Dismantling the pulsation damper

- Disconnect and close the dampers inlet and discharge the hydraulic fluid from the damper.
- Remove the damper from its mounting and lay it horizontally in a vice or other fixation system. Take care not to damage the dampers.
- Unscrew the protective cap (Fig. 1).
- Unscrew the gas valve cap (Fig. 2).
- Deflate the bladder using OLAER tester and pressurize instrument (Fig. 3). Operate the tester and pressurize instrument as described in its manual.
- Remove the gas valve (Fig. 4).
- Release the gas inlet valve sub-assembly nut and remove the name plate (Fig. 5).
- Unscrew the flange or reduction from the hydraulic fluid end (not used with every model).
- **With the damper completely free of pressure (gas and fluid), a loose fit of the grid has to be detected.** If this is not the case all further work has to be stopped! Please contact OLAER!
- Remove the spring ring (Fig. 6).
- Remove the grid (Fig. 7).
- Extract the bladder through the hydraulic end opening. (Fig. 8).
Cleaning, inspection and repairs

- Carefully clean all metallic parts of the dampers and dry with compressed air.
- Inspect the vessel from any internal damage.
- Check that the O-ring shows no sign of wear or any indication of rubbing.
- Check that the bladder has no sign of major frictional wear or other damage.
- Under no circumstances attempt to repair the bladder.
- Replace all worn or damaged parts.

Assembly

- Ensure that no foreign bodies are in the damper.
- To facilitate the reassembling of bladder, smear it and vessel interior with the system hydraulic fluid.
- Press the upper part of the bladder together and feed in though the hydraulic end opening (Fig. 9).
- Lightly screw the name plate and gas inlet valve sub-assembly nut on (Fig. 10).
- Check that the bladder is neither folded or twisted.
- Insert the grid into the damper shell until it reaches its stop (Fig. 11).
- Reinstall the spring ring (Fig. 12).
- Before mounting the reduction on the hydraulic end, inflate the bladder slowly with nitrogen to a pressure of 1 - 1.5 bar with the tester and pressurizer instrument. Operate the tester and pressurizer instrument as described in its manual.
- Mount the flange or the reducing fitting (if existing).
- Tighten the name plate and gas inlet valve sub-assembly nut fully (Fig. 13).
- Inflate the damper to the precharge pressure required by the system.

Filling

- The first filling of the bladder with N2 should be added slowly!

<table>
<thead>
<tr>
<th>Volume damper</th>
<th>1 liter</th>
<th>5 liter</th>
<th>10 liter</th>
<th>50 liter</th>
<th>100 liter</th>
<th>200 liter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filling time 0 to 1.5 bar in sec.</td>
<td>10 s</td>
<td>20 s</td>
<td>40 s</td>
<td>120 s</td>
<td>200 s</td>
<td>400 s</td>
</tr>
</tbody>
</table>

First operation

- Pressurise the system at maximum pressure and check the tightness of all connections and gaskets.
- **No welding/soldering or mechanical operations of any kind must be undertaken on the damper!**
- Dampers are subject to official pressure vessel regulations. These regulations demand that the dampers must be inspected on a regular basis. The interval between inspections varies from state to state. Request the appertaining.