7.1 Procedure for installing on the A connections

**CAUTION:**

- Improperly filled hydraulic systems can cause destruction of the element due to the unbalanced air in the hydraulic medium. Prepressure with hydraulic pressure is allowed only when the system is installed on the rail guide.

- Remove the desired plug screw and attach the MS or SB/BB hydraulic connection to one of the A connections. The A connections that are not required must be closed-off with a plug screw.
- Fill the hydraulic line.
- Bleed the system.
  - Loosen the plug screws of the unused hydraulic connections.
  - Loosen the hydraulic connection on the element.
  - Deep fill the hydraulic system until fluid comes out of both connections.
  - Close the plug screws again and tighten the hydraulic connection.
  - Close the hydraulic system: open the element using a maximum pressure of 120 bar at the A or A connection.
- Make sure the mounting face is clean and flat.
- Push the element onto the guide rail from the end. Depending on the rail manufacturer and the type of the contact profile, it may also be possible to put the element on from above.
- If necessary, insert the spacer plate 1 between the element and the mounting plate.
- Manually screw the mounting screws into the threaded holes. Note: the minimum screw-in depth of 0.9 x D.
- The elements center axis as a result of multiple cycles (operating at least 20 times).
- Switch the element into a depressurized state, thereby clamping it. Tighten the mounting screws using the specified tightening torque.

7.2 Procedure for installing on the A1 connections

**CAUTION:**

- If the mounting screws are tightened when the element is not clamped, the element can shift and consequently be unable to achieve the optimum clamping force. Furthermore, the guide rail could become damaged.

- Remove the desired plug screw in cover 7 (A1 above).
- Insert cutting ring 8.3.
- Insert Dring 8.3.
- Install the element on the mounting or spacer plate.

7.3 Checking operational readiness

After the element has been properly installed, check whether it is ready to be operated according to the following characteristics:

- Check the ease of movement by manually sliding the linear guide.
- Check the clamping process by trying to slide the element along the mounting plate.
- Check all hydraulic connections by performing a visual inspection.
- Check all elements for leaks when there is pressure.
- Check to make sure all screw connections fit securely and are tightened to the specified tightening torque.

7.4 Disassembly

**NOTE:**

- After disassembly in the event of failure, make sure the element is not used again or pressurized. The housing can be damaged (crack formation) from being bent up.

- Remove all mounting screws 13.
- Screw the two set screws 12 on one side of the element into the disassembly hole (disassembly jaw 14 is pressed against the rail).
- The housing of the LBHS series - Clamping jaws and brake pad 11 can be removed.
- Remove the set screws 13 and disassembly jaw 14 again.
- Repeat the process on the other side of the LBHS.

7.5 Maintenance

The maintenance is maintenance-free up to the number of cycles listed in point 9 under the following conditions:

- **Under hydraulic fluid.**
  - The plug screws are cleaned and free of grime films.
  - The element is, as mentioned, maintenance-free, perform a regular visual inspection to check for corrosion, damage and contamination.
  - Clean the element as needed using a commercially available machine cleaning agent and then apply an anti-corrosion agent to the relevant areas.

7.6 Technical data

For an accurate and detailed overview of possible faults and their remedies, visit our website at www.zimmer-group.com/en/tech. If you should have further questions about products or technical data, please contact ZIMMER GmbH customer service. For this purpose, please call our technology hotline at +49 7844 9138-5556.

7.7 Troubleshooting

**INFORMATION:**

- The displacement resistance for the element of the LBHS is 150 N.

**INFORMATION:**

- If the described measures for corrective actions are unsuccessful, contact the customer service department at ZIMMER GmbH. For this purpose, please call our technology hotline at +49 7844 9138-5556.

11 Transport and storage

The clamping element to be transported and stored only in the packaging supplied by Zimmer. If the element is stored or transported differently, an agent for corrosion protection must be provided as a precaution.

12 Declaration of conformity

In terms of the EU Machinery Directive 2006/42/EC (Annex I 1 A)

**Name and address of the manufacturer:**

Zimmer GmbH • Im Salmenkopf 5 • D-77866 Rheinau, Germany • Phone: +49 7844 9138-59 • Fax: +49 7844 9138 80 • www.zimmer-group.de

We hereby declare that, as incomplete machines, the following, identically constructed elements

**Type designation:**

- **LBHS**
- LBHS 110

The documents mentioned below are available for download on our website www.zimmer-group.de. Only the documents currently available on the website are valid.

- Catalogues, drawings, CAD data, performance data
- Detailed installation and operating instructions
- General Terms and Conditions of Business with specifications for the warranty entitlement

**Installation and operating instructions:** Clamping and braking elements, hydraulic, Series LBHS

**Installation and operating instructions:** Clamping and braking elements, hydraulic, Series LBHS

**Safety notes**

- Check the element for any damage before installing it.
- The sealing set 8 included in the scope of delivery must be installed.
- The clamping element is to be transported and stored only in the packaging supplied by Zimmer GmbH. If the element is stored or transported differently, an agent for corrosion protection must be provided as a precaution.

**Proper use**

- The element of the LBHS series has four A and two A1 hydraulic connections. The hydraulic connections are provided with a specified tightening torque.
- To ensure a short response time, choose hydraulic hoses of the shortest possible length.
- Fill the hydraulic line.
- Bleed the system.
  - Loosen the plug screws of the unused hydraulic connections.
  - Loosen the hydraulic connection on the element.
  - Deep fill the hydraulic system until fluid comes out of both connections.
  - Close the plug screws again and tighten the hydraulic connection.
  - Close the hydraulic system: open the element using a maximum pressure of 120 bar at the A or A connection.
- Make sure the mounting face is clean and flat.
- Push the element onto the guide rail from the end. Depending on the rail manufacturer and the type of the contact profile, it may also be possible to put the element on from above.
- If necessary, insert the spacer plate 1 between the element and the mounting plate.
- Manually screw the mounting screws into the threaded holes. Note: the minimum screw-in depth of 0.9 x D.
- The elements center axis as a result of multiple cycles (operating at least 20 times).
- Switch the element into a depressurized state, thereby clamping it. Tighten the mounting screws using the specified tightening torque.

**Personnel qualification**

**CAUTION:**

- Never open the housing. Intervention is not permitted and can lead to serious injury.
- Warranty and disclaimers.

The installation, startup, maintenance and repairs may be undertaken only in accordance with these installation and operating instructions and only by qualified personnel who have the professional expertise and know the conditions, as well as the dangers, of the machine into which the element is being installed.

**Product description**

The hydraulically operated LBHS series is a safety component. It is designed for clamping and braking on linear guide rails. The function is based on the internal area of the material for depressurized clamping and braking. The clamping unit consists of the housing enabling a low and narrow design that simultaneously features high holding forces. The internal stress of the material makes it possible to close the element without pressure. Any damage to the contact surface of the linear guide rail prevents the safety function for itself.

The element may not be used in any application other than those approved by the manufacturer.

- Without additional protection or control engineering measures, the element may not:
  - be installed in facades that are used for transporting people (e.g. elevators)
  - be used in vehicles
  - be used in entrance or in other fluids.
  - be used in a corrosive environment (for example, in contact with acids),
  - come in contact with abrasive media (such as grinding dust)
  - be used in a vacuum
  - come in direct contact with food
  - be used in areas with a potentially explosive atmosphere.

The guidance must be provided externally. The element does not feature any guide characteristics.

For questions regarding use of the LBHS series element, please contact ZIMMER GmbH.

**Connections**

- Only A or A1 connection must be occupied for the LBHS element to function safely.
- All unused connections must be closed off.

The element of the LBHS series has four A and two A1 hydraulic connections. The hydraulic connections are provided with plug screws at the factory. Each of the 6 connection unit can be used. For the A connection, the cutting ring and the O-ring (sealing set 8) included in the scope of delivery must be installed.

**Installation**

- Check the element for any damage before installing it.
- The mounting face of the element has to be completely covered with the mounting piece. The plug screws have a maximum tightening torque of 4hN.
- The plug screws in the A or A1 connection options are removed or loosened, it must be ensured afterwards that they are reinstalled with the prescribed tightening torque.
- Mount the housing face of the element has to be completely covered with the mounting piece.
- Make sure the housing piece is sufficiently tight.
- Mount the element using 8 screws.
- Arrange the screws symmetrically.
- If necessary, use a spacer plate (accessory) to make a level surface.
- Use screws with a strength class of 8.8.
- To ensure a short response time, hydraulic hoses of the shortest possible length.
- As soon as the housing has lifted, remove the outer set screws 10. Only the middle set screw 10 stays screwed in the housing. The clamping jaws and brake pad 11 can be removed.
- Remove the middle set screw and the disassembly jaw 14 again.

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