



SIGMA incline pump fully assembled with Thordon's pump bearings and ready to be installed.

THORDON WINS COMPOSITE BEARING DEAL WITH **SIGMA GROUP** FOR MYRIAD OF EGYPTIAN IRRIGATION PROJECTS

SIGMA Group, one of Europe's leading industrial pump manufacturers, has specified Thordon Bearings' grease-free bearings for installation to the specialized pumping sets destined for flood defence and irrigation projects across Egypt.

In total, Thordon is supplying 64 of their water-lubricated Composite bearings for use in 49 SIGMA BQBV vertical diagonal pumps specified for projects along the Nile River and the Sinai Peninsula.

continued... 2

IN THIS ISSUE...

- 1 Thordon Wins Composite Bearing Deal with Sigma Group for Myriad of Egyptian Irrigation Projects
- 3 Thordon Bearings Prove Their Worth in Abu Dhabi Offshore Platform Pumps
- 4 Thordon Delivers Non-Metallic Bearings for Essential Cooling Water Pumps in Taiwan
- 6 Grupo México Opens the Door for Thordon's Tough Non-Metallic Bearings in Mining Industry



THORDON WINS COMPOSITE BEARING DEAL WITH SIGMA GROUP FOR MYRIAD OF EGYPTIAN IRRIGATION PROJECTS

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SIGMA has already delivered nine 800-BQBV pumps for projects in North Sinai, while twelve 1400-BQBV pumps are scheduled for installation at the El-Hammam agricultural wastewater treatment facility in May 2023. Twenty-eight 1500-BQBV pumps are also being built for the mammoth Mostakbal Misr project, a project for agricultural production in the Western Desert, with deliveries taking place from June 2023 through to April 2024.

“Pumps installed on the Nile River operate in very abrasive water. As a result of these harsh operating conditions, the bronze bearings these pumps are typically fitted with last only 1 to 2 years. SIGMA wanted a much more robust, abrasion-resistant solution,” said Josef Hozák, Managing Director, Eribos, Thordon’s authorized distributor in Czech Republic (Czechia).

“The new contract follows the success of bearing installations to SIGMA pumps dating back fifteen years,” said Malcolm Barratt, Thordon Bearings’ Regional Manager – Southern Europe & Middle East. “Based on the large amount of sand in the pumped liquid and the success of Thordon’s bearings in muddy and abrasive environments, as well as the strong relationship Thordon’s distributor Eribos has with SIGMA, the pump manufacturer chose Thordon’s Composite material for its pumps.”



With a much lower friction coefficient than rubber, Thordon’s Composite bearing material has been specially developed for use in very abrasive aquatic environments. It is also much easier to install and maintain than any alternative bearing solution in the market.

“It is by far the best bearing solution for pumps operating in harsh environments,” Barratt said. “Based on current wear rates, a 10-year wear life is projected before a replacement is required. By using Composite in its pumps, SIGMA customers benefit greatly from reduced maintenance and plant downtime, resulting in significant savings to operational expenditure.”

SIGMA is currently working on its second major pump project in Egypt – the El Hamam project. All twelve SIGMA 1400-BQBV vertical pumps, each of which is fitted with two Thordon Composite bearings, will pump 6 million m² (64.5 million ft²) of agricultural water from the north of the Nile to irrigate a 2100 km² (810.8 mi²) area 120 km (74.6 mi) to the west, in the Western Desert.

The company is also starting work on the Mostakbal Misr project, which will see 28 SIGMA 1500-BQBV vertical pumps used to irrigate 500,000 acres around Egypt’s northwestern coast region.

SIGMA’s early adoption of Thordon’s bearings in the Egyptian pump market has led to widespread adoption in industrial and hydro pumps across the region and beyond. “The bearing supply agreements we have recently signed with major pump manufacturers in Europe and Asia are a direct result of the robust performance of Thordon’s water-lubricated bearings in pumps operating across Egypt,” said Barratt. ◉

◀ *Thordon Composite bearing installed in the SIGMA pump*

THORDON BEARINGS PROVE THEIR WORTH IN **ABU DHABI** OFFSHORE PLATFORM PUMPS



Thordon's SXL bearings installed in KSB three-stage mixed flow impeller-type pumps

Thordon Bearings' water-lubricated elastomeric polymer bearings have been installed to well pumps aboard an undisclosed offshore oil platform operated by Abu Dhabi National Oil Company (ADNOC).

Five KSB three-stage mixed flow impeller-type pumps were each retrofitted with Thordon pump bearings - 13 SXL intermediate bearings, four Composite bearings and a single SXL throttle bearing, replacing the original silicon carbide bushes.

Dubai-based engineering firm Ocean Power International (OPI) – Thordon's authorized distributor in the Middle East region – received the full scope of supply direct from Thordon's plant in Burlington, Canada, just four weeks after placing the order.

"The problem with silicon carbide bearings is that they have a long lead time, and are brittle which means there is a risk of the bearings chipping and breaking. They are simply not as robust and are very expensive to replace," said Rafid Qureshi, Managing Director, OPI.

"By comparison, Thordon SXL and Composite bearings resolve the price and lead time issues, are very durable, and they are also more considerate to the environment as they don't require lubricating oil or grease."




After OPI gathered all the parameters and reviewed the pump drawings, the Thordon bearings were delivered well within the requisite time frame, allowing KSB, the original equipment manufacturer (OEM), to carry out the retrofit installation work and commission the pumps in quick time, avoiding any rig downtime.

KSB Abu Dhabi has now refurbished all five pumps with new Thordon bearings, the last of which was completed in August 2022. However, the company has been converting its pump bearings over to the Thordon polymer material over the course of the last 10 years.

Michal Belina, Mechanical Engineer, KSB Service, said: "The technical and engineering specifications of the bearings exceed expectations. Compared to silicon carbide, which is typically used in these vertical pumps, Thordon's products are not only more cost-effective, but one of the biggest advantages is that they are easy to machine. They have excellent resistance to abrasion, even after a few years of operation the bearings have correct clearances. We are very satisfied with this product and our main factories in Germany are now using Thordon bearings in our new pumps."

As the pump OEM, KSB has a contract with ADNOC Offshore to repair and overhaul the pumps, explained Anupam Paul, Application Sales Manager - Gulf Region, OPI "When the pumps are dismantled and come in for repair and refurbishment, KSB has only 10 to 14 days to do the repair. We have a good relationship with the company and a huge inventory of Thordon stock, so whatever size the customer asks us for, it's on the shelf and ready to go."

Given the long-term reliability of these installations since the relationship with Thordon Bearings began in 2011, Qureshi says that in future, ADNOC will continue to use Thordon's bearings in any compatible pumps deployed on its platforms. 

THORDON DELIVERS NON-METALLIC BEARINGS FOR ESSENTIAL COOLING WATER PUMPS IN TAIWAN

Thordon Bearings has further strengthened its presence in the Taiwanese market, delivering water-lubricated elastomeric polymer bearings for installation on cooling water pumps commissioned for a major power plant expansion project.

Thordon's SXL and Composite non-metallic bearings have been specified by San Tai Pumps, which are providing the cooling water pumps to the state-owned Taiwan Power Company ("TPC").

TPC is significantly expanding its generating capacity at the Hsin Ta power plant in Kaohsiung and the Taichung power plant in Longjing, Taichung.

At Hsin Ta, the power plant is currently being expanded from three turbines to a six-turbine operation. Each of the three new turbines requires three cooling water pumps, which will extract seawater adjacent to the power plant for cooling. Seawater will also be used for lubricating the Thordon bearings. Each pump shaft is more than 10 m (32.8 ft) in length and for each pump, six Thordon bearings are required – adding up to a total of 54 bearings for the Hsin Ta project.

Eiger Engineering, Thordon's authorized distributor in Taiwan, worked with San Tai Pumps to specify and deliver Thordon SXL and Composite bearings for the cooling water pumps.



4

Thordon's Composite material installed in the pump

“The Thordon Composite material is ideal for more aggressive environments and therefore for use at the bottom of the pumps where they are extracting the water from the seabed – the Composite material is very resistant to abrasive media such as sand and other particles,” said Ronnie Chen, Director at Eiger Engineering. “The SXL bearings are used higher up the pump shaft; this material is ideal here because of its dry start up capability and long wear life.”

The first cooling water pump was installed at Hsin Ta power plant in mid-April 2023 and delivery of the project is due for completion in 2024. The first pump for the Taichung power plant expansion is in production, and delivery to TPC for this project is expected in the first quarter of 2024.

In total, San Tai will deliver 15 cooling water pumps to TPC over three years, all of which will feature Thordon’s bearing solutions.

“Eiger Engineering worked closely with San Tai Pumps on the TPC project, to select the suitable bearing material, analyze water flow, make calculations, issue drawings for approval by TPC, and provide support – collaborating in the best interests of all stakeholders,” said Chen.

“San Tai Pumps has specified Thordon Bearings in its pumps for the past 20 years, mostly for application in power plants,” she said. “This has been based on factors including reliability, low maintenance costs, and the clear environmental benefits of using seawater for lubrication. The manufacturer wants to have high-quality components, so it has chosen the Thordon brand.

“As TPC has embarked on its major power plant expansion program, Eiger Engineering and Thordon Bearings have the opportunity to supply on an even larger scale,” Chen added. “San Tai Pumps is also working on a bid to supply cooling water pumps for further power plant expansions planned by TPC at Tunghsiao power plant in Tunghsiao Township,

Miaoli County, and Dalin power plant in Siaogang District, Kaohsiung.”

Sam Williams, Thordon’s Regional Manager, APAC, added: “The long lifetime of the Thordon pump bearings, with less wear shown during overhauls, is a clear advantage. Typically, the bearings do not require replacement even at the two-year interval overhaul. Once the bearing used on the cooling water pumps’ original design has been monitored in action and shown to be running smoothly, the end user is expected to specify Thordon bearings for future projects.”

One of the pumps fitted with Thordon’s non-metallic pump bearings ready to be installed.



GRUPO MÉXICO OPENS THE DOOR FOR THORDON'S TOUGH NON-METALLIC BEARINGS IN THE MINING INDUSTRY



Global demand for raw materials is opening the door to a new market for Thordon Bearings, with one of the world's largest mining companies, Grupo México, using the Canadian company's grease-free and self-lubricating bearings in a myriad of pump and machinery applications.

Since 2014, when Thordon's Mexico-based distributor TZ Industrias first supplied and retrofitted ThorPlas-Blue bearings to vertical turbine pumps operating at its copper and ore mines in Sonora and Nacozari, Grupo México has continued to specify Thordon solutions for other equipment, including heavy industrial vehicles.

"The ThorPlas-Blue bearings we retrofitted in 2014 have lasted significantly longer than the Ultra-High Molecular Weight Polyethylene (UHMPE) pump bearings they replaced, leading to a number of new bearing orders," said Arturo Selvas, Director of TZ Industrias.

"These pumps process a mix of water and traces of sulfuric acid, which is more demanding than other applications that deal only with only water and sand, so they needed a tougher, longer-lasting, more robust solution. The original bearings were costly and difficult to replace, requiring regular greasing, but we found that the ThorPlas-Blue material possesses unique properties capable of withstanding the corrosive effects of sulfuric acid, and no grease requirements," said Selvas.

TZ Industrias' initial scope of supply was for approximately two metres (6.6 feet) of ThorPlas-Blue bearings machined to fit pump bearings with outside diameters of 90 mm (3.54 in) and 50 mm (1.97 in). A total of 54 pumps operating at the Buena Vista del Cobre and Operadora De Minas De Nacozari mines were replaced, with TZ Industrias expected to retrofit a further 56 pumps in one plant in 2023. The remaining 133 pumps will be retrofitted in 2024 and 2025.



Komatsu 600 series Front End Loader in for maintenance where Thordon's ThorPlas-Blue bearings will be installed

Given the performance of the ThorPlas-Blue bearings in vertical pumps, however, Grupo México – the world’s fourth largest copper producer – specified the material for retrofitting the grab/bowl bearings of two different Komatsu Front End Loaders.


In 2019, TZ Industrias supplied and installed thirty-three 314 mm (12.36 in) diameter and eighteen 116mm (4.57 in) diameter ThorPlas-Blue bearings to Komatsu 600 series Front End Loaders.

A current project involves trialing Thordon’s polymer bearing technology on a P&H 4100 series electric rope shovel with a capacity of 56.6 cubic metres (74 cubic yards).

Thordon Bearings’ VP Business Development, Craig Carter, believes there is significant potential for Thordon’s elastomeric polymer bearing products across the global mining industry, a relatively new market for the company.

“We are seeing excellent growth in several regions around the world. Certainly, the need for raw materials is growing and we see an opportunity to improve the maintainability and reliability of all manner of equipment common to mining operations,” said Carter.

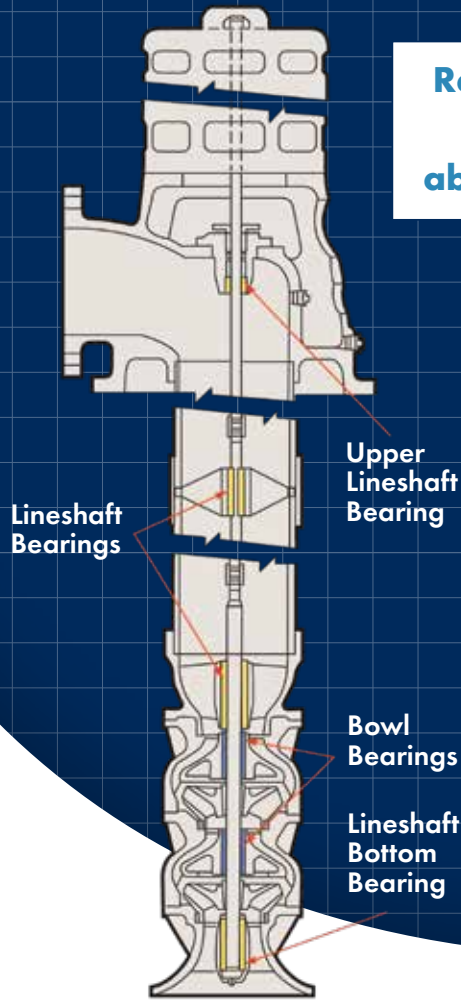
With no greasing requirement, the self-lubricating thermoplastic ThorPlas-Blue material provides long wear life, low friction, and high abrasion resistance. It is easy to install on site thanks to sizing flexibility and the impact-resilient material also features dry start-up capability. This means the bearings can operate in water and chemicals up to 80°C (176°F) and 110°C (230°F) dry and can withstand design pressures up to 45 MPa (6,527 psi).

Other Mexican mines to operate pumps retrofitted with a Thordon bearing solution include Newmont Gold in Zacatecas, and the Peña Colorada Iron mine in Colima. 

Komatsu 600 series Front End Loader



Replace your bearings less often
with Thordon's long wear life,
abrasive resistant pump bearings.



- SXL
- ThorPlas-Blue
- Composite
- ThorPlas-White

IMPROVED RELIABILITY. LOWER OPERATIONAL COSTS. PROVEN PERFORMANCE.

With over 40 years of experience manufacturing and supplying bearings, Thordon bearings are the proven choice to provide longer wear life. Thordon's vertical pump bearings have allowed hundreds of various industrial facilities improve reliability by reducing downtime.

- ✓ **Abrasion resistance**
- ✓ **Extended wear life**

- ✓ **Dry start up**
- ✓ **Easy to design, machine & install**



Published by:

THORDON

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Printed in Canada | Fall 2023

Editor: Emma Gerard

(Statements made and opinions expressed do not necessarily reflect those of the publishers)

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