systems are processed in THIELE's in-house engineering department, and components such as flight bars, clamps and fasteners are designed, tested and optimized.

Consulting

THIELE engineers provide on-site consulting services and work with clients to produce job-specific solutions. New designs developed in the engineering department are manufactured in the company's in-house works.

After-sales service

The company operates a mobile chain testing service in which accredited technicians carry out on-site chain tests and inspections. Service technicians are also available to oversee on-site chain assembly and installation.



Example: flight bar mounting

Reliability, Experience, Versatility



Plate link chains



- Precise laser cutting for optimised contours
- T-ALPHA plates with optimised bush and bush recess profiles
- 20% higher tensile strength
- Longer service life
- Sealing elements ensure that the conveyed material does not penetrate the bushing
- Chain pitch from 100 mm to 500 mm

Forged link chains



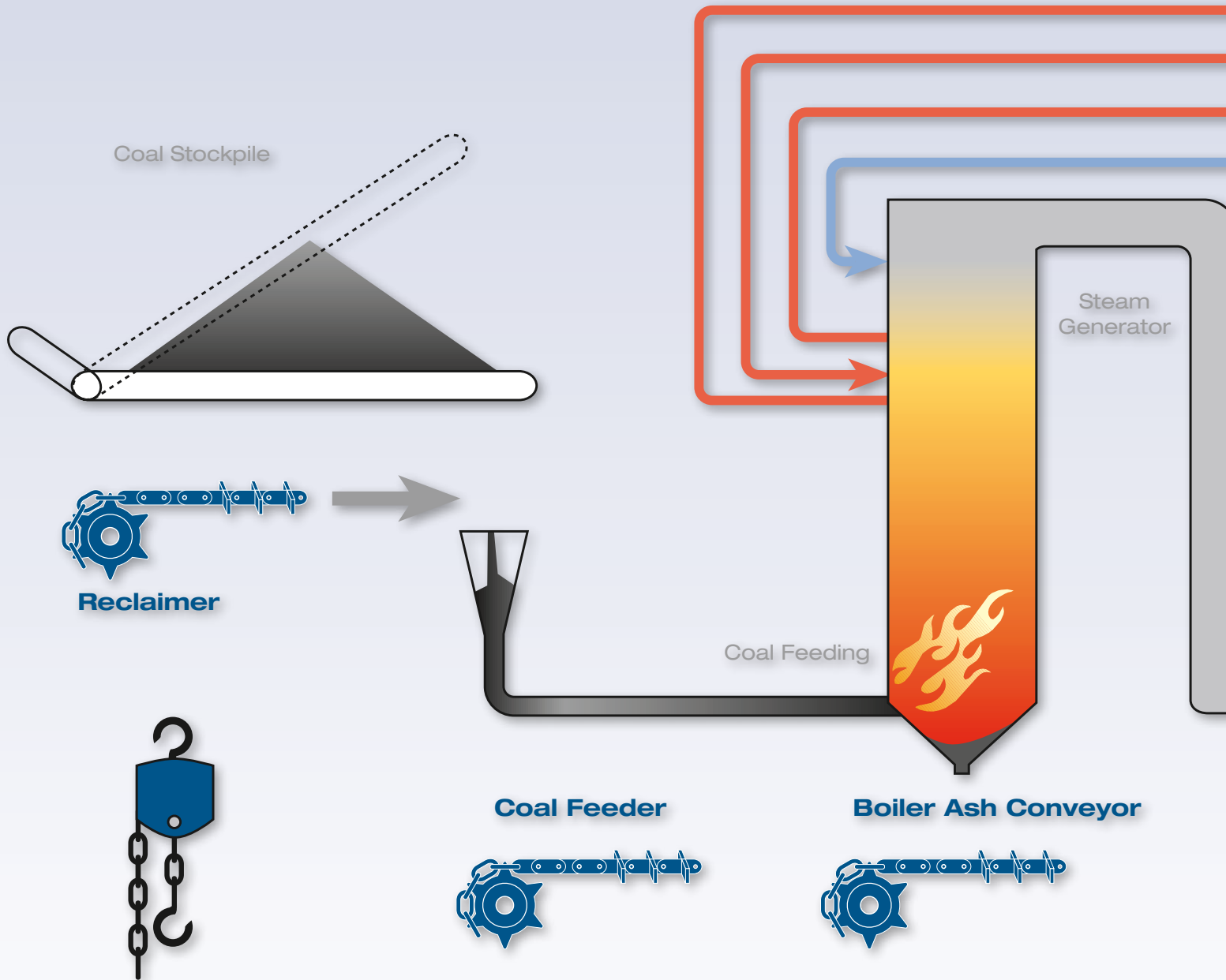
- Drop-forged clevis plates, with and without bushing, in case-hardened or tempered steel
- Chain pitch from 102 mm to 260 mm
- Tensile strength up to 2,100 kN
- Sprockets with induction-hardened tooth flanks

Round link chains

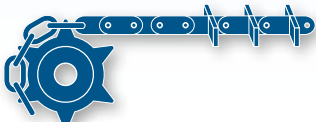


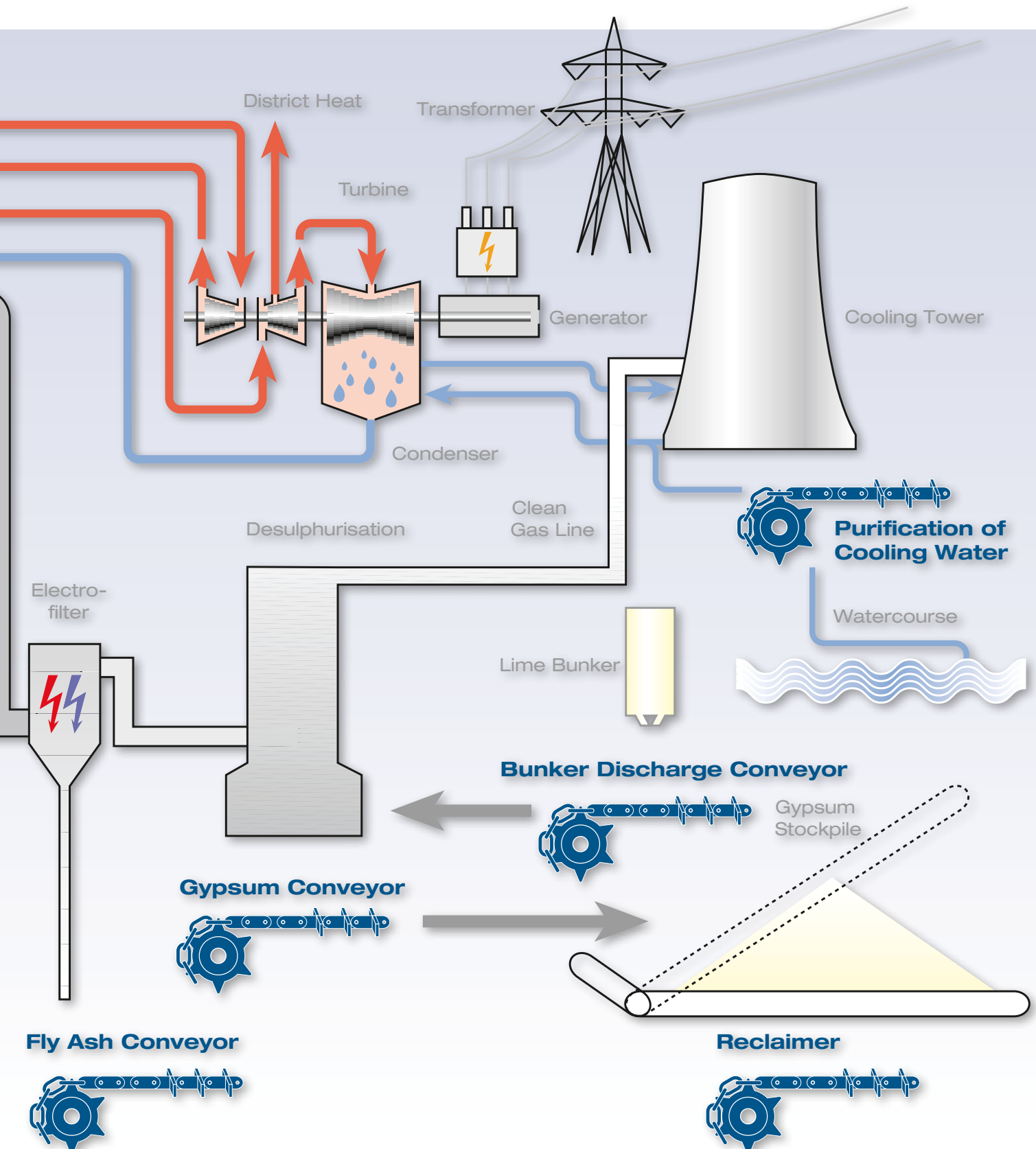
- Round link chains in special wear-resistant steels
- Dimensions: 14 x 50 mm to 34 x 136 mm
- Tensile strength up to 900 kN
- High surface hardness due to case hardening
- Sprockets with replaceable teeth

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Equipment for Repair and Maintenance Operations





Coal and Gypsum Reclaimers



Design recommendations

Reclaimers for stockpiled coal and gypsum use plate link chains in their conveyor systems. Chain design is determined by the material characteristics of the bulk product. The client is provided with a tailor-made solution with additional parameters, such as the choice of manufacturing materials, for an optimum service life.

Benefits

- Long operating life
- Suitable for hostile and aggressive environments
- High chain tension/tractive force
- Large chain pitch
- Low maintenance



Coal Conveyor



Design recommendations

The large load-bearing area of the clevis plate chain, compared with the round link chain, results in reduced wear and smoother, quieter operation. Optimum flight bar design and fewer connection points help reduce maintenance and servicing costs. Client-specific requirements, such as lubrication or sealed bushes, add to the operating life expectancy.

Benefits

- Tensile strength up to about 800 kN
- Torsionally stiff
- Easy to assemble
- Case hardened
- Protected against corrosion from aggressive materials.



Alternatives

Round link steel chain or block-type link plate chains

Boiler Ash Conveyor



Design recommendations

Special steel, produced exclusively for THIELE, is stage-hardened and tempered to give our round link case-hardened chains maximum wear resistance and maximum elasticity – thus ensuring a long operating life.

Benefits

- Cost-effective operation
- Low rolling resistance
- Low driving power requirement
- Variable mounting points for the flight bars

Alternatives

Forged clevis plate chains



Bunker Discharge Conveyors

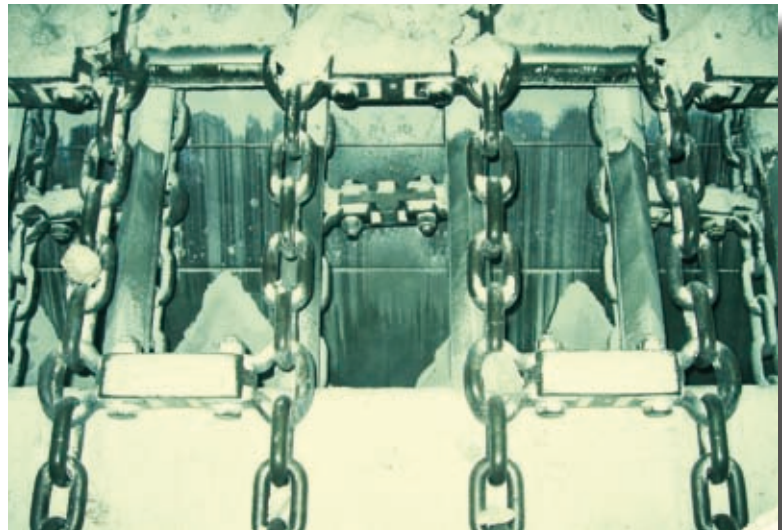


Design recommendations

Because bunker discharge conveyors can be up to 3000 mm wide and convey as much as 1500 t/h of material, they must be driven by multi-strand calibrated chains with low-tolerance variance. THIELE uses a computerized system for chain calibration, ensuring maximum length tolerances of 0.5%. The chains are also case hardened to reduce wear.

Benefits

- Optimum arrangement of flight bars
- High conveying capacity
- Low height requirement
- High drive force rating
- Uniform distribution of the drive force to all the chain strands



Purification of Cooling Water



Design recommendations

Due to their design and operation, plate link chains generally have a high resistance to twisting and are torsionally stiff. Chain operating life can be further enhanced through customer specifications such as lubrication, sealed bushes, special flight bars and various types of rollers.

Benefits

- Tractive force up to 225 kN
- Vertical axle clearance up to 55 m
- Torsionally stiff
- Low rolling resistance
- Easy-to-install screen elements
- Corrosion protection through high-alloy materials or coatings



Service, Maintenance and Repair



Chain slings and suspension/lifting gear can be electromagnetically inspected for cracks by our team of service technicians, who are qualified by the DGZfP (German Society for Non-Destructive Testing). Each inspection is certified in the client's own chain test log or record file. Of course, we can also help clients set up their chain history files.

Scope of services

- Visual inspection and dimension checks
- Identification of signs of wear, e.g. fractures, cracks, corrosion scars and deformation
- Measurement of wear
- Chain length measurement
- Inspection of chain accessories
- Chain servicing
- Training and consultation



patented chain gauge from THIELE

THIELE supplies equipment for repair and maintenance operations, including grade 8 hoists and SUPERIOR XL (grade 10) suspension/lifting gears. For a two-strand chain assembly, the latter provides a 30% weight savings over the grade 8 version.



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