Instruction manual

LKDC, LKD & COR Covers

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Introduction

The Alfa Laval manway doors and manhole covers do not come within the definition of pressure equipments of the article 1.2.1, and are, therefore, not marked CE, ref. Guideline 1/22 of the PED Guideline approved by the WPG 29-06-2002.

These instructions are valid only for the use of Alfa Laval manway doors and manhole covers.

With the knowledge of these instructions incorrect use can be avoided.

Warning: The service personnel must be acquainted with the content of these instructions.

Incorrect use can be of danger to the user or a third party, and can cause damage to objects and/or people.

You will find the information contained in this manual simple to follow, but should you require further assistance, our Customer Service Department and world-wide net of Distributors will be pleased to help you.

Note: The illustrations and specifications contained in this manual were effective at the date of printing. However, as continuous improvements are our policy, we reserve the right to alter or modify any unit specification on any product without prior notice or any obligation.

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Intended Use

It is to be verified by the end-user:

- that the tank cover is in conformity with respect to tank, vessel or container size in which it will be used.
- that the construction materials (both metallic and non-metallic) are compatibility with product, flushing media, cleaning media, temperatures and pressure under the intended use.

Employment

1. The cover shall be installed in accordance with national regulations for safety and other relevant regulations and standards.
2. The item cannot work autonomously, but it is intended for installation through welding on a tank. It is the responsibility of the contractor to respect the regulations related to the construction of said equipment.
3. On the manway door/manhole cover, loads, solicitations or vibrations of external origin should be avoided.
4. The manway door/manhole cover is delivered complete and mounted by qualified personnel; its components (frame, cover, eyebolt, arm) cannot be removed and separately reassembled on other similar items.
5. The manway door/manhole cover is marked on the frame. Do not remove neither alter the marking.

Closing and Tightening

The service personnel are responsible for the secure closing of the manway door/manhole cover.

1. Before closing it must be verified that the contact surface of the gasket is clean and without any external objects that can damage its good condition. The state of the gasket and its seats must always be checked.
2. While closing, it must be verified that the cover suits well with the frame, and that the cover is centred with the frame without effort or without being off-centre, and that the gasket is in its seat.

Before closing the handles it must be verified that there is a small clearance between the frame and the cover, which is a sign that there is no metallic impediment to the closing.

Do not close the handles with levers, pipes and/or key that can damage the functionality.

LKD model only: The static strength of pressure has to act on the gasket, and the tightening must be effected in a uniform way (example of cross tightening).

Opening

1. Before opening the manway door/manhole cover make sure that the tank/container/equipment is not pressurized and without heat and/or chemical and toxic vapours.

If necessary, use protective garments (see paragraph about Safety Regulations).

2. Slowly unscrew the handles in the same way in which they have been screwed (cross way).
3. Once opened, the cover must be positioned so damage to the gasket is avoided.

Safety Regulations

All operations on the manway doors/manhole covers or operations connected herewith must be conducted by qualified personnel, trained on the regulations related to the functioning of the tanks and more precisely to the pressure to which they are subject.

1. When opening make certain that the components of the closing systems (handle, bush, washer etc.) are screwed in such way that the components do not fall out.

Welding

1. The weld between frame of the manway door/manhole cover and the tank must be preceded by an accurate preparation of the edges to be welded, and by a perfect adaptation.
2. Welding work, perforation, folding, cutting or similar must not be performed on the manway door/manhole cover, if such actions are not absolutely necessary for the installation of the manway door/manhole cover.
3. Avoid an excessive stretching of the material.
4. During welding, close the cover on the frame using a spacer in place of the gasket in order to reduce the expansion of the frame in respect of the cover as much as possible, to maintain the form and the original dimensions of the cover and to assure a perfect joining with the cover itself.
5. To protect the gasket remove the gasket during the welding phase.
6. After welding always control that the sealing is in full contact with the sealing surface.

Special precautions regarding the LKD 440X320

Installation

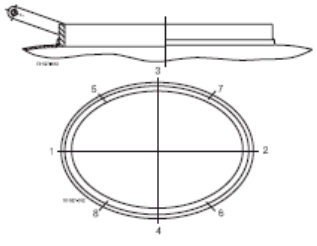
Oval Cover Type LKD 400 x 320

In order to obtain a perfect seal and a good function of our manhole cover it is essential that the welding of the casing is carried out carefully and correctly. If the cover is fitted on a vertical tank wall, the hinge of the casing must always be placed on the left hand side. For thin-gauged containers, i.e. sheet thickness less than 2.5 mm, welding is easier, if the hole is marked in such a way that a 10 mm edge can be burred up as sharply as possibly.

When the hole is cut and the edge burred up, if applicable, the frame is inserted, and tack-welding is now carried out on points placed opposite each other all the way round, in the sequence shown in fig. 1.

The frame may now be fully welded on both sides. A control should be made by removing the rubber seal, and cover and frame should be assembled loosely to ensure that they fully contact each other over the whole surface.

Any stresses are removed by hammering the sheet around the casing.



1. Installation of LKD.

Figur 1

Maintenance

1. Periodically check the condition of the gasket, wash it and carefully dry it. Replace if necessary.
2. The process of control and periodic washing is also valid for the seat of the gasket on the cover.
3. Periodically check the state of the closing systems, eyebolts and handles. Replace if necessary.

Special Maintenance only valid for the LDK and O-series with SS wing handle:

1. After 24 months of operation, check cross arm. Verify that the cross arm has not been subject to excessive stress due to overstraining of the SS-wing handle. (Applying excessive force on the SS-wing handle during tightening will deform the cross arm over time).

Service / Repair

Product repair requires return to the factory at the following address: Alfa Laval Kolding A/S, Albuen 31, DK-6000 Kolding, Denmark.

Upon every return of the device, no matter if for modifications or repair, it is necessary to contact your local Alfa Laval office to guarantee a quick execution of your request. Please inform us by sending an email to: Alteq.PartsandService@ alfalaval.com. All frames and lids are marked with traceability numbers which identify the production series. It's important we receive these numbers before opening any "Claim or Return Request.

Include the number of devices sent and request a Return Number. Afterwards clean the device, pack it shatterproof and send it to Alfa Laval Kolding A/S indicating the Return Number.

Warranty

The warranty conditions are subject to the legal warranty period of 12 months from the date of delivery. In case of improper use, modifications of or damages to the device, we do not accept warranty claims. Damaged devices will also not be accepted. Furthermore, defects due to normal wear are not subject to warranty services.

How to contact Alfa Laval Tank Equipment

For further information please feel free to contact:

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