DNV·GL

Certificate No:
TAM000014K
File No:
717.40
Job Id:
262.1-031799-1

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Waterjet

with type designation(s)
HM651

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
DNV GL rules for classification – Ships

Application :

Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.
The waterjet is approved for propulsion duty with ratings as given on page 2.

This Certificate is valid until **2024-11-13**.
Issued at **Høvik** on **2019-11-14**
DNV GL local station: **Auckland** for **DNV GL**

Approval Engineer: **Terje Sollie**

Oddvar Deinboll
Head of Section

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.

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Product description

Waterjet propulsion unit with reversing and steering system.

Application/Limitation

The waterjet is approved for the following ratings:

Impeller type	Max shaft power (kW)	Impeller shaft speed (rpm)	Max torque (kNm)	Max Peak Application factor (Kap)	Max Continuous Application factor (Ka)
1080	2200	1268	16.6	1,20	1,10
1000		1300	16.2		
775		1415	14.8		

The waterjet is to run within safe operation range (no harmful cavitation) to achieve a satisfactory lifetime.

Marking of product

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

Periodical assessment

For retention of the type approval, a DNV GL surveyor shall perform an assessment after 2 years and after 3.5 years, to verify that the conditions of the type approval are complied with. A renewal assessment will be performed at renewal of the certificate.

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 are not covered by this certificate and shall be submitted for approval for each delivery:

- Connection to hull (yard responsibility)
- Connection to driving unit
- Remote control system
- Controls and alarms, including set points and delays
- Hydraulic system for steering and reversing
- Flexible hoses shall be type approved

END OF CERTIFICATE