

Ballraces SR601000 and DR901000

Ballrace Installation, Lubrication and Servicing Information.

CAPACITY

- SR601000 190kN 16t vertically
- DR901000 270kN 30t vertically



Rothe Erde ballraces have been developed exclusively for installation in vehicle trailers and SAF-HOLLAND turntables. Their purpose is to transmit both the axial load, thrust and traction forces.

Rothe Erde ballraces are built to the highest manufacturing standards and are designed to meet extremely high performance requirements.

Each turntable consists of two steel rings designed for flange mounting. The raceways are machined to ensure that the load transmission is favourably directed between the anti-friction steel balls that are fitted.

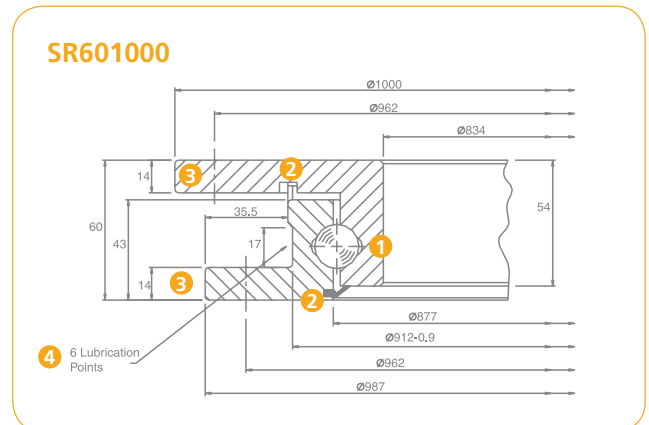
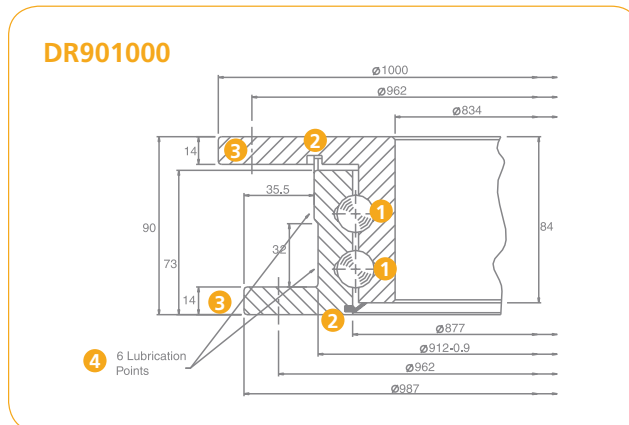
General Information:

- SR601000 190kN 16t vertically
- DR901000 270kN 30t vertically
- All ballraces are supplied with a surface preservative that must be cleaned prior to painting.
- Ballraces supplied from factory are installed with only minimal preservation grease. Ballraces **MUST** be greased before going into service.
- Rothe Erde ballraces are only suitable for turning movements of $\pm 180^\circ$.
- All ballraces are firm to move and should be able to be turned by hand with reasonable force. Double row ballraces are much firmer to turn as they contain double the amount of balls (therefore double the amount of friction). Double row ballraces work hardened their race and single row ballrace are supplied with case hardened race.
- Warranty products and material characteristics will be free from defects for a period of 12 months as from commissioning or, as applicable, a maximum period of 18 months as from delivery. This will depend on proper installation, observance of the applicable maintenance instructions as well as suitability of the product for selected application.

Features:

- 1 Full raceway compliment of load sharing bearing balls.
- 2 Labyrinth upper seal and rubber insert bottom seal – holds lubricant in place and prevents ingress of contaminants.
- 3 14 mm thick top and bottom flanges for superior strength and added rigidity.
- 4 6 grease nipples per row of bearing balls.

Suitable for all applications within stated D-rating capacities.

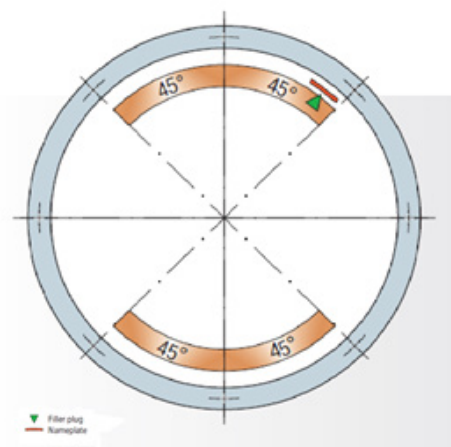


Storage Information:

- Storage of ballraces less than 6 months requires a roofed storage area.
- Storage of ballraces up to 12 months requires an enclosed temperature controlled room.

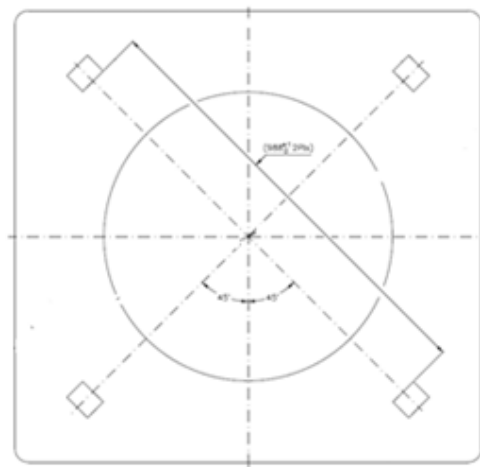
Installation:

- Mounting holes must be drilled with the filler plug positioned lateral to the direction of travel and out side the load carrying areas.
- One hole should be drilled 70mm left or right from the name plate or filler hole.
- Holes adjacent to the name plate or filler hole are not permitted.
- SAF-HOLLAND drill pattern meets all required criteria.



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- Care must be taken to prevent drilling chips and cutting fluid to enter ballrace.
- Ballraces are to be mounted on a flat and torsion-resistant structure. It is essential to support the profile web of the ballrace to ensure the direct force transmission into the ballrace raceways. **Total flatness tolerance for SR601000 is 0.30mm and DR901000 is 0.4mm.**
- It is essential that 50% of the peripheral surface of the flanges are supported in load bearing zones and that these latter are roughly equally spaced in the direction of travel and at right angles to this.
- Ballraces must be mounted with at least 8 grade 8 bolts or higher and have shear blocks installed as per below. The bolt locking system must comply with the LYSA requirements or with the relevant approval regulations.



- Size and distribution of the bolts must be calculated based on the working load by a qualified engineer.
- Ballrace must be form fitted to the connecting structures so that the horizontal forces from acceleration and deceleration are transmitted to the structure. Mounting bolts **MUST** not be subjected to radial forces.
- To prevent distortion occurring, ballraces must never be attached to the companion structure by welding.

Servicing:

- Direct cleaning with high pressure equipment requires immediately re-greasing.
- Ballraces must be serviced and lubricated with a lithium-saponified grease of penetration grade 2 (Shell Gadus S2 V220AC 2 is acceptable grease).
- Prior to going into service all ballraces must be re-greased. This is to be done while turning the upper ring until a grease collar appears at all bearing gaps around the entire internal circumference.
- First service re-greasing must be carried out after 1 month of service.
- Mounting bolt torque must be checked at first service and maintained for the life of the unit. Practical experience has shown that bolts require re-torquing after a settling period.
- Ballraces must be lubricated every month. To do this the upper ring must be rotated or slewed though at least 30 degrees to achieve uniform grease distribution while lubricating.
- Ballrace wear limit is 2 mm above the bearing initial clearances specified from the supplier. Initial clearances are; 1mm axially and 0.7mm radially. Movement above these tolerances requires the ballraces to be replaced.