LÜTGERT

ANTRIEBSELEMENTE

Grid and belt pulleys for bucket elevators

If performance is required

www.luetgert-antriebe.de

CONVEYOR TECHNOLOGY FOR BULK MATERIALS

For many years we have been supplying the conveyor construction industry and manufacturers of bucket elevators with special belt and grid pulleys in various designs made of resistant cast iron. Standard pulleys, which are available from stock, are just as much a part of our delivery programme as are our customised products for special requirements.

With our flexible and economical casting process, we are able to meet almost any requirements in terms of geometries and finishes. Individual or exclusive pattern equipment is generally not required for this. This means that there are no additional model costs even for customised products.

Our services

- Freely selectable pulley diameters (up to 2,500 mm) and widths
- Single pulleys can be combined to increase the width of systems
- Versions as spoked arm pulley or full material pulley
- Material: cast iron EN-GJL-200 to EN-GJL-300, Vmax up to 42 m/s
- Priming, standard or special paint finishes possible
- Shaft-hub connection finish-drilled with groove and set screw, alternatively with taper lock bushing or clamping set
- Individual adaptation of geometry
- Common designs available from stock at short notice
- Delivery also as pre-assembled assembly including shaft

GRID PULLEYS / BAR DRUMS

Grid pulleys, also called bar drums, are mainly used as base pulley for bucket elevators and conveyor belts. We manufacture these components in different diameters (355 to 1,000 mm) and crown widths (140 to 500 mm). By combining several grid pulleys on one shaft, which are ball-shaped or spherically shaped, crown widths of over 2,000 mm can also be realised.

The bar-shaped running surface prevents bulk or transported material from getting between the pulley and the belt, where it is crushed and causes the belt to slip. Damage or wear to the drive belt is reduced. All types are manufactured by us as a version with only one stable bottom. Deflector cones are therefore not necessary.

- Standard material: Cast iron EN-GJL-200 to EN-GJL-300 according to DIN EN 1561
- Adaptation of the geometry to the respective drive situation
- Finish bore with groove and set screw, also possible with TaperLock bush as shaft-hub connection
- Crowning according to DIN 111 or individual specifications
- Surface priming to prevent corrosion
- Individual surface treatment and special lacquering by arrangement
- Preservation of functional surfaces with spray wax/oil
- Pre-produced panels available from stock
- Delivery as a fully assembled assembly incl. precisely fitting shaft
- Short-term availability of spare parts in case of machine downtime
- Available crown widths: 140 | 160 | 180 | 200 | 224 | 250 | 280 300 | 315 | 355 | 400 | 450 | 500 mm

Outside- Ø [mm]	Number of bars	Rim width [mm]	
		min.	max.
315	16	140	500
355	18	140	500
400	20	140	500
450	18	140	500
500	18	140	500
520	18	140	500
560	24	140	500
630	30	140	500
710	30	140	500
800	30	140	500
900	36	140	500
1.000	40	140	500

Individual geometry selection due to a high number of variants

Pre-produced blanks are available up to up to a diameter of 630 mm are available from stock and can be delivered at short notice.

Several grating pulleys are designed as a unit on a shaft crowned or spherical shape. The multi-part design facilitates assembly

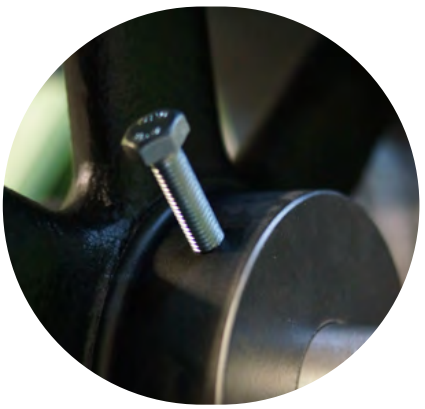
The delivery is also available as a ready-assembled assembly including a precisely fitting shaft to minimise the assembly effort and reduces the costs.

BELT PULLEYS

We calculate, design and manufacture belt pulleys up to a diameter of 2,500 mm for belt conveyors in bulk material, conveying and processing plants. Belt pulleys are specialised to drive long conveyor belts around the clock. Therefore, a high processing quality of the components is required.

At Lütgert, each pulley is manufactured according to a standardised process and adapted to individual customer wishes and requirements. Our belt pulleys are characterised by high quality, functionality, sustainability and durability.

- Standard material: cast iron EN-GJL-200 to EN-GJL-300 according to DIN EN 1561
- Design for circumferential speeds up to 42 m/s
- Special designs in nodular cast iron (EN-GJS-400 to EN- GJS-700), cast steel (GS) or in steel welded design
- Flexible casting process without exclusive models and without model costs
- Designed as spoked arm or full pulley
- Produced according to DIN 111 or customer requirements
- Special pulley > Ø 2,500 mm also possible
- Reinforced versions for large conveying heights
- Individual design of the shaft-hub-connection
- Running surface crowned according to DIN 111 or camber height according to requirements
- Many dimensions available from stock



Design of the shaft-hub connection as a cylindrical bore with groove and set screw, with TaperLock bush or clamping set.

Crowned or spherical design of the surface. Optionally with belt guidance ribs on the outer edges.

Belt disc with galvanically nickel-plated surface for use in the food processing industry.

COATED BELT PULLEYS

For optimum static friction, we offer an additional friction coating of the belt pulleys with **rubber, silicone or polyurethane**. These drive elements are mainly used as head pulleys for bucket elevators or in transport system construction. From 500 mm rim width, the belt pulleys are equipped with a double arm cross or double bottom. This increases stability and performance. For crown widths above 750 mm, several pulleys can also be combined on one shaft, which together can be spherical or crowned.

The rubber coating is also used in the food industry, in accordance with FDA and BfR specifications and with the appropriate colouring (white, blue, pink, etc.).

- Finish bore with groove and set screw, alternatively also with TaperLock bush or clamping set
- Standard rubber lining with a diamond pattern, hardness 60-65 Shore, material thickness 10 mm
- Black rubber lining also available in oil and grease resistant version
- White rubber lining for the food industry is FDA-/BfR-compliant
- Balanced to quality class G 16 as standard, balancing quality G 6.3 and G 2.5 possible
- Common non-rubberised versions available from stock
- Short-term delivery from stock via blanket orders

Black roughened surface: Oil and grease resistant, vulcanised or bonded on request. High temperature resistance.

White roughened surface rubber coating for use in the food industry. Conforms to FDA and BfR specifications.

Galvanically nickel-plated and white rubberised special version with guide groove for use in the food industry.

MECHANICAL DRIVE TECHNOLOGY

Locking assemblies

- Internal and external locking devices
- Space-saving, easy assembly and disassembly
- Transmissible torque from 11 Nm to 1,870,000 Nm
- Nominal diameters from 6 mm to 700 mm
- Also available in stainless steel
- Special designs available for higher bending moments

Taper Lock clamping bushes (TL)

- Optimized shaft-hub connection for all designs and pulley types common stocking ring of bush sizes: 1008 | 1108 | 1210 | 1610 1615 | 2012 | 2517 | 3020 | 3030 | 3535 | 4040 | 4545 | 5050
- Short leadtime from our own production: 6050 | 7060 | 8065 | 10085
- Special design available (metric thread): Design with cylindrical bore and keyway and frictional connections (tempered steel) available

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Shafts

- A variety of different heat treatments - also partial hardening
- Manufactured from soft or hardened primary materialial
- Highest precision in turning, drilling, milling and grinding operations
- Designs with journals, threads, milled surfaces, face bores

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Tensioner devices

- Universal belt and chain tensioner, ideal for belt scrapers
- Cost-sensitive alternative to tension and compression springs
- Precise adjustment of tension force
- Rotation angle of +/– 32°
- Maintenance-free and tear-off-proof

Foundry

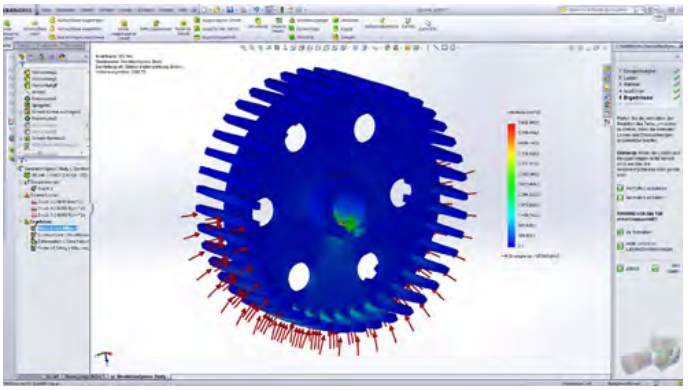
- No model costs for rotation-symmetric castings
- Gray cast iron (EN-GJL), Spheroidal graphite iron (EN-GJS), Steel cast (GS), Aluminium and other materials available
- Professional smelting facility
- Permanent quality analysis - continuous quality control
- In house sheet metal and steel fabrication

In house manufacture and sub contract machining

- CNC turning and milling
- Balancing technology according to DIN 21940-11 in all quality levels
- Quality assurance with modern measurement technology
- Surface finishing, painting

Engineering / Drive design

- Designing and development of optimal drive solutions
- 3D-CAD-system (SolidWorks / STEP, IGES)
- Optimisation of efficiency and lifetime
- FEM-Simulations for iterative drive optimization
- Providing of technical documentation and certificates
- Test rig trials for optimised geometry



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