engineering connections® – since 1963

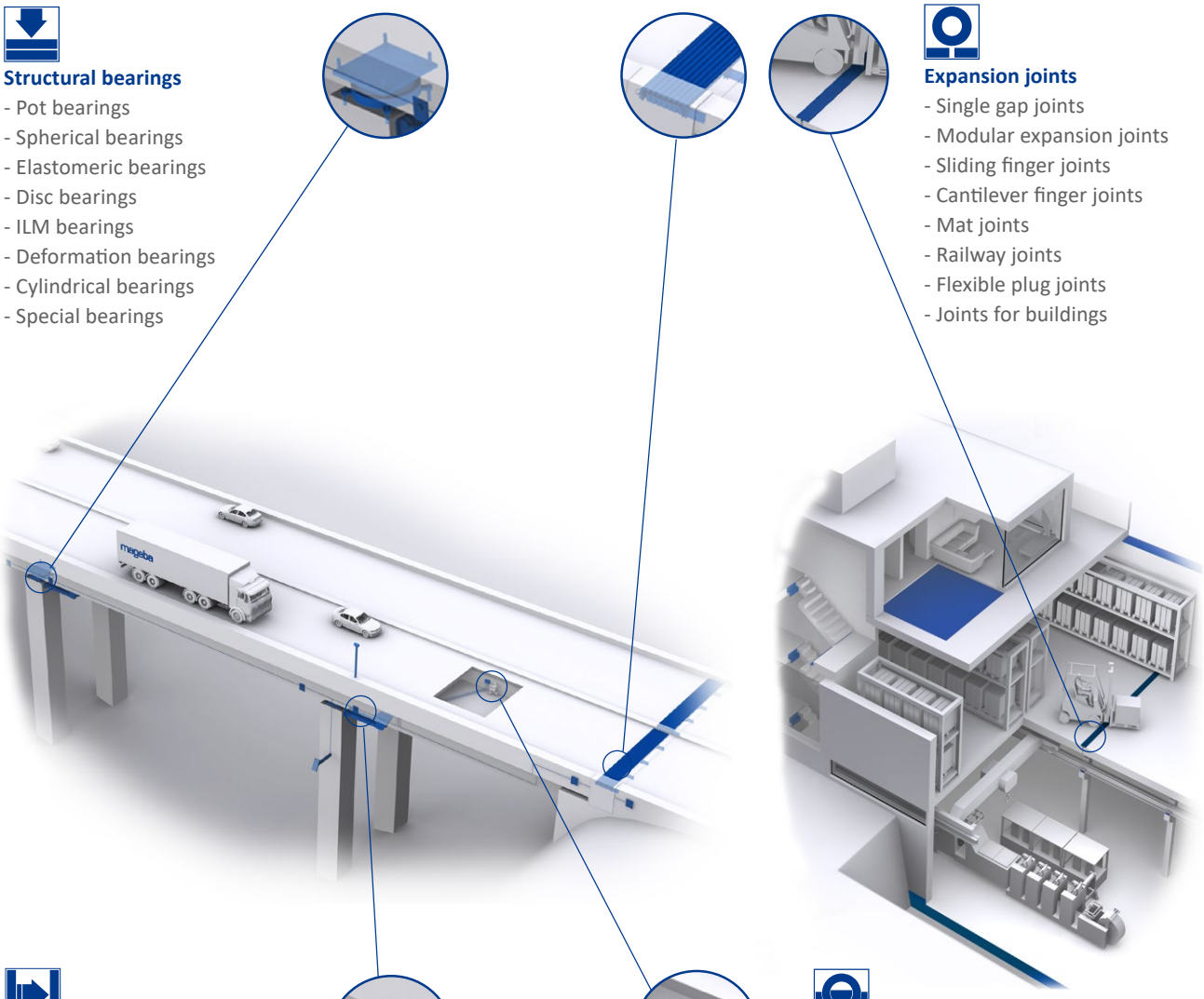
Infrastructure | Buildings | Industrial structures

mageba products – at a glance

Infrastructure, buildings and industrial structures

Structural bearings
- Pot bearings
- Spherical bearings
- Elastomeric bearings
- Disc bearings
- ILM bearings
- Deformation bearings
- Cylindrical bearings
- Special bearings

Expansion joints
- Single gap joints
- Modular expansion joints
- Sliding finger joints
- Cantilever finger joints
- Mat joints
- Railway joints
- Flexible plug joints
- Joints for buildings



Seismic & energy dissipating devices
- Hydraulic dampers
- Shock transmission units
- Preloaded spring dampers
- Friction pendulum
- Rubber isolators
- Fuse-Box for expansion joints
- Seismic joints

Structural Monitoring & Services
- Structural health monitoring
- Inspections
- Refurbishments
- Tests

mageba – the company

About mageba Group

mageba is a Swiss company with its head office in Bulach, north of Zurich. It was established in 1963 and ever since it has become one of the world's leading suppliers of structural bearings, expansion joints, seismic protection devices and structural monitoring systems for infrastructure, buildings and industrial structures.

To date we supplied our high-quality products to over 25,000 structures around the world.

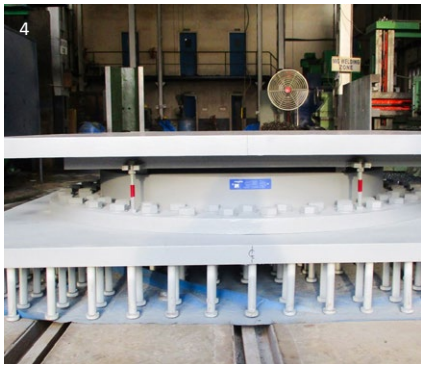
With locations worldwide and 5 production facilities in Slovakia, Hungary, Turkey, China and India mageba is a successful and consistent global player in the industry.

These certified production sites ensure optimal control of quality, timing, traceability and social responsibility, and provide even better market coverage and reaction to our customer's needs.

mageba's employees are the foundation on which the success of the company rests. We are proud to have many of the industry's most knowledgeable and capable individuals in our team. We offer the expertise and competence of around 1,000 employees worldwide, including over 100 engineers.

They expertly serve our customers' often very particular needs, and ensure that the quality of our products and services remains at the high level expected.

mageba structural bearings – versatile, strong and long-lasting



Wide range of high-quality bearings

Bridge bearings transfer forces from the bridge deck to its support pillars or abutments. They can be designed as fixed, guided sliding or free sliding, to suit the movement requirements of the bridge deck. mageba offers many types of bearings to satisfy bridge-specific requirements: Pot bearings, spherical bearings, elastomeric bearings, horizontal force bearings, linear rocker bearings, lifting and measuring bearings, pendulum bearings, incremental launch bearings, seismic bearings and bearings for special applications. In the production of these bearings, only high-quality materials are used. These include ROBO®SLIDE, a sliding material with exceptional qualities, and the POM sealing chain which has proven its worth over several decades in sealing the elastomeric pad at the heart of a pot bearing. Over the past decades mageba bearings have been used not only in the field of infrastructure, but in a wide range of projects in the field of industry and buildings worldwide. Our bearings are manufactured in accordance with EN1337 unless otherwise specified. The CE-label declares conformity with the standard's requirements.

Highlights - mageba structural bearings

- RESTON®POT bearings are among mageba's core products, with over 50,000 delivered to date. One of these set a new world record in 2007 with its ability to carry 21,000 tonnes.
- RESTON®SPHERICAL is a spherical bearing which, especially together with ROBO®SLIDE, offers exceptional durability. It is particularly suitable for large rotations and low temperatures.
- LASTO®BLOCK is an elastomeric bearing which, when using CR elastomer, is highly resistant to ageing, UV light and ozone.

Elastomeric bearing

Spherical bearing

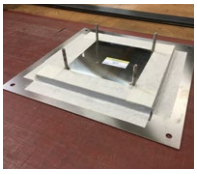
Pot bearing

Lifting and measuring bearing

Cylinder bearing

Incremental launch (ILM) bearing

Reinforced elastomeric bearing



Point bearing with PTFE sliding surface

Bearing for special applications

1. Assembly of a RESTON®SPHERICAL bearing
2. A LASTO®BLOCK elastomeric bearing
3. Reading of the force acting on a RESTON®POT LIFT-CONTROL lifting and measuring bearing, using a portable device
4. A RESTON®FORCE bearing after production

Installation of a RESTON®FORCE horizontal force bearing

Installation of TENSA®MODULAR LR expansion joints on Brăila Bridge, Romania

mageba expansion joints – durable, safe, proven

Ensuring a smooth driving surface

Expansion joints play a vital role on almost any bridge, because the bridge deck moves as a result of temperature and other influences. The movement gap at each end of the bridge deck must be bridged with a flat and even driving surface: the expansion joint. As bridge technology improves, and the spans of new bridges continue to increase, the demands on bridge expansion joints also increase.

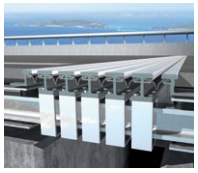
Wide and well-proven range

mageba supplies a wide range of expansion joint types, including single gap joints, modular joints, cantilever joints, sliding finger joints, mat joints, railway joints, sliding plate joints and flexible plug joints. Worthy of special mention is the modular expansion joint, which was invented by mageba several decades ago and has been continually developed ever since. This exceptional type of joint has been installed in thousands of bridges around the world.

Highlights – mageba expansion joints

- TENSA®MODULAR (Type LR) is an exceptionally flexible and durable joint with optional features such as noise-reducing surface plates, special sliding material, anti-skid coating and earthquake protection.
- TENSA®FINGER (Type RSFD) is a cantilever finger joint which offers high driving comfort.
- TENSA®POLYFLEX® is a flexible plug joint system, based on elastic polymers. Its key benefits include driver comfort, no additional noise emissions and watertightness.
- TENSA®CRETE (Type RE) is a single gap joint consisting of steel edge profiles anchored in high-strength polymer concrete.

Single gap joint



Modular joint

Cantilever finger joint

Sliding finger joint

Mat joint

Flexible plug joint

Joints for buildings

In addition to the expansion joints that are used for infrastructure, mageba also supplies joints that can be used for floors, walls or ceilings. These products can be installed quickly and can accommodate small or large movements equally. They are suitable for various floor types and fit for various installation scenarios.

1. A TENSA®MODULAR joint (type LR24, with 1,920 mm movement capacity) during installation
2. An installed TENSA®POLYFLEX®ADVANCED PU expansion joint on the A1 motorway in Austria
3. Installation of a TENSA®FLEX (Type RC) sliding finger joint. The modular nature of the joint allows installation with minimal impact on traffic
4. POLYFLEX®SLIM PU plug expansion joints based on Polyurethane (PU) flexible material for the specific requirements of buildings

mageba seismic devices – damping, absorbing and protecting

Growing demand for seismic protection

Bridges, buildings and other structures can be subjected to extreme movements and vibrations during an earthquake. This can cause a structure to fail if proper protection is not provided. The demand for seismic protection features, especially for key buildings and transportation routes, continues to grow strongly.

Protecting bridges and buildings

In addition to supplying infrastructure and building products, mageba also specialises in reliable solutions for the protection of structures. A wide range of products are offered, including Fuse-Box protection for modular joints, hydraulic and spring dampers, lead rubber and pendulum bearings, and vibration isolation products for buildings.

Highlights – mageba seismic devices

- Hydraulic dampers, Shock Transmission Units (STU) and preloaded spring dampers absorb and dissipate excessive energy during dynamic events such as earthquakes.
- Spring disc dampers are particularly valued for their reliability, top-quality materials, and durability.
- Lead Rubber Bearings (LRB) constitute the world's most widespread solution for the protection of bridges and buildings during earthquakes.
- Pendulum bearings are a proven seismic protection technology in structures around the world for years.
- Fuse-Box – The Fuse-Box feature ensures that a modular joint will disconnect from the main structure in a controlled way during an earthquake. This prevents major damage to the bridge or expansion joint.

Customised solutions

mageba is also pleased to assist in the development of specialised solutions for any particular set of requirements, and of sustainable solutions with consideration of durability, long life and future needs.

Shock Transmission Units (STUs)

Hydraulic dampers

Lead Rubber Bearing (LRB)

Pendulum bearing

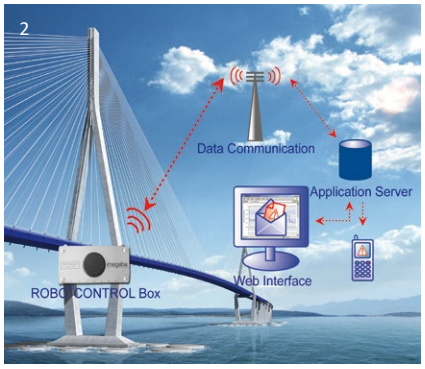
Precompressed bearing

1. RESTON® hydraulic dampers. mageba dampers offer an economical means of strengthening a structure. They can be expected to function for well over 50 years
2. Thorough testing of a spring disc damper at the independent testing laboratory EMPA (Switzerland)
3. Lead Rubber Bearings have proven their worth in many earthquakes around the world
4. A modular expansion joint featuring Fuse-Box seismic protection (on the left), before installation on a bridge

Installation of a RESTON®PENDULUM Curved Surface Slider

Installing a ROBO®CONTROL Permanent monitoring system on the Neckar Bridge in Germany

mageba monitoring & services – flexible, reliable, precise

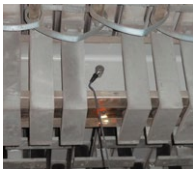


The increasing need for control

The ability of engineers to design, construct and maintain structures has greatly improved in recent decades. The need for structural health monitoring has also grown accordingly.

Real-time monitoring

mageba monitoring systems provide real-time information on any desired characteristic of a structure – for example forces, movements, vibrations, crack widths or temperature. This increases confidence in the structural integrity of a structure, and ensures that safety measures can be implemented in good time, if necessary.



"Smart" expansion joints

Functionality test

Integrated system for structural bearings

Online monitoring via internet (24hr)

Crack monitoring

Rock anchor monitoring

1. mageba has over 50 years of experience in the conventional inspection of structures
2. ROBO®CONTROL is a fully automated monitoring system that makes measured data available via the internet
3. A ROBO®CONTROL Box – the heart of mageba's structural health monitoring system
4. Low energy systems enable ROBO®CONTROL to be installed in even the most remote locations

Highlights – mageba monitoring & services

- ROBO®CONTROL – a modern and flexible system which offers quick, efficient and inexpensive health checking of any type of structure.
- Inspections – a vital part of any structure's maintenance plan. Done properly and professionally, they can ensure that possible problems are identified in good time.
- mageba can provide complete testing of any bridge product.

mageba quality and know-how – for lasting and reliable products

Systematic Quality Management

- First company in its field to have its quality assurance system certified in accordance with ISO 9001 (in 1991).
- Extensive experience in quality management and assurance. Experienced quality specialists and welding engineers (IWE/CWI), and certified inspectors in all manufacturing facilities.
- Systematic control of all business processes ensured by mageba's constantly developing and improving quality system.
- Product testing at external, independent institutions such as universities and material testing bodies.
- Close cooperation in the fields of external quality control, research and development with the Universities of Stuttgart and Karlsruhe (Germany), and the Federal Institute for Materials Research and Testing (BAM) in Berlin.

Technical Excellence

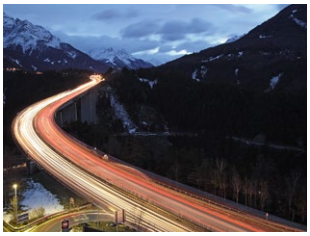
- Experience over many years with movements and transfer of forces in structures, and with damping of impacts, seismic protection and insulation against sound and vibration.
- Inventor of the modern modular expansion joint and holder of a number of patents in the areas of structural bearings and expansion joints.
- Active collaboration in international committees and contribution to the development of international standards (CEN / EN / EOTA) for structural bearings and expansion joints.
- Cooperation with internationally recognised experts and institutions such as ETH Zurich and Lausanne, MPA Stuttgart and University of Karlsruhe.

A guided bearing in production

Installed TENSA® POLYFLEX® Advanced plug expansion joint in Pärnu Uuesilla in Estonia

mageba –
worldwide success for over 60 years

Gateway Bridge, Australia



Europa Bridge, Austria

Lupu Bridge, China

Hålogaland Bridge, Norway

Kriváň Highway, Slovakia

Öresund Bridge, Denmark

Pont de Normandie, France

Köhlbrand Bridge, Germany

MVM Dome, Hungary

Wazirabad Bridge, India

Nanay Bridge, Peru

Braila Bridge, Romania

SKA Arena, Russia

Geumgang Pedestrian Bridge, South Korea

Viaduct de Chillon, Switzerland

Cairo Monorail, Egypt

Third Bosporus bridge, Turkey

Queensferry Crossing, United Kingdom

George Washington Bridge, USA

Further references are available online.

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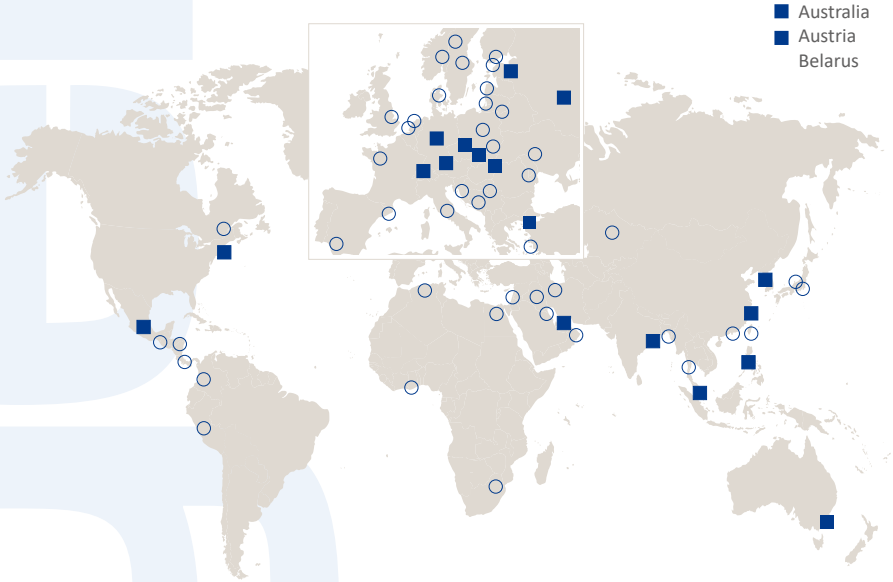

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- Egypt
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- Malaysia
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- Philippines
- Poland
- Romania
- Russia
- Serbia
- Singapore
- Slovakia
- South Africa
- South Korea
- Spain
- Sweden
- Switzerland
- Taiwan
- Thailand
- Türkiye
- UAE
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