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Clean Service

Types 483, 484, 485, 488

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Global Standard	LESER Global Standard	LGS 4108
	Dismantling instructions for types 483, 484, 485, 488	Page 2/27

Contents

1	Purpose	2
2	Scope	2
3	Disclaimer.....	2
4	Qualified fitting personnel	3
5	General Information	3
6	General illustration.....	4
7	Dismantling the Clean Service series	5
7.1	Loosening the cap or lever	5
7.2	Dismantling the bonnet.....	17
7.3	Dismantling spindle/disc assembly	23

1 Purpose

This LESER Global Standard (LGS) is disassembly documentation for various kinds of dismantling work on LESER safety valves of the Clean Service series. The work steps and tools are described.

2 Scope

This document must be used when dismantling Clean Service safety valves in agencies and subsidiaries of LESER GmbH & Co. KG.

3 Disclaimer

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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.

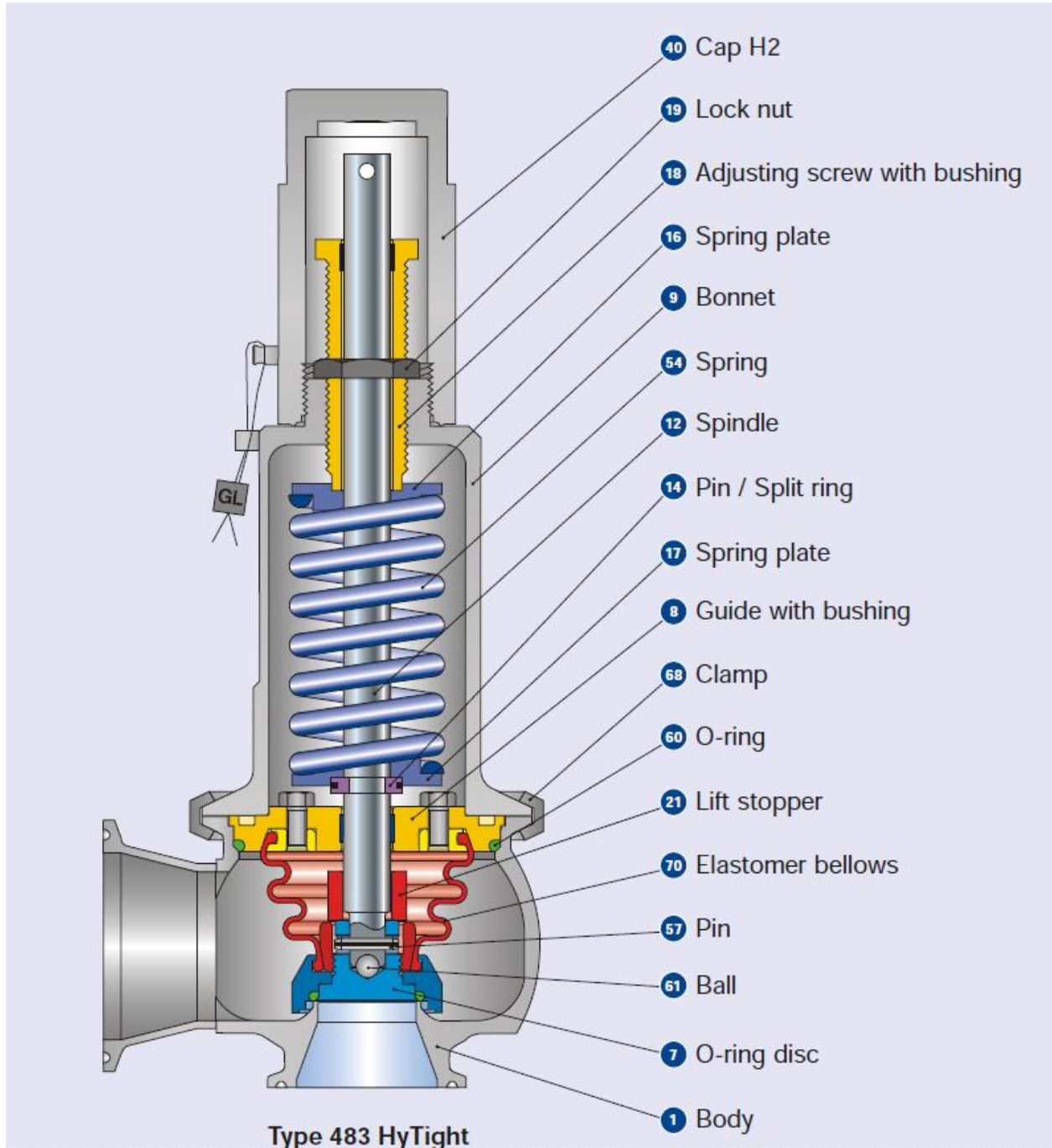
5 General Information



- Gloves must be worn during the entire disassembly.
- Wear safety glasses

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6 General illustration



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Figure 6-1: Cross-sectional view of type 483 HyTight


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Global Standard	LESER Global Standard	LGS 4108
	Dismantling instructions for types 483, 484, 485, 488	Page 5/27



7 Dismantling the Clean Service series

7.1 Loosening the cap or lever

7.1.1 Dismantling cap H2

Illustration	Description	Aids / Tools
 <p>Figure 7.1.1-1</p>	Loosen the cap and unscrew it from the bonnet.	Open-end spanner




7.1.2 Dismantling lever H4

Illustration	Description	Aids / Tools
 <p>Figure 7.1.2-1</p>	Loosen and unscrew the screw plug	Screwdriver
 <p>Figure 7.1.2-2</p>	Unscrew the cap from the lever cover	

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Global Standard	LESER Global Standard	LGS 4108
	Dismantling instructions for types 483, 484, 485, 488	Page 6/27

Illustration	Description	Aids / Tools
 <p>Figure 7.1.2-3</p>	Unscrew the cap from the lever cover	
 <p>Figure 7.1.2-4</p>	Pull out the pin.	
 <p>Figure 7.1.2-5</p>	Loosen the lever cover.	Open-end spanner

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Global Standard	LESER Global Standard	LGS 4108
	Dismantling instructions for types 483, 484, 485, 488	Page 7/27

Illustration	Description	Aids / Tools
 <p>Figure 7.1.2-6</p>	Unscrew the lever cover from the bonnet.	
 <p>Figure 7.1.2-7</p>	Pull out the pin and pull the spindle cap off the spindle.	
 <p>Figure 7.1.2-8</p>	Pull O-ring off the spindle cap.	




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Global Standard	LESER Global Standard	LGS 4108
	Dismantling instructions for types 483, 484, 485, 488	Page 8/27

7.1.3 Dismantling lever H4




7.1.3.1 Lever H8 (simple piston design)

Illustration	Description	Aids / Tools
 <p>Figure 7.1.3.1-1</p>	<p>Hold the cap in place with a second open-end spanner.</p>	<p>Open-end spanner</p>
 <p>Figure 7.1.3.1-2</p>	<p>Loosening the cap nut also loosens the cap.</p>	<p>Open-end spanner</p>
 <p>Figure 7.1.3.1-3</p>	<p>Unscrew and remove the cap (possibly some counter-pressure).</p>	

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Global Standard	LESER Global Standard	LGS 4108
	Dismantling instructions for types 483, 484, 485, 488	Page 9/27

Illustration	Description	Aids / Tools
 <p>Figure 7.1.3.1-4</p>	Remove the spring from the piston.	
 <p>Figure 7.1.3.1-5</p>	Remove the small O-ring for securing the pin. Pull the pin. Remove the spindle cap from the spindle.	
 <p>Figure 7.1.3.1-6</p>	Remove O-ring.	

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Global Standard	LESER Global Standard	LGS 4108
	Dismantling instructions for types 483, 484, 485, 488	Page 10/27

Illustration	Description	Aids / Tools
 <p>Figure 7.1.3.1-7</p>	<p>Pull the piston off the piston guide.</p>	
 <p>Figure 7.1.3.1-8</p>	<p>Remove the O-ring from the groove on the inside of the piston.</p>	
 <p>Figure 7.1.3.1-9</p>	<p>Loosen the piston guide with a C-spanner and unscrew it from the bonnet.</p>	<p>C-spanner with a nose</p>

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Global Standard	LESER Global Standard	LGS 4108
	Dismantling instructions for types 483, 484, 485, 488	Page 11/27

Illustration	Description	Aids / Tools
 <p>Figure 7.1.3.1-10</p>	Remove the O-ring from the piston guide.	
 <p>Figure 7.1.3.1-11</p>	Remove the cap nut from the bonnet.	

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Global Standard	LESER Global Standard	LGS 4108
	Dismantling instructions for types 483, 484, 485, 488	Page 12/27



7.1.3.2 Lever H8 (double piston design)

Illustration	Description	Aids / Tools
 <p>Figure 7.1.3.2-1</p>	Loosen and remove the split ring, and remove the cap.	
 <p>Figure 7.1.3.2-2</p>	Remove the spring from the piston.	

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Global Standard	LESER Global Standard	LGS 4108
	Dismantling instructions for types 483, 484, 485, 488	Page 13/27

Illustration	Description	Aids / Tools
 <p>Figure 7.1.3.2-3</p>	<p>Remove retaining clip and pin. Remove spindle cap.</p>	
 <p>Figure 7.1.3.2-4</p>	<p>Remove O-ring and piston.</p>	

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Illustration	Description	Aids / Tools
 <p data-bbox="188 1010 384 1037">Figure 7.1.3.2-5</p>	<p data-bbox="812 369 1158 472">Remove O-ring. Loosen and remove split ring. Pull cylinder off the spindle.</p>	
 <p data-bbox="188 1839 384 1863">Figure 7.1.3.2-6</p>	<p data-bbox="812 1057 1050 1090">Pull off the spring.</p>	

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Illustration	Description	Aids / Tools
 <p data-bbox="188 1153 384 1182">Figure 7.1.3.2-7</p>	<p data-bbox="775 371 1166 454">Remove retaining clip and pin. Remove spindle.</p>	
 <p data-bbox="188 1832 384 1861">Figure 7.1.3.2-8</p>	<p data-bbox="775 1205 1150 1265">Remove the O-ring. Remove piston from piston guide.</p>	

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Global Standard	LESER Global Standard	LGS 4108
	Dismantling instructions for types 483, 484, 485, 488	Page 16/27

Illustration	Description	Aids / Tools
 <p>Figure 7.1.3.2-9</p>	<p>Remove the O-ring from the piston.</p>	
 <p>Figure 7.1.3.2-10</p>	<p>Loosen the piston guide with a C-spanner and remove it from the bonnet.</p> <p>Remove the O-ring from the piston guide.</p>	<p>C-spanner with a nose</p>



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Global Standard	LESER Global Standard	LGS 4108
	Dismantling instructions for types 483, 484, 485, 488	Page 17/27

7.2 Dismantling the bonnet

7.2.1 Dismantling pressure spring and adjusting screw



Illustration	Description	Aids / Tools
 <p>Figure 7.2.1-1</p>	<p>Secure the spindle from turning with a pin punch. Loosen lock nut.</p> <p>Unscrew adjusting screw in a clockwise direction until no more spring counter-pressure can be felt.</p>	<p>Open-end spanner, pin punch</p>
 <p>Figure 7.2.1-2</p>	<p>Screw adjusting screw completely out of the bonnet</p> <p>Screw down the lock nut. Remove the PTFE bushing.</p>	

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Global Standard	LESER Global Standard	LGS 4108
	Dismantling instructions for types 483, 484, 485, 488	Page 18/27


7.2.2 Dismantling bonnet with lift indicator

Illustration	Description	Aids / Tools
 <p>Figure 7.2.2-1</p>	<p>Loosen lock nut. Loosen 2 nuts.</p>	<p>Open-end spanner</p>
 <p>Figure 7.2.2-2</p>	<p>Twist out the lift indicator.</p>	

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Global Standard	LESER Global Standard	LGS 4108
	Dismantling instructions for types 483, 484, 485, 488	Page 19/27

Illustration	Description	Aids / Tools
 <p>Figure 7.2.2-3</p>	Unscrew split ring until it is loose.	Open-end spanner or ratchet
 <p>Figure 7.2.2-4</p>	Remove split ring	

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Global Standard	LESER Global Standard	LGS 4108
	Dismantling instructions for types 483, 484, 485, 488	Page 20/27



Illustration	Description	Aids / Tools
 <p>Figure 7.2.2-5</p>	Remove bonnet.	
 <p>Figure 7.2.2-6</p>	Remove the top spring plate, spring, and control sleeve from the bottom spring plate one after the other.	

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Global Standard	LESER Global Standard	LGS 4108
	Dismantling instructions for types 483, 484, 485, 488	Page 21/27

7.2.3 Dismantling the bonnet without lift indicator

Illustration	Description	Aids / Tools
 <p>Figure 7.2.3-1</p>	<p>Unscrew split ring until it is loose.</p>	<p>Open-end spanner or ratchet</p>
 <p>Figure 7.2.3-2</p>	<p>Remove split ring</p>	

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Illustration	Description	Aids / Tools
 <p data-bbox="188 1137 368 1160">Figure 7.2.3-3</p>	<p data-bbox="906 371 1126 400">Remove bonnet.</p>	
 <p data-bbox="188 1883 368 1906">Figure 7.2.3-4</p>	<p data-bbox="906 1182 1158 1346">Remove the top spring plate, spring and bottom spring plate from the spindle.</p>	

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7.3 Dismantling spindle/disc assembly

7.3.1 Dismantling spindle

Illustration	Description	Aids / Tools
 <p>Figure 7.3.1-1</p>	<p>Pull spindle/guide washer out of body.</p>	
 <p>Figure 7.3.1-2</p>	<p>DN 25: Put bottom spring plate on the spindle and secure through the holes with pin.</p>	
 <p>Figure 7.3.1-3</p>	<p>DN 40: Put half-washers on the spindle and fasten with retaining clip.</p>	

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Global Standard	LESER Global Standard	LGS 4108
	Dismantling instructions for types 483, 484, 485, 488	Page 24/27

Illustration	Description	Aids / Tools
 <p>Figure 7.3.1-4</p>	<p>Push guide washer on the spindle. Screw both guide washers finger tight with hexagon head bolts.</p>	<p>Open-end spanner or ratchet</p>
 <p>Figure 7.3.1-5</p>	<p>Remove O-ring from bottom side of the second guide washer.</p>	
 <p>Figure 7.3.1-6</p>	<p>Remove PTFE bushing</p>	

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Global Standard	LESER Global Standard	LGS 4108
	Dismantling instructions for types 483, 484, 485, 488	Page 25/27

Illustration	Description	Aids / Tools
 <p>Figure 7.3.1-7</p>	<p>Pull the elastomer bellows off the guide washer.</p> <p>Remove the guide washer from the spindle.</p>	
 <p>Figure 7.3.1-8</p>	<p>For DN 40: First remove the lift stopper.</p>	
 <p>Figure 7.3.1-9</p>	<p>Use an assembly aid to loosen the cap nut from the disc body.</p>	<p>Assembly aid</p>

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Global Standard	LESER Global Standard	LGS 4108
	Dismantling instructions for types 483, 484, 485, 488	Page 26/27

Illustration	Description	Aids / Tools
 <p>Figure 7.3.1-10</p>	<p>Remove the cap nut from the spindle.</p>	
 <p>Figure 7.3.1-11</p>	<p>Drive out the pin. Pull the disc off the spindle. Take the ball out of the disc body.</p>	<p>Pin punch</p>

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	Dismantling instructions for types 483, 484, 485, 488	Page 27/27

7.3.2 Dismantling disc

Illustration	Description	Aids / Tools
 <p>Figure 7.3.2-1</p>	Push the disc body out of the lifting aid.	
 <p>Figure 7.3.2-2</p>	Pull the elastomer bellows out of the lifting aid.	
 <p>Figure 7.3.2-3</p>	Elastomer bellows and disc body	
 <p>Figure 7.3.2-4</p>	Remove the O-ring from the groove of the lifting aid.	

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