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1 General information for disassembling the main valve

2 Purpose

The documentation describes the disassembly of the main valve series 810/820. The description contains every single working step, supplies, tools and appliances.

3 Competences

The generation, maintenance and distribution of the documentation takes place in the organisation department. The defaults will be generated by the technical department in consultation with the final assembly department and production planning department.

4 Scope

This document must be applied to the dismantling of a Pilot Operated Safety Valve in agencies and subsidiaries of LESER GmbH & Co. KG, customers and independent service center.

5 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 entirely correct and error free. This document is to be applied exclusively to the specified type. LESER GmbH & Co. KG declines any liability or responsibility for the correctness and completeness of the content.

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6 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.

7 Remarks



Gloves must be worn during the entire dismantling process.

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8 Basic safety guidelines

Dangerous media

Poisoning, caustic burns, burns, injuries

- Use suitable protective devices
- Use suitable collecting tanks.
- Wear suitable protective equipment.

Foreign bodies in the safety valve

Danger from failure of safety valve or leaks

- Flush the system before installation of a safety valve.
- Check the safety valve for foreign objects.
- Remove foreign objects

Bug screen is damaged or missing

Dirt, objects or insects get into the safety valve. Danger from malfunction of the safety valve.

- Install the bug screen correctly.
- Check the bug screen regularly.

Abrasive or corrosive media

Moving parts jam or become stuck. Danger from functional disruption of the safety valve.

- Service the safety valve after each time it opens.
- Use bellows.

Media with high proportion of particles

Deposits and clogging. Danger from malfunction of the safety valve.

- Use a filter with the correct mesh size.
- Use additional filters to increase the filter capacity.

Residual media in the safety valve

Poisoning, caustic burns, burns, injuries

- Wear suitable protective equipment.
- Remove residual media

WARNING

Leaky safety valve

Danger from leaking media due to damaged gaskets and sealing surfaces.

- Protect the safety valve against vibrations and blows especially during transport and installation.

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- Check safety valve regularly for leaks.

Open bonnet or spindle guides

Danger from leaking media

- Make sure that no danger can arise from leaking media.
- Keep a safe distance.
- Wear suitable protective equipment.

CAUTION

Hot medium

Burns or scalding.

- Wear suitable protective equipment.

Hot surfaces

Burns.

- Wear suitable protective equipment.

Aggressive medium

Caustic burns.

- Wear suitable protective equipment.

Open bonnet or spindle guides

Pinching danger from moving parts.

- Install suitable safeguards.

Sharp edges and burrs

Danger of injury.

- Wear safety gloves.
- Handle the safety valve carefully

High noise emission

Hearing damage.

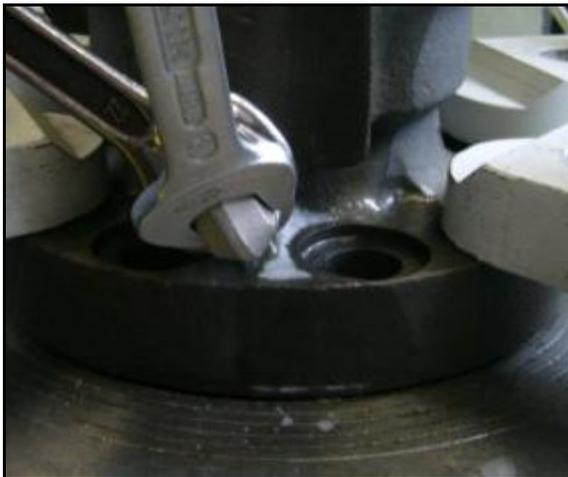
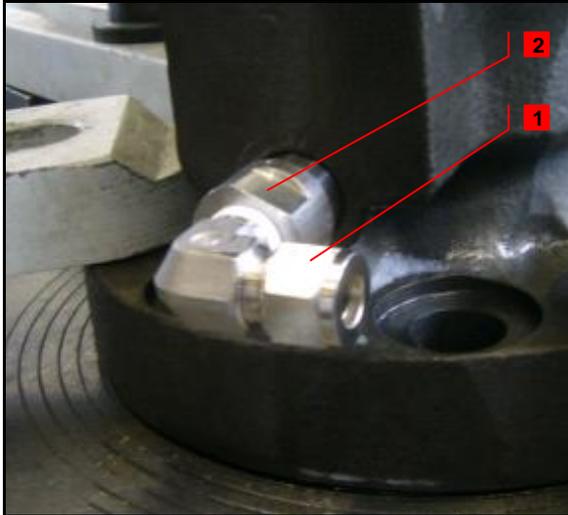
Wear ear protection.

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9 Disassembly Instructions

9.1 Disassembly of the fittings



1. Steps – Descriptions

1 Loosen and screw off angular screw-in fitting, while loosening counter fitting [4]

2 Remove compression fitting

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2. Supplies

None

3. Tools

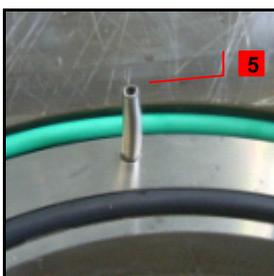
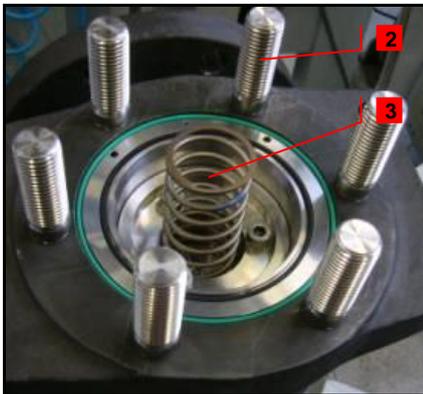
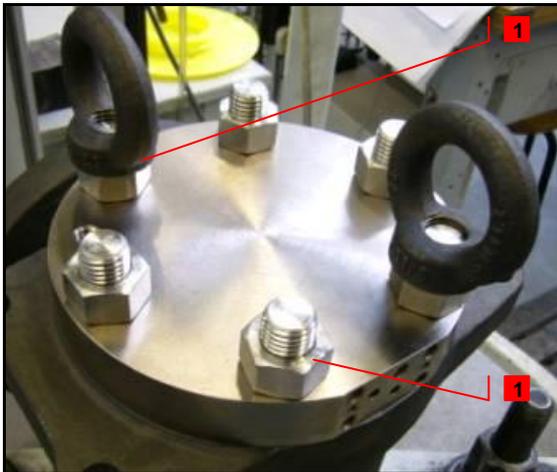
Open-end wrench acc. to LID

4. Appliance

Test bench

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9.2 Removing the top plate



1. Steps – Descriptions

1 Loosen ringnuts [57] and screw them off

Loosen and remove nuts [56]

Remove top plate [9]

2 Remove stud bolts [55] (if necessary)

3 Remove dome spring [59]

4 Remove O-rings [60], [67]

5 Remove roll pin [10] (if necessary)

2. Supplies

None

3. Tools

Helpful: Impact wrench acc. to LID
Ring wrench acc. to LID

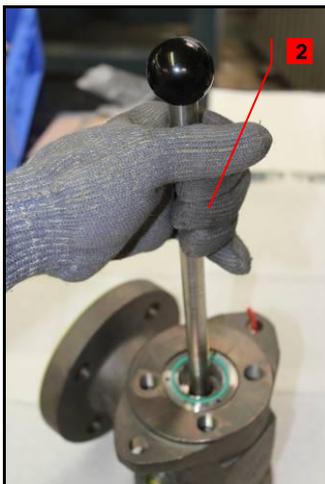
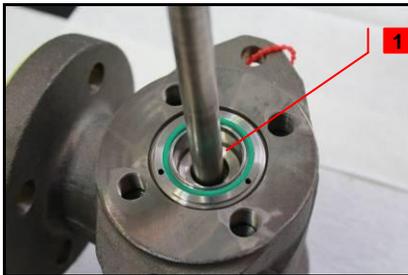
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Test bench

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9.3 Remove the piston and liner



1. Steps – Descriptions

- 1** Screw in piston [6] disassembly tool – if necessary
- 2** Pull out piston [6] with aid of disassembly tool or by hand - depends on size (nominal size 1x2...2x3 by hand)
- 3** Pull liner [8] out of body [1]

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2. Supplies

None

3. Tools

Helpful: Piston disassembly tool (for nominal size 3x4 and above)

4. Appliance

Test-bench

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9.4 Disassembly of the piston/liner



1. Steps – Descriptions

Piston size 1x2...2x3

1 Push piston [6] through liner [8] to separate piston [6] and liner [8]

Piston size 3x4...8x10

Pull out piston [6] of liner [8]

2. Supplies

None

3. Tools

None

4. Appliance

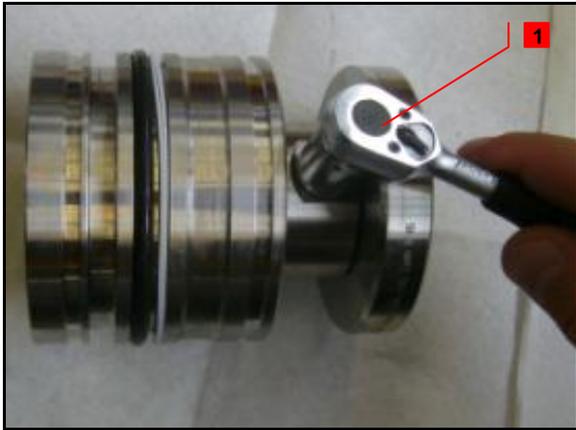
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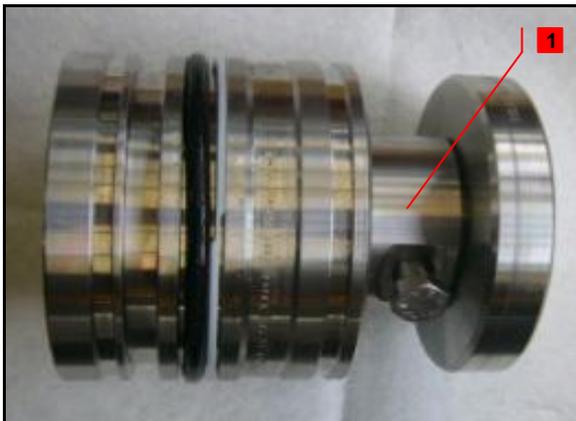
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9.5 Disassembly of the piston and disc

1. Steps – Descriptions



1 Loosen screw [58] with socket wrench and remove it.



2. Supplies

None

3. Tools

Socket wrench acc. to LID

4. Appliance

None

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9.6 Disassembly of the piston

1. Steps – Descriptions



- 1** Loosen allen screws and remove
- Separate all components by lifting or pulling them apart
- 2** Remove O-ring [6.3] , guide rings [6.5] and backup ring [6.4]



2. Supplies

None

3. Tools

Ratchet with allen key acc. to LID

4. Appliance

Parallel vice with aluminium jaws

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9.7 Disassembly of the luproseal OC R20

1. Steps – Descriptions



1 Loosen allen screws and remove.

Separate all components by lifting or pulling them apart

2 Remove luproseal lip seal [6.3] OC R 20



2. Supplies

None

3. Tools

Ratchet with allen key acc. to LID

4. Appliance

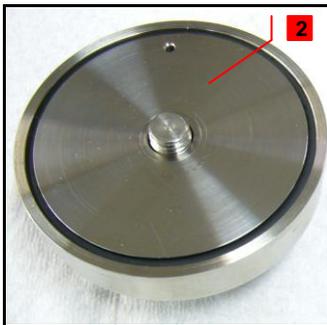
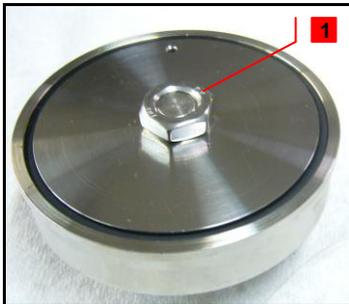
Parallel vice with aluminium jaws



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9.8 Disassembly the disc



1. Steps – Descriptions

1 Loosen and screw off nut [7.4]

2 Remove retainer [7.2]

Nominal size 3x4 and above: retainer [7.2] has three threads M8. Remove retainer by screwing in 3 bolts (M8) and pull apart

3 Take O-ring out of disc [7.1] by using Hook tool.

2. Supplies

None

3. Tools

Ring wrench acc. to LID

Hook tool for O-rings

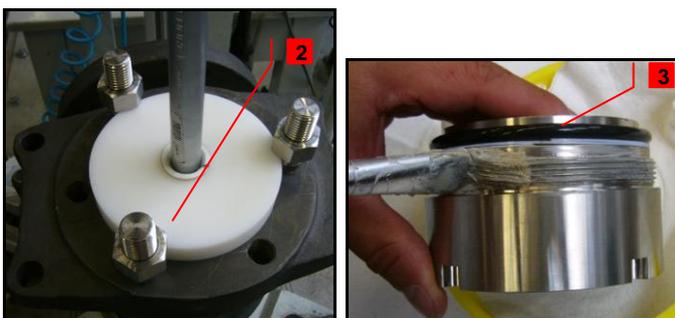
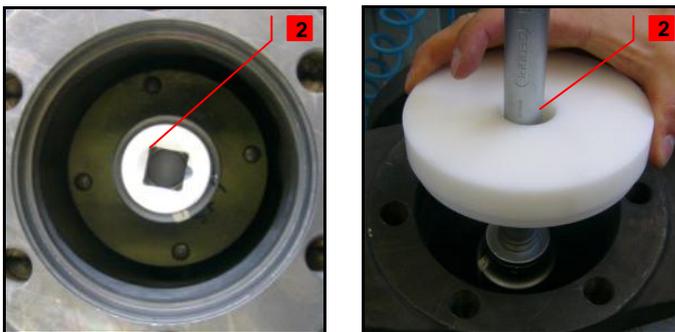
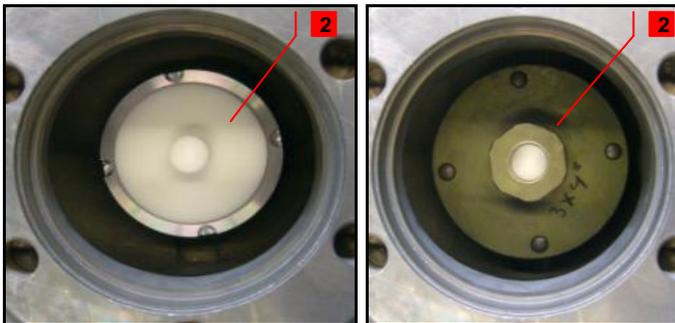
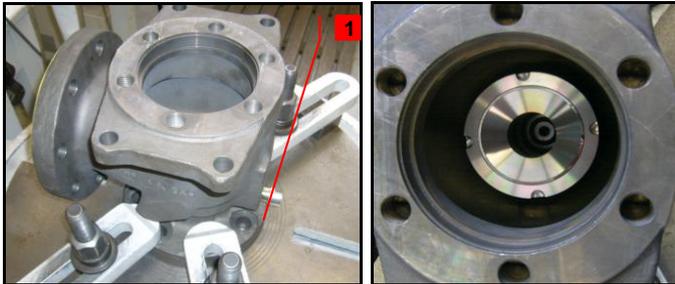
4. Appliance

None

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9.9 Disassembly of the seat



1. Steps – Descriptions

- 1** Clamp body [1] at inlet
- 2** Mount seat-assembly-tool - step by step
- Screw out nozzle [5]
- 3** Remove O-ring [61] an back up ring [62] of nozzle

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2. Supplies

None

3. Tools

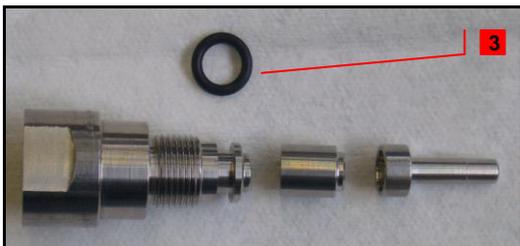
Necessary: Seat-assembly-tool acc. nominal size

4. Appliance

Test bench

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9.10 Disassembly of the pitot tube



1. Steps – Descriptions

- 1** Clamp body with outlet
 - 2** Loosen and remove fitting [4]
- Remove pipe and pitot tube
- Depending on nominal size tube [3] is not applicable.
- 3** Remove O-ring [63]

2. Supplies

None

3. Tools

Hook tool for O-rings
Open-end wrench acc. to LID

4. Appliance

Test bench

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