TYPE APPROVAL CERTIFICATE
No. **MAC013814XG**

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

Description	**SAFETY VALVES**
Type	**POSV Series 810/820**
Applicant	**LESER GMBH & CO KG TECHNICAL DEPARTMENT WENDENSTRASSE 133-135 D-20537 HAMBURG GERMANY**
Manufacturer	**LESER GMBH & CO KG TECHNICAL DEPARTMENT**
Place of manufacture	**WENDENSTRASSE 133-135 D-20537 HAMBURG GERMANY**
Reference standards	**RINA RULES FOR THE CLASSIFICATION OF SHIPS**

Issued in **HAMBURG** on **July 15, 2014**. *This Certificate is valid until* **July 14, 2019**

RINA Services S.p.A.
Giuseppe Russo

This certificate consists of this page and 1 enclosure

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POSV Series 810/820

Reference documents
- LESER catalogue no. 05.2012 / 1.000 0777.5666.
- LESER drawings approved with no. HMMC-4714 and HMMC-4720 on 15.7.2014
- LESER Test Reports issued on 01.2010
- EC type examination Module B certificate no.:07 202 1321 Z 0021/13/D/001 issued on 17.10.2013
- ASME Certificate no. LES-M37268 issued on 12.01.2012
- TÜV Nord Design Examination Report no. STK1 P 0582 3 01 Rev. 2
- Vd TÜV type test approval no. 10-1126 dated on 10.2013

Materials/Components

As listed in the above mentioned LESER catalogues and approved drawings.

Technical characteristics

Design: Pilot Operated Safety Valve, self actuated device, combination of a main valve and attached pilot
Series 810
ON/OFF (Pop action): stable operation resulting in fully open or fully closed main valve position, for gases

Series 820
Modulating (Modulate action): gradual opening and closing of the disc of the main valve which is a function of the pressure, for steam, gases and liquids.

Series	DN/NPS Inlet	DN/NPS Outlet	PN/Class (CL) Inlet	PN/Class (CL) Outlet	Temperature Range
810/820	DN 25 to 200	DN 50 to 250	PN 10 to 250	PN 10 to 40	-45 °C to 250 °C
	1" to 8"	2" to 10"	CL 150 to 1500	CL 150 to 300	

Pressure/Temperature ratings are depending on used material and reference shall be made to LESER operating instructions and approved drawings.

Fields of application

- Pressure vessels and piping systems (excluding boilers, steam generators)
- Steam, liquids and gases

Limitations

- The use of valves on piping systems, including pressure vessels, conveying toxic or flammable media or services where fatigue, severe erosion or crevice corrosion is expected to occur, it will be evaluated on case by case basis. The material shall be chemically suitable for the convoyed fluids.
- The valves are not approved for LNG/LPG services.

Acceptance conditions

-The flow coefficient is accepted by RINA to determine the discharge capacity of the valves as indicated on Table 2 Vd TÜV type test approval no. 10-1126 Document no. BP SIVE 1126.
-The valves are to be equipped with the springs foreseen by the LESER specifications for the intended set pressure.
-The acceptance of the a.m. products on board a ship and other units classed with RINA is subject to the satisfactory outcome of testing as per RINA Rules.
- For the valves used at low temperature impact tests shall be carried out as per Part D Chapter 2 RINA Rules.

HAMBURG July 15, 2014

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