

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Bow Loading

with type designation(s)
BLS Bow Port

Issued to

APL Norway AS
Kolbjørnsvik, Norway

is found to comply with
DNV GL rules for classification – Ships

Application :

The Bow Port serves as a movable bulwark for the Hose handling area, and has facilities for parking in the horizontal position to serve as a maintenance platform.

This Certificate is valid until **2021-10-12**.

Issued at **Høvik** on **2016-10-13**

DNV GL local station: **Kristiansand S**

Approval Engineer: **Sindre Bauck Sole**

for **DNV GL**

Inger-Helene Hals
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.

Product description

The Bow Port is hydraulically operated and equipped with handrails and parking wires for manual installation during maintenance work.

The Bow Port consists of the bow port structure, hinges, brackets for supports of the manoeuvring and the locking hydraulic cylinders, hinges, and locking shafts.

Manufacturers

AMEK AS

4994 Akland, Norway

NLI Nyland AS

Pusnes

4818 Færvik, Norway

IKM Årdal Mekaniske Verksted AS

Breivikv. 17 Nordmarka

4120 Tau, Norway

Samsung Heavy Industries Co., Ltd. Geoje Shipyard.

530 Jangpyeong-Ri,

Shinhyeon-Eup, Geoje-Si,

Gyeongsangnam-Do, 656-710, Korea

Panterra AS

Frolandsveien 6,

4847 Arendal

Norway

HSM Industrie AS

Bredstrupvej 50

8500 Grenaa

DENMARK

Application/Limitation

Bow Port in Closed Condition:

Applied sea pressure: 65 kN/m²

Bow Port in Service Condition:

Support Load on bow port (Uniform distribution): 5000 N/m²

APL has as holder of certificate, the responsibility for the product's compliance with DNVGL rules.

The type approval does not include the supporting ship structures. Installation connection to the ship shall be assessed for design in each case.

Type Approval documentation

[illegible]

Tests carried out

No type testing required. To be tested onboard after installation before being taken into use.

Marking of product

The bow port is to be marked with the manufacturer's name or trademark and type number identification. In addition, the surveyor is to stamp each unit as follows for traceability to this type approval certificate:

TAS00000RC

Initial and Certificate retention survey

For retention of Type Approval Certificate, DNVGL surveyor shall carry out 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 initial survey and the retention surveys shall be carried out at all manufacturers listed on page 2.

END OF CERTIFICATE