

Customer Information

Instructions for pressure equipment in operation

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Customer Information

As a manufacturer of pressure equipment, especially compressed-air receivers, Neuenhauser Kompressorenbau GmbH would like to inform its customers about any dangers, necessary test intervals, safety instructions and a possible replacement.

Pressure equipment used in the European market shall be designed and manufactured in accordance with the Pressure Equipment Directive 2014/68/EU (formerly 97/23/EC) and the AD2000-regulations. Furthermore, in case of pressure equipment used in the marine sector, the regulations of the corresponding marine classes are applicable (e.g. ABS, BV, DNV-GL, ...)! In addition, further regulations, which are listed below, have to be observed!

Safety notes, Dangers

Danger to persons and objects from the pressure equipment can result from incorrect use, inappropriate treatment and non-adherence to the safety regulations. Potentially dangerous occurrences include:

- sudden release of energy stored in the appliance through failure of pressure bearing walls, bursting of the equipment, chemical reactions, explosion
- Escape or spraying out of liquids or gases at high pressure or high temperature.
- Thermal danger due to high temperatures
- Danger due to noise, sudden escape of compressed air, banging noises



IMPORTANT!

In principle the following applies to all work on the pressure equipment:

- **Remove air from pressure equipment (make free of pressure)**
- **Depressurise all pipes and pressure chambers on the pressure equipment and valves and fittings**
- **Secure compressed air supply against unauthorised switching on and affix repair notice**
- **Apply safety devices before commissioning**

In addition to the operating instructions, the regulations applicable for the operating company and place of installation as well as the respective regulations of the inspection company must be adhered to.

The operator must ensure that the legal health and safety and accident prevention measures are adhered to during all tasks.

The safety conditions stipulated by the inspection bodies must be adhered to. Regulations of the countries and regional, local and company regulations which are applicable for the plant and place of installation must be observed.



IMPORTANT!

The operator must observe the following regulations in particular:

- PED 2014/68/EU
- Product Safety Act (ProdSG)
- Regulations on safety and health protection for the provision of work equipment (German Health and Safety at Work Regulations - BetrSichV)
- Fourteenth regulation pertaining to the Product Safety Act (Pressure Equipment Ordinance – 14. ProdSV)
- Technical Rules for Operating Safety (TRBS) especially 1201, 1203, 2141
- Industrial safety regulations
- Accident Prevention Measures (UVV)
- Association of Industrial Trade Associations-Regulations BG regulations (such as DGUV regulation 1, DGUV regulation 9)
- Industrial Safety Act (ArbSchG)

If a statement in the operating instructions does not correspond to the specifications required locally, the stricter version is to be applied.

In addition the operator is responsible for his employees having the necessary qualifications, for instruction on the pressure equipment / the apparatus and also for knowledge of the potential danger and the operating instructions.

Corrosion, Wear

Corrosion, wear and wall-thickness tolerances have generally been considered in the calculations with a surcharge according to the regulations and/or project (in coordination with the customer).

If the wall thicknesses are gone below by this value, further operation of the pressure equipment/air-receiver is not permitted. This must be reviewed at least at the intervals named in the previous sections. However, we recommend more regular review and, if applicable, coordination with **NEUENHAUSER KOMPRESSORENBAU GMBH**.

In order to protect the pressure equipment against corrosion and wear, they are provided with an internal and external coating by default. The coating is resistant to the oils shown in the NK-oil-specification at the operating temperature given for the pressure equipment.

Different operating conditions must be agreed with the manufacturer.

In spite of the full-surface coat of paint inside and outside of the vessel, and the welded-on support, the vessel construction/design provides points of attack for corrosion. They are mostly found at/in threads,

sealing faces (edges) and the screw head or nut support surfaces. Such spots require regular inspection by the plant operator and must be improved accordingly!



IMPORTANT!

The vessel must be checked regularly for corrosion and wear!

In addition the pressure equipment must be drained at regular intervals to prevent possible corrosion due to arising condensation. The intervals are set according to the mode of operation and amount of condensate. We recommend draining the pressure equipment following each filling, but at least once per week.

Inspection Intervals

After the pressure equipment has been subjected to a first successful inspection in the manufacturer's factory (if applicable in presence of the independent third party), recurring inspections must be performed at specific intervals. Thus, the operational safety of the vessel (+fittings) is ensured from until the first recurring inspection provided that the specified usage thresholds are complied with and nothing unforeseen occurs.

The periods for the recurring inspections are specified by the expert of the notified body (e.g. TÜV), by the marine classification, its regulations and/or national or local provisions. The respective shortest periods from the applicable regulations/provisions apply for this.

As a rule an internal examination is carried out once every 5 years and a pressure test once every 10 years. Additionally, an outer inspection should take place every 2 years, usually on the pressure equipment in operation. The recommended spare part kits are available on request from NEUENHAUSER KOMPRESSORENBAU GMBH!

The times may be set differently if there are particularly aggressive media, strong corrosion, certain load change numbers ("cycles to failure") are reached or there are other particular operating conditions and experiences.



IMPORTANT!

The prescribed inspection periods for the recurring inspections must be observed and apply to the valve head/fittings as well!

Internal inspections must be supplemented or replaced by pressure tests or other suitable inspections as well if the inner inspections cannot be performed at the required scope. Pressure tests must be replaced by non-destructive tests when pressure tests are not possible or not suitable due to the build or operating mode of the pressure equipment.

If applicable, extension of the above period is possible as well where safety is ensured otherwise and this has been specified by the independent third party.

The recurring tests are registered with the authorized inspection body (e.g. TÜV)/the relevant marine classification and carried out by them.

The operator is responsible for adherence to the test periods and arrangement and carrying out of the tests. These test data must be recorded in the test log and archived.

The pressure equipment also must only be used as intended, after performance of the required inspections in time and successfully, i.e. when the corresponding requirements have been met, and this has been certified by an expert.

Additionally, we as the manufacturer recommend replacing the pressure equipment after an operating time of 25 years at most to bypass invisible risks (such as ageing, material fatigue, tension crack corruptions, etc.).

For further queries/questions please contact us:

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