



public

Product group

Type

High Performance

441, 442 DIN/ANSI, 441, 442 Full nozzle DIN/ANSI, 455, 456, 457, 458

Modulate Action

433


S & R

440, 424

Critical Service

546

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	LESER Global Standard Dismantling instructions for series 441, 441 Full nozzle, 458, 429, 433, types 440, 424, 546	LGS 4106
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1 Purpose

This LESER Global Standard (LGS) is disassembly documentation for different installations of LESER safety valves of the High Performance series. The required work steps and tools are described.

2 Scope

This document must be followed in the dismantling a High Performance safety valve in agencies and subsidiaries of LESER GmbH & Co. KG.

3 Disclaimer

LESER puts in a great deal of effort into making up-to-date and correct documentation available. Nevertheless, LESER GmbH & Co. KG gives no guarantee that the recommended actions presented here are completely correct and error free.

This document is to be applied exclusively to the specified type. LESER GmbH &

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4 Qualified fitting personnel

LESER safety valves may only be dismantled by trained or qualified fitters. The qualifications must be obtained through the appropriate training measures.

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5 General illustration

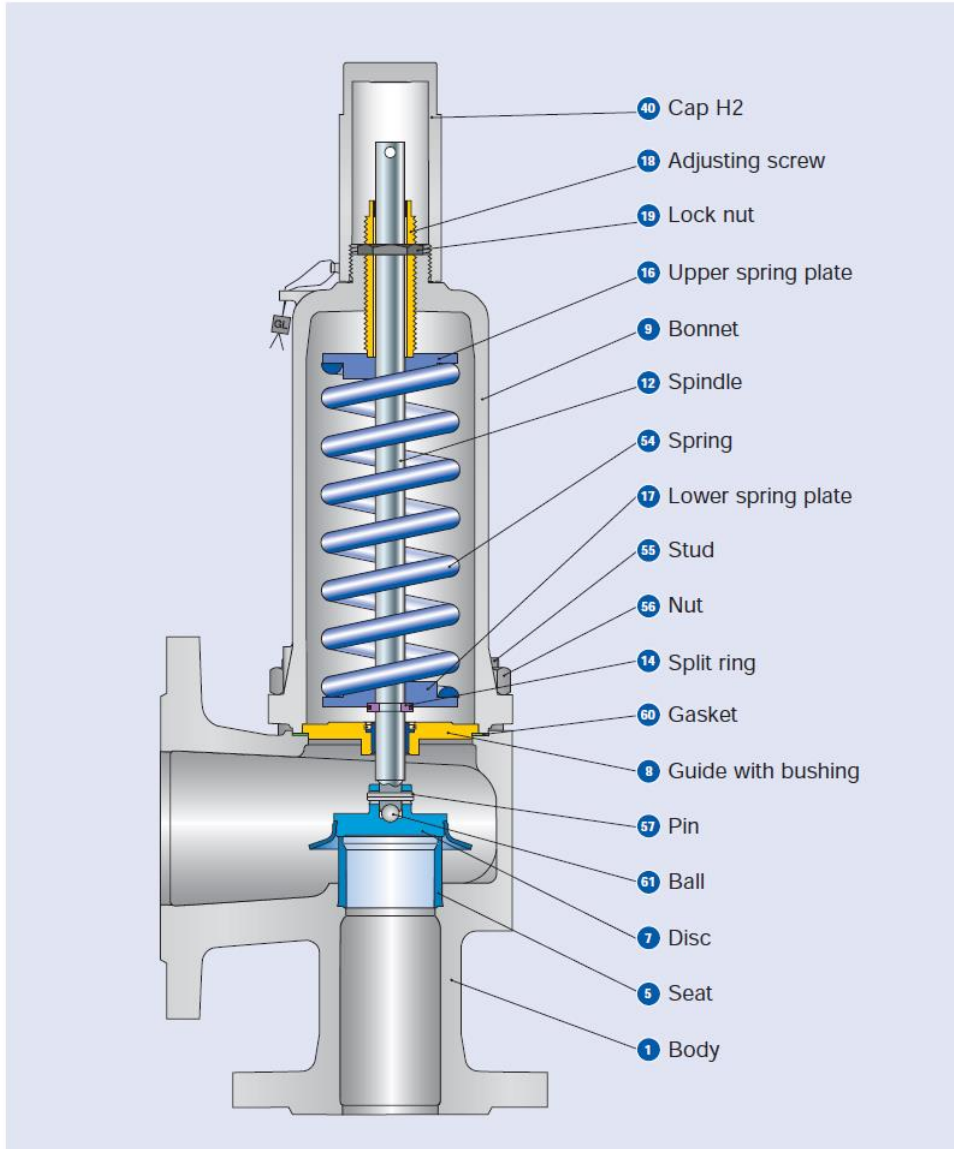


Figure 5 - 1: Cross-sectional view of High Performance 441.

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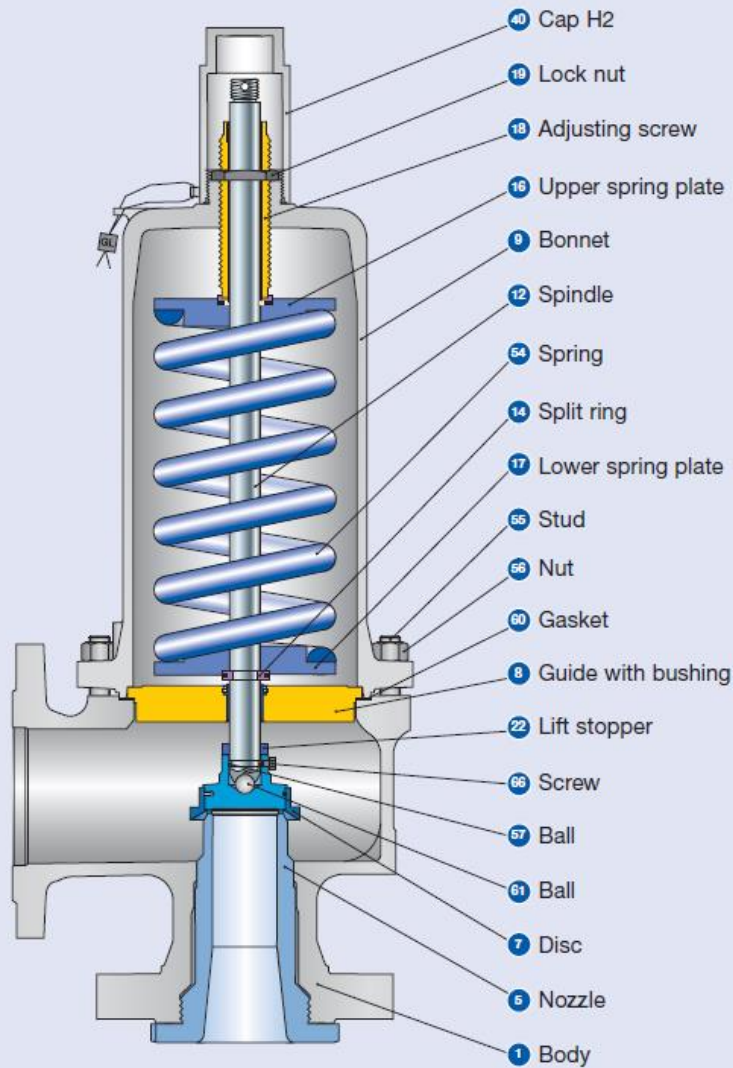


Figure 5 - 2: Cross-sectional view of High Performance 441.

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6 Dismantling the High Performance series

6.1 Dismantling the O-ring damper



6.1.1 O-ring damper H4 (J66)

Illustration	Description	Aids / Tools
 <p>Figure 6.1.1-1</p>	<p>Unscrew the lever with an open-end spanner.</p>	<p>Open-end spanner</p>
 <p>Figure 6.1.1-2</p>	<p>Remove the cap - spring - support sleeve - first O-ring - counter ring - second O-ring from the lever one after the other.</p>	

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Illustration	Description	Aids / Tools
 <p>Figure 6.1.1-3</p>	<p>Individual parts of the O-ring damper</p>	
 <p>Figure 6.1.1-4</p>	<p>Remove the retaining clip and steel pin from the spindle. Pull the O-ring damper spindle off the valve spindle.</p>	

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6.1.2 O-Ring damper H2 (J65)

Illustration	Description	Aids / Tools
 <p>Figure 6.1.2-1</p>	Loosen cap	Open-end spanner
 <p>Figure 6.1.2-2</p>	Remove cap. Remove pressure spring from opposite ring.	
 <p>Figure 6.1.2-3</p>	Take counter ring from the O-ring or support sleeve.	

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Illustration	Description	Aids / Tools
 <p>Figure 6.1.2-4</p>	Pull O-ring off the spindle.	
 <p>Figure 6.1.2-5</p>	Remove the support sleeve from the adjusting screw	
 <p>Figure 6.1.2-6</p>	Individual parts of the O-ring damper H2	

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6.2 Dismantling the test gag / blocking screw

Illustration	Description	Aids / Tools
 <p>Figure 6.1.2-1Error! No sequence specified.</p>	Loosen the test gag in the cap or lever and remove.	Open-end spanner

6.3 Dismantling lift indicator

Illustration	Description	Aids / Tools
 <p>Figure 6.3-1</p>	Remove lock nut Release second nut. Remove lift indicator completely.	Open-end spanner



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6.4 Dismantling the cap / lever

6.4.1 Dismantling cap H2




Illustration	Description	Aids / Tools
 <p>Figure 6.4.1-1</p>	Loosen cap with a spanner and screw off.	Open-end spanner
 <p>Figure 6.4.1-2</p>	Caution: The sealing ring may only be used once. If it is necessary to dismantle the cap, the sealing ring must be replaced.	

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6.4.2 Dismantling lever H3

Illustration	Description	Aids / Tools
 <p>Figure 6.4.2-1</p>	Remove the clamping screw on the lever.	Open-end spanner Small ratchet
 <p>Figure 6.4.2-2</p>	Push the retaining washers off the pin.	Pliers
 <p>Figure 6.4.2-3</p>	Pull pin out. Pull lever out of the cap.	


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Illustration	Description	Aids / Tools
 <p data-bbox="188 757 368 786">Figure 6.4.2-4</p>	<p data-bbox="756 376 1114 450">Remove small plastic ball and unscrew screw.</p>	<p data-bbox="1145 376 1321 414">Ring spanner</p>
 <p data-bbox="188 1496 368 1525">Figure 6.4.2-5</p>	<p data-bbox="756 801 1091 943">Remove the retaining clip and pin from the spindle cap. Pull the spindle cap off the spindle.</p>	

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6.4.3 Dismantling lever H4




Illustration	Description	Aids / Tools
 <p>Figure 6.4.3-1</p>	Loosen lever and screw it off.	Open-end spanner
 <p>Figure 6.4.3-2</p>	Remove retaining clip and pin. Pull spindle cap off the spindle.	

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6.5 Dismantling pressure spring and adjusting screw

Illustration	Description	Aids / Tools
 <p>Figure 6.5-1</p>	Remove lock nut from adjusting screw.	Open-end spanner
 <p>Figure 6.5-2</p>	Secure the spindle from turning with a pin punch. Apply the open-end spanner in a clockwise direction until the springs can no longer be felt.	Open-end spanner Pin punch
 <p>Figure 6.5-3</p>	Screw adjusting screw out of the bonnet	

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Illustration	Description	Aids / Tools
 <p data-bbox="188 943 341 974">Figure 6.5-4</p>	<p data-bbox="753 376 1034 407">Unscrew the lock nut.</p>	
 <p data-bbox="188 1570 341 1597">Figure 6.5-5</p>	<p data-bbox="753 990 1114 1021">Remove the plastic bushing</p>	



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6.6 Dismantling the bonnet

6.6.1 Dismantling bonnets as of DN 80



Illustration	Description	Aids / Tools
 <p>Figure 6.6.1-1</p>	Loosen the nuts and unscrew them from the studs.	Open-end spanner Ratchet
 <p>Figure 6.6.1-2</p>	Carefully lift off and remove the bonnet from the body by hand or crane depending on the size and weight.	

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6.6.2 Dismantling bonnets up to DN 65

Illustration	Description	Aids / Tools
 <p>Figure 6.6.2-1</p>	Loosen the nuts and unscrew them from the studs.	Open-end spanner Ratchet
 <p>Figure 6.6.2-2</p>	Carefully lift off and remove the bonnet from the body.	



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6.7 Removing the assembly

6.7.1 Dismantling the spring / disc / bellows / cooling zone assembly

Illustration	Description	Aids / Tools
 <p>Figure 6.7.1-1</p>	<p>If there are any thrust bearings, remove them from the top spring plate.</p> <p>Pull the spring plate off the spindle.</p>	
 <p>Figure 6.7.1-2</p>	<p>Pull spring(s) off the spindle.</p>	

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Illustration	Description	Aids / Tools
 <p>Figure 6.7.1-3</p>	Lift out the spindle with the bottom spring plate, guide washer, bellows if applicable and disc from the body.	
 <p>Figure 6.7.1-4</p>	Remove the cooling zone / bonnet extender from the body. Remove gaskets.	


6.7.2 Dismantling spindle/disc assembly (with elastomer bellows)

Illustration	Description	Aids / Tools
 <p>Figure 6.7.2-1</p>	Lift of the top spring plate and spring off the spindle one after the other.	

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Illustration	Description	Aids / Tools
 <p>Figure 6.7.2-2</p>	Remove the retaining clip. Remove the half-washers from the spindle.	
 <p>Figure 6.7.2-3</p>	Remove the hose clamp from the spring plate with pliers.	Pliers
 <p>Figure 6.7.2-4</p>	Pull the guide washer with the elastomer bellows off the spindle.	
 <p>Figure 6.7.2-5</p>	Remove the hose clamp with pliers.	Pliers

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Illustration	Description	Aids / Tools
 <p>Figure 6.7.2-6</p>	Pull the elastomer bellows off the guide washer.	
 <p>Figure 6.7.2-7</p>	Dismantle the spindle - disc connection.	
 <p>Figure 6.7.2-8</p>	Push the pin out of the spindle.	
 <p>Figure 6.7.2-9</p>	Separate the spindle and disc.	

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6.7.3 Dismantling spindle/disc assembly (with stainless steel bellows)

Illustration	Description	Aids / Tools
 <p>Figure 6.7.3-1</p>	Remove the bottom spring plate.	
 <p>Figure 6.7.3-2</p>	Remove the retaining clips from the spindle. Remove retaining clip from half-washers.	
 <p>Figure 6.7.3-3</p>	Pull off the guide washer.	

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Illustration	Description	Aids / Tools
 <p>Figure 6.7.3-4</p>	<p>Remove sealing ring from bellows.</p>	
 <p>Figure 6.7.3-5</p>	<p>Remove lift stopper, if this is present.</p>	
 <p>Figure 6.7.3-6</p>	<p>Drive out the pin. Separate the stainless steel bellows and disc.</p>	

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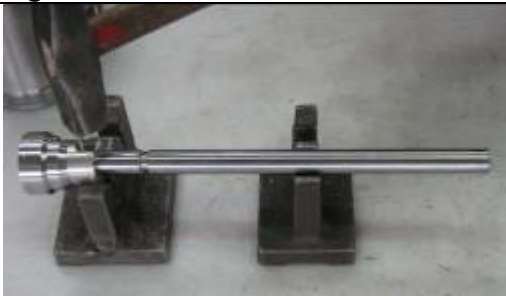

6.7.4 Dismantling spindle/disc assembly (without bellows)

Illustration	Description	Aids / Tools
 <p>Figure 6.7.4-1</p>	Remove the top spring plate, spring and bottom spring plate from the spindle one after the other.	
 <p>Figure 6.7.4-2</p>	Remove retaining clip. Remove half-washers.	
 <p>Figure 6.7.4-3</p>	Push the guide washer off the spindle.	

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Illustration	Description	Aids / Tools
 <p>Figure 6.7.4-4</p>	Remove the lift stopper if this is present.	
 <p>Figure 6.7.4-5</p>	Drive out the pin. Separate the plate and disc.	
 <p>Figure 6.7.4-6</p>	Take the ball out of the disc body.	

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6.7.5 Dismantling disc assembly (with lifting aid and securing ring)


Illustration	Description	Aids / Tools
 <p>Figure 6.7.5-1</p>	Remove the end of the securing ring from the recess.	Screwdriver
 <p>Figure 6.7.5-2</p>	Rotate the lifting aid with the sickle spanner in anti-clockwise direction so that the securing comes out of the recess and the assembly is dismantled.	Sickle spanner
 <p>Figure 6.7.5-3</p>	<p>!!!ATTENTION!!! The re-use of an already installed securing ring is not permissible.</p>	

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6.8 Unscrew the studs from the body.



Illustration	Description	Aids / Tools
 <p data-bbox="188 1070 338 1097">Figure 6.9-1</p>	<p data-bbox="927 398 1182 465">Remove studs with impact wrench.</p> <p data-bbox="927 479 1198 645">Tip: Place the guide washer on the opening of the body so that no studs can fall on the seat.</p>	<p data-bbox="1251 398 1445 427">Impact wrench</p>

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Global Standard	LESER Global Standard	LGS 4106
	Dismantling instructions for series 441, 441 Full nozzle, 458, 429, 433, types 440, 424, 546	Page 29/29

6.9 Dismantling nozzles (types 441 Full Nozzle, 442 Full Nozzle, 457, 458)

Illustration	Description	Aids / Tools
 <p>Figure 6.10-1</p>	Remove nozzle with C-spanner (put a small protective plate between the nozzle and C-spanner).	C-spanner with nose
 <p>Figure 6.10-2</p>	Unscrew nozzle from the body.	

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