



MARINE DIVISION

Certificate number: 01592/H0 BV

File number: ACM 145/1935/001

Product code: 2202I

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

LK Valves AB
HELSINGBORG - SWEDEN

for the type of product

GLOBE VALVES

Type 462002, 462102, 467002, 467102, 901002, 901102, 901022, 901122, 901062, 901162, 901092, 901192, 902002, 902102, 902062, 902162, 921002 and 921102

Requirements:

- BUREAU VERITAS Rules for the Classification of Steel Ships
- BUREAU VERITAS Rules for the Classification of Offshore Units

This certificate is issued to attest that BUREAU VERITAS 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: 06 Sep 2015

For BUREAU VERITAS,

At BV GOTHENBURG, on 06 Sep 2010,

Magne Moller



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. 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 Division 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 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 SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

Globe Valves Type 462002, 462102, 467002, 467102, 901002, 901102, 901022, 901122, 901062, 901162, 901092, 901192, 902002, 902102, 902062, 902162, 921002 and 921102

1.1 Product Description

- Execution: straight and angle valve body
- Release system: mechanical (wire release), hydraulic or pneumatic and manually
- Max. working temperature: 340 °C

Group	Type	Size (mm)	Pressure Class	Material Body/bonnet
462002, 462102	Globe Valve, bellow sealed	DN 15 - DN 250	PN 16: DN 15 ~ DN 150 PN 10: DN 200 ~ DN 250	Nodular cast iron
467002, 467102	Globe Valve	DN 15 - DN 250	PN 16: DN 15 ~ DN 150 PN 10: DN 200 ~ DN 250	Nodular cast iron
901002, 901102 901022, 901122 901062, 901162 901092, 901192	Quick Closing Valve	DN 15 - DN 250	PN 16: DN 15 ~ DN 150 PN 10: DN 200 ~ DN 250	Nodular cast iron Bronze Cast steel Stainless steel
902002, 902102 902062, 902162	Quick Closing Valve, bellow sealed	DN 15 - DN 250	PN 16: DN 15 ~ DN 150 PN 10: DN 200 ~ DN 250	Nodular cast iron Cast steel
921002, 921102	Self Closing Valve	DN 15 - DN 80	PN 16: DN 15 ~ DN 80	Nodular cast iron

1.2 Material specification

Valve body / Bonnet	Nodular cast iron GGG40 / EN GJS 400-15 / EN 1563 Cast steel GS-C25 Gun metal RG 5 Stainless steel AISI 316
Stem and disc	Stainless steel AISI 304 / EN 10088-3 / 1.4301
Seat ring	Stainless steel AISI 304 / EN 10088-3 / 1.4301
Spring	AISI 301 / 1084 (EN 10270-1:2001/SH)
Bellow	Stainless steel EN 10088 X6CrNiMoTi 17122 (1.4571)

2. DOCUMENTS AND DRAWINGS

- Assembly Drawings

N° 33075 rev. 0	Bellow Sealed Globe Valve	462002, 462102
N° 33092 rev. 0	Globe Valve	467002, 467102
N° 33074 rev. 0	QCV	901002, 901102, 901022, 901122, 901062, 901162, 901092, 901192
N° 33073 rev. 0	Bellow Sealed QCV	902002, 902102, 902062, 902162
N° 33076 rev. 0	Self Closing Valve	921002 and 921102
N° 76103 rev. D	Release Cylinder	-

- Document "Melting Ring Analysis" 76103 dated 10/03/2010

- Document "Release Cylinder Stress Analysis" dated 15/04/2010

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

Tests carried out according to Bureau Veritas Rules.

4. APPLICATION / LIMITATION

- 4.1 Valves are fitted as quick closing valves and self closing valves in fuel oil, lubricating oil, hydraulic oil, thermal oil (type 902002, 902102, 902062, 902162) tanks and other flammable oil tanks, and piping systems.
- 4.2 Piping and associated components are not part of this approval.
- 4.3 The valves belong to class II and class III according to the relevant requirements stated in Pt C, Ch 1, Sec 10 of the Society Rules. Valves fitted on fuel oil and lub oil tanks under static pressure belong to Class II.
- 4.4 The valve body, disc and seat should be suitable for the intended service.
- 4.5 Assembly instructions given by the manufacturer are to be complied with.

5. PRODUCTION SURVEY REQUIREMENTS

- 5.1 The products are to be manufactured, examined and tested by the manufacturer in accordance with the type described in this certificate and Requirements stated on the front page of this certificate. Arrangements shall be made for a Society's Surveyor to attend the relevant tests and examinations at manufacturer's works or to perform the relevant audits when an alternative survey scheme (BV Mode I) has been agreed. Relevant Bureau Veritas certificate will be issued after satisfactory completion of the procedure.
- 5.2 The manufacturer has declared to Bureau Veritas that the products detailed in this certificate are manufactured at the production site stated on the front page of this certificate.
- 5.3 Bureau Veritas Certificate is required for materials of valve housings of class II ($DN \geq 100$). Materials of valve housings of class II ($DN < 100$) and for other parts are to be delivered with Work's certificates.
- 5.4 Each valve housing for class II is to be hydraulically pressure tested to 1.5 times the design pressure.

6. MARKING OF PRODUCT

The product shall be marked with:

- Manufacturer's logo on valve body
- Manufacturing number engraved on bonnet
- Size and pressure class on valve body
- Casting identification number and material body and bonnet
- Society's brand as relevant

7. OTHERS

This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the units at any time and that the manufacturer will accept full responsibility for informing shipbuilders, shipowners or their sub-contractors of the proper methods of use and general maintenance of the products and of the conditions of this approval.

This Certificate supersedes the Type Approval Certificate N° 01592/G1 BV issued on 21/07/2005 by the Society.

*** END OF CERTIFICATE ***