



Type

441 XXL
442 XXL

Flanged Safety Relief Valves
- spring loaded

Metric Units

Facts

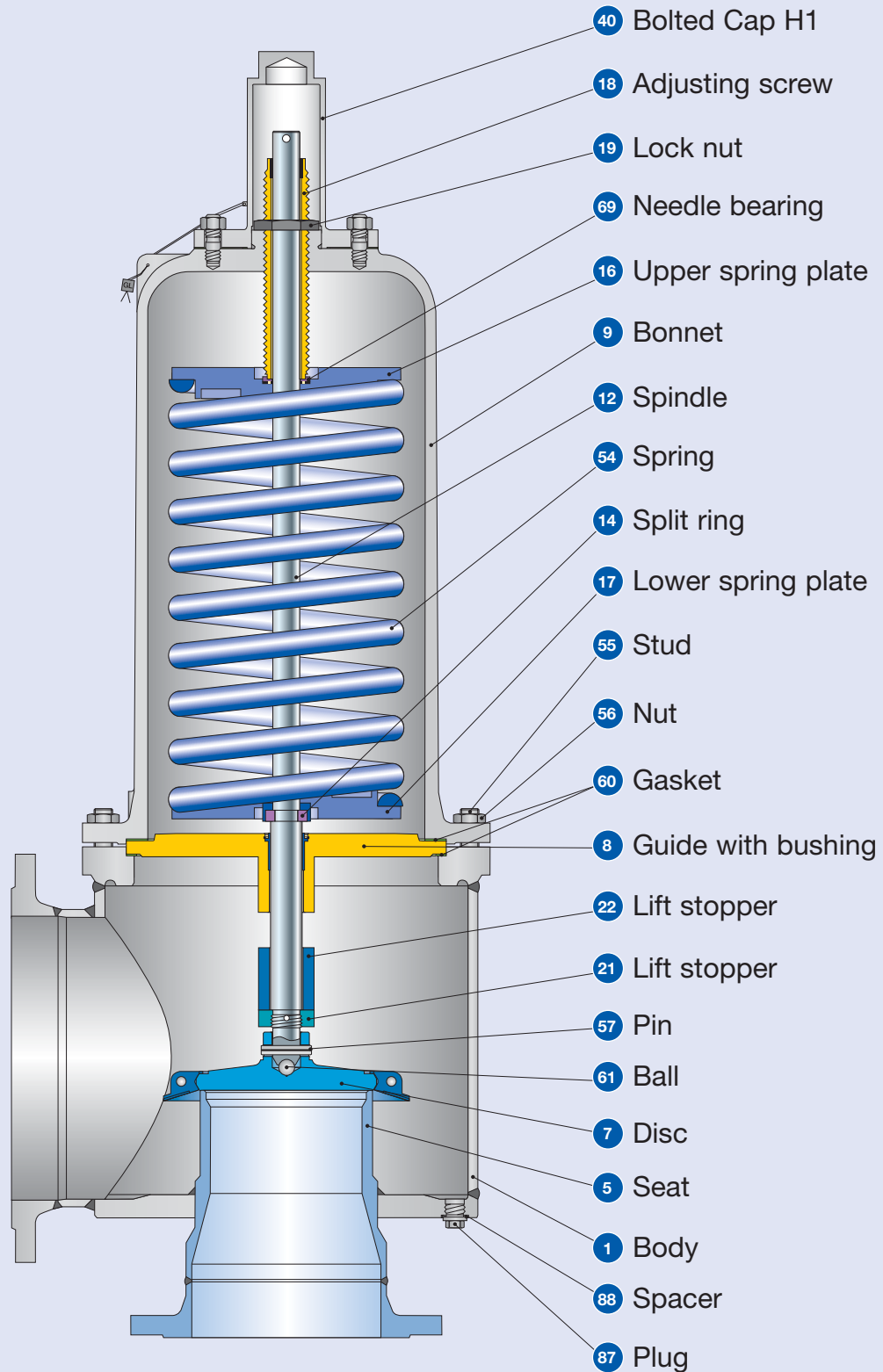
LESER

The-Safety-Valve.com

Type 441, 442 XXL

LESER

Conventional design



Type 441, 442 XXL

Conventional design

Materials			
Item	Component	Type 4412 XXL / 4422 XXL	Type 4414 XXL
1	Body	1.0460/1.0425	1.4571
		Carbon steel	316Ti
5	Seat	1.0305 stellite, 1.0460 stellite	1.4571
		Carbon steel, stellite	316Ti
7	Disc	1.4404	1.4404
		316L	316L
8	DN 200 – 250: Guide with bushing	0.7040	1.4404
		Ductile Gr. 60-40-18 / Chrome steel	316L
	DN 300 – 400: Guide	1.4404	1.4404
		316L	316L
9	Bonnet ¹⁾	1.0305 or 1.0254	1.4571 / 1.4404
		SA-106 or Steel	316Ti / 316L
12	Spindle	1.4021	1.4404
		420	316L
14	Split ring	1.4104	1.4404
		Chrome steel	316L
16 / 17	Spring plate	1.0570 or 1.4404	1.4404
		Steel or 316L	316L
18	Adjusting screw with bushing	1.4104 PTFE	1.4404 PTFE
		Chrome steel PTFE	316L PTFE
19	Lock nut	1.4404	1.4404
		316L	316L
21 / 22	Lift stopper	1.4404	1.4404
		316L	316L
40	Bolted cap H1	0.7040	1.4404
		Ductile Gr. 60-40-18	316L
54	Spring standard	1.1200, 1.8159, 1.7102	1.4310
		Carbon steel	Stainless steel
	Spring optional	1.4310	-
		Stainless steel	-
55	Stud	1.4401	1.4401
		B8M	B8M
56	Nut	1.4401	1.4401
		8M	8M
57	Pin	1.4310	1.4310
		Stainless steel	Stainless steel
60	Gasket	Graphite / 1.4401	Graphite / 1.4401
		Graphite / 316	Graphite / 316
61	Ball	1.3541	1.4401
		Hardened stainless steel	316
69	Needle bearing	1.4401	1.4401
		316L	316L
87 / 88	Plug / Spacer	1.4401 / 1.4571	1.4401 / 1.4571
		316 / 316Ti	316 / 316Ti

¹⁾ The welded construction might contain additional materials.

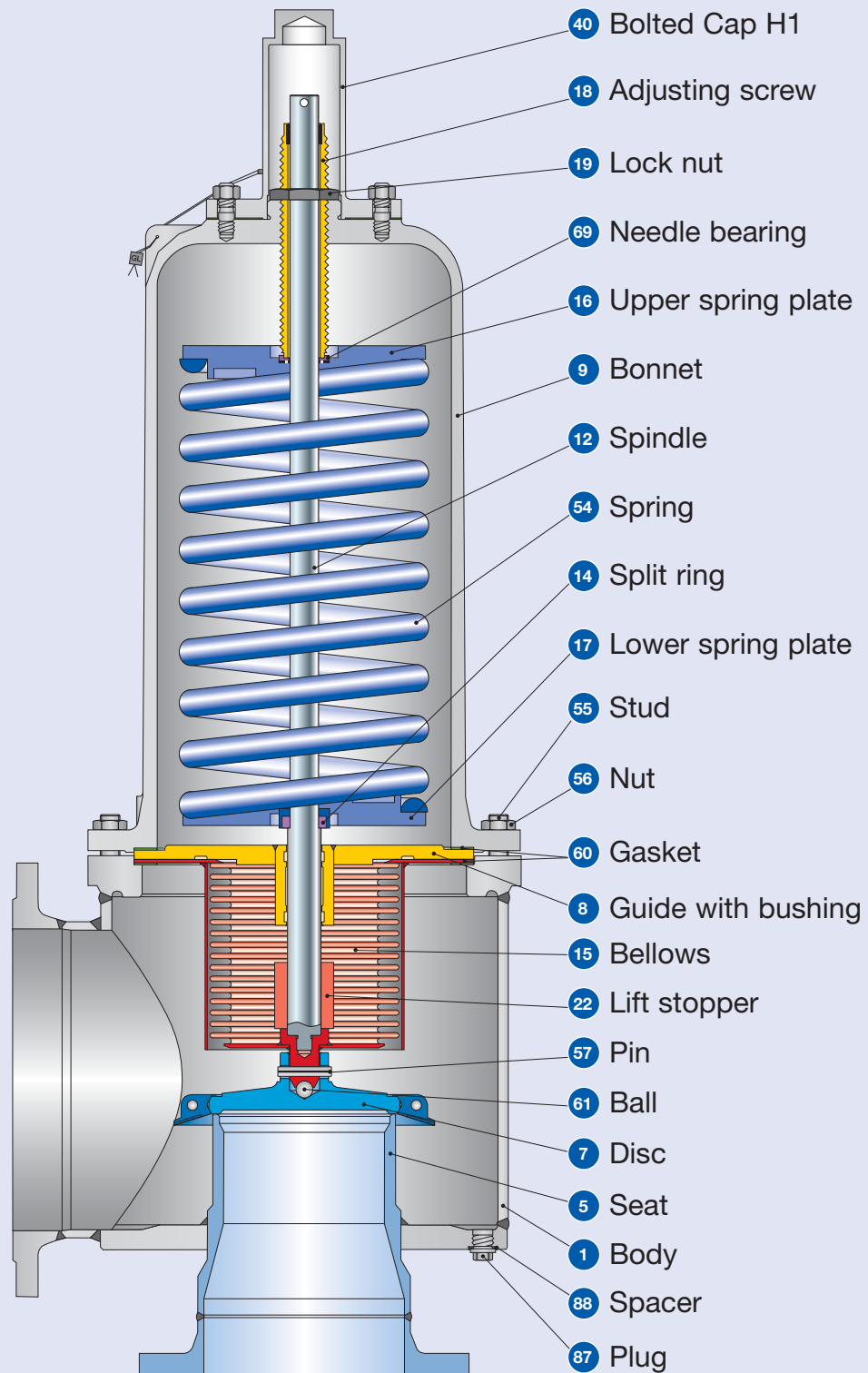
Please notice:

- Modifications reserved by LESER
- If several materials are specified LESER defines the material.
- LESER can upgrade materials without notice.
- Every part can be replaced by other material acc. to customer specification.

Type 441, 442 XXL

LESER

Balanced bellows design



Type 441, 442 XXL

Balanced bellows design

Materials			
Item	Component	Type 4412 XXL / 4422 XXL	Type 4414 XXL
1	Body	1.0460/1.0425	1.4571
		Carbon steel	316Ti
5	Seat DN 200 – 250	1.0305 stellited	1.4571
		Carbon steel, stellited	316Ti
	DN 300 – 400	1.0460 stellited	1.4571
		Carbon steel, stellited	316Ti
7	Disc	1.4404	1.4404
		316L	316L
8	Guide	1.4571	1.4571
		316Ti	316Ti
9	Bonnet ¹⁾	1.0305 or 1.0254	1.4571 / 1.4404
		SA-106 or Steel	316Ti / 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	1.0570 or 1.4404	1.4404
		Steel or 316L	316L
18	Adjusting screw with bushing	1.4104 PTFE	1.4404 PTFE
		Chrome steel PTFE	316L PTFE
19	Lock nut	1.4404	1.4404
		316L	316L
22	Lift stopper	1.4404	1.4404
		316L	316L
40	Bolted cap H1	0.7040	1.4404
		Ductile Gr. 60-40-18	316L
54	Spring standard	1.1200, 1.8159, 1.7102	1.4310
		Carbon steel	Stainless steel
	Spring optional	1.4310	-
55	Stud	1.4401	1.4401
		B8M	B8M
56	Nut	1.4401	1.4401
		8M	8M
57	Pin	1.4310	1.4310
		Stainless steel	Stainless steel
60	Gasket	Graphite / 1.4401	Graphite / 1.4401
		Graphite / 316	Graphite / 316
61	Ball	1.3541	1.4401
		Hardened stainless steel	316
69	Needle bearing	1.4401	1.4401
		316L	316L
87 / 88	Plug / Spacer	1.4401 / 1.4571	1.4401 / 1.4571
		316 / 316Ti	316 / 316Ti

¹⁾ The welded construction might contain additional materials.

Please notice:

- Modifications reserved by LESER
- If several materials are specified LESER defines the material.
- LESER can upgrade materials without notice.
- Every part can be replaced by other material acc. to customer specification.

How to order – Article numbers

Article numbers				200 x 300	250 x 350	300 x 400	400 x 500
		DN _{I+O}		200 x 300	250 x 350	300 x 400	400 x 500
		Valve size		8" x 12"	10" x 14"	12" x 16"	16" x 20"
		Actual Orifice diameter d ₀ [mm]		165	200	235	295
		Actual Orifice area A ₀ [mm ²]		21382	31416	43374	68349
Body material: 1.0460 / 1.0425 (Carbon steel)							
Bonnet closed	H1	Art.-No. 4412.		4752	4762	4772	4782
	H3	Art.-No. 4412.		–	–	–	–
	H6	Art.-No. 4412.		4754	4764	4774	4784
open	H6	Art.-No. 4422.		4755	4765	4775	4785
Body material: 1.4571 (316Ti)							
Bonnet closed	H1	Art.-No. 4414.		4792	4802	4902	4912
	H6	Art.-No. 4414.		4794	4804	4904	4914

Dimensions and weights

Metric Units

	DN _{in+o}	200 x 300	250 x 350	300 x 400	400 x 500
Valve size		8" x 12"	10" x 14"	12" x 16"	16" x 20"
Actual Orifice diameter d ₀ [mm]		165	200	235	295
Actual Orifice area A ₀ [mm ²]		21382	31416	43374	68349
Weight [kg]		285	335	384	588
	with bellows	289	340	390	595
Center to face [mm]	Inlet a	305	340	330	400
	Outlet b	300	325	394 ¹⁾	477 ¹⁾
Height (H4) [mm]	Standard H max.	1473	1518	1633	1953
	Bellows H max.	1473	1518	1633	1953
Support brackets [mm]	A	470	514	640	800
	B	150	150	180	220
(drilled only on request)	C	Ø 18	Ø 18	Ø 24	Ø 28
	D	305	340	330	400
	E	20	20	20	20

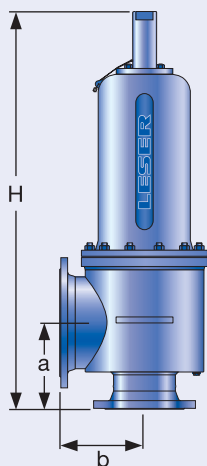
Body material: 1.0460 / 1.0425 (Carbon steel)

DIN Flange²⁾	Inlet	PN 25	PN 16
	Outlet	PN 10	

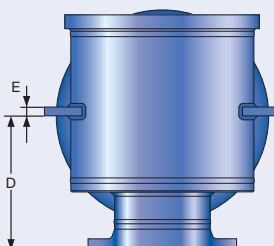
Body material: 1.4571 (316Ti)

DIN Flange²⁾	Inlet	PN 25	PN 16
	Outlet	PN 10	

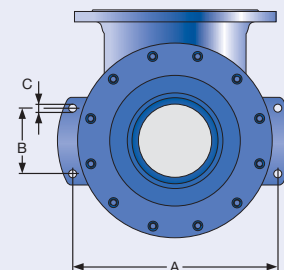
- ¹⁾ For pressure rating outlet higher than PN 10 centre to face dimension will change
²⁾ Standard flange rating. For other flange drillings and facings please refer to page 03/14.



Conventional and balanced bellows design



Support brackets



Pressure temperature ratings

Metric Units

	200 x 300	250 x 350	300 x 400	400 x 500
DN _{I+O}	200 x 300	250 x 350	300 x 400	400 x 500
Valve size	8" x 12"	10" x 14"	12" x 16"	16" x 20"
Actual Orifice diameter d ₀ [mm]	165	200	235	295
Actual Orifice area A ₀ [mm ²]	21382	31416	43374	68349

Body material: 1.0460 / 1.0425 (Carbon steel)

DIN Flange	Inlet		PN 25		PN 10		PN16	
	Outlet							
Minimum set pressure	p [bar _g]	S/G/L	0.2	0.2	0.2	0.2	0.2	0.2
Min. set pressure¹⁾ standard bellows	p [bar _g]	S/G/L	0.2	0.2	0.2	0.2	0.2	0.2
Min. set pressure low press. bellows	p [bar _g]	S/G/L	-	-	-	-	-	-
Maximum set pressure	p [bar _g]	S/G/L	20	13.4	9.25	9.25	1.25	1.25
Max. set pressure with special spring	p [bar _g]	S/G/L	25	16	16	16	8	8
Temperature acc. to DIN EN	min. [°C]				-85			
	max. [°C]				+420			
Temperature acc. to ASME	min. [°C]				-29			
	max. [°C]				+427			

Body material: 1.4571 (316Ti)

DIN Flange	Inlet		PN 25		PN 10		PN 16	
	Outlet							
Minimum set pressure	p [bar _g]	S/G/L	0.2	0.2	0.2	0.2	0.2	0.2
Min. set pressure¹⁾ standard bellows	p [bar _g]	S/G/L	0.2	0.2	0.2	0.2	0.2	0.2
Min. set pressure low press. bellows	p [bar _g]	S/G/L	-	-	-	-	-	-
Maximum set pressure	p [bar _g]	S/G/L	1.45	0	0	0	0	0
Max. set pressure with special spring	p [bar _g]	S/G/L	10	6	3.57	3.57	2.3	2.3
Temperature acc. to DIN EN	min. [°C]				-196			
	max. [°C]				+550			
Temperature acc. to ASME	min. [°C]				-184			
	max. [°C]				+427			

¹⁾ Min. set pressure standard bellows = Max. set pressure low pressure bellows.

Available Options

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

Type 441, 442 XXL

