

Type 455, 456

Flanged Safety Relief Valves
– spring loaded

US Units

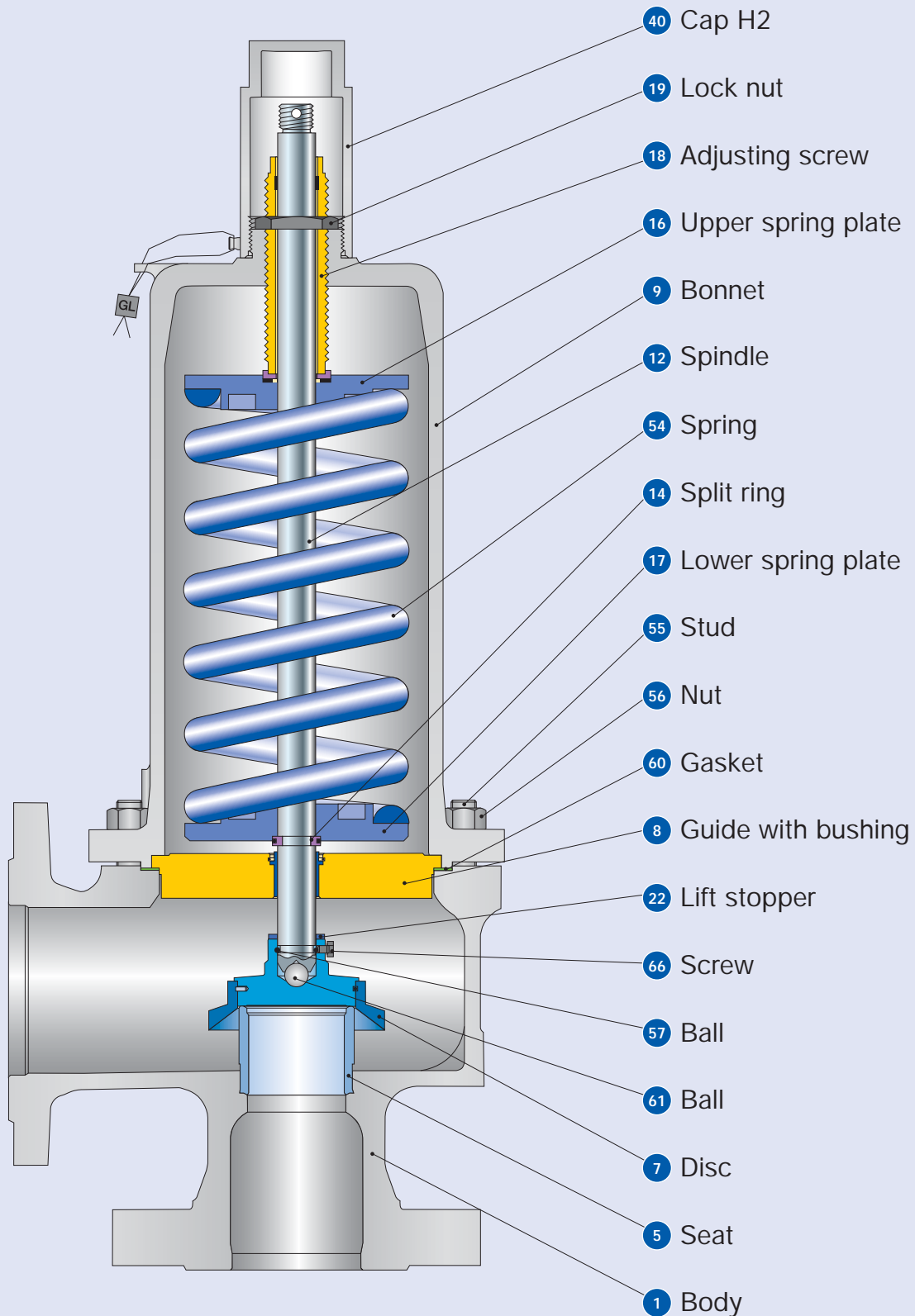


Facts

LESER

The-Safety-Valve.com

Conventional design



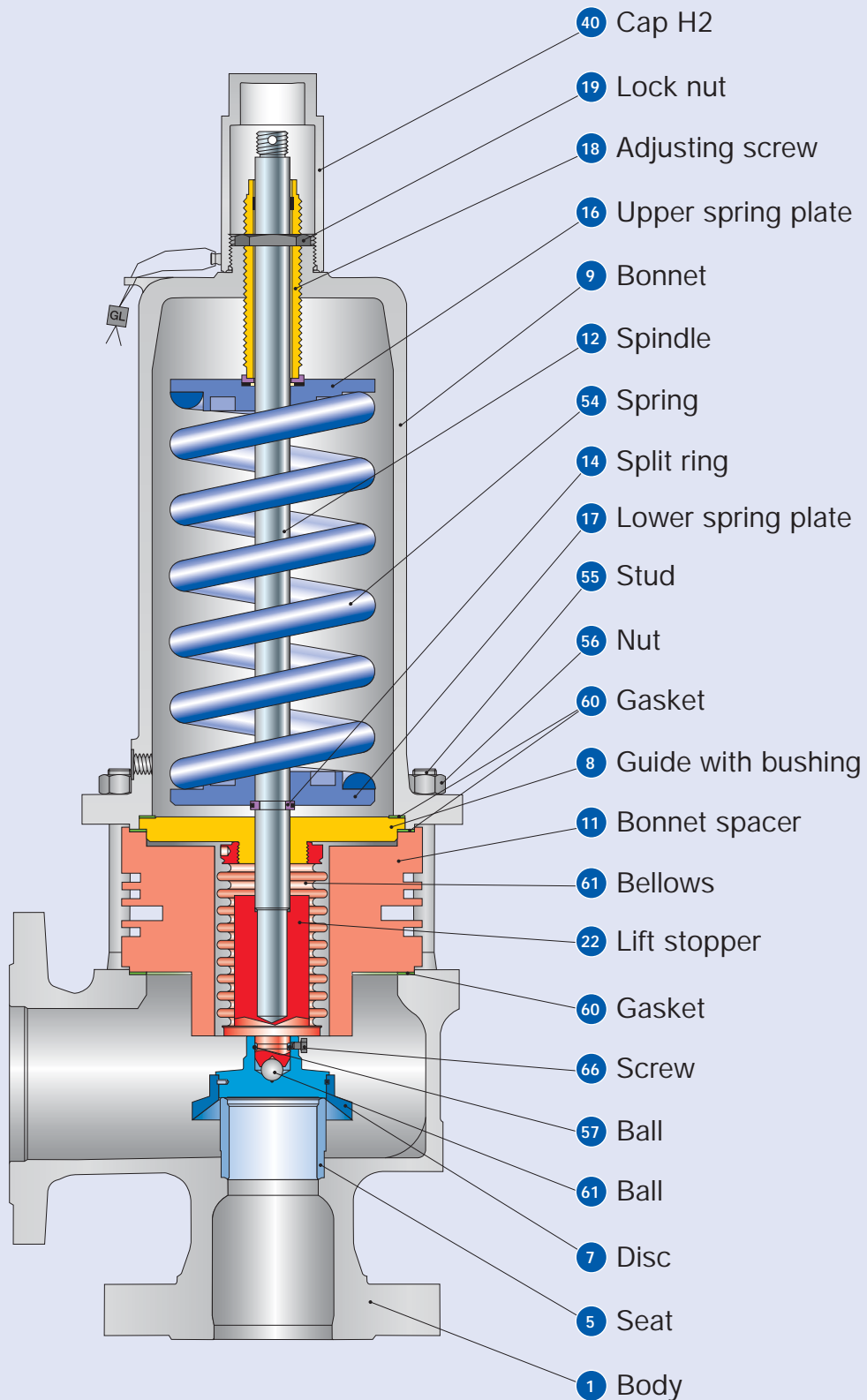
Conventional design

Materials			
Item	Component	Type 4552 / 4562	Type 4564
1	Body	1.0619	1.4581
		SA 216 WCB	SA 351 CF10M
5	Seat	1.4404	1.4404
		316L	316L
7	Disc	1.4122	1.4404
		Hardened stainless steel	316L
8	Guide with bushing	1.0501, 0.7040	1.4404
		Chrome or carbon steel	316L
		1.4104 tenifer	-
		Chrome steel	-
9	Bonnet	0.7043 (Open bonnet 0.7040), 1.0619	1.4408, 1.4404, 1.4571
		Ductile Gr. 60-40-18, SA 216 WCB	SA 351 CF8M, SA 479 316L, 316Ti
12	Spindle	1.4404	1.4404
		316L	316L
14	Split ring	1.4104	1.4404
		Chrome steel	316L
16 / 17	Spring plate	1.0718	1.4404
		Steel	316L
18	Adjusting screw with bushing	1.4104 PTFE	1.4404 PTFE
		Chrome steel PTFE	316L PTFE
19	Lock nut	1.0718	1.4404
		Steel	316L
22	Lift stopper	1.4404	1.4404
		316L	316L
40	Cap H2	1.0718	1.4404
		12L13	316L
54	Spring standard	1.1200, 1.8159, 1.7102	1.4310
		Carbon steel	Stainless steel
	Spring optional	1.4310	-
55	Stud	1.1181	1.4401
		Steel	B8M
56	Nut	1.0501	1.4401
		2H	8M
57	Ball	1.4401	1.4401
		316	316
60	Gasket	Graphite / 1.4401	Graphite / 1.4401
		Graphite / 316	Graphite / 316
61	Ball	1.3541	1.4401
		Hardened stainless steel	316
66	Screw	1.4401	1.4401
		B8M	B8M

Please notice:

- Modifications reserved by LESER.
- LESER can upgrade materials without notice.
- Every part can be replaced by other material acc. to customer specification.

Balanced bellows design



Balanced bellows design

Materials		Type 4552 / 4562	Type 4564
1	Body	1.0619	1.4581
		SA 216 WCB	SA 351 CF10M
5	Seat	1.4404	1.4404
		316L	316L
7	Disc	1.4122	1.4404
		Hardened stainless steel	316L
8	Guide with bushing	1.0501, 0.7040	1.4404
		Chrome or carbon steel	316L
		1.4104 tenifer	-
		Chrome steel	-
9	Bonnet	0.7043 or 1.0619	1.4408, 1.4404, 1.4571
		Ductile Gr. 60-40-18 or SA 216 WCB	SA 351 CF8M, SA 479 316L, 316Ti
11	Bonnet spacer	1.0460	1.4404
		Carbon steel	316L
12	Spindle	1.4404	1.4404
		316L	316L
14	Split ring	1.4104	1.4404
		Chrome steel	316L
15	Bellows	1.4571	1.4571
		316Ti	316Ti
16 / 17	Spring plate	1.0718	1.4404
		Steel	316L
18	Adjusting screw with bushing	1.4104 PTFE	1.4404 PTFE
		Chrome steel PTFE	316L PTFE
19	Lock nut	1.0718	1.4404
		Steel	316L
22	Lift stopper	1.4404	1.4404
		316L	316L
40	Cap H2	1.0718	1.4404
		12L13	316L
54	Spring standard	1.1200, 1.8159, 1.7102	1.4310
		Carbon steel	Stainless steel
	Spring optional	1.4310	-
		Stainless steel	-
55	Stud	1.1181	1.4401
		Steel	B8M
56	Nut	1.0501	1.4401
		2H	8M
57	Ball	1.4401	1.4401
		316	316
60	Gasket	Graphite / 1.4401	Graphite / 1.4401
		Graphite / 316	Graphite / 316
61	Ball	1.3541	1.4401
		Hardened stainless steel	316
66	Screw	1.4401	1.4401
		B8M	B8M

Please notice:

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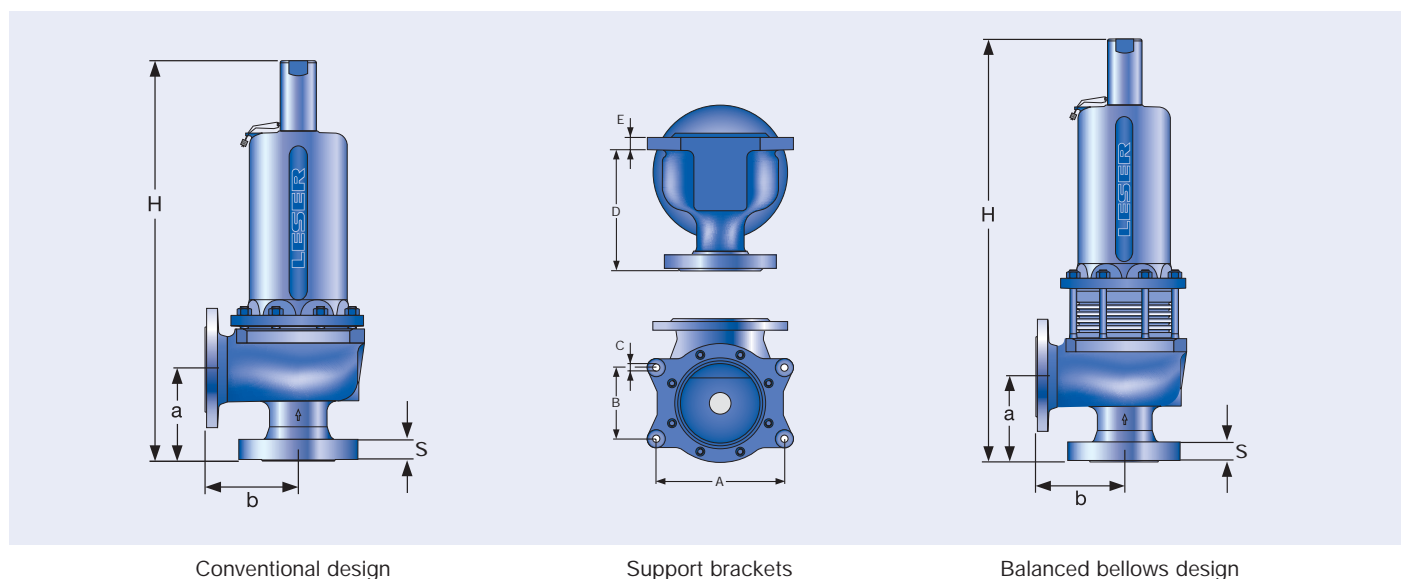
How to order – Article numbers

Article numbers			25 x 50	50 x 80	80 x 100	100 x 150
	DN _{I+O}		25 x 50	50 x 80	80 x 100	100 x 150
	Valve size		1" x 2"	2" x 3"	3" x 4"	4" x 6"
	Actual Orifice diameter d ₀ [mm]		20	40	60	74
	Actual Orifice area A ₀ [mm ²]		314	1257	2827	4301
Body material: 1.0619 (WCB)						
closed	Bonnet H2	Art.-No. 4562.	6012	6022	6032	6042
	H3	Art.-No. 4562.	6013	6023	6033	-
	H4	Art.-No. 4562.	6014	6024	6034	6044
open	H3	Art.-No. 4552.	6015	6025	6035	6045
Body material: 1.4581 (CF10M)						
closed	Bonnet H2	Art.-No. 4564.	6052	6062	6072	6082
	H4	Art.-No. 4564.	6054	6064	6074	6084

Dimensions and weights

US Units		25 x 50	50 x 80	80 x 100	100 x 150
	DN _{i,o}	25 x 50	50 x 80	80 x 100	100 x 150
	Valve size	1" x 2"	2" x 3"	3" x 4"	4" x 6"
	Actual Orifice diameter d ₀ [inch]	0,79	1,57	2,36	2,91
	Actual Orifice area A ₀ [inch ²]	0,487	1,948	4,383	6,666
Weight		40	95	187	340
[lbs]	with bellows	44	101	225	408
Center to face	Inlet a	4 13/16	6 3/32	6 1/2	8 1/16
[mm]	Outlet b (PN 40)	4 23/32	5 23/32	7 3/32	9 1/4
	Outlet b (PN 63)	4 23/32	5 23/32	8 1/16	10 7/16
Measure	Used to find bolt length s for inlet flange	1 3/32	1 1/2	1 1/2	1 25/32
[mm]					
Height (H4)	Standard H max.	19 23/32	26 15/16	31 25/32	41 11/16
[mm]	Bellows H max.	20 25/32	30 3/32	35 5/8	45 1/4
Support brackets	A	5 1/2	7 1/4	10 5/16	4 11/32
[mm]	B	–	4 11/32	6 5/16	8 9/32
(drilled only on request)	C	Ø 9/16	Ø 9/16	Ø 23/32	Ø 23/32
	D	5 7/8	7 5/8	8 27/32	11 11/32
	E	23/32	23/32	1 1/16	1 1/4
Body material: 1.0619 (WCB)					
ANSI Flange Class¹⁾	Inlet	CL300 – 600			
	Outlet	CL150 – 300		CL150	
Body material: 1.4581 (CF10M)					
ANSI Flange Class¹⁾	Inlet	CL300 – 600			
	Outlet	CL150 – 300		CL150	

¹⁾ Standard flange rating. For other flange drillings and facings please refer to 08/14.



Conventional design

Support brackets

Balanced bellows design

Pressure temperature ratings

US Units

	DN _{in} o	25 x 50	50 x 80	80 x 100	100 x 150
Valve size		1" x 2"	2" x 3"	3" x 4"	4" x 6"
Actual Orifice diameter d ₀ [inch]		0,79	1,57	2,36	2,91
Actual Orifice area A ₀ [inch ²]		0,487	1,948	4,383	6,666

Body material: 1.0619 (WCB)

ANSI Flange Class ¹⁾	Inlet		CL300 – 600			
	Outlet		CL150 – 300		CL150	
Minimum set pressure	p [psig]	S/G/L	36	36	36	36
Min. set pressure ²⁾ standard bellows	p [psig]	S/G/L	196	36	145	73
Min. set pressure low press. bellows	p [psig]	S/G/L	on request			
Maximum set pressure	p [psig]	S/G/L	1450	1421	914	769
Max. set pressure with special spring	p [psig]	S/G/L	1450	1450	914	914
Temperature acc. to DIN EN	min. [°F]		-121			
	max. [°F]		+842			
Temperature acc. to ASME	min. [°F]		-20			
	max. [°F]		+800			

Body material: 1.4581 (CF10M)

ANSI Flange Class ¹⁾	Inlet		CL300 – 600			
	Outlet		CL150 – 300		CL150	
Minimum set pressure	p [psig]	S/G/L	36	36	36	36
Min. set pressure ²⁾ standard bellows	p [psig]	S/G/L	196	36	145	73
Min. set pressure low press. bellows	p [psig]	S/G/L	on request			
Maximum set pressure	p [psig]	S/G/L	1450	885	508	245
Max. set pressure with special spring	p [psig]	S/G/L	1450	943	624	624
Temperature acc. to DIN EN	min. [°F]		-121			
	max. [°F]		+1022			
Temperature acc. to ASME	min. [°F]		-20			
	max. [°F]		+1000			

¹⁾ For flange rating class 150 the pressure temperature ratings according to ASME ANSI B 16.34 apply.

²⁾ Min. set pressure standard bellows = Max. set pressure low pressure bellows.

Available Options

For further information refer to "Accessories and Options", page 99/01

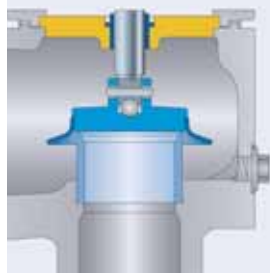
Heating jacket

H29, H30: Couplings G 3/8, G 3/4
H31, H32: Flanges DN 15, DN 25



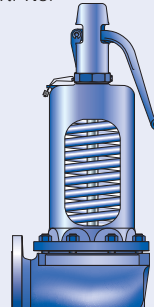
Drain hole

J18: G 1/4
J19: G 1/2



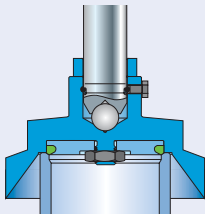
Open bonnet

See Art.-No.



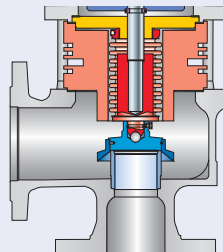
O-ring-disc

J20: FFKM "C"
J21: CR "K"
J22: EPDM "D"
J23: FKM "L"

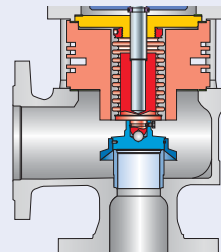


Stainless steel bellows

J68: Open bonnet
J78: Closed bonnet



Conversion kit for stainless steel bellows on request



Screwed cap H2



Plain lever H3



Packed lever H4



Test gag

J69: H4
J70: H2



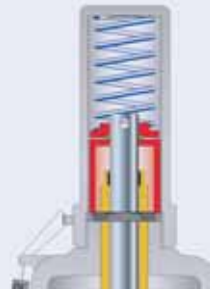
Lift indicator

J39: Adaptor H4
J93: Lift indicator



O-ring-damper H2

J65



O-ring-damper H4

J66

