



Certificate no.:  
**TAM00001CU**

# TYPE APPROVAL CERTIFICATE

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**This is to certify:**

**that the Thruster Components**

with type designation(s)  
**ELS1513FA**

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**

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**Application:**

**Product approved by this certificate is accepted for installation on all vessels classed by DNV.**

Issued at **Høvik** on **2024-02-13**

This Certificate is valid until **2029-02-12**.

for **DNV**

DNV local unit: **Italy/Malta CMC**

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 300,000 USD.



Form code: TA 251

Revision: 2023-09

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## 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<br>[kNm] | Load profile<br>Share [%] | Load profile<br>Cycles [-] | Output pinion speed<br>[rpm] |
|-----------|-----------------------------|---------------------------|----------------------------|------------------------------|
| ELS1513FA | 8,909                       | 1%                        | 1E3                        | 19,7                         |
|           | 8,909                       | 1%                        | 1E3                        | 49,2                         |
|           | 6,700                       | 2%                        | 1E5                        | 8,2                          |
|           | 3,991                       | 96%                       | 5E7                        | 3,3                          |

## 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.

**END OF CERTIFICATE**