

**THORDON WATER  
QUALITY PACKAGE FOR  
HYDRO-TURBINES**



# THORDON WATER QUALITY PACKAGE

## PRINCIPLES OF OPERATION

A steady supply of relatively abrasive free water is an important element in ensuring long, predictable, bearing wear life. With this factor in mind, Thordon has developed a self-contained supply, conditioning and monitoring package to ensure that an adequate supply of clean water is consistently being delivered to both the seal and the bearings.

The Thordon Water Quality Package is designed to supply water to the main guide bearing for lubrication and cooling at a minimum flow rate of 0.15 litre/minute/mm (1 US gallon/minute/inch) of shaft diameter and to condition water from the water supply by removing suspended solids with a specific gravity of 1.2 or higher and greater than 80 microns (0.003"). A flow alarm is incorporated to alert the operator to any low water flow condition to the bearing. The Thordon Water Quality Package is designed to operate on a stand-alone basis, or can be fully integrated into the control and monitoring systems to allow operation in an unmanned machinery space.

Thordon offers three Water Quality Packages in configurations designed to deliver flow to suit a wide range of shaft sizes, and provide an appropriate degree of installation redundancy. Thordon can, if required, work with integrators, designers and builders to meet special needs for specific installations.

### Thordon Water Quality Package Pump and Separator Options

| Flow Capacity                     | Options                          |                                  |
|-----------------------------------|----------------------------------|----------------------------------|
| 45 - 90 l/min.<br>(12 - 24 GPM)   | Single Pump/<br>Single Separator | Double Pump/<br>Double Separator |
| 75 - 150 l/min.<br>(20 - 40 GPM)  | Single Pump/<br>Single Separator | Double Pump/<br>Double Separator |
| 150 - 280 l/min.<br>(40 - 75 GPM) | Single Pump/<br>Single Separator | Double Pump/<br>Double Separator |

Thordon Bearings designs and manufactures a complete range of non metallic, high performance, environmentally friendly marine propeller shaft bearings, rudder bearings and offshore bearing systems for ship repair, conversion or new build projects. Thordon propeller shaft bearings offer reliability, long wear life and pollution free solutions for today's ship owner and manager. Recognized internationally for superior performance in marine applications, Thordon has an extensive distribution and service network in over 70 countries worldwide.

## TECHNICAL INFORMATION

**Electrical Requirements:** 380-420 V, 50 Hz / 440-480V, 60 Hz, 3 ph (with 110V control circuit). Other requirements can be met.

**Minimum Water Flow:** 0.15 litre/minute/mm (1 USGPM/ inch) of shaft diameter; more if main guide bearing reduced clearances are used

**Water Pressure:** Pipework tested to 7 bar (102 psi)

**Particle Separation:** Specific gravity of 1.2 or higher and greater than 80 microns in size will be removed

**Piping Requirements:** The package inlet and outlet pipes have flanged connection points. The suction and discharge piping should not be smaller than the inlet and outlet connections. The suction line must maintain adequate suction pressure and allow for smooth liquid flow to ensure proper pump operation.



*Thordon SXL main guide bearing installed at Graus Power Station, Spain*

**THORDON**  
THORDON BEARINGS INC.

ZERO POLLUTION | HIGH PERFORMANCE | BEARING SYSTEMS

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