

# TYPE APPROVAL CERTIFICATE

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**This is to certify:**

**That the Waterjet**

with type designation(s)  
**HM 721**

Issued to

**C.W.F Hamilton & Co.Ltd**  
**Christchurch, New Zealand**

is found to comply with  
**DNV GL rules for classification – High speed and light craft**

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**Application :**

**The waterjet is approved for propulsion duty with ratings as given on page 2.**

This Certificate is valid until **2021-02-21**.

Issued at **Høvik** on **2016-02-22**

DNV GL local station: **DNV Auckland**

Approval Engineer: **Frida Douglass Hylin**

for **DNV GL**

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**Oddvar Deinboll**  
**Head of Section**

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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.

## Product description

Waterjet propulsion unit with steering and reversing system.

### Application/Limitation

The waterjet is approved for the following rating:

|                       |                 |
|-----------------------|-----------------|
| Max engine power:     | 2700 kW         |
| Impeller shaft speed: | 1145 - 1240 rpm |
| Max torque:           | 22,5 kNm        |

The application factor,  $K_A$ , shall be less to or equal to 1,1

## Type Approval documentation

[illegible]

[illegible]

## Marking of product

The product shall be marked with the manufacturer's name or trademark and type number identification.

## Periodical assessment

For retention of the Type Approval, a DNV GL 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. The main scope of the Periodical Assessment will normally include:

- Verification of the Type Approval applicant's production and quality system w.r.t. ensuring continued consistent production of the Type Approved products at the Type Approval applicant's own premises and at other companies that are given the responsibility for manufacturing of the products.

Job Id: **262.1-020887-1**  
Certificate No: **TAM0000042**

- Review of the Type Approval documentation and that this is still used as basis for the production
- Review of possible changes to the design, the material and the performance of the product
- Verification of the product marking.

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.

### **Other Conditions**

The following items are not covered by this type approval and shall be submitted for approval on a case-by-case basis:

- Connection to hull (shipbuilder's responsibility)
- Hydraulic system diagram, including set points and alarms

Flexible hoses shall be type approved.

Impeller key and coupling key shall have the following material properties:

|                  |   |         |
|------------------|---|---------|
| Yield strength   | ≥ | 620 MPa |
| Tensile strength | ≥ | 790 MPa |

END OF CERTIFICATE