APPROVAL IN PRINCIPLE

Particulars of product

Designer: **Thordon Bearings Inc.**

Product: **T-BOSS (Thordon Blue Ocean Stern Space)**

This is to verify:

that the T-BOSS system comprising of:

- Thordon single COMPAC bearing in bronze carrier with tapered keyset
- Bronze shaft liner
- Thordon Water Quality package
- Thordon Bearing Condition Monitoring
- Forward seal

has been assessed by DNV for principle compliance with current Rules of the Society, as specified and/or limited below.

Basis for approval

The documentation specified in letter M-SA-MP/OYSLAR/P129766-J-2, dated 2026-04-23, has been assessed with respect to:

- DNV-RU-SHIP Pt.4 Ch.4 Sec.1
- DNV-RU-SHIP Pt.4 Ch.6
- DNV-RU-SHIP Pt.6 Ch.9 Sec.4
- DNV-RU-SHIP Pt.3 Ch.3 Sec.5

Conditions and assumptions for approval

- The conditions for approval in principle are given in letter M-SA-MP/OYSLAR/P129766-J-2, dated 2026-04-23.
- Before construction and installation onboard any particular ship or object subject to classification, a complete set of documentation relevant for the particular ship shall be approved by the Society according to normal classification procedures.

Place: **Høvik** Date: **2026-04-23**

for **DNV**

DNV
HØVIK, NORWAY MARITIME

Digitally signed by: Øystein Alnes
Location: DNV Høvik, Norway

Øystein Alnes
Head of Section

Thordon Bearings Inc.
Att: costels@thordonbearings.com
3225 Mainway
BURLINGTON ON L7M 1A6
Canada

DNV AS Ship Classification
Propulsion & Steering
Veritasveien 1
1363 Høvik
Norway

Date:	**Our reference**:	**Your reference**:	**Job ID:**
2026-04-23	M-SA-MP/OYSLAR/ P129766-J-2		PA:0692124

THORDON T-BOSS AIP, ID P129766
T-BOSS documentation

The following documents are stamped 2026-03-31 and given the status as shown below:

Document No	Rev	DNV No	Title	Code	Status
1	0	1	Shaft arrangement 1		Examined
2	0	2	Shaft arrangement 2		Examined
3	0	3	Shaft arrangement 3		Examined
4	0	4	Thordon T-BOSS		Examined

Document No. **1/0**, "Shaft arrangement 1",
Document No. **2/0**, "Shaft arrangement 2", and
Document No. **3/0**, "Shaft arrangement 3" have all been reviewed in accordance with DNV-RU-SHIP Pt.4 Ch.4 Sec.1, Pt.4 Ch.6, Pt.6 Ch.9 Sec.4 and Pt.3 Ch.3 Sec.5

Document No. **4/0**, "Thordon T-BOSS" has been reviewed in accordance with DNV-RU-SHIP Pt.4 Ch.4 Sec.1, Pt.4 Ch.6, Pt.6 Ch.9 Sec.4 and Pt.3 Ch.3 Sec.5, with the following comment:

1 Conditions for approval in principle **Important Note**

Shaft arrangement, ref. DNV-RU-SHIP Pt.4 Ch.4 Sec.1 [2.9]:

- Shaft seals and bulk head seals shall be DNV type approved.
- Aft stern tube synthetic bearing materials shall be type approved.
- Propulsion shaft shall be protected against corrosion in the stern inspection chamber according to requirement in Pt. 4 Ch.4 Sec.1 [6.1.3].

Tailshaft monitoring – TMON, ref. DNV-RU-SHIP Pt.6 Ch.9 Sec.4:

- T-BOSS arrangement is suitable for the additional class notation TMON open loop water. Detailed requirements for arrangement and design shall be complied with as required in Pt.6 Ch.9 Sec.4 [2.4].

Hull design, ref. DNV-RU-SHIP Pt.3 Ch.3 Sec.5 [4]:

- The inspection chamber should be a space of limited volume.
- Floors and web frames of substantial construction are to be fitted at every frame spacing within the inspection chamber, extending to the top of the space. The height of the side web frames should be as large as practicable while still allowing adequate access for inspection.

- The door leading to the inspection chamber shall be watertight, with scantlings suitable for the applicable pressure head.

Piping and bilge arrangement, ref. DNV-RU-SHIP Pt.4 Ch.6:

- Drainage pipe and pump shall have sufficient capacity, ref. Pt.4 Ch.6 Sec.4 [2.1.1]
- Open drainage requires self-closing valve, ref. Pt.4 Ch.6 Sec.3 [1.4.3]
- Piping penetrations shall comply with requirements in Pt.4 Ch.6 Sec.3 [1.3.1] - [1.3.2], [1.4.5] and Pt.3 Ch.12 Sec.9 [4.1.2].
- Stern inspection chamber to be vented as required in Pt.4 Ch.6 Sec.4 [10.1.1].
- Active components and filters in the water lubrication system shall be placed in the machinery space (not in the stern inspection chamber).

Sincerely
for DNV AS

Øystein Åsheim Alnes
Head of Section

Øystein Aagetvedt Larsen
Contact Person