Product information hydraulic cylinders

Dear customer,

the hydraulic cylinders and their parts produced by us are designed for normal operation.
They correspond to the technical specifications in the catalogue or are designed according to customer requirements in accordance with the approval drawing. For special applications, e.g. in construction or forestry machinery, our technical department should be consulted beforehand.

As we often unaware of the exact operating parameters and the wide range of applications, we ask you to observe the following specifications and instructions when selecting, processing and using the product.

- DIN EN ISO 4413 `General rules and safety requirements for hydraulic systems and their components`
- DGVU 209-070 `Safety during hydraulic maintenance`

1. Pressure limitation: the nominal pressure (PN) of the standard cylinders is 250 bar. The recommended operating pressure of the cylinders should be selected depending on the hardness of the application, but should be at least 1.4 times lower than the nominal pressure.
2. Mechanical safety: e.g. fatigue strength of fastenings (bearings, threads, weld seams, etc.) and proof of kink resistance for cylinders.
3. Professional welding: including
   - Extend the piston rod fully so that the piston and guide seals are not thermally damaged. If necessary, disassemble the cylinder.
   - Cover / protect the chrome layer of the piston rod against weld spatter.
   - the fastenings axially symmetrically so that no lateral or bending loads act on the piston rod.
   - Always attach the earthing to the component on the rod side or base side where welding is to take place. (e.g. when attaching the piston rod to the eye of the piston rod! Not on the cylinder barrel, as this leads to sparkover with spot weld damage to the piston rod running surface, guide, cylinder running surface and piston).
4. Hydraulic fluid:
   - based on mineral oil (DIN 51 524, ISO 6743-4): Please consult us before using any other hydraulic fluid.
   - Liquid temperature t≤ 80°C.
   - We recommend adhering to the cleanliness classes (21/18/15) for hydraulic fluids in accordance with ISO 4406.
   - Always pay attention to cleanliness. The cleanliness class is based on the most sensitive component in the system.
5. Specifications/safety requirements based on statutory regulations, e.g. for lifting and conveying equipment, as well as for passenger transport and others.
6. Piston rod protection: Piston rods should be protected against foreseeable damage such as nicks, scratches, corrosion, deposits, etc.
7. Maintenance and operating instructions:
   - Lubrication points must lubricated regularly.
   - Oil cleanliness must be checked at regular intervals.
8. Depressurise / fill the cylinder: Commissioning should be carried out as unpressurised as possible.
   - The cylinder must be vented.
   - If ventilation points are available, these must be used.
   - For long lines, the volume of the lines must be taken into account.
   - If there are no venting options on the cylinder, it must be extended and retracted slowly and at the lowest possible pressure during commissioning. In this case, it must be ensured that the air can escape via the oil connections.

Note: When connecting the hydraulic lines, ensure that as little air as possible enters the cylinder via the lines.

You can obtain further information and support from our technical department.
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