Certificate no.:
TAM00001EX

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Thruster Components

with type designation(s)

issued to

Dana Motion Systems Italia S.r.l.
Reggio Emilia RE, **Italy**

is found to comply with
DNV rules for classification – Ships Pt.4 Ch.5 Rotating machinery – driven units

Application:

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Issued at **Høvik** on **2025-07-01**
This Certificate is valid until **2030-06-30**.
DNV local unit: **Italy/Malta CMC**

for **DNV**

Approval Engineer: **Svein-Olav Hannevik**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to USD 300 000.

Product description
High speed gearbox and output pinion, driving a slewing gear

Application/Limitation
Applied as steering gear for thruster with the following load profile:

Type	Output pinion load [kNm]	Load profile Share [%]	Load profile Cycles [-]	Output pinion speed [rpm]
ET3067	4,490	1%	1E3	49,2
	4,490	1%	1E3	19,7
	1,889	2%	1E5	8,2
	1,283	96%	5E7	8,2

Type Approval documentation

Marking of product
The product to be marked with manufacturer's name or trademark and type identification.

Periodical assessment
For retention of the Type Approval, a DNV surveyor shall perform a survey every second year and before the expiry date of this certificate to verify that the conditions of the type approval are complied with.

The objective of the Periodical Assessment is to verify that the conditions for the Type Approval are not altered since the Type Approval Certificate was issued.

In cases where the Type Approved product is manufactured at other companies, the Periodical Assessment shall verify that the Type Approval applicant has a quality control system for consistent production at their licensees/subcontractors. Furthermore, Periodical Assessment shall be carried out randomly at these companies.

When a Type Approved product is manufactured at other companies, the Type Approval applicant takes the sole responsibility for the conformity of the product to the applicable requirements.

Manufactured by:
Dana Motion System Italia, Reggio Emilia RE, Italy

END OF CERTIFICATE