

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Tank Washing Machine**with type designation(s)
VP-MINOR, portable and fixed type, dual nozzle

Issued to

Victor Marine Ltd.
West Thurrock, Essex, United Kingdomis found to comply with
MARPOL 73/78 Annex 1, Reg. 13 B (2) and IMO Revised Spec. Res. A. 446 (XI) 4.2
DNV GL rules for classification – Ships**Application :****The VP-MINOR, dual nozzle type made of stainless steel or bronze is approved as portable tank washing machine and for deck or submerged installation.****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Design:** Nozzle sizes: 7, 8, 9, 10 and 11 mm**Performance data:** See page 2Issued at **Høvik** on **2018-11-07**This Certificate is valid until **2023-11-06**.for **DNV GL**DNV GL local station: **London**Approval Engineer: **Ole Henrik Kverndal Pedersen****Torill Grimstad Osberg**
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

VP-Minor, portable or fixed type dual nozzle tank washing machine, made from stainless steel or bronze materials.

Application/Limitation

The VP-Minor, dual nozzle type is approved as portable tank washing machine and for deck or fixed installation.

This Type Approval is based on examination of drawings and tests carried out.

Drawings showing number, location and supporting arrangement of the tank washing machines are to be submitted for each installation. Different extension pipe lengths may apply.

Performance data based on testing according to DNV GL Class Programme CP-0211, item 3.2:

Type VP Minor:

<i>Nozzle diameter [mm]</i>	<i>Pressure [bar]</i>	<i>Flow [m³/h]</i>	<i>Max. effective jetlength achieved [m]</i>
Ø7	6	7.3	9.1
	8	8.0	10.5
	10	8.5	11.0
Ø8	6	10.0	9.5
	8	11.3	10.8
	10	12.2	12.0
Ø9	6	10.4	10.6
	8	11.6	11.3
	10	12.6	12.5
Ø10	6	13.0	11.6
	8	14.2	13.0
	10	16.0	14.8
Ø11	6	15.0	14.0
	8	16.2	15.0
	10	17.7	16.0

Jet length is defined as the horizontal distance from the nozzle at which the dynamic pressure of the water jet corresponds to 700 mm water head or above.

Type Approval documentation

Tests carried out

Performance test carried out in September 2010, witnessed by a representant from the society.

Marking of product

For identification to this certificate the products are to be marked with:

- Manufacturers name or trade mark.
- Type designation.
- Additional marking at manufacturers' option.

No DNV GL product certificate is required.

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNVGL-CP-0338.