

Eich Roller Bearings, manufactured in Germany, are well respected for their ability to function in elevated temperatures while under heavy loads and severe environments. The **BR Series** spring wound, high load, high-impact solid roller design is ideally suited for foot rolls (upper segment) of continuous casters for steel mills. They are generally used on billet, slab, bloom or beam blank casters. The basic design consists of an inner spring-wound race, a set of cylindrical rollers capable of heavy radial loads and an outer spring wound race. Thrust rings on each end help contain and handle thrust. No other bearing offers these features with such load carrying flexibility. The spring wound races expand and contract naturally over a wide temperature range, yet stay tight on the shaft and within the roll on which they are assembled. The BR Series is designed to accommodate 350°C (600°F) temperatures. The wound coil provides a pathway for contaminants to escape. The compact design and simple installation make them ideally suited for such high temp applications and harsh environments.



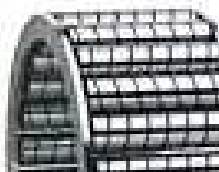
BR Series—Solid Roller



The **B Series** Bearings with spiral wound rollers and flexible wound races allow the most extreme operating temperatures 600°C (1000°F). One version used in Tunnel Furnaces is manufactured exclusively from spring strip steel. They can withstand temperatures in excess of 450°C and absorb impacts that occur from billets or slabs contacting the rolls. A second variation has been adopted for the furnace car wheel, for example, and capable of temperatures that exceeding 500°C. These are essentially cylindrical roller bearings made of high-temperature roller bearing steel. The design of the bearings will adapt to these extreme ambient conditions to eliminate the need for frequent bearing replacement as is often the case with bronze bushed designs. So both the solid or flexible roller designs with spring wound bearing races are capable compact designs with a low sensitivity to contaminants. They are easy to install and require no heating of components.



B Series—Flexible Roller



**Installation:** Spanner wrenches of different shapes for inner and outer races, allow the installer to expand (unwind) the inner race or tighten (wind-up) the outer race, to slip inner ring onto shafts or slide outer races into housing rolls. Bearings are installed at room temperatures, so no cooling of shafts or handling hot bearings. Wrenches are provided with new orders to make installation/training simple.



Spanner Wrenches for B & BR Series Installation

Additionally, an installation/training CD is also provided to demonstrate the simple procedures for both installation and removal, for inspection or for replacement procedures. Often times, B and BR Series bearings can be re-furbished and re-used, proper inspection and evaluation techniques are demonstrated, saving costly down time.



**Eich Guide Rollers** use the solid BR-Series roller design and allow re-lubrication from the shaft ends and easy installation and removal. Guide rolls specifications are generally provided by the customer. Standards do not exist. So custom units are normally designed from customer requirements and close dialogue on application requirements.



**Water-Cooled Split Bearings** are designed to handle extreme loads at elevated temperatures. The races are horizontally split and allow simple roller and race replacement without moving the equipment or rolls on which they are mounted. A classic application is a driven strand guide rollers on a continuous caster.



Water Cooled Split Bearings are manufactured like standard bearings, i.e. turned, heat treated and ground. The final step is the splitting of the race by wire-cut EDM, which is a non-abrasive, precise operation. Each unit undergoes a full assembly and test fit prior to release. The full complement of rollers (no cage = allows the maximum number of rollers) which provides the highest rating possible. The water cooling feature will maintain a safe bearing operating temperature while providing maximum support to the rolls. The cooling water flows around the exterior jacket of the housing allowing the bearing to function in the most severe ambient temperatures. Water inlets and outlets are provided in the base of the housing. Water cooled units are available for shaft sizes from 65mm thru 265mm.

**SACRB Bearings:** Eich also manufactures SACRB type bearings (Self Aligning Cylindrical Roller Bearing). This unit combines the load carrying ability of a cylindrical bearing and the misalignment features of a spherical bearings. Together with expansion (float) capability, this bearing is one of the most versatile and capable units available. The floating unit consists of an inner race, a set of rollers and two outer races. The fixed bearing is supplied with two thrust rings. SACRB units are fully interchangeable with the toroidal roller (CARB) bearings. SACRB bearings include a full complement of cylindrical rollers in a spherical shell with a cylindrical OD. This bearing will allow axial expansion and angular alignment all in one compact unit. The load capability of this bearing is extremely high, well beyond a comparable spherical roller bearings, due to the full complement (maximum number possible) and extra wide rollers for the maximum load rating. SACRB Bearings are available for driven or non driven rolls. They allow higher loads than equivalent CARB Bearings. **SACRB are typically have a 10 to 25% higher rating than a comparable CARB bearing and typically 20 to 30% above the similarly sized Spherical bearings.**



**Size Range:** Eich bearings are available for 25mm shaft sizes and up to outer diameters of 600mm and anything between. Eich Bearings are well respected in the industry for being a leader in these customized, uniquely featured and highly capable spring wound bearings.

## Eich BR Series with Solid Rollers



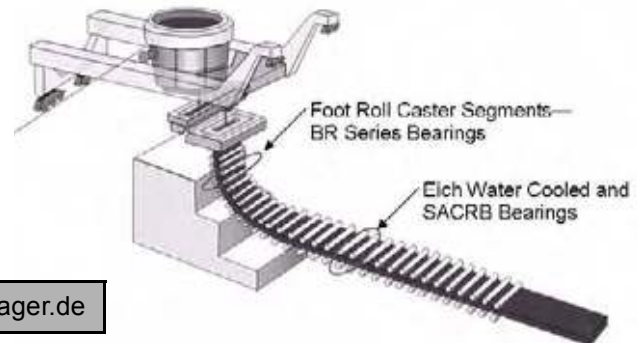
Typical caster foot roll (Uses 2 BR Series Bearings) and re-lube via shaft center

## Eich B Series with Flexible Rollers

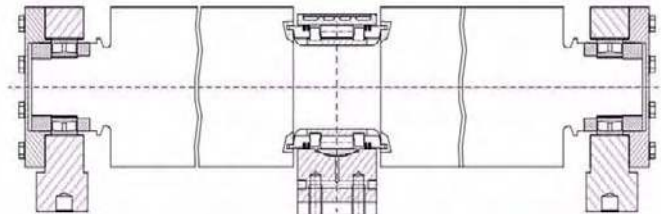


- Bearings for Extreme Conditions
- Spring Steel Coil Design - Expands with Temperature Changes and Improves Bearing Life
- Low Maintenance Costs
- Reduced Down Time

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## Water Cooled Split Bearings



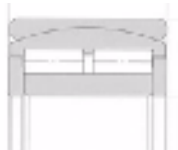
Eich Split Water Cooled Bearing on center Guide Roll

## Split Bearing Components

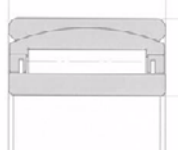


## SACRB Bearings:

SACRB Bearings are applied in pairs, one fixed and one float unit per shaft. The fixed Bearing can handle thrust, fixing the roll position, while the float bearing allows for expansion from the thermal growth of the shaft. Consult PTI for additional information on SACRB Units.



Fixed Construction



Float Construction

**Flexible Roller Chain Bearing** is a flexible bearing cage and not a drive chain. This product was developed to assist in easy installation in furnaces or waste incineration plants.



The bearing is used in elevated positions where its easy installation proves to be a crucial advantage as the flexible roller chain can be easily fitted around the journals or races then joined.