



THE SCIENCE OF SMOOTH
A world where things glide effortlessly.

 **LAGER**TM

www.lagerbearings.com



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- All About Lager

Precision engineered for seamless motion

Our bearings, crafted with German precision, create a world where things glide effortlessly. With a legacy of excellence and a global footprint, Lager delivers smooth operation across diverse industries.



- The becoming of Lager

Timeline

19
94

Lager was established at our German base.

20
04

First private joint-venture for manufacturing enterprise of Lager established in China.

20
20

Establishing the Asian warehouse and logistics hub in Mumbai, India.

Global footprint



Lager Bearings, Germany

- Technical Team
- Design, Quality & Inspection Team
- European Warehouse & Distribution Center

Lager Bearing Manufacturing Facility, china (F1)

- Main Manufacturing Site for CRB, TRB, SRB, DGBB (1mm bore – 2000mm bore)
- Martensite, Bainite Heat Treatment (up to 2000mm)
- Case Carburizing (up to 2m)
- All Black Oxide Minimal Bearing Production

Lager Bearings, India

- Technical Team Unit
- Quality & Inspection Team
- Asian Warehouse & Distribution Center

Lager Roller Manufacturing Facility, China (F2)

- CRB, TRB, SRB (100mm – 1500mm)

Production

Our state-of-the-art Technical Centre is a testament to our commitment to pushing the boundaries of bearing technology. With a team of **300 expert engineers**, we've generated over **170 patents**, including **10 groundbreaking inventions**. Our specialised institutes collaborate to deliver unparalleled performance. With cutting-edge labs and rigorous testing, we ensure the bearings excel in durability, efficiency, and precision.



4 Research Labs

- Material Inspection
- Heat Treatment Lab
- Bearing Test Lab
- Bearing Failure Analysis

5 Specialised Institutes

- Bearing Design
- Process Research
- Material Research
- Equipment
- Application Software Research

1 Library

- Science Library

- R&D Innovation

Advanced simulation for bearing optimization

Lager's commitment to seamless motion is grounded in advanced engineering. By harnessing the power of ANSYS and Romax, we delve deep into the heart of bearing performance, simulating real-world conditions with unparalleled precision. This data-driven approach fuels our innovation, ensuring that every Lager bearing delivers exceptional smoothness and longevity.



Internal standards

Lager's commitment to excellence is ingrained in every process, from meticulous material sourcing to rigorous quality control. Our stringent internal standards ensure that each bearing exemplifies precision engineering, delivering unparalleled smoothness and reliability.

Features & advantages

Lager's cutting-edge technology delivers exceptional performance through a range of key features, including enhanced efficiency and extended product life. Our commitment to innovation drives every aspect of bearing design and manufacturing, ensuring a world of effortless movement.

Product design



Raw material standards

- International steel standards
- Technical research
- Internal developments and analysis



Dimensions & tolerances standards

- International bearing standards
- Technical research
- Application engineering findings
- Models 3D + finite elements: Romax, Ansys



International developments & analysis

- Output : manufacturing drawings

Blueprints by Lager

Basic Information			
Cr			35.07 MM
Basic Dynamic Load Rating			23.18 KN
Cr			23.18 KN
Basic Static Load Rating			

02	F210	Square Flange	1
01	UC210	Insert Bearing	1

LAGER		Insert Ball Bearing Unit	
		UCF 210 TH500	

1. Radial clearance : 0.060-0.130

- The average inner diameter of the inner ring shall not exceed 0.013
- Load rating: Cr=225kN Cor=338kN
- Reference Radial clearance: 0.42-0.48
- Radial clearance difference does not exceed 0.030

01	outer ring	1	SAB2100A				
02	inner ring	2	SAB2100A				
04	steel ball 23.813	26*2	SAB2100A				
06	cage	2	Machine Brass				

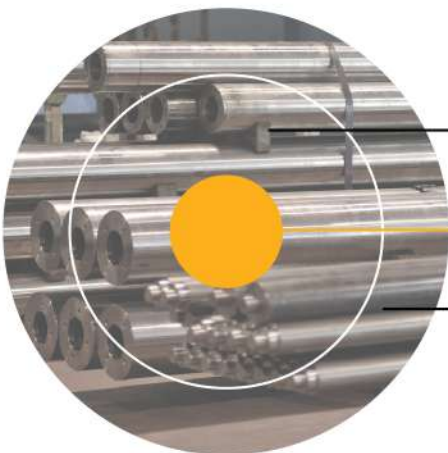
PN	Code	Part Name	Qty	Material	IBC	Weight (kg)	Notes	
		Double Row Angular Contact Ball Bearing					3054280	
								LAGER

- Where it all begins

From steel to smooth

Lager's commitment to exceptional bearing performance begins with the meticulous selection of high-quality steel. Through longstanding partnerships with world-renowned steelmakers, we have access to a diverse range of materials tailored to specific bearing applications. By rigorously controlling steel cleanliness and employing advanced heat treatment processes, we ensure optimal bearing fatigue life and load-carrying capacity.

What matters



Composition

Selecting the most appropriate material type according to the bearing's width to achieve optimal microstructure for customer applications

Purity

Imposing stricter limits on raw material composition and carbide content to ensure superior cleanliness.

Michelin Furnace

Utilising the Aichelin salt bath furnace to achieve the best microstructure and significantly better-controlled distortion.

Manufacturing Process

By leveraging 20+ years of experience, cutting-edge German technology and state-of-the-art manufacturing processes, we've been able to translate our love into top-grade bearings that keep your world smooth.

The steps



Raw material

Selection of high-quality materials.



Forging

Shaping and softening the material.



Heat treatment

Enhancing hardness and durability.



CNC turning

Precision machining for accurate dimensions.



CNC grinding

Fine-tuning for perfect surface finish.



Assembly

Final assembly of bearing components



- Lager Labs

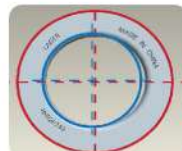
Lager Bearing Inspection (LSB)

Lager's state-of-the-art inspection facility, LSB, utilises advanced Hexagon Serein 3D measuring equipment to ensure precision and quality in our bearings.

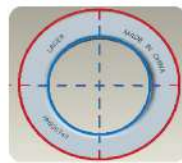
Advanced bearing inspection facilities

Lager's LSB and MSB Bearing Inspection facilities exemplify our dedication to precision and quality. LSB utilises Hexagon Serein 3D measuring equipment for meticulous inspection, while MSB employs cutting-edge technology and rigorous processes. These facilities ensure bearings of superior reliability and performance across industries.

Combination grinders



Several times positioning - Domestic common process



Vertical grinding one time positioning - Lager's Process

Lager heat treatment production line



Lager CNC Machines for Roller Production

Roller raceway grinders which can produce different outer profiles according to the design of load rating, precision can reach to Grade 1.

Roller spherical endface grinders from Japan, which can produce heavy load rating and long service life special grade rollers suitable for complicated applications.



- Quality Control

Comprehensive traceability & reporting

Our inspection reports provide comprehensive documentation, including metallographic and morphological reports with all bearings produced. This transparency guarantees the quality and precision of our bearings, maintaining high standards and building customer trust.



Test capacity

Lager Bearing Technical Centre, approved by CNAS, is a nationally recognized testing institution and test lab.

General Bearing Test

- Over 100 testing rigs.
- Main testing includes fatigue life, bearing temperature rise, vibration, and seal bearing leakage grease testing.

Railway Bearing Test

- Developed four test-beds in 2010.
- Tests fatigue life, dust-proof, waterproof, and comprehensive performance.



Wind Power Bearing Test

- Simulates actual installation and application.
- Tests under various loads and speeds.
- Measures friction torque, sealing performance, balance, and service life of yaw, pitch, main, and gearbox bearings.

Additional Tests

- CT bearing test.
- Shield tunnelling machine bearing test.
- Automobile hub bearing test.
- Aircraft & precision bearing test.

- Support

We're here for you

We offer superior technical solutions to support our clients' diverse needs with precision and expertise.

Bearing Selection

Expert recommendations tailored to specific requirements.

Tailor-Made Solutions

Offering customised designs that precisely meet our clients' unique requirements.

Technical Support Services

- Fit selection
- Lubricant recommendations
- Design of bearing locations
- Operating bearing clearance calculations
- Advice in handling, mounting, and dismounting
- Bearing failure examination and root cause analysis
- Bearing life calculations
- Training courses



Romax Technology in Application Engineering

Utilising Romax, an advanced simulation technology for gearbox and driveline systems, certified by DNV-GL.



Harnessing ANSYS for Advanced Analysis

Utilising ANSYS for finite element analysis (FEA) to analyse deformation, strain, stress, and contact pressure within bearings and adjacent components like shafts, housings, and pulleys.



Products

Our expertise translates into a world-class portfolio, ensuring smooth operation in countless industries. With Lager, get ready to experience a world that stays in perpetual motion.



Stainless steel
Ball bearings



Pillow Block
Units



ROD Ends



Cam Followers



Cylindrical Roller
Bearings



Tapered Roller
Bearings



Spherical Roller
Bearings



Self Aligning
Ball Bearings



Linear Guideway



Linear Bear-
ings



Stainless Pillow
Block Units



High Tempera-
ture Bearings



Thrust Ball
Bearings



Angular Contact
Ball Bearings



Deep Groove
Ball Bearings



Needle Roller
Bearings



Thrust Roller
Bearings



Ball screw
Bearing



Super Precision
Ball Bearings

Industries

Lager has been a pivotal force in shaping the trajectory of numerous industries through our precision-engineered bearings. With a deep understanding of diverse applications, we offer tailored solutions that optimise performance and efficiency.

- Aerospace
- Coal Energy
- Construction Machinery
- Environmental Protection Equipment
- Industrial Gearbox
- Metallurgical Industry
- Paper Machinery
- Precision Machinery
- Railway



- Textile Machinery
- Wind Energy
- Agriculture
- Commercial Vehicle
- Electric Motor & Generator
- Food Machinery
- Industrial Pump
- Medical & Health Care
- Mining, Mineral Processing & Cement

- Passenger Vehicle
- Printing Machine
- Solar Energy
- Two Wheelers



- Customer First

Enhancing Customer Experiences

Personalised Services

Dedicated Lager personnel for customised client support.

Customer Relationship Management

Systematic approach to understanding customer needs for lasting connections.

Controlled Supply Chain

In-house manufacturing plants control the supply chain, reduce costs, and ensure fast, flexible decision-making.

Low Overheads

Streamlined operations and efficient management keep our overhead costs low, passing savings onto our customers.

Automated Warehouse

Our automated warehouse system boosts efficiency, reducing labour costs and ensuring quick delivery.

Financial Strength

A peep at some distant orb has the power to raise and purify our thoughts like a strain of sacred music.

Frame Agreement Benefits

Long-term commitment with exclusive advantages through our Frame Agreement relationships.

Efficient and Reliable Delivery

Our extensive warehouse and manufacturing capabilities ensure fast, error-free deliveries and scalable production to meet all your needs.

Zero Waste

We implement efficient production processes to minimise waste, ensuring cost-effective operations.

Smart Marketing

Strategic marketing investments ensure effective promotion without unnecessary expenses.

Optimised Administration

Tailor-made software enhances administration productivity, improving efficiency and reducing costs.



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