

Type 449

Flanged Safety Relief Valves – spring loaded

Contents

Chapter/Page

Design Features

- Area of application 03/02
- Protective gas flushing design 03/03

How to order

- Specification sheet 03/04
- Article numbers 03/06

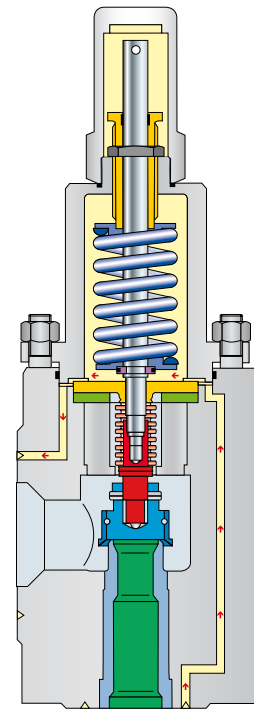
Dimensions and weights

03/06



Type 449
Cap H2
Closed bonnet

Design features



Area of application

Type 449 is a component-tested safety valve for protection against toxic media, often also in connection with corrosion.

Type 449 is characterised by:

- a duct system for flushing with protective gas for more detailed explanation, see page 03/03.
- Balanced bellows for back pressure compensation and to protect the bonnet space.
- Manufacture of the body components as well as most inner components of rod or forged material in order to realise customer-specific material requirements, nominal pressure ratings, flange drillings and facings, and centre to face dimensions.
Please use the "Specification Sheet" on page 03/04 and 03/05 for this.

Naturally, LESER will advise you on the configuration of Type 449 for your application.

Protective gas flushing design

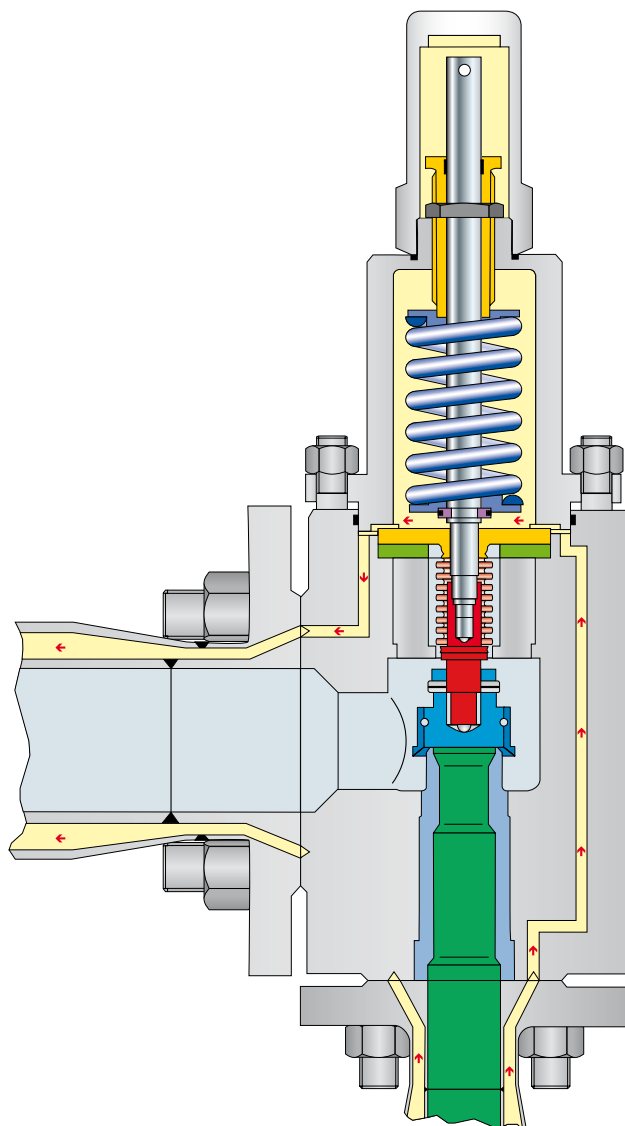
If highly toxic media form in systems, then suitable measures must be taken so that neither people nor the environment are endangered by that media. One way to avoid any endangering is the installation of a duct system for flushing protective gas.

Here, a duct system is built around all safety valve components that carry highly toxic media. A protective gas flows through this duct system, which has the following task:

- neutralisation of the highly toxic medium in the event of a leak.
- Residue from the neutralisation reaction is detected by detectors in the protective gas duct system and communicated to the control room where any necessary steps can be initiated.

Type 449 can be directly integrated into these duct systems. Through the appropriate connection flange and a special duct system, the protective gas is channelled from the inlet to the outlet side. The duct system design ensures that all possible leakage points are contacted by the protective gas.

Protective gas flushing design



How to order – Specification Sheet

Please fax your inquiry to: **+49 40 25165-500** or contact your local LESER-Representative - refer to www.leser.com

Company:	Phone:	Fax:	E-mail:
Name:	Date:	Sheet 1 of:	Rev.:
Contract/Reference:	Spec.-No.:	Rev.:	Request:

General	
1	Quantity: _____ of _____
2	Item-no.:
3	Tag-no.:
4	Service:
5	Line no./Vessel no.:
6	VALVESTAR calc. Area:
7	Selected area:
8	Orifice designation:

Service conditions	
9	Fluid and state
10	Oper. pressure _____ bar
11	Set pressure _____ bar
12	Oper. temperature _____ °C
13	Rel. temperature _____ °C
14	Back pressure total _____ bar
15	Allowable overpress. _____ %
16	Inert gas pressure _____ bar

Connections	
17	Inlet Size _____ DN
18	Pressure rating _____ PN
19	Type of facing _____
20	Centre to face a _____ mm
21	Outlet Size _____ DN
22	Pressure rating _____ PN
23	Type of facing _____
24	Centre to face b _____ mm

Duct System	
25	Duct system _____ yes <input type="checkbox"/> no <input type="checkbox"/>
26	Inert gas pressure _____ bar
27	Jacketed flange comply with _____
28	<input type="checkbox"/> BAYER Standard 594 edition 02.2003
29	<input type="checkbox"/> Other: _____

Additional design data

Required approvals

Type 449

How to order – Specification Sheet

Please fax your inquiry to: **+49 40 25165-500** or contact your local LESER-Representative - refer to www.leser.com

Material Specification

	Item	Description	Qty.	Material specification	MTC
	30	1 Body	1		* <input type="checkbox"/>
	31	5 Nozzle	1		* <input type="checkbox"/>
	32	7 Disc, metal to metal	1		* <input type="checkbox"/>
	33	8 Guide	1		- -
	34	9 Bonnet	1		* <input type="checkbox"/>
	35	12 Spindle	1		- -
	36	14 Split ring	2		* <input type="checkbox"/>
	37	15 Ballanced bellows	1		- -
	38	16 Upper spring plate	1		- -
	39	17 Lower spring plate	1		- -
	40	18 Adjusting screw	1		- -
	41	19 Lock nut	1		- -
	42	22 Lift stopper	1		- -
	43	40 Cap H2	1		* <input type="checkbox"/>
	44	54 Spring	1		* <input type="checkbox"/>
	45	55 Stud	4		* <input type="checkbox"/>
	46	56 Nut	4		* <input type="checkbox"/>
	47	57 Pin	1		- -
	48	60 Gasket	1		- -
	49	61 Ball	1		- -
	50	63 O-ring	1		- -
51	75 O-ring	1		- -	

MTC: Material Test Certificate 3.1 acc. DIN EN 10204

* = Default is 3.1

- = Not available

= Editable is 3.2

Dimensions and weights

You receive the complete technical specification sheet together with the LESER order confirmation.

How to order – Article numbers

Article numbers						
	DN _i	25	50	80	100	
	DN _o	50	80	100	150	
	Valve size	1" x 2"	2" x 3"	3" x 4"	4" x 6"	
	Actual orifice diameter d _o [mm]	23	46	60	92	
	Actual orifice area A _o [mm ²]	416	1662	2827	6648	
Closed bonnet	H2	Art. no. 4492.	3362	3372	3382	3392
	H4	Art. no. 4494.	3364	3374	3384	3394



Type 449
Cap H2
Closed bonnet
Conventional design



Type 449
Packed lever H4
Closed bonnet
Conventional design

Dimensions and weights

Metric units					
	DN _i	25	50	80	100
	DN _o	50	80	100	150
	Valve size	1" x 2"	2" x 3"	3" x 4"	4" x 6"
	Actual orifice diameter d _o [mm]	23	46	60	92
	Actual orifice area A _o [mm ²]	415	1662	2827	6648

Weight [kg]

Centre to face [mm]

Height (H4) [mm]

DIN Flange

ASME B16.5 Flange

Inlet a
Outlet b

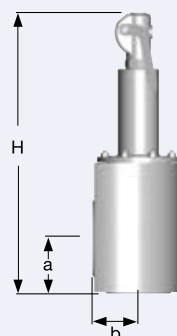
H max.

PN inlet
PN outlet

Class inlet
Class outlet

Specifications dependent on customer specification

Specifications dependent on customer specification



Conventional design