



Instruction Manual

Pressure Manhole Covers - HLSD



Declaration of Conformity

The designating company

Alfa Laval

Company Name

Albuen 31, DK-6000 Kolding, Denmark

Address

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Phone No.

hereby declare that

Pressure Manhole Cover

Denomination

HLSD

Type

2006

Year

was manufactured in conformity with DIRECTIVE 97/23/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 May 1997 on the approximation of the laws of the Member States concerning pressure equipment.

HLSD is constructed according to Merkblätter AD 2000 and approved by TÜV Nord e. V. app. No. 0124P042320 intended for pressure vessels in Category IV and Fluids Group 1 and 2.

The Manhole Cover is not pressure tested. It must be tested as a part of the pressure vessel.

**Manager, Product Centres,
Compact Heat Exchangers & Fluid Handling**

Title

Bjarne Søndergaard

Name

Alfa Laval Kolding

Company



Signature



Safety Assessment

The basic safety precautions concerning the vessel, blow-off valves, relief valves and, if supplied, vacuum valves are assumed tank accessories and therefore are not part of the cover system.

The cover, frame and other accessories are constructed according to AD Merkblätter.

All materials are certified with material certifications.

All weldings are performed by certified welders and 2% of the production are penetrant tested and X-ray examined.

The cover is not supplied with a quick-opening mechanism, as it is easily opened. However high pressure can make it difficult to turn the handles. The hook bolt construction ensures that at possible residual pressure will escape when loosening the bolts without the cover suddenly opening.

Safety precautions concerning handling of the cover is the end user's responsibility, however Alfa Laval offers help on request.

Safety Precautions



Place a grate with safety chain to avoid parts falling into the tank on the inside of the frame. A variety of grates is available depending on customer needs.



To avoid unintended opening! Mount a bracket for touch free sensors for indication of cover position, or replace a handle with a nut, making it necessary to use tools to open the cover.



Secure cover in open position by mounting a safety mechanism with a catch to be released to close the cover. The catch automatically engages in open and closed position.



The cover is not supplied with a pressure relief feature, but a spring can be mounted on the hinge facilitates lifting of the cover.

IT IS THE CUSTOMER'S RESPONSIBILITY THAT ALL PRESENT SAFETY PRECAUTIONS ARE COMPLIED WITH!

Installation

When welding the frame be aware of possible weakening of cutouts (according to AD 2000 B9).
Weld the frame so that the packing surface is completely even.

Operation

Before closing the cover, ensure that the packing and packing surface is clean and even.
Swing the Hooks upwards to make them catch the cover. Cross-tighten the bolts by hand.
Once all bolts have caught the cover, tighten them by max. 16 Nm.
Never use tools on the handles.

All bolts must be in contact with the lid.

Before opening the cover ensure that the vessel is not pressurised, e.g. by checking the manometer.
Slightly loosen all the bolts for release of any residual pressure without opening the cover.
Then loosen the bolts completely and swing them out from the cover. Now the cover can be opened by hand.

Operational data

The operational data for the cover are printed on the name plate.

NOTE! The cover/vessel combination must never go beyond the data on the main name plate.
Never fill sticky products through the cover opening!

Starting up:

The cover has not been pressure tested when delivered and must thus be pressure tested together with the vessel.
Test pressure: See drawing 9612 4928.

Prior to using the cover, make sure that all sealing surfaces are clean and free from burrs.
The seal must be whole and without any marks.
Ensure that the clamping nut moves easily and smoothly.
Check the swinging function.

Every other year the cover must be inspected for wear, tear and functionality.
All weldings must be visually inspected. For tearing of the lid, the material thickness must not be below minimum mentioned on the drawing. If this is the case, replace the cover.

If the cover shows more than 1000 cycles with max pressure all weldings must be NDT tested (Capillar tested).

Once a year all handles should be removed and the threads are to be inspected.

The seal must be checked at least once a year and if damaged, it should be replaced.

Maintenance:

It is important that the handle nut (5) continuously moves easily and smoothly on the bolt (9). The thread needs to be lubricated with a suitable lubricant (depending on application) approx. once a year.

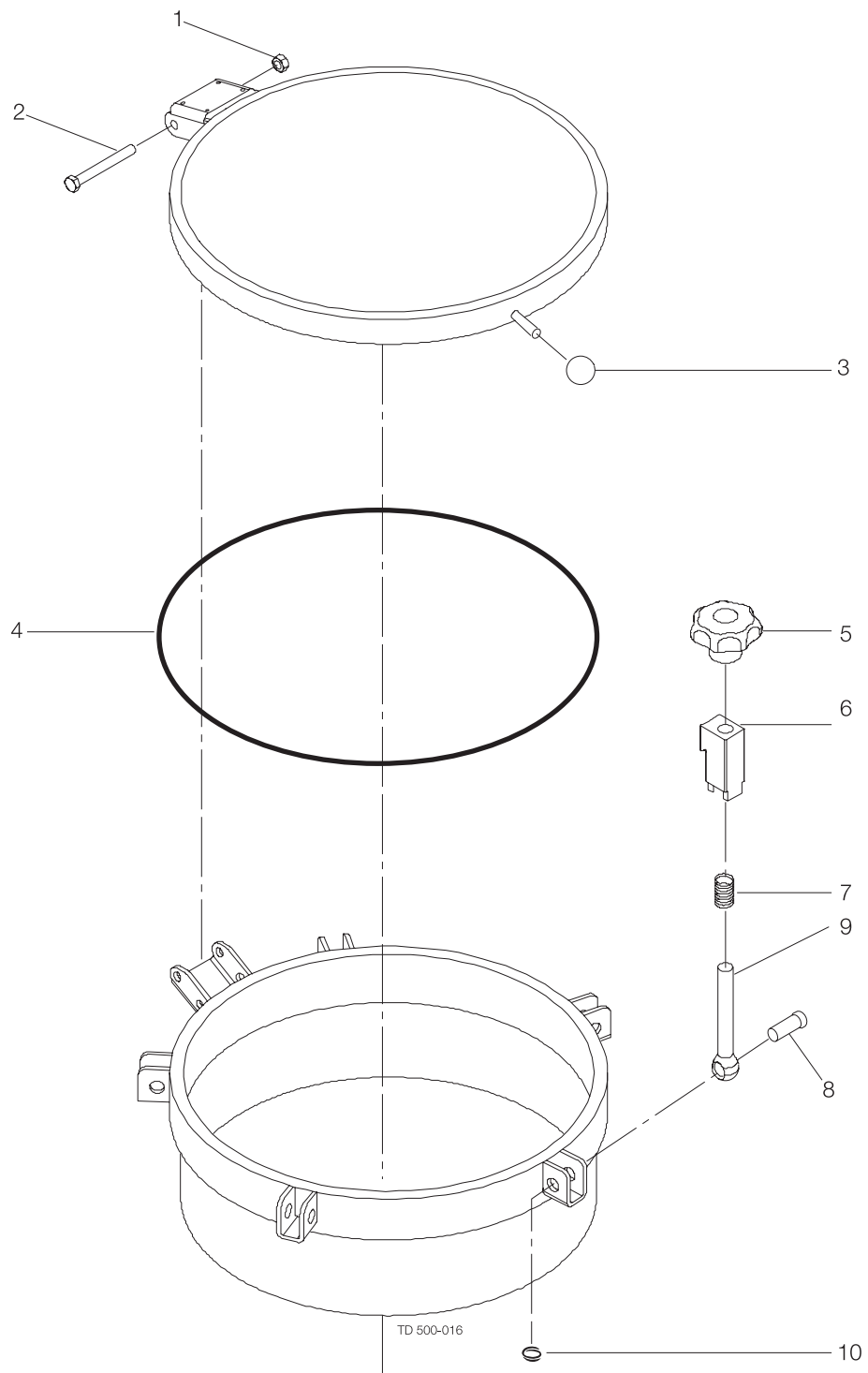
Furthermore, the thread needs to be checked as to any possible wear. If the clearance between bolt (9) and handle (5) is too big, the worn part must be replaced.

Parts list

| Pos. | Qty. | Denomination |
|------|------|-----------------|
| 1 | 1 | Nut |
| 2 | 1 | Screw |
| 3 | 1 | Ball handle |
| 4Δ | 1 | Seal |
| 5 | | Handle (plast) |
| | | Handle (steel) |
| 6 | | Hub DN200-DN800 |
| 7 | | Spring |
| 8 | | Pin |
| 9 | | Swing bolt |
| 10 | | Ring pin |

Service kits

| Denomination | Item number |
|-----------------------------|--------------|
| DN200 | |
| Service kit Silicone (Q) | 9611-99-2862 |
| Service kit EPDM | 9611-99-2137 |
| Service kit FPM | 9611-99-2138 |
| Service kit FEP covered (Q) | 9611-99-2866 |
| DN300 | |
| Service kit Silicone (Q) | 9611-99-2867 |
| Service kit EPDM | 9611-99-2868 |
| Service kit FPM | 9611-99-2869 |
| Service kit FEP covered (Q) | 9611-99-2871 |
| DN400 | |
| Service kit Silicone (Q) | 9611-99-2054 |
| Service kit EPDM | 9611-99-2055 |
| Service kit FPM | 9611-99-2056 |
| Service kit FEP covered (Q) | 9611-99-2058 |
| DN450 | |
| Service kit Silicone (Q) | 9611-99-2059 |
| Service kit EPDM | 9611-99-2060 |
| Service kit FPM | 9611-99-2061 |
| Service kit FEP covered (Q) | 9611-99-2063 |
| DN500 | |
| Service kit Silicone (Q) | 9611-99-2064 |
| Service kit EPDM | 9611-99-2065 |
| Service kit FPM | 9611-99-2066 |
| Service kit FEP covered (Q) | 9611-99-2068 |
| DN620 | |
| Service kit Silicone (Q) | 9611-99-2069 |
| Service kit EPDM | 9611-99-2070 |
| Service kit FPM | 9611-99-2071 |
| Service kit FEP covered (Q) | 9611-99-2073 |
| DN800 | |
| Service kit Silicone (Q) | 9611-99-2872 |
| Service kit EPDM | 9611-99-2873 |
| Service kit FPM | 9611-99-2874 |
| Service kit FEP covered (Q) | 9611-99-2876 |



How to contact Alfa Laval

Contact details for all countries are continually updated on our website. Please visit www.alfalaval.com to access the information direct.