



Marine & Offshore  
Division

Certificate number: 01592/11 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 & ANGLE VALVES**

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: 29 Dec 2020**

**For BUREAU VERITAS,**

At BV GOTHENBURG, on 23 May 2016,

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 & Offshore 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.

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BV Mod. Ad.E 530 October 2014

This certificate consists of 3 page(s)

## 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 Design Specifications

- 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	<b>Globe Valve, bellow sealed</b>	DN 15 - DN 250	PN 16: DN 15 ~ DN 150 PN 10: DN 200 ~ DN 250	Nodular cast iron
467002, 467102	<b>Globe Valve</b>	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	<b>Quick Closing Valve</b>	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	<b>Quick Closing Valve, bellow sealed</b>	DN 15 - DN 250	PN 16: DN 15 ~ DN 200 PN 10: DN 200 ~ DN 250	Nodular cast iron Cast steel
921002, 921102	<b>Self Closing Valve</b>	DN 15 - DN 80	PN 16: DN 15 ~ DN 80	Nodular cast iron

#### 1.2 Materials

Parts	Materials
Valve body / Bonnet	Nodular cast iron GGG40 / EN GJS 400-15 / EN 1563 Nodular cast iron GGG40.3 / EN GJS 400-18 / 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 Option: RG5
Seat ring	Stainless steel AISI 304 / EN 10088-3 / 1.4301 Option: RG5
Spring	AISI 301 / 1084 (EN 10270-1:2001/SH)
Bellow	Stainless steel EN 10088 X6CrNiMoTi 17122 (1.4571)

*When other choices of materials are used per manufacturer's recommendations, the BV agreement is to be obtained.*

### 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° 37085 rev. A	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.

- Burst test report of valve bodies for LK Valves Globe Valves dated 06/11/2008, testing according to DNV type approval programme N° 5-794.40

### **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 I, 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 use of stainless steel is restricted as per BUREAU VERITAS Rules.

4.5 The valve body, disc and seat should be suitable for the intended service.

4.6 The valves are to be installed according to manufacturer's instructions and BUREAU VERITAS Rules.

### **5. PRODUCTION SURVEY REQUIREMENTS**

5.1 The products are to be supplied by **LK Valves AB** in compliance with the type and the requirements described in this certificate.

5.2 This type of product is within the category IBV of BUREAU VERITAS Rule Note NR320.

5.3 BUREAU VERITAS Certificates are required for materials of valve housings of Class I (DN $\geq$  50) and Class II (DN $\geq$  100). Materials of valve housings of Class I (DN $<$ 50) and Class II (DN $<$ 100) and for other parts of Class I and Class II are to be with Work's certificates.

5.4 Each valve housing for class I and class II is to be hydraulically pressure tested to 1.5 times the design pressure. Valves intended to be fitted on the ship side below the load waterline are to be subjected to hydrostatic testes under a pressure not less than 0.5 MPa.

**LK Valves AB** has declared to Bureau Veritas the following production site:

**LK Valves AB**  
**Garnisonsgatan 49**  
**254 66 HELSINGBORG**  
**SWEDEN**

### **6. MARKING OF PRODUCT**

Each valve shall be marked with at least:

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

### **7. OTHERS**

It is **LK Valves AB** 's responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

*This Certificate supersedes the Type Approval Certificate N° 01592/10 BV issued on 29/12/2015 by the Society.*

\*\*\* END OF CERTIFICATE \*\*\*