



Marine & Offshore

Certificate number: 18785/C1 BV

File number: ACM 179/2201/05

Product code: 8111H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

VICTOR MARINE LTD.
Chesterfield - UNITED KINGDOM

for the type of product

TANK WASHING MACHINES

VP MINOR Mk3 - Fixed and portable - Bronze and Stainless Steel Version

Requirements:

- BUREAU VERITAS Rules for the Classification of Steel Ships
- MARPOL 73/78, as amended, Annex I, Regulation 33.2 and Annex II
- IMO Resolution A.446(XI), as amended by Res. A.497(XII) and A.897(21)

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 27 Feb 2022

For Bureau Veritas Marine & Offshore,
At BV LONDON, on 06 Nov 2019,
Spencer Yule



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

The electronic version is available at: <http://www.veristarpm.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=mr5mjc0evl>
BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

VP MINOR Mk3 - Bronze and Stainless Steel Tank Washing Machines

Design (non-programmable, multi nozzles and water media)

- Both versions of the VP MINOR tank washing machines are available for portable operation with screwed hose connection and for flange mounted for deck installation or inverted on submerged pipework for in-tank operation.
- The tank washing machines divide basically into three assembled units: the gearbox, the nozzle carrier and the body center tube.

Technical Data

VP MINOR Mk3 Model	Bronze and Stainless Steel Version
Nozzle size (mm)	7, 8, 9, 10, 11
Max. working pressure (kg/cm ²)	12
Max. capacity (m ³ /hr)	19.3
Max. working temperature (°C)	93
Approx. weight (kg)	9.5 with hose connector / 11.5 with flanged connector

Material specification

- Manufacturer's parts list

2. DOCUMENTS AND DRAWINGS

VP MINOR Mk3 - Stainless Steel Version

- Drawings No. 0250-001 (3 pages) rev. E issued 22/12/2014 (portable version)
- Drawings No. 0250-002 (3 pages) rev. B issued 22/12/2014 (fixed version)
- Operating Manual Issue 17

VP MINOR Mk3 - Bronze Version

- Drawing No. 0220-001 rev. B issued 02/09/2013 (portable & flange mounted version) + Parts List
- Drawing No. VP 0220-100P (Issue C) Outline drawing (portable version)
- Drawing No. VP 0220-100 (Issue B) Outline drawing (flange mounted version)
- Operating Manual Issue J

No departure from the above documents shall be made without the prior consent of the Society. The manufacturer must inform the Society of any modification or changes to these documents and drawings.

3. TEST REPORTS

Performance Data VP MINOR Mk3 - Bronze and Stainless steel version

Supply Pressure (kgf/cm ²)	Nozzle Diameter (mm)	Flow rate (m ³ /hr)	Jet length (m)	Nozzle Diameter (mm)	Flow rate (m ³ /hr)	Jet length (m)	Nozzle Diameter (mm)	Flow rate (m ³ /hr)	Jet length (m)
4	2x7	6.3	9.0	2x8	9.0	9.5	2x9	8.47	10.0
6		7.3	9.6		10.0	10.0		10.4	10.6
7		7.5	10.0		11.0	10.5		11.0	11.0
8		8.0	10.3		11.3	10.8		11.6	11.3
10		8.5	11.0		12.2	11.5		12.6	12.0
12		9.2	11.6		13.0	12.1		13.73	12.6

Performance Data - To be continued

Supply Pressure (kgf/cm ²)	Nozzle Diameter (mm)	Flow rate (m ³ /hr)	Jet length (m)	Nozzle Diameter (mm)	Flow rate (m ³ /hr)	Jet length (m)
4	2x10	11.5	11.0	2x11	13.5	12.0
6		13.0	11.6		15.0	12.6
7		13.5	12.0		15.5	13.0
8		14.2	12.4		16.2	13.3
10		16.0	13.0		17.7	14.0
12		17.6	13.5		19.3	14.6

Performance testing carried out under survey by DOT.

4. APPLICATION / LIMITATION

- 4.1 May be used as tank washing machine for crude oil washing.
- 4.2 Suitable for chemical tankers subject to compatibility with materials.
- 4.3 The machine is to be installed according to the manufacturer instructions and the Bureau Veritas Rules and regulation stated on front page of this certificate.
- 4.4 The machine must be maintained and operated according to the manufacturer instructions manual.
- 4.5 The machine is to be electrically continuous with its mounting flange.
- 4.6 The openings in the deck and fixing arrangements of the machines must be in accordance with the applicable Rules and to the satisfaction of the Society's Surveyor. The method of support of the machines in the cargo tanks is to be to the Society's Surveyor satisfaction. The welding of the tubes is to be performed by qualified welders and satisfactorily tested.
- 4.7 Where necessary, dissimilar materials are to be protected to eliminate bi-metallic corrosion.

5. PRODUCTION SURVEY REQUIREMENTS

- 5.1 The products are to be supplied by **Victor Marine Limited** in compliance with the type described in this certificate and in compliance with the requirements stated on the front page of this certificate.
- 5.2 This type of product is within the category HBV of Bureau Veritas Rule Note NR 320 and as such does not require a BV product certificate.
- 5.3 **Victor Marine Limited** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR 320 for HBV products.
- 5.4 For information, **Victor Marine Limited** has declared to Bureau Veritas the following production site:
Victor Marine Limited: 7, Waterloo Court, Markham Vale, Chesterfield, Derbyshire, UK, S44 5HN

6. MARKING OF PRODUCT

The machine is to be permanently marked with at least:

- Manufacturer name or trade mark
- Type designation

7. OTHERS

It is **Victor Marine Limited's** responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved products and of the conditions of this approval.

This certificate supersedes the Type Approval Certificate No. 18785/C0 BV issued by the Society.

*** END OF CERTIFICATE ***