

Represented by:



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# First in safety ...

## ... a not so brief history of LESER

The company started in 1818 as a brass foundry and developed over the decades a product portfolio of components for mechanical equipment and machines during the „industrial revolution“. Initially LESER specialized on tough applications and its level gauges for steam boilers were famous. Soon, the company delivered their first safety valve and as a consequence of quick growing industrialization and improving demand for safety, LESER rapidly became the specialist for safety valves.

### Safe solutions from the specialist

Today, LESER's product range includes 23 different designs with a variety of materials and sizes from 1/2" to 16", providing safe solutions for almost every application with

- Full lift safety valves
- High-pressure safety valves
- Safety valves according to API 526
- Relief and safety relief valves
- Clean service safety relief valves
- Safety valves for critical service conditions
- Safety valves according to special standards and regulation
- Safety valves with supplementary pneumatic load
- Special versions

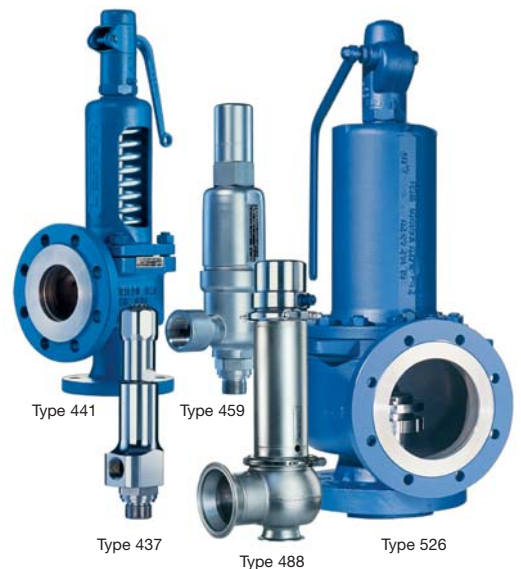
### Where to find us

Headquartered in Germany, with a state-of-the-art factory and more than 290 employees, LESER is present in over 40 countries through subsidiaries and qualified partners, providing products and services to its customers.

For the nearest source please contact us at:

#### LESER LLC

1664 Headland Drive  
Fenton, MO 63026  
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# LESER

The Safety Valve

LESER LLC

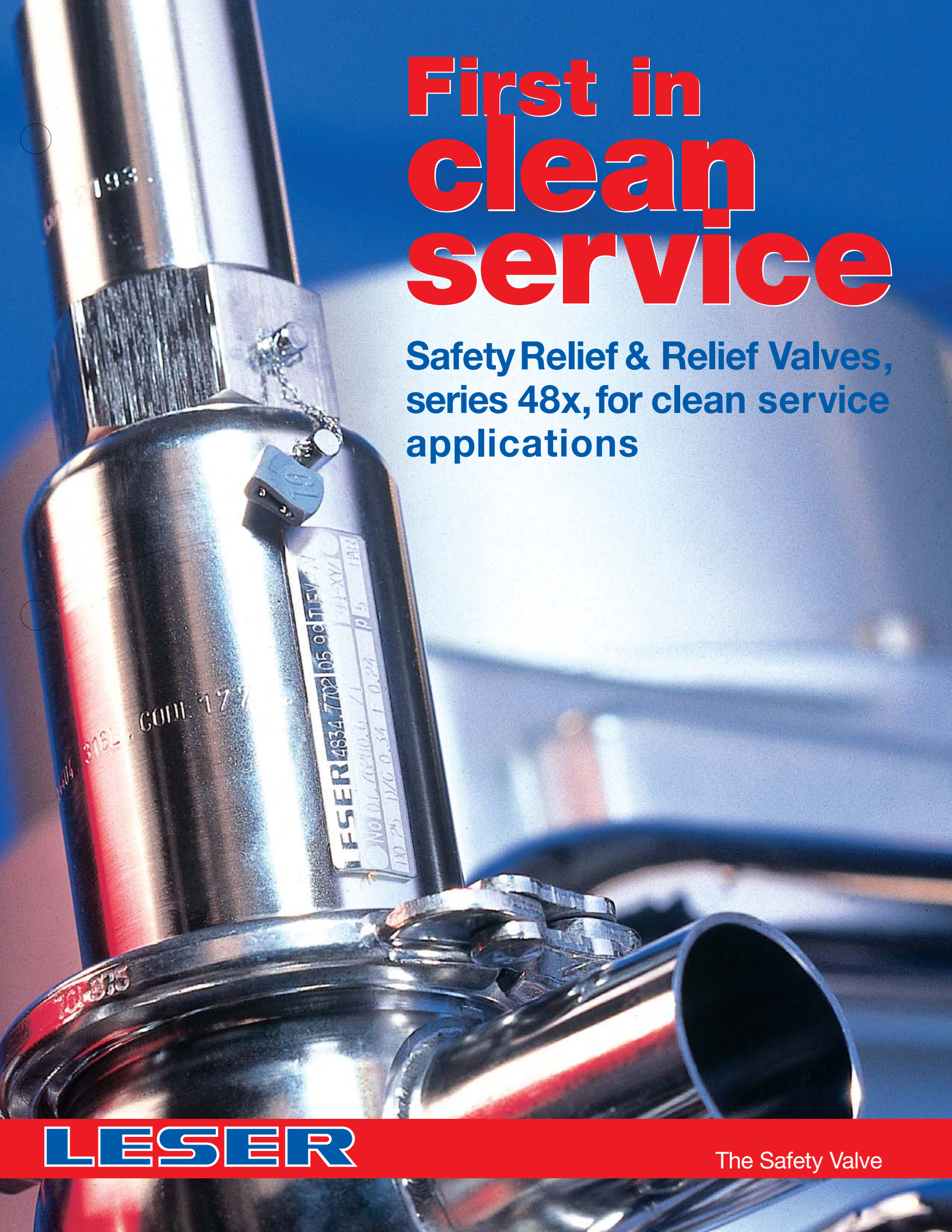
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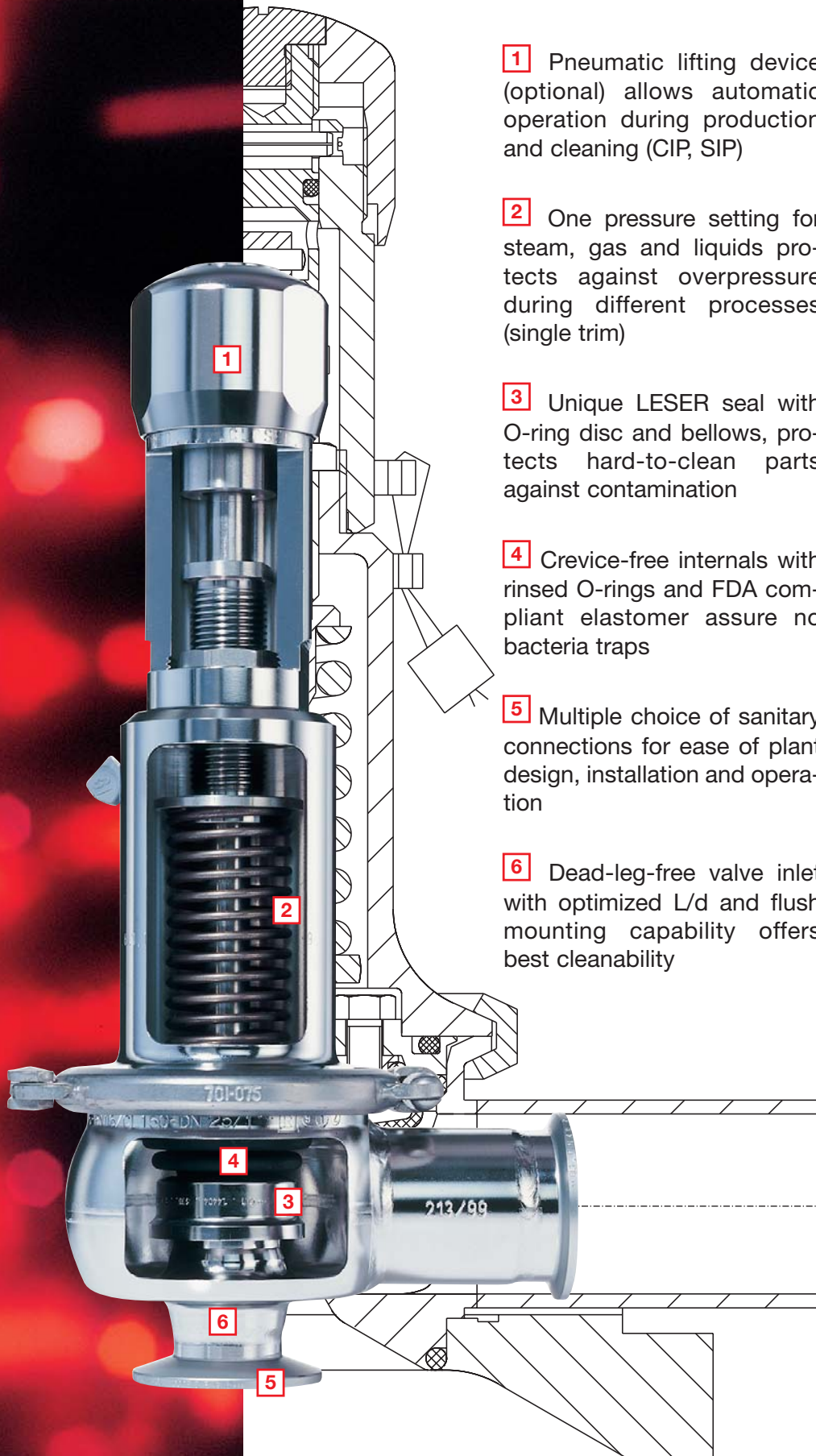
# First in clean service

Safety Relief & Relief Valves,  
series 48x, for clean service  
applications



**LESER**

The Safety Valve



**1** Pneumatic lifting device (optional) allows automatic operation during production and cleaning (CIP, SIP)

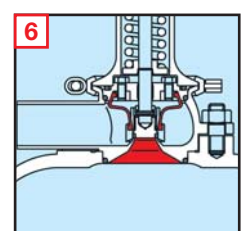
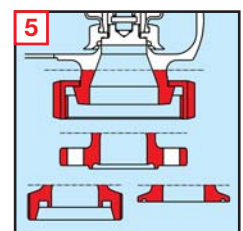
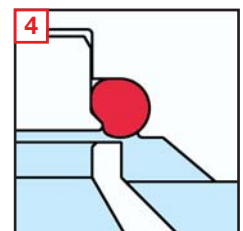
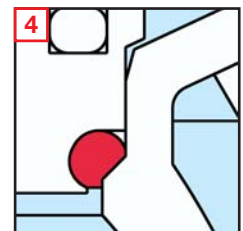
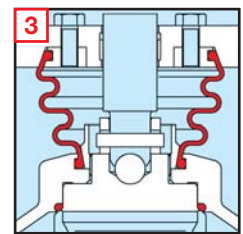
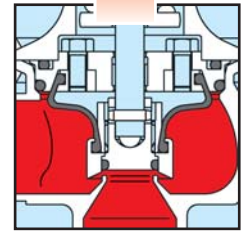
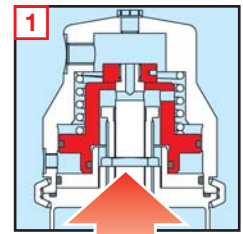
**2** One pressure setting for steam, gas and liquids protects against overpressure during different processes (single trim)

**3** Unique LESER seal with O-ring disc and bellows, protects hard-to-clean parts against contamination

**4** Crevice-free internals with rinsed O-rings and FDA compliant elastomer assure no bacteria traps

**5** Multiple choice of sanitary connections for ease of plant design, installation and operation

**6** Dead-leg-free valve inlet with optimized L/d and flush mounting capability offers best cleanability



# The ultimate solution for clean service

**LESER's 48x series**, spring loaded safety relief and relief valves were developed in close cooperation with plant engineers and service specialists to protect sensitive processes and installations against inadmissible over-pressure without putting hygienic requirements at risk.

**LESER's 48x series** valves are designed and manufactured to highest standards and fulfill ASME (Sec. VIII, Div. 1), FDA (3-A) and BPE (Bioprocessing Equipment – 1997) requirements, beside the European standard EN 1672/4 and those of many other countries.

**LESER's 48x series** valves represent the ultimate solution for all critical clean service areas of

- Food industry
- Pharmaceutical industry
- Breweries and beverages industry
- Chemical industry
- Cosmetics industry
- Special processes

## No bacteria traps or contamination due to

- Minimum dead-leg design and flush-mounting capability
- Wetted-part surfaces with < 32 µinch (0.8 µm or 180 Grit) and less, E.P. optional
- Gap and crevice free design of internals
- Bellows sealed hard-to-clean internals
- Use of FDA-approved elastomer

## Automatic plant operation during production and cleaning

- Pneumatic lifting device, optional, retrofitable in place
- One setting for steam, gas and liquids

## Ease of plant design, installation and operation

- Variety of capacities and versions
- Multiple choice of sanitary connections
- Single trim for steam, gas and liquids

## Manufacturer's know-how and reliability

- Almost 200 years of experience
- Hundreds of approvals and certifications all over the world
- Extensive worldwide installed base in various industries

Type	Valve Size	Set pressure range		Output "Orifice"	Aseptic properties	
		(psig)	(bar)		Inlet	Outlet
481	1" DN 25	1.5...986	0.1...68	low (D – E)	Low dead space, crevice free	Free discharge
483	1", 1 1/2" DN 25, 40	1.5...232	0.1...16	medium (F – J)	Low dead space, crevice free	Free discharge, crevice free, no dome
488	1" ... 4" DN 25...100	3.0...232	0.2...16	very high (G – P)	Reduced dead space, crevice free	Free discharge, crevice free, no dome
484	1", 1 1/2" DN 25, 40	1.5...232	0.1...16	medium (F – J)	Dead space free, crevice free	Free discharge, crevice free, no dome
485	1", 1 1/2", 2" DN 25, 40, 50	1.5...232	0.1...16	medium (F – J)	Dead space free, crevice free	Free discharge, crevice free, no dome



Type 481



Type 488



Type 484



Type 483



Type 485