

Spherical Bearing

BP · A



Application range

- Supports vertical loads
- Accommodates horizontal movement and rotation

Function

Suitable for a wide range of bridges including large simple girder bridges

High Quality

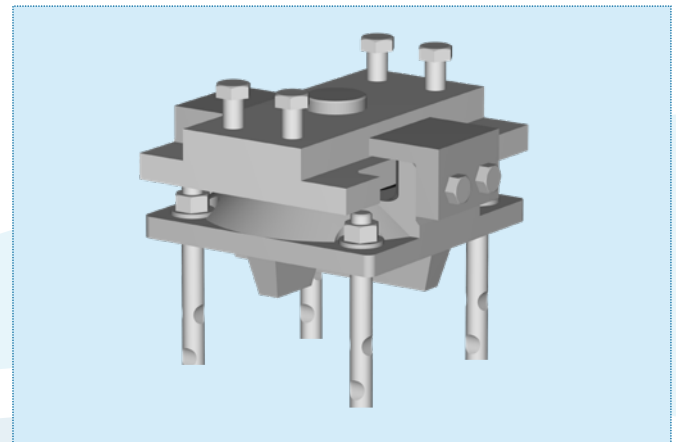
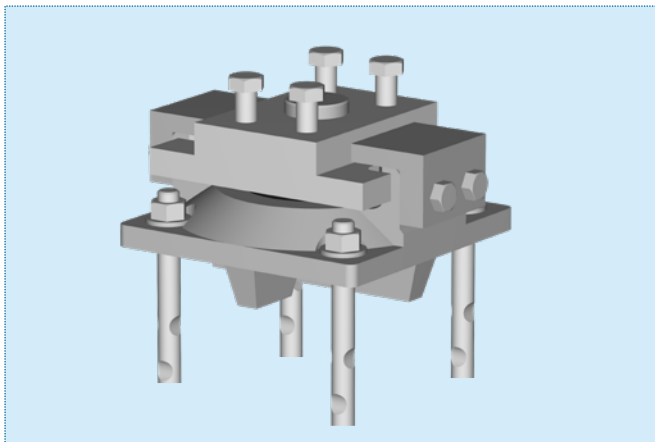
Accurate quality control by performance test

High Durability

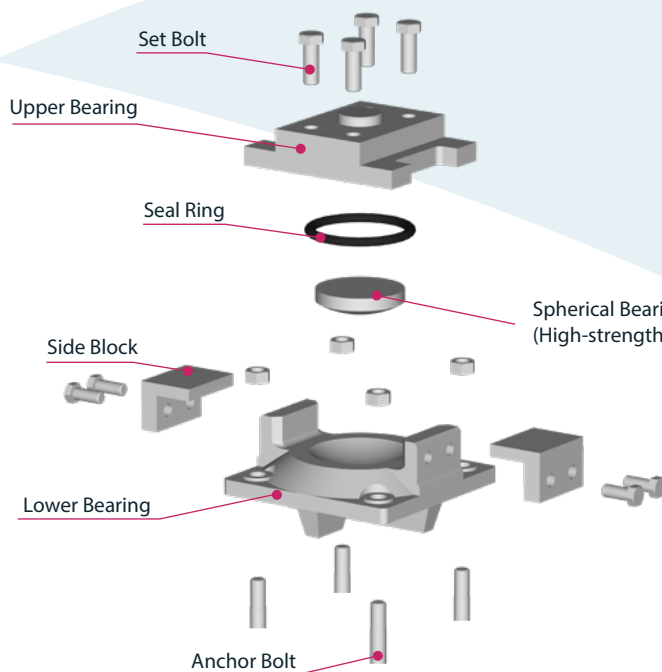
Long-term stability guaranteed by fatigue test and Corrosion protection by hot-dip galvanizing or Aluminum-Magnesium spraying (TAPS method)

Size Line-up

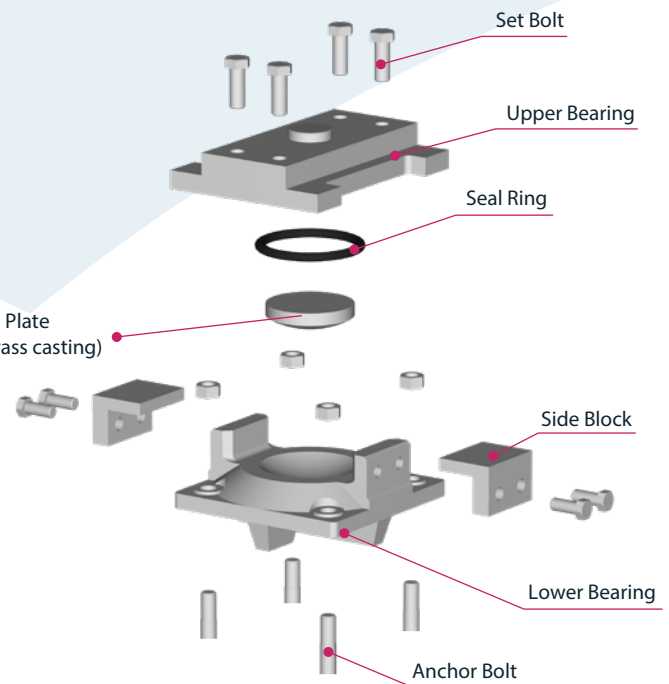
- A broad line-up of spherical bearings for supporting small to large vertical loads
 - Vertical load capacity up to 10,000 kN as a standard.
- *Larger types may be provided at your request.



Fixed type



Movable type



The structure of this device consists of a lubricated spherical bearing plate placed between upper and lower plates. With this configuration the device is able to resist large vertical loads, while accommodating the horizontal displacements and rotations of the superstructure. It is the most common choice as bearing support system for railway bridges.

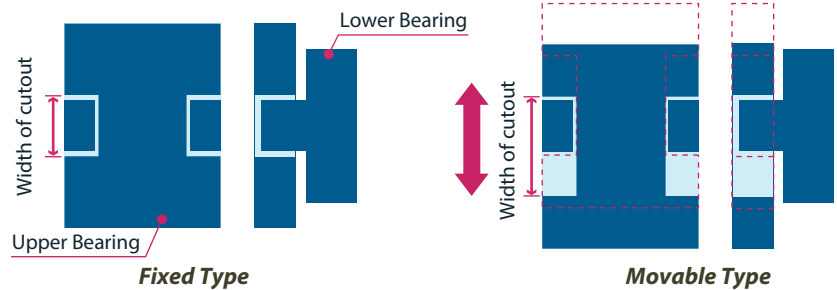
Function of Movement and Rotation

Spherical bearings are also known as “steel sliding bearing”. This bearing can accommodate movement and rotation with its sliding function obtained from a spherical bearing plate inserted between the upper and the lower bearings. The spherical bearing plate is made from high-strength brass casting called CAC304 and is lubricated with solid lubricant. The CAC304 produces good bearing performance, high strength and hardness.

The friction coefficient of the BPA bearing is $\mu=0.15$. This design value is determined slightly larger than the value from test results because friction coefficient may increase with time.

Movement

The width of cutouts on the upper bearing makes a distinction between the two types. The cutouts are interlocked with the lower bearing.



Rotation

The type of bearing accommodates rotations in all directions. The protrusion of the spherical bearing plate prevents binding of the structural components even at large rotations.



Application Examples



Installation Example



Assembly



Spherical section-1



Spherical section-2



Finished products



Finished products



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