Self-Lubricated Spherical Bearings for Hydro Applications

With over 25 years of experience working closely with OEM's and end users in the hydro industry, Thordon has developed several solutions for self-lubricated, spherical bearing assemblies. A custom engineered Thordon spherical bearing can solve challenging alignment problems in many different applications, including bulb turbine wicket gate bushings, servo-rod end bushings, gate operating linkages, and water control gate roller wheels.

Benefits

- Operate without grease in wet or dry environments
- Operate under high loads, with bearing pressures up to 55 MPa (8000 psi) depending on configuration and material selection
- Low coefficient of friction for smooth operation of all components
- Spherical design accommodates angular misalignment, due to structural flex or installation tolerances
- Available in a multiple design configurations depending on assembly and operational requirement

Applications

1. Replace greased bushings on servo-rod end connections, or other hydraulic equipment
2. Spherical wicket gate bushings (bulb turbines)
3. Reduce binding in wicket gate operating linkages, connecting rods, and control mechanisms
4. Ensure uniform contact and even load distribution in stop log and water control gate rollers

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THORDON BEARINGS INC.

ZERO POLLUTION | HIGH PERFORMANCE | BEARING & SEAL SYSTEMS

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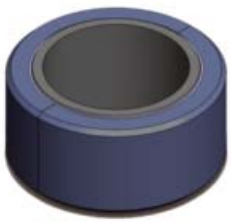
Material Options

Depending on the specific requirements of the application, two unique material solutions are available to choose from. Thordon Engineering can help advise on the optimal solution.

	ThorPlas-Blue	HPSXL TRAXL
Description	Engineered thermoplastic material, formulated with additives to provide high wear resistance and low friction.	Proprietary elastomer with additives aimed to reduce wear and provide low friction. The thin layer of HPSXL elastomer is adhered to a bronze shell.
Load Rating	45 MPa (6500 psi)	55 MPa (8000 psi)
Coefficient of Friction	Dry dynamic = 0.10 Wet dynamic = 0.10 to 0.17	Dry dynamic = 0.07 – 0.12 Wet dynamic= 0.06 – 0.12
Max. Design Temperature	60°C (140°F)	80°C (176°F)

Design Configurations

In order to accommodate the widest possible range of applications and installation methods, several configurations of spherical ball and outer race may be specified.

Split Ball, Solid Race*	Split Race (version 1), Solid Ball	Split Race (version 2), Solid Ball
		
		
* only available in ThorPlas-Blue		

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