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Manual and maintenance guidelines for volume-compensator Type CB 0,5 S

1. **Installation:** Please first compare and control the technical data of the volume-compensator with the operating data. Before installation the armatures and ducts and the volume-compensator have to be cleared of any possible debris (packing material, welding beads, dirt etc.). In case of admission of the spring cavity with N2 a pressure reducer has to be placed before the volume-compensator.

2. **Mounting position:** With the connection flange downward, as upright as possible.

3. **Manner of fixation:** any!

4. **Functional description:** The volume-compensator functions like a pressure (volume) accumulator that takes the medium with rise of pressure in the duct and releases it back into the piping with decrease of pressure. With the aid of a superimposed N2-cussion the pressure range can be raised. Please read the contract note for exact technical data.

5. **Maintenance:** Under normal circumstances the volume-compensator requires no maintenance at all. With superimposed N2-cussion the pressure of the superimposed N2-cussion must be monitored. Should the N2-pressure rise above the value adjusted on the upstream pressure reducer, the mounted bellows are probably leaky and have to be replaced.

6. **Repetitive inspection:** The volume-compensator must be checked for functional efficiency at least once every two years. Therefore proceed as follows:

   6.1 Venting of the duct and of the volume-compensator.

   6.2 Pressurize the volume-compensator with a testing pump on the medium side (flange DN 15 in part 2) with water and pressure p1. Here the movement of the track shaft with bolt (part 6) + (part8) is to be observed with a probe through the port G1/4 in the flange cover (part 4). Under p1 the track shaft moves upwards. The track shaft must make a movement of approximately 14..15 mm by a test pressure of p2. Should this movement not occurred, the spring collar (part 9) and the bellows (part 5) have to be replaced.

   6.3 **Warning:** Only trained staff should disassemble the volume-compensator, as the volume-compensator is on spring tension **there is risk of injury**. We strongly advise that the volume-compensator should only be disassembled in an emergency.

7. **Disassembling: Only proceed after consideration of item 6 through trained staff:**

   7.1 Loosen four of the twelve flange nuts M10 (part 13) and replace the stud bolts with at least 80 mm long stud bolts and tighten with a torque of approximately 50 Nm with washers and nuts. Afterwards remove the remaining stud bolts M10 x 40; then slowly loosen the four nuts on the stud bolts in turn (counter clockwise) without tilting the flange (part 4). After approximately 10..15 mm distance between upper housing (part 3) and lower housing (part 2) the integrated spring collar (part 9) is relaxed.

   7.2 After the complete dismantling of the nuts the upper housing half (part 3) can be detached from the lower housing half (part 2). Now the parts can be removed and inspected.

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8. Assembly: After the inspection of the removed parts and possible renewal of the defective parts the assembly can begin.

8.1 First all parts are to be cleaned and visually inspected; the seal face is to be cleaned and new seals inserted. All parts are to be prepared for the assembly.

8.2 The assembly is carried out in reversed order of the descriptions in item 7. The screws have to be tightened with a torque of 50 Nm.

8.3 After the assembly a test as described in item 6 has to be carried out by an appointed and trained third person.

9. Completion: After a successful test the volume-compensator is operational.

10. Enclosure: cut-view CB 0,5 S, drawing nr. 216.91330 Rev.00

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