

Food and Beverage Industry

LESER Industry Solution

The food and beverage industry has special requirements regarding the cleanability and seat tightness of safety valves. For an easy cleaning process the safety valves shall open pneumatically and the open status shall be displayed. LESER offers safety valves which fulfill all these demands and therefore helps to improve the efficiency of a facility.

Safety valves provide overpressure protection e.g. for:

- Vessels within the sterilization process
- Fermentation tanks in case of an unexpected malfunction
- Vessels and other process equipment against solidifying media as chocolate
- Filling stations



Customers

- Anheuser Busch
- GEA Group
- Guinness Brewery
- Krones
- Nestlé
- PepsiCo
- Procter & Gamble
- Tetra Pak
- Unilever

LESER Product Solution

Clean Service



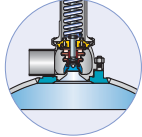
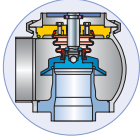
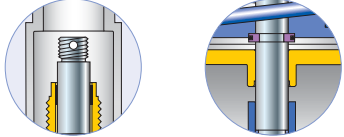



Product Features	Benefits
<ul style="list-style-type: none"> • Valve sizes 1" through 4" • Materials: 316L stainless steel, specials • No bacteria traps or contamination • Minimum dead leg design and flush-mounting capability • Gap and crevice free design of internals • Optional pneumatic lifting device and proximity switch for plant automation • Wetted-part surfaces acc. to ASME BPE 2002 • Standard elastomer bellows for protection of the hard to clean parts • Single trim for steam, gas and liquid • Temperature: -49 °F to + 302 °F • Set pressure from 1.5 psig to 986 psig 	<ul style="list-style-type: none"> • Great variety of clamp and threaded connections for high flexibility • Standard elastomer bellows for protection of the hard to clean parts • Series 48x is fully made of stainless steel, no casting parts for high surface quality • One-piece spindle for optimized setting accuracy and less friction • CIP (cleaning in place) and SIP (sterilizing in place) with pneumatic lifting device H8 possible • Self-draining body design, avoids residues and reduces corrosion



Clean Service vs. Rupture Disc

Safety Valve	Rupture Disc
<ul style="list-style-type: none"> • Prevention of contamination after opening • Re-closes preventing further product loss • Valve size up to 4" • Consistent set pressures during extended operation • Continue to operate after overpressure event 	<ul style="list-style-type: none"> • System is contaminated after disc bursts • Unable to re-close due to design • Big cross-sections possible • Disc may fatigue and burst prematurely • Process interrupted after overpressure event

Advantages

Feature	Cleanability	HyTight Assembly (Hygienic and Tightness)	Guided Spindle
Benefit			
	<ul style="list-style-type: none"> CIP (cleaning in place) and SIP (sterilizing in place) capabilities for sanitary processes International surface definition acc. to ASME BPE and DIN 11866 Low dead space for easy cleanability 	<ul style="list-style-type: none"> Gap free internal design Surface roughness up to R_a 15 pinch Superior tightness 	<ul style="list-style-type: none"> Better guiding / less friction equals less galling Better alignment Easier assembly for maintenance
Feature	Broad Product Range	Non-upright Installation	Made in Germany; Assembled Locally
Benefit			
	<ul style="list-style-type: none"> Solutions for all industrial applications for steam, gas and liquid Facilitates coordinated planning, delivery and sizing from one source Highest flexibility for implementing special solutions 	<ul style="list-style-type: none"> Space saving installation High flexibility of equipment design Type test approval for most Clean Service Types available 	<ul style="list-style-type: none"> All products exclusively made in Germany Large local stock in the USA for one week delivery or less In cases of an emergency same day delivery possible

Additional Products



High Performance



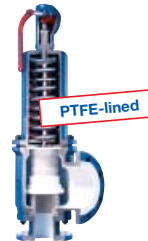
API



Compact Performance



Pilot Operated Safety Valve



Critical Service



Best Availability Change-over Valve

441, 458, XXL	526	437, 459	810, 820	447	310, 311 XXL
1" to 16"	1" to 8"	1/2" to 1 1/2"	1 D 2 to 8 T 10	1" to 4"	1" to 20"
1.5 to 4,350 psig	7.25 to 6,000 psig	1.5 to 12,325 psig	36 to 1,480 psig	1.45 to 232 psig	

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Worldwide Approvals

Europe	ISO 4126-1 / -4
Germany	AD 2000-Merkblatt A2
United States	ASME Sec. VIII Div. 1
Canada	CRN
China	AQSIQ
Russia	GGTN / GOSGOTECHNADZOR / GOST R



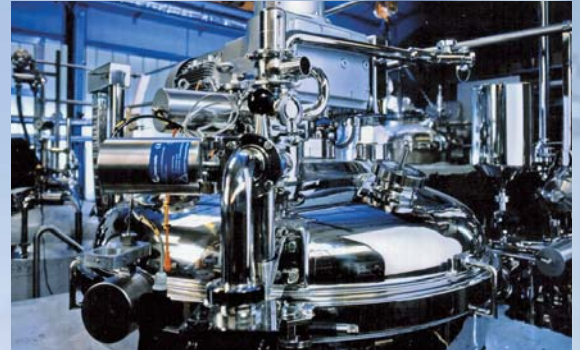
Pharmaceutical Industry

LESER Industry Solution

The pharmaceutical industry has special requirements regarding the cleanability, materials and documentation of safety valves. With the Clean Service Series LESER offers safety valves which fulfill all these demands. As a full range supplier LESER provides safety valves for all industrial applications.

Safety valves provide overpressure protection e.g. for:

- Vessels and other process equipment in case of an unexpected malfunction
- Piping systems against thermal expansion
- Dryers or reactors in case of failure



Customers

- Astra Zeneca
- Ely Lilly
- Merck
- Bayer
- Genentech
- Novartis
- Boehringer Ingelheim
- L'Oreál
- Pfizer

LESER Product Solution

Clean Service



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