

# WABO<sup>®</sup>DEC S

## Spherical bearings

### DESCRIPTION

**WABO DEC S** bearings consist of a backing plate with a convex spherical surface (rotational element) and a backing plate with concave spherical surface between which a PTFE sheet and the mating material form a curved sliding surface. They are also used in combination with flat sliding elements and guide to form free and guided bearings. **WABO DEC S** combined with a flat sliding element can be used together with a restraining ring to form fixed bearings.

### PRINCIPLE

**WABO DEC S** bearings are capable of transferring applied vertical and horizontal loads between the superstructure and substructure. They permit rotational movement about all axes and, where appropriate, a flat sliding element allows movements with a minimum of friction.

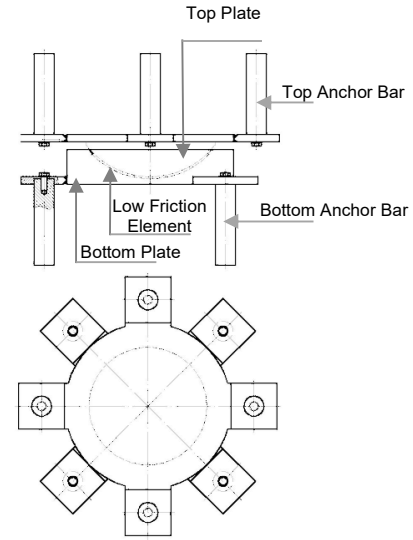
### DESIGN AND MANUFACTURE

**WABO DEC S** bearings can be designed and manufactured in accordance with the requirements of any national or international applicable standard.

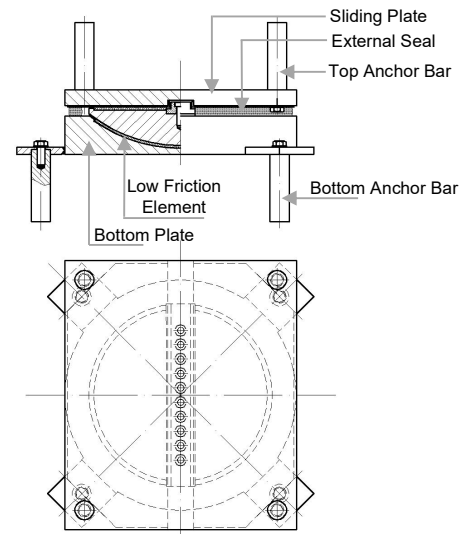
### Types

**WABO DEC S** bearings are supplied in four types:

- Fixed spherical bearings which resist horizontal forces preventing movements in any direction
- Guided sliding spherical bearing which allows sliding movements along the longitudinal axes of the bridge and resists the horizontal forces in the perpendicular one.
- Guided sliding spherical bearing which allows sliding movements along the transverse axes of the bridge and resists the horizontal forces in the perpendicular one.
- Multi-direction sliding spherical bearing which allows sliding movements in all horizontal directions.

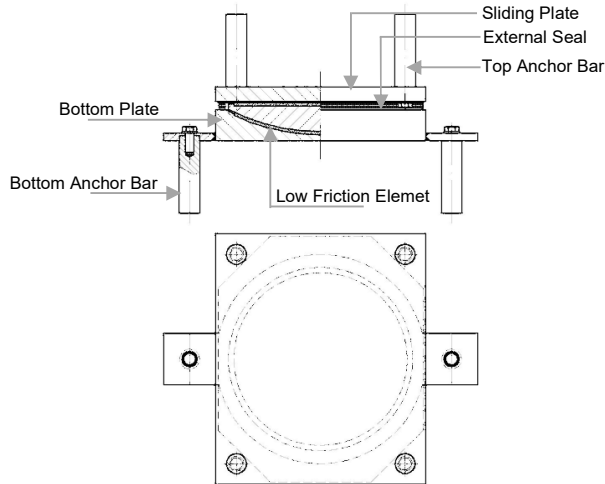


### FIXED BEARING (WABO<sup>®</sup>DEC SF)



### GUIDED BEARING (WABO<sup>®</sup>DEC SG)

# WABO<sup>®</sup>DEC S



**FREE BEARING (WABO<sup>®</sup>DEC SM)**

## POSITIVE MEANS OF LOCATION

**WABO DEC S** bearings can be connected to the superstructure and substructure by means of anchor bars, pins or by anchor plates with shear connectors. The use of anchor plates simplifies future bearing replacement. Mixed anchoring systems are also available.

## MATERIALS

Backing plates, anchor elements and, if any, sliding element are manufactured from ferrous materials in accordance with one of the following standards: EN 10025, EN 10083, EN 10113, EN 10088, ISO 3755, ISO 1083. Usually the low friction elements are made of pure polytetrafluoroethylene (PTFE) free sintered with out regenerated or filler materials and the low friction strips, incorporated in the guides, are made of composite material. Both are in accordance with requirements of EN 1337. Alternative materials qualities and specifications are also available upon request.

## PACKING

**WABO DEC S** bearings are supplied on pallets ready for shipping. Each spherical bearing manufactured by Watson Bowman Acme is provided with an identification label indelibly marked.

## CORROSION PROTECTION

Corrosion protection is usually in accordance with the requirements of ISO 12944, but can also complies with any other standard or custom made specifications.

## INSTALLATION

The structure's axes marked on the upper surface of the bearing and the identification label enable the bearing itself to be positioned precisely. Nylon slings should be used when lifting bearings into position in order to avoid any damage. Substructures shall reach the exact level to suit the thickness of the bearings so that the superstructure will be at the specified level after completion. For **WABO DEC S** that requires positive means of location, after positioning, the anchor recesses are concreted. The subsequently placed mortar bed should not be more than 40 mm thick; use of mortar which can flow beneath the bearing during placing is recommended. If **WABO DEC S** are provided with movements restraints, the bearings must be able to move freely as soon as they are connected to both superstructure and substructure, removing the temporary clamps. After installation, the area around the bearing assembly should be cleaned to ensure the proper unrestricted functioning of the bearings. All formwork, excess grout, etc., should be removed.

## MAINTENANCE

**WABO DEC S** bearings are designed and manufactured in order to reduce maintenance interventions to a minimum level. If nothing special happens on the structure (i.e. fire, earthquakes, violent impacts) bearings need only a visual inspection every five years at least, to verify cleanness of the area around the bearings, integrity of the corrosion protection and PTFE sheets thickness, which has to be uniform all over the surface. This matter can be verified checking outside thickness of the PTFE protruding from the recess.

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## STORAGE

When **WABO DEC S** bearings are not directly installed upon supply, they shall be stored in an adequate area, raised from the ground and in such a way as to be protected from dust, humidity and mud.

## HEALTH AND SAFETY

Appropriate health and safety advice can be found in the Material Safety Data Sheets.

Users are advised to wear gloves and eye protection when installing **WABO DEC S** bearings.

## QUALITY AND CARE

All products originating from Master Builders Solutions Dubai, UAE facility are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001 and ISO 14001.

\* Properties listed are based on laboratory controlled tests.

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## STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this Master Builders Solutions publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

## NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by Master Builders Solutions either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not Master Builders Solutions, are responsible for carrying out procedures appropriate to a specific application.

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