

Operating instruction for zimmerlin Covers

1. General

This Operating Instruction valid to:

-zimmerlin- Covers generally

This Operating Instruction serves the operation / handling of the covers. Knowledge of this Operating Instruction can help to avoid operating errors.

The operating staff must know about the contents of this operating instruction.

Arise from improper use, there is risk for users body and life. This risk also exists for staff and other people.

Improper use can also lead to damage of other real value.

Zimmerlin reserve the right to make technical changes for improvement.

If there are any technical difficulties, please do not hesitate to contact our service department:

zimmerlin GmbH **EDELSTAHL-TECHNIK**

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79268 Bötzingen
(+49) 7663/6088-0
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2. INTENDED PURPOSE

zimmerlin covers are suitable for different applications (e.g.: filling, emptying, access for cleaning or inspection, general access opening and so on). Clients must specify the detailed version of each cover required. The client must determine the Intended Purpose of the cover from the technical data of the whole container / vessel (Including details such as Working / Design Pressures and Temps etc.).

3. WARANTY-DEFINITION

Caution! The rules of Intended Purpose are absolute. Use of the cover is allowed only when in compliance with the technical Data supplied with the Intended Purpose.

Differing utilisation, other than agreed with zimmerlin GmbH, exclude any liability and warranty.
No modification or alteration of the cover is allowed, unless explicit permission is granted by zimmerlin GmbH.
Liability and warranty are excluded:

- If advice and instruction of operating instructions are ignored,
- For incorrect operation or for insufficient maintenance of the cover,
- If covers are out of intended purpose or inappropriately used,
- For any kind of change of function of cover without prior written agreement by zimmerlin GmbH,
- if covers are modified by non authorised persons,
- if using the covers without attention of Appropriate safety regulations. (See specific Section of this operating instruction)
- if protection equipment is not used and vessel process / ancillary equipment is not brought to a standstill,
- if the cover and ancillary parts are not properly maintained (to be executed in intervals and including fitting of prescribed replacement parts),

When exchanging parts, only original replacement parts, released from the manufacturer, may be used.

4. SAVETY REGULATIONS

Caution!

All operators must be trained / certified to work in the area of the container operation and must abide by the site safety regulations.

All work on the cover must be carried out by competent staff with knowledge of the relevant rules of operating of container and pressure container.
When the removal of protection equipment is necessary to cleaning or for maintenance, assembly and examination of protection equipment has to follow immediately!
Before opening the cover, check the pressure of the container. Only open the cover when the container is not under pressure.

Conditions are not allowed to exceed pressure and temperature specified. The Pressure (PS) and Temperature (TS) are written on each cover. Test Pressure (PT) for oval manway max. 8,6 bar.

When filling and emptying the container, the regulations regarding contact of the liquid or content (e.g. foodstuff) must be kept.
National rules regarding use and test frequency must be followed.

5. COMPONENTS

Depending of the detailed version of the cover, specified by the customer, components are attached accordingly.

Typical Component according drawing:

- Screws complete (Number according to description)
- Hinge / swivelling feature
- screwed sight glass / circular sight glass
- spring assist
- limit switch
- locking bolt
- safety grill
- safety valve
- and so on for other special items agreed.

6. WELD INTO POSITION

For tack welding, neck and vessel wall have to be adjusted carefully.

By applying the tack welds, the weld gap has to be as small as possible. Short distances between the tack welds prevent from deformation.

During the welding of the neck to the container, it is preferable to have the cover lid closed and the operational seal removed (to be replaced by a temporary seal / spacer). This will give added rigidity to the neck when welding in and avoid heat transfer damage to the seal.

After welding, gasket seating has to be checked against roundness and plane. If there are differences of more than 1mm, gasket seating has to be put in right form.

7. ASSEMBLY

When surface treatment is completed (grind, pickle, polish, shot-blasted), all components have to be assembled carefully.

Screws / Swing-pins must be assembled completely (i.e. securing the bolts with the safety cir-clips, clamp sleeve, washer and nut / handle to be correctly assembled to the screws / swing-pins).

Before starting process or putting the container under pressure / temperature, all equipment must be checked to function correctly; (hinge, gasket seating, screws / swing-pins including all safety cir-clips assembled, locking bolt, nuts / handles and so on.)

8. RESISTANCE OF MATERIALS

As the customer selects the material by order, no warranty in relation to material resistance is offered by zimmerlin GmbH. It is the responsibility of the operator to make sure, that product coming in contact with the cover or seal, are suitable and the materials and seal are sufficiently resistant to the product / conditions.

9. CLOSURE OF COVER

The operator is responsible for the safe closure of the cover.

Before closure ensure the container is not occupied, by persons, animals or inadmissible objects.
Ensure before closing the cover that the sealing surface is free from any obstructions (i.e. body parts or equipment) as injury or damage can occur.

All parts relevant to security and pressure has to be checked visual before closing the cover. (e.g. gasket, gasket seating, screws).

Cover has to be closed carefully without force. Look for god centralisation. Ensure that the seal is positioned correctly and that the contact area is clean.

Lid and neck should have a little lateral clearance, so that gasket seating did not have metal contact.
Centre of lid flange has to enclose the gasket seating of the neck perfectly. (see Section 6 „Adjust accordingly if required“)

Screws / swing-pins to be put in the correct position, so that the machined face of sleeves catch to the outside groove of the lid flange.

The bolting arrangement must be tightened evenly and to a set torque when using a max allowable torque procedure in several steps as follows;

- a) 50% torque
- b) 80% torque
- c) Max torque

Cross tightening of the bolting arrangement should be used when applying torque to the nut / handle (e.g. North, South, East, West where appropriate).

If covers with a **swivel hinge** is used, it is necessary to close these two screws at first, which are nearest to the hinge (to avoid bending of the hinge pin). When the hinge is completely in its end position, all other screws can be closed and tightened as described above.

The maximum torque for the screws is 40 Nm for M12 Screws and 60 Nm for M16 Screws.

10. OPENING OF COVER

The operator is responsible for the safe opening of the cover.

Before opening the cover, ensure the container is checked to be free of pressure, heat and chemical vapours.

If necessary, protective clothing and protective eyewear have to be used especially for high temperatures, for caustic or toxic liquid applications, etc.
Like with closing, all nuts / handles should be opened symmetrically.

Cross opening of the bolting arrangement should be used when opening the cover (e.g. North, South, East, West where appropriate).

At covers with a swivel hinge, all screws except the two closest to the hinge shall be opened first. Then open the last two screws (if possible, together).

Opened lid to be set down securely / carefully, to avoid damage to lid / seal (if possible using a spring loaded locking pin), and to prevent lid falling downwards accidentally causing injury.

11. CLEANING

The complete cover has to be cleaned as per the recommendations of the manufacturer of the container.

It is the responsible of the operator to ensure that all cleaning agents used do not have an adverse affect on the cover materials and the seal. Cleaning agents should be thoroughly removed after use.

During C.I.P., it is imperative that the temperature dose not rise above the recommended temp of the cover / seal and cause damage.

12. MAINTENANCE

Cover has to be checked regular for damage (e.g. gasket, gasket seating, nut / screw and complete swing assembly, hinge, spring, etc. - Only zimmerlin recommended spare parts to be used).

We recommend inspection of each cover, at least annually, against mechanical damage, corrosion and tightness.

13. OTHER

When ordering replacement parts, we require the order number and the zimmerlin serial number from the cover / lid.