



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. **39 120 - 86 HH**
Company **LESER GmbH & Co. KG**
Wendenstraße 133-135
20537 Hamburg, GERMANY

Product Description **SAFETY RELIEF VALVE - Angled type, direct spring loaded**
Full lift safety valve for steam and gases, Standard safety valve for liquids

Type **441, 442**
Lifting device: H4 Packed lever, H3 Plain lever, H2 Cap (gas tight)

Environmental Category **None**

Technical Data / **TECHNICAL DATA**

Range of Application	Type	4415/4425	4421/4422 DIN, ANSI
	Body materials	EN-GJS-400-18U-LT	GP 240GH / WCB / 1.0619
		0.7043 / 60-40-18	
	Temp. range	0°C up to +350°C	- 85°C up to 350°C
	Size range	DN 20 to DN 200, 1" to 8"	
	Inlet Flange	up to PN40 (CL 150 / CL300)	
	Type	4412/4422XXL	4414 XXL
	Body materials	C22.8 / 1.0460, P265 GH/	X6 CrNiMoTi 17-12-2/
		1.0425	1.4571/ 316Ti
	Temp. range	0°C up to +350°C	-196°C up to +550°C
	Size range	DN 200 to DN 400, 8" to 16"	
	Inlet Flange	up to PN 25 (CL150)	

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

Hamburg, 2013-01-04

i. V. Hansp. Raschle *i. A. 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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TECHNICAL DATA

Type 4414DIN, ANSI
Body materials GX5 Cr Ni Mo 19-11-2 (1.4408) / CF8M
Size range DN 20 to DN 200, 1" to 8"
Inlet Flange up to PN 40 (CL150 / CL300)
Temp.range -196°C up to +300°C

RANGE OF APPLICATION

The safety relief valve of type 441, 442 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 according to Leser Werknorm (LWN):

Type 441, 442 DIN, ANSI LWN 482.01 - 01/01 to 01/28, LWN 482.01 - 02/01 to 02/21
Type 441, 442 XXL LWN 482.01 - 03/01 to 03/21
Type 441, 442 Full Nozzle LWN 488.01-06/01 to 07/21

Test Standard

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

Documents

- 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 09-576 dated 07.07.2009
- Drawings 350 14 09, 350 47 09 and 351 37 09 including parts list
- Leser standards LWN 482.01-01/01 to 03/21, LWN 488.01-06/01 to 07/21

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