

## Manual and maintenance guidelines for volume-compensator Type CB 1,2 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 are to be cleared of any possible debris (packing material, welding beads, dirt etc.). In case of admission of the spring cavity with N<sub>2</sub> a pressure reducer is 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 accepts the medium with rise in pressure in the duct and releases it back into the piping with decrease of pressure. With the aid of a superimposed N<sub>2</sub>-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 N<sub>2</sub>-cussion the pressure of the superimposed N<sub>2</sub>-cussion must be monitored. Should the N<sub>2</sub>-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 25 in part 1) with water and pressure p<sub>1</sub>. Here the movement of the track shaft (part 3) is to be observed with a probe through the port DN 25 in the flange cover. Under p<sub>1</sub> the track shaft moves upwards. The track shaft must travel approximately 50..60 mm by a test pressure of p<sub>2</sub>. Should this travel have not occurred, the spring collar (part 6) and the bellows (part 4) are to be replaced.
  - 6.3 Warning: Only trained staff should disassemble the volume-compensator, as the volume-compensator is on spring tension and therefore 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 and replace the stud bolts M10 x 250 with at least 300 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 250. Then slowly loosen the four nuts on the stud bolts in turn (clockwise) without tilting the flange (part 2). After approximately 25..30 mm distance between flange (part 2) and housing (part 1) the integrated spring collar (part 6) is relaxed.
  - 7.2 After the complete dismantling of the nuts the flange (part 2) can be detached from the housing. Now the parts 3, 4, 5 and 6 can be removed.
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.

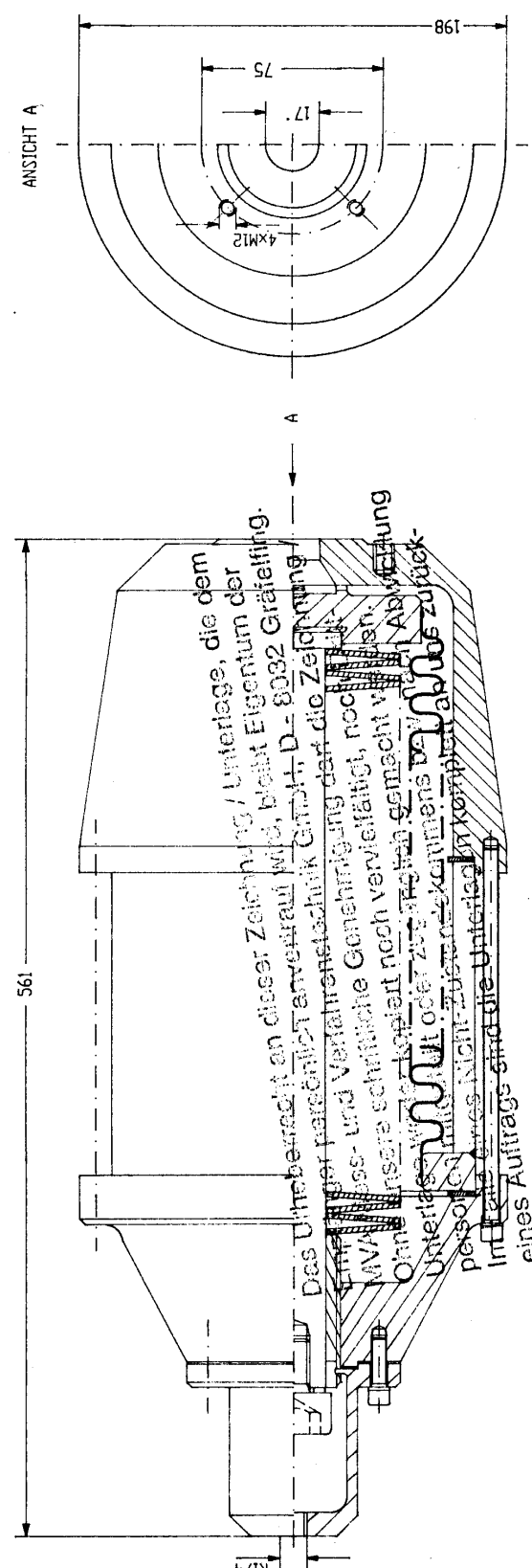


8.2 The assembly is carried out in reversed order of the descriptions in item 7. The screws are to be tightened with a torque of 50 Nm.

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

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

**10. Enclosure:** cut-view CS 1,2 S, drawing nr. 216.9154-3



ANSICHT A

**TECHNISCHE DATEN:**

GEHÄUSE WERKSTOFF: 1.4571  
 WERKSTOFF BALG: 1.4571  
 WERKSTOFF TELLERFEDER: 50CrV4  
 DICHTWERKSTOFF: Reinstgraphit  
 DRUCKSTUFE GEHÄUSE: PN 25  
 ANSCHLUSSFANSCH: DN15 PN64/100  
 DN20 PN25/40  
 VOLUMENAUFNAHME: ca. 1,2 dm<sup>3</sup>  
 BETRIEBSDRUCK: ca. 6 bis 12 bar  
 BETRIEBSTEMPERATUR: max. +100 gr.d. C

561

198

75

17

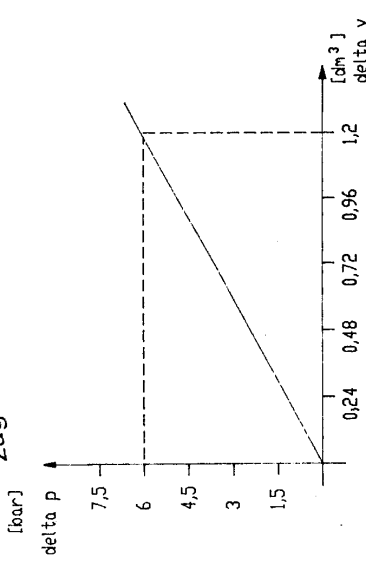
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ANSICHT A

D=8032

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Deutsches Gebrauchsmuster  
 G 88 16 963.7



delta p [bar]

delta v [dm<sup>3</sup>]

Customer

No.	Revision	Date	Name	Date	Name
1	MaßB, delta p	26.03	Loe	25.07	Loe
0		25.07	app.		

1995 pr.e. 25.07. 05

MVA  
 D-82166 Gräfelfing

**Project Title**  
 VOLUMENKOMPENSATOR  
 CB 1,2S MASSBLATT

**Project No.** 216.91547-3

Sheet 1 of 1  
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