



Customer Success Story

We pioneer motion

More safety for the maintenance team

Significantly reduced mounting time, less CO₂ emissions

At the plant of an Italian cement manufacturer, a total of four roller press bearings had to be overhauled during a planned shutdown of the plant. This usually took the maintenance team several hours using conventional, sometimes high risk, methods. The maintenance team was therefore looking for a solution that would take less time and provide more safety.

The induction system with medium frequency technology met the expectations of the maintenance team and offered additional benefits.

Customer benefits

- **User-friendly dismantling and low effort**
Flexible inductors wrap around the bearing for smooth heating
- **Efficient operation**
Time savings in maintenance work as compared to conventional method
- **Higher energy savings**
compared to other heating methods
- **More safety for the maintenance team**
e.g. no open flames
- **Special service**
Schaeffler experts on site provide support to achieve best results

Customer

Cement and building materials producer, Italy
Sector

Cement

Application

Large bearings in a roller press

Solution

Mount & Dismount

What drives our customer ...



Challenge

Following the recommendations of the machine manufacturer, a cement and building materials manufacturer has previously mounted and dismantled the large spherical roller bearings with a tapered bore using a hydraulic pump. For a while, this worked.

But over the years, the hydraulic channels did not work properly. Other methods were used, which, however, posed significant risks to the team. The maintenance manager describes the problem as follows:

Using hydraulic methods for mounting work on large spherical roller bearings is only possible at high risk. Since the hydraulic channels do not work properly, the bearings can be damaged. Purchasing of new bearings is out of the question because of the high costs and long delivery times.

Therefore, the maintenance team at the Italian cement plant looked for alternative mounting and dismantling solutions. The safety of the employees was to be put first.



Technical Information- Roller press

Extracted raw material	Limestone and clay
Production Capacity	1,600,000 tons/year of cement
Bearings	Spherical roller bearings, 1.8 tonnes

What Schaeffler has to offer ...

Solution

For the dismantling of the large bearings, Schaeffler experts recommended heating the bearings with Schaeffler's medium-frequency technology in addition to the axial force. For this purpose, the flexible inductor is normally applied directly to the inner ring. Due to the bearing design in this case, however, the inductor had to be applied to the outer ring instead.

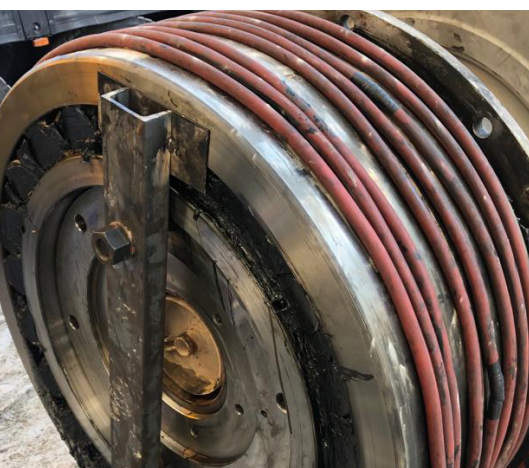
After two hours of heating from the outer to the inner ring, the bearing could be dismantled with little effort by combining the axial force and the thermal process with medium frequency technology. The bearing was cleaned and inspected before it was reassembled by heating the inner ring to 80°C.

Note: This application is a special case. Please note that the medium frequency equipment is always subject to technical assessment. Not all mounting cases are possible. Special applications are always tested and verified on site.

What's special

The Schaeffler experts were on site and this service was highly appreciated by the Italian maintenance team.

The safe method, the time savings and also the fact that more CO₂ can be saved results in absolute satisfaction of the customer.



Flexible Inductores

First heating outer ring by fixing inductor onto the outer ring.

New orientation

At the time, the solution was realized with the HEAT-GENERATOR40-2 medium-frequency heating device. Today, Schaeffler would use the environmentally friendly and reliable induction unit with medium-frequency heating device MF-GENERATOR3.0-44KW.



Technical information

MFT	MF-GENERATOR3.0-22KW
Power	22 kW
Outlet frequency	10-25 kHz
Frequency	50 to 60 Hz
Dimensions (L x W x H)	600 x 300 x 600 mm
Weight	46 kg

Induction units with medium frequency technology

Unlike induction heating devices, induction units with medium-frequency technology are not only suitable for thermal mounting but also for removal. They can also be used to heat up very large and heavy components. Each unit comprises a generator and inductor that is positioned on the workpiece. A rigid or flexible inductor is used, depending on requirements. Depending on the application, flexible inductors can be fitted in the bore or on the outside diameter of the workpiece. They are suitable for heating of bearing inner rings or for large components. Rigid inductors are particularly well suited to volume production. Flexibility is less of a priority here than short setup times and a high level of process reliability.

What our customer says ...

For us, Schaeffler Mounting Service and MFT are now our number 1 choice for maintenance work on our large bearings.

The MFT makes us feel safe!

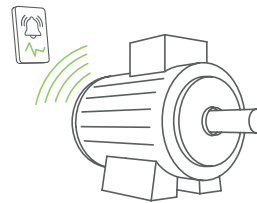
Maintenance Manager at the plant

The MFT is part of the Schaeffler Lifetime Solutions portfolio, which offers a comprehensive range of products, services and solutions for industrial maintenance. It is designed to support maintenance engineers over the entire lifetime of a machine.

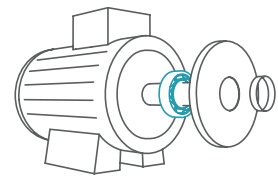
www.schaeffler.de/en/lifetime-solutions



Lubricate



Monitor



Mount

Why Schaeffler?

- Technical expertise
- Competent customer service also on site
- Quick and easy installation

Why this specific solution?

- Precise mounting and dismounting
- Easy handling
- More safety & less CO₂ emissions

Customer

The everyday business of the international company is the production and sale of cement, ready-mixed concrete, and aggregates. The company employs around 10,000 people in 14 countries.

The cement manufacturer focuses on sustainable development, which is supported by high-quality production facilities.

