



# Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested in accordance with the relevant requirements of the GL Type Approval System.

Certificate No. **60 093 - 91 HH**  
Company **LESER GmbH & Co. KG**  
**Wendenstraße 133-135**  
**20537 Hamburg, GERMANY**

Product Description **SAFETY RELIEF VALVE - Angled type, direct spring loaded**  
**Standard safety valve for steam, gases and liquids**  
Type **431, 433**  
**Lifting device: H4 Packed lever, H3 Plain lever , H2 Cap (gas tight)**

Environmental Category **None**

Technical Data / Range of Application **TECHNICAL DATA**  
Type **4315 / 4335** **4312 / 4332**  
Body materials **EN-GJS-400-18U-LT** **GP 240GH / 1.0619 / WCB**  
**0.7043 / 60-40-18**  
Temp. range **- 60°C up to +350°C** **- 85°C up to +350°C**  
Size range **DN 15 to DN150, 1/2" to 6"**  
Inlet Flange **up to PN160, (CL150 / CL300)**

Type **4334**  
Body materials **GX5 Cr Ni Mo 19-11-2/**  
**1.4408 / CF8M**  
Temp. range **-196°C up to +350°C**  
Size range **DN 15 to DN 100, 1/2" to 4"**  
Inlet flange **PN 160 (CL300 )**  
Range of application  
Refer to page 2

Test Standard **Refer to page 2**

Documents **Refer to page 2**

Remarks **The installation of bursting discs at safety valve inlet is subject to special approval**  
**by Germanischer Lloyd Head Office.**

Valid until **2018-01-29**

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Type Approval Symbol



File No. **II.A.15**

**Hamburg, 2013-01-04**

*Hanspeter Raschle* *Hagen Markus*  
Hanspeter Raschle Hagen Markus

**Germanischer Lloyd**

This certificate is issued on the basis of "Guidelines for the Performance of Type Approvals Part 1, Procedure".



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## Range of Application

The safety relief valve of type 431/433 are type approved for use on steam boilers, pressure vessels, thermal oil systems, LNG/LPG piping systems and further piping systems.

For selection and sizing the instructions of the manufacturer are to be observed.  
Furthermore the Rules I-1-2-Machinery Installations Section 7a, 7b, 8 and 11 and for LNG/LPG service the Rules I-1-6 Liquefied Gas Carriers.

Type H2 is not approved for the use on steam boilers.

Discharge capacities Acc. to Leser standard LWN 403.4

## Test Standard

- VI-7-8 Test Requirements for Components and Systems of Mechanical Engineering : 2008
- AD 2000-Merkblatt A2, W10, VdTÜV-Merkblatt SV 100 and TRD 421

## DOCUMENTS

### Type 431/433

- Test reports no. SV 08-577 dated 22.10.2008 and no.HAM600226 dated 28.05.1986
- TÜV Type test approval No. 08-577 dated 11.2008
- Leser standard LWN 485.01-01/01 to 02/16

### Type 4334

- Test reports HAM 600226-1, HAM 600226-1 app.1 dated 2010-02-24
- Test reports dated 28.05.1986, TÜV type test approval SV 08-577 dated 22.10.2008
- Drawings 350 05 09, 350 02 09 and 350 15 09 including parts list
- Leser standard LWN 485.01-01/01 to 02/16

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