



**TYPE APPROVAL CERTIFICATE**  
No. MAC122018XG/003

This is to certify that the product identified below is in compliance with the regulations herewith specified.

<i>Description</i>	<b>STORM VALVES</b>
<i>Type</i>	<b>STRAIGHT &amp; ANGLE</b>
<i>Applicant</i>	<b>LK VALVES AB GARNISONSGATAN 19 SE-25466 Helsingborg SWEDEN</b>
<i>Manufacturer</i>	<b>LK VALVES AB</b>
<i>Place of manufacture</i>	<b>GARNISONSGATAN 19 SE-25466 Helsingborg SWEDEN</b>
<i>Reference standards</i>	<b>Part C, Chapter 1, Section 10 of RINA Rules for the Classification of Ships</b>

Issued in **Hamburg** on **June 11, 2018**. This Certificate is valid until **June 10, 2023**

  
RINA Services S.p.A.  
**Giuseppe Russo**

Alternative Place of Manufacture:

Changzhou LK Valves Co., Ltd,

Building No16, Xin Yu Logistics Park, East Renmin Road No8, YaoGuan Town Wujin Changzhou,

213102 JIANGSU, CHINA

This certificate consists of this page and 1 enclosure.



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**STRAIGHT & ANGLE**

### **Reference documents:**

Data Sheets & Manufacturing Drawings filed for info under RINA dwg. no. HMMC-11208

Pressure tests, procedure and acceptance criteria filed for info under RINA dwg. no. HMMC-11209

### **Technical characteristics:**

This product is a self-closing swing check valve, straight type and angle type with a closing device (hand wheel).

Design Specification:

Temperature range: -10°C to 60°C

Max. working press.: 4 bar

Sizes: DN50, DN65, DN80, DN100, DN125 and DN150

Materials:

Part	Material
Body & Disc	Ductile iron EN GJS 400-15 (GGG40)
Sleeve, Stem & Shaft	Brass CW614N (Ms58)
Spring	Stainless steel 1.4310 (AISI301)
Disc Sealing & Sealing	NBR
Plug	Zinc plated steel

### **Fields of application:**

This product may be used as a component of the piping systems installed on ships and offshore units classed by the RINA and conveying sea and fresh water.

### **Acceptance conditions:**

Since these valves are intended to be installed on the ship side, they belong to class II piping systems. Therefore RINA certificate is required for materials of valves having nominal diameter equal or greater than 100 mm.

Manufacturer certificate suffices for materials of valves having nominal diameter less than 100 mm.

All valves are to have RINA product certificate.

Valves are to be subjected to hydrostatic tests in accordance with standards recognized by the RINA, at a pressure not less than 1,5 times the design pressure, as required by RINA Rules Pt C, Ch 1, Sec 10 Art. 21.4.3a).

If these valve are intended to be fitted on the ship side below the load waterline, they are to be subjected to hydrostatic tests under a pressure not less than 0,5 MPa as required by RINA Rules Pt C, Ch 1, Sec 10 Art. 21.4.3b).

These valves mounting to the shell is to be carried out as required by RINA Rules Pt C, Ch 1, Sec 10 Art 2.8.3a) through c).

**Hamburg June 11, 2018**



A handwritten signature in blue ink, appearing to be 'p. h.', is written over the RINA logo.