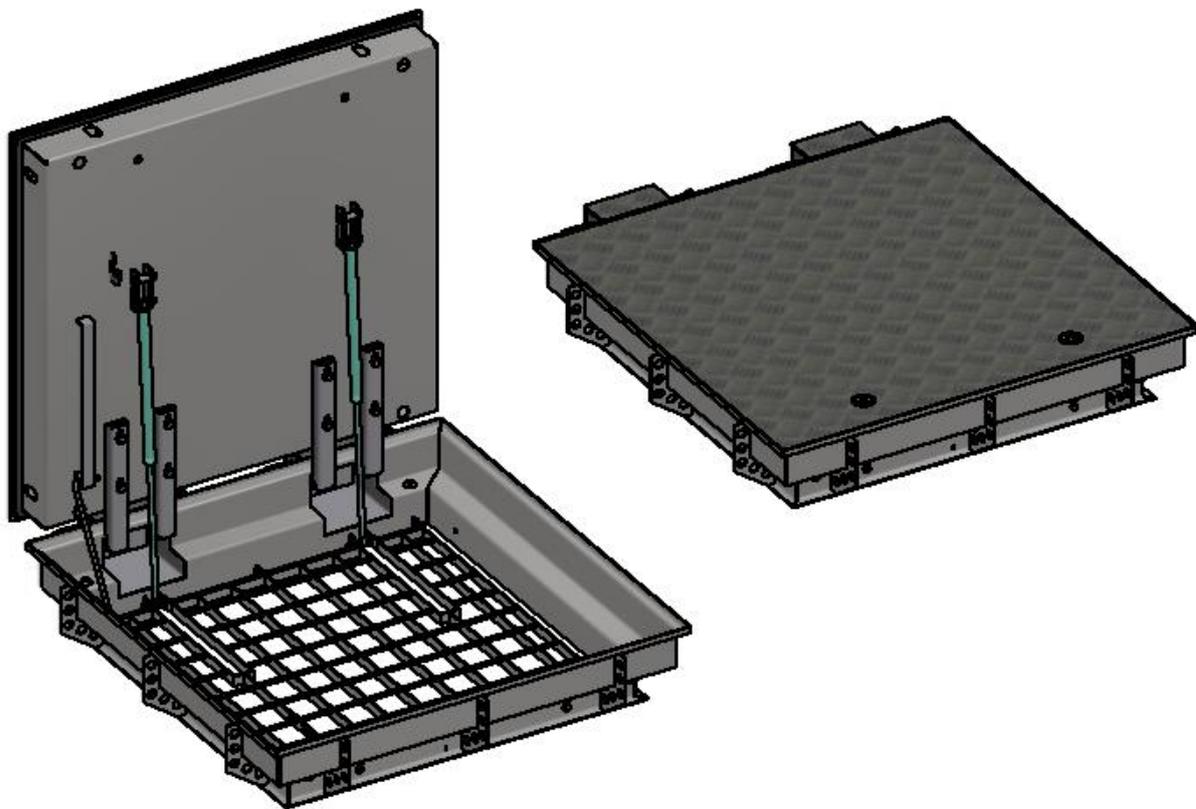


# Assembly and User Instructions

## Hailo Type HS8 Shaft Cover

Shaft cover, flush, loads as per EN124 (Class B+D)



(This view is for illustration purposes only and, depending on the equipment, is not necessarily representative of the Hailo scope of delivery).

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Chapter 01: Mounting dimensions

The surrounding concrete edge required is derived from the customer’s statics calculation and formwork and reinforcement plans. This is not a constituent part of these assembly instructions.

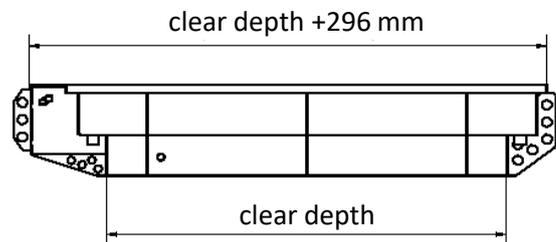
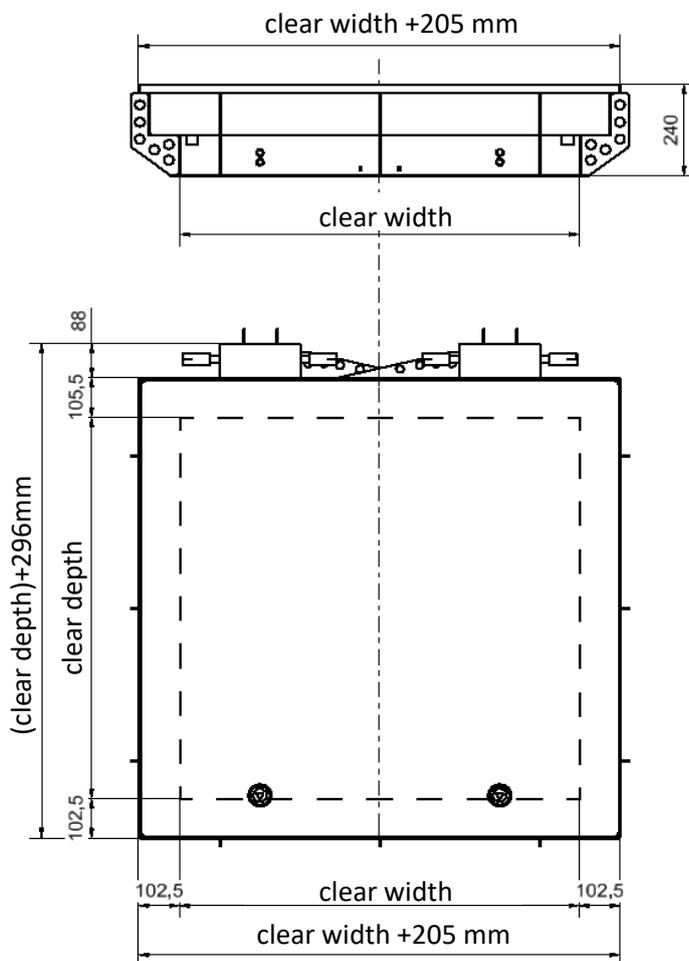
As a guideline, we recommend the following minimum thicknesses **on all sides** as a supplement to the external dimensions of the shaft cover indicated below:

- For stationary traffic (e.g. car park): 80mm
- For flowing traffic (carriageway): 120mm

These dimensions must be observed at the rear, including behind the hinge boxes!

Minimum quality of concrete: C35/45, allowing for the customer’s specifications!

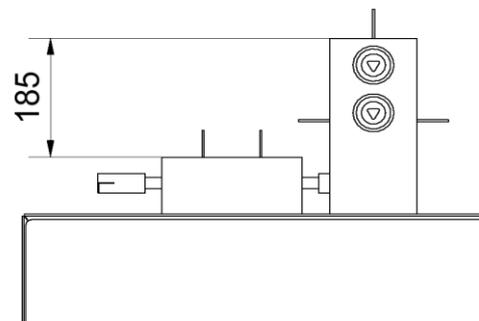
Surface - Raised pattern safety plate:



The cover must be set in concrete to the full height of 240 mm.

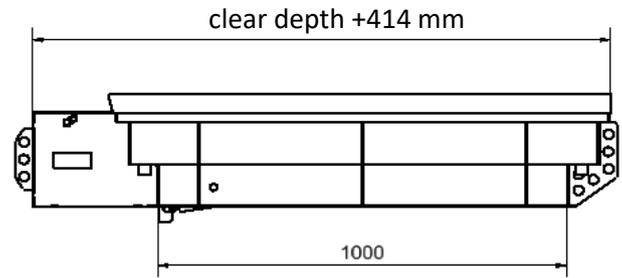
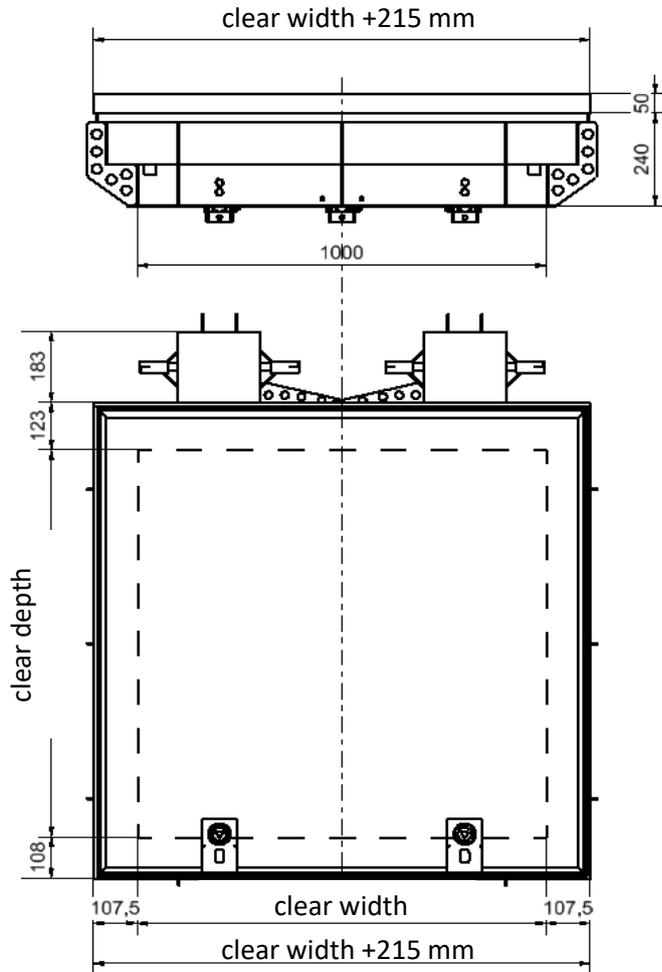
The locking or hinge side must run in the direction of travel.

For the optional add-on to the raised pattern safety plate cover, with the option: “Hydraulic opening using internal cordless screwdriver actuator”, the following dimensions must be considered when designing the concrete surround:



Chapter 01: Mounting dimensions

Surface - Trough for filling with concrete, asphalt or paving:



The cover must be set in concrete to a height of 240 mm. The top 50 mm allows for paving or other carriageway coverings to be laid.

The locking or hinge side must run in the direction of travel.

For the optional add-on to the cover with trough, with the option: "Hydraulic opening using internal cordless screwdriver actuator", the following dimensions must be considered when designing the concrete surround:

Paving finish:

Empty trough and no reinforcement on the hinge boxes

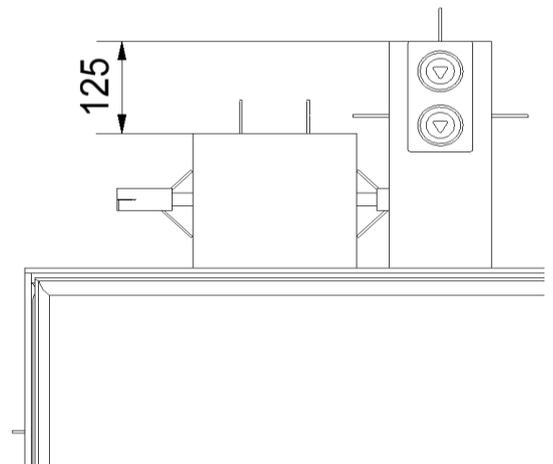
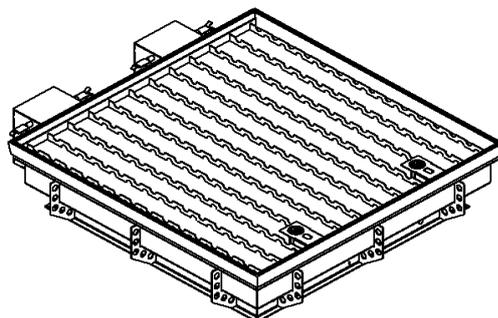
Concrete finish:

Reinforcement in the lid and on the hinge boxes

Execution asphalt:

retaining plates in the lid

Execution asphalt



## Chapter 02: Mounting / setting the cover in concrete

### IMPORTANT!!!

To avoid damage to the cover, it is absolutely essential to comply with the following instructions. Hailo accepts no liability or warranty for damage caused by improper handling. The lid must sit correctly in the frame when creating the outer concrete surround, and must be firmly screwed to the frame! Otherwise there is a risk that the frame will move when the reinforcement is installed or when set into concrete. The correct and secure positioning of the lid may then no longer be guaranteed.

1. The necessary openings in your structure derive from the customer's statics calculation and the formwork and reinforcement plans for the required concrete surround. (Guide values, page 2+3)
2. Remove the parts supplied from the cover, e.g. the operator key or the gas-pressurised springs. A level contact surface must be created for the shaft cover before the cover is inserted into the opening in the structure. The depth of the contact surface, measured from the top ground surface, depends on the design height of the cover. The contact surface can be adjusted to the slope of the ground, but **no diagonal distortion of the cover must be caused**.
3. Using appropriate lifting tackle or equipment, such as a crane, forklift, digger, etc., insert the shaft cover into the opening provided. The cover must **only be introduced in a closed and firmly-screwed condition**. There are hooks at the corners into which ropes or chains can be inserted.
4. Execute the horizontal alignment in accordance with the eventual carriageway. For alignment, the frame can be shimmed on all sides.
5. Once the cover is finally fixed, seal the gap all the way round between frame and structure (wooden framework, sealing strip, etc.).
6. Use the operator key to check whether the lid is firmly screwed to the frame. To safeguard against lifting and movement when concreting, the cover may be secured using ballast.
7. Insert the reinforcement around the cover into the opening provided for it, and fasten the reinforcement to the masonry anchors of the shaft cover.
8. The cover can now be finish-poured. It is recommended that the concrete is rammed with internal vibrocompactors. Allow for the setting times specified for the concrete.
9. After the concrete has set, the cover can be opened for the first time and the gas-pressurised springs fitted and adjusted in accordance with the instructions.
10. Once all works have been completed, it is important to remove any concrete residues and dirt from the frame and the lid. This ensures that your Hailo shaft cover will have a long and trouble-free service life.



**D** **ACHTUNG!** - Den Deckel vor dem Aushärten des Betons NICHT öffnen!  
Erst anschließend darf die Abdeckung geöffnet und die Gasdruckfedern montiert werden! -  
Bitte beachten Sie hierzu unsere Bedienungs- und Montageanleitung!

**GB** **ATTENTION!** - Don't open the cover before the concrete is cured!  
Only now, the shaft cover can be opened and the gas springs can be installed!  
For this, please notice our instruction and installation manual!

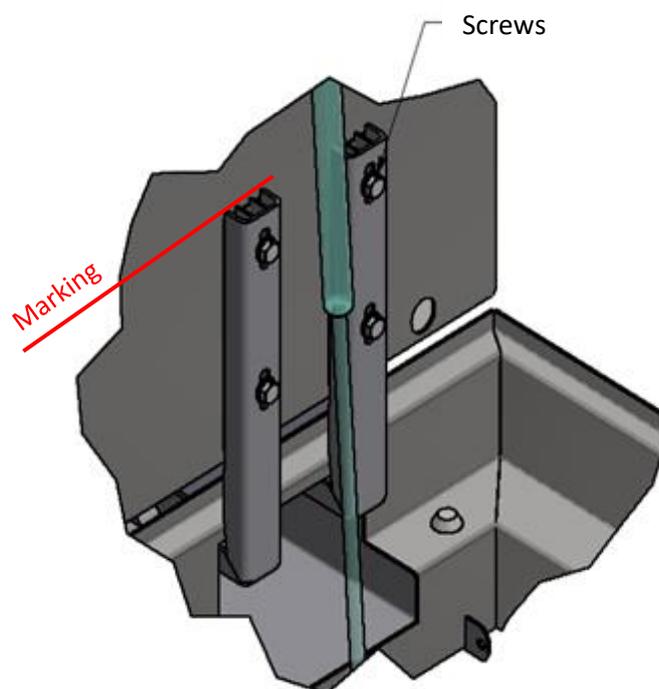
**NL** **PAS OPI!** - Het deksel mag NIET geopend worden voordat het in beton gestort is!  
Pas wanneer het beton uitgehard is mag het deksel geopend worden en mag de  
gasveer gemonteerd worden! - Gebruik hiervoor de meegeleverde montagehandleiding!

11/2021 02/1

Chapter 03: Adjusting the hinges

If the position or the seating of the lid on the frame has moved, this can be rectified as follows:

- 1.) Open the lid.
- 2.) Mark the current position of the hinge brackets on the lid.
- 3.) Loosen the screw-fastening of the hinge brackets, initially just on one side, and slide the lid approx. 1-2 mm in the direction respectively required.  
If the lid needs e.g. to sit further back towards the hinge box when closed, with the lid opened it needs to be lowered slightly. Then re-tighten the screws firmly (the lid can be moved/lowered using a standard crowbar).
- 4.) Repeat the steps described in point 3.) on all further hinges.
- 5.) Close the lid.



Chapter 04: Assembling the opening aids

**Opening aid - Gas-pressurised springs:**

The gas-pressurised springs can be adjusted for force by fitting an adjustable stop.

1. First, screw the piston rod head to the frame at the bottom using the pre-fitted screw. **Only tighten the nut to a point where the screw can still be rotated!**

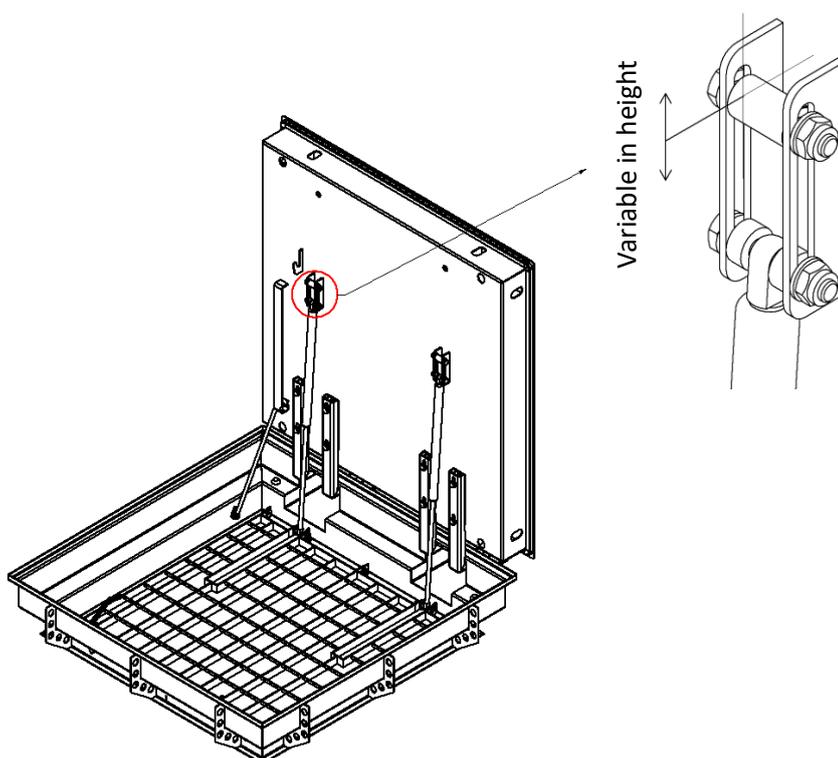
2. Next, install the cylinder head as shown; when the lid is moved, the screw slides in the slot, **so do not tighten this nut firmly either.**

3. By fixing the stop / sleeve at a variable height, it is possible to adjust the point to which the gas-pressurised spring also slides up when opening the lid.

If the shaft cover has only one gas-pressurised spring, the point is to be chosen such that the lid stops when opened at around 80°. It is then easy to move the lid manually into the latch locking position. On lids with a depth of 600 mm, the stop is not required.

If multiple gas-pressurised springs are used, it is sensible to fit the stops in such a way that the gas-pressurised springs are used in succession. The advantage of this is that, when opening, the lid does not open too quickly and, when closing, there is no need to push immediately against the force of all the gas-pressurised springs. The further the stop is moved downwards, the greater the force of the gas-pressurised springs when opening starts.

**Please note: Do not move the stop so far downwards that the piston of the gas-pressurised spring comes into contact with the base of the cylinder!**



**Opening aid - Electric actuator LA36:**

The LA36 electric actuator is equipped with internal limit switches that switch off the actuator in the stop positions. Accordingly, there are no special requirements for limit switch polling even on the control side.

1. First, the e-controller (available from Hailo as an option) should be fitted into the space provided, and the wiring to the cover put in place.

2. Next, the mounting bracket with the pre-mounted nuts and washers is screwed to the frame on the hinge side.

**The bracket must be self-supporting to the back against the concrete!**

3. The actuator is attached to the frame bracket with the motor side (as shown in the images below) at the bottom, using the screw, nut and anti-removal bolt.

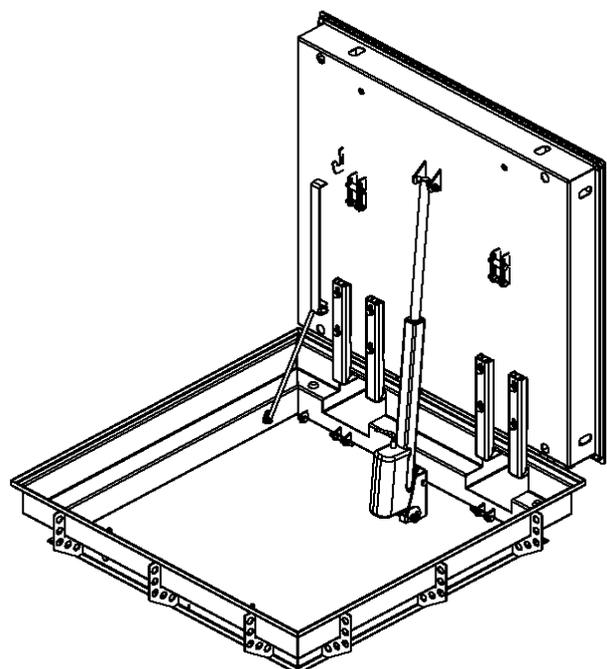
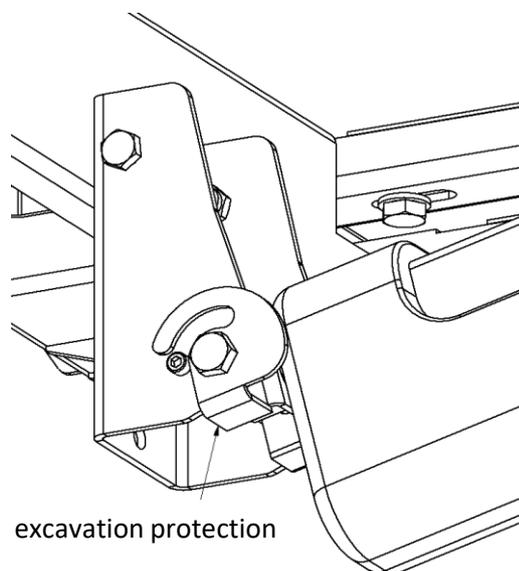
**Tighten the nut only to the point where the anti-removal bolt does not stick against the frame bracket!**

4. Next, use the e-controller to extend the actuator fully until it reaches the stop position, so that the piston rod can be installed at the attachment point of the lid (using the screw, nut and spacer tubes).

**Only tighten the nut to a point where the screw can still be rotated!**

**Note:** Covers equipped with an LA36 actuator may have additional gas-pressurised springs, depending on the size. These are needed for even opening and as protection against overloading the actuator in the event of heavy lid weights.

The gas-pressurised springs are installed as described on page 5.



**Opening aid - Internal hydraulic cordless screwdriver unit**

The internal hydraulic cordless screwdriver unit is partly pre-assembled and supplied together with the cover. The unit assembly remains to be filled using the oil supplied (see illustration bottom left), and the cylinder and connecting hoses may also need to be installed on site.

1. First, the mounting bracket with the pre-mounted nuts and washers is screwed to the frame on the hinge side.

**The bracket must be self-supporting to the back against the concrete!**

2. The cylinder is attached at the bottom to the frame bracket and to the attachment point on the lid (using screws, nuts and spacer tubes).

**Only tighten the nuts to a point where the screws can still be rotated!**

3. Attach hose 1 as shown in the illustration below to the cylinder and quick-release unit, and hose 2 to the cylinder and hydraulic unit connection.

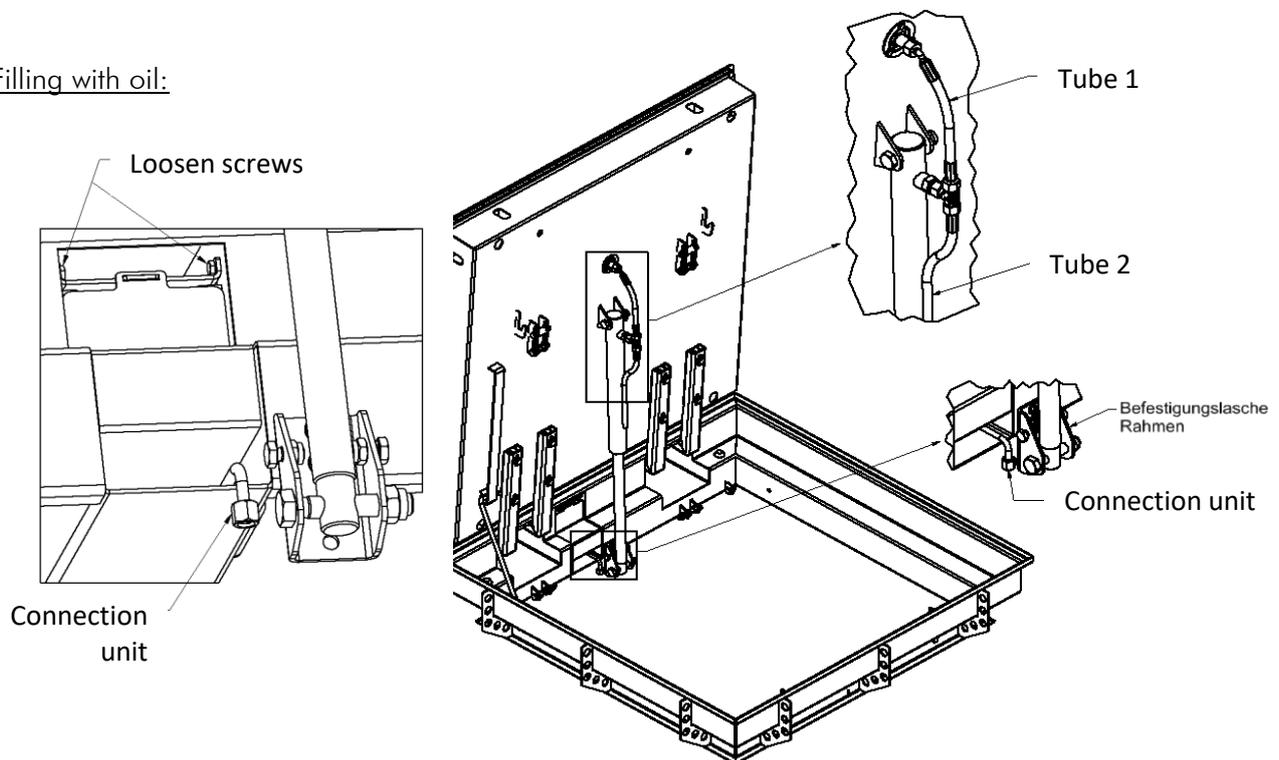
4. Next, the pump must be rotated in a clockwise direction or operated using a cordless screwdriver until the cylinder has filled completely with oil and the air has escaped from the system.

**Note:** Covers equipped with internal hydraulics may have additional hydraulic cylinders or gas-pressurised springs, depending on the size. These are needed for even opening and as protection against overloading the hydraulic system in the event of heavy lid weights.

The gas-pressurised springs are installed as described on page 5.

**Please also note the chapter on use when installing the shaft cover!**

Filling with oil:

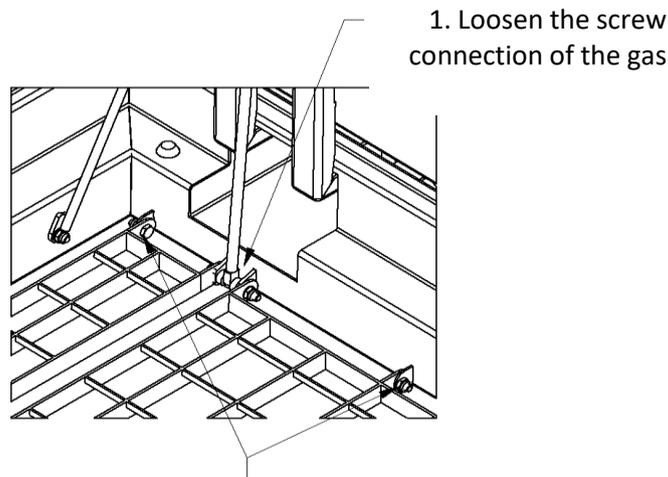


Chapter 05: Mounting the safety barriers

**Safety barrier - Safety grille**

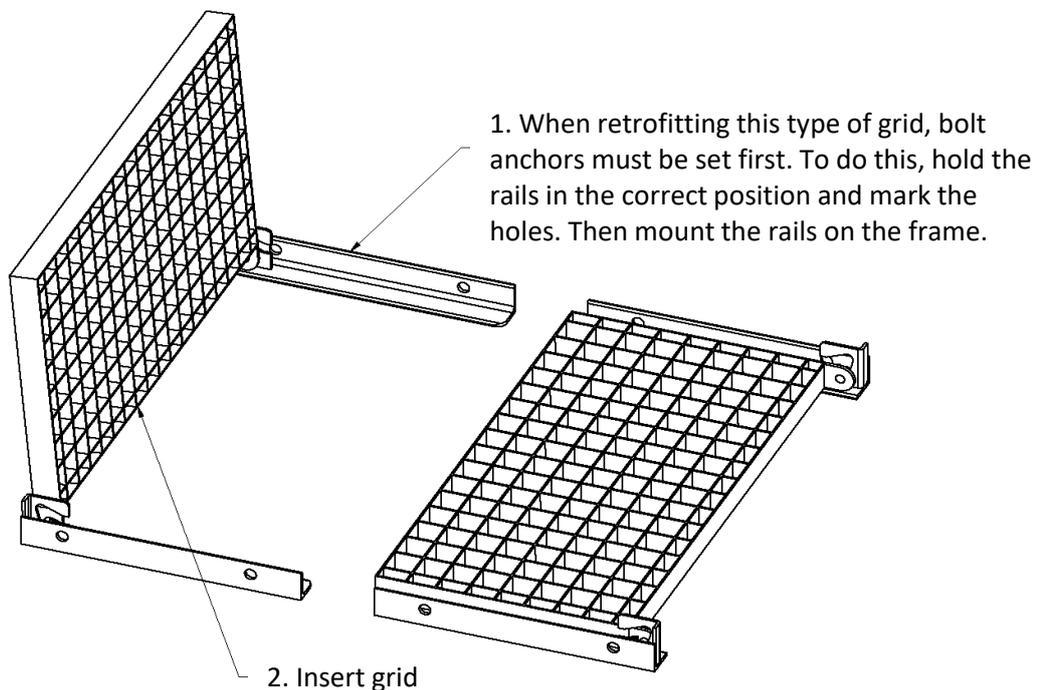
The safety grilles are supplied pre-installed with the cover. For retrofitting, please follow the instructions below. The safety grilles come in two versions:

1. Folding to the rear - Grille installed directly onto the hinge side of the frame  
 Locking provided by chain on the grille, to be suspended from the hook on the lid.



2. Insert the grille and screw it to the connection points. Do not tighten, screw must still be able to turn.

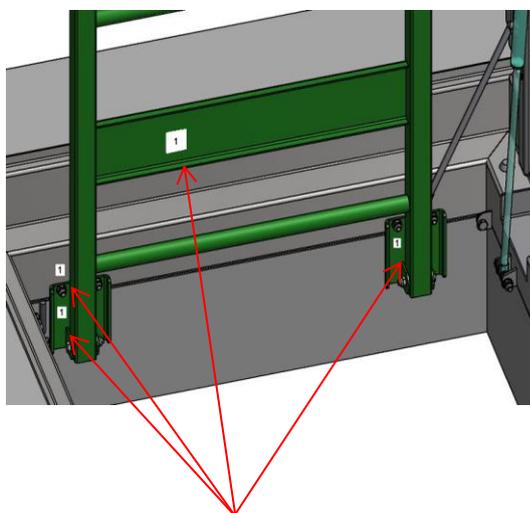
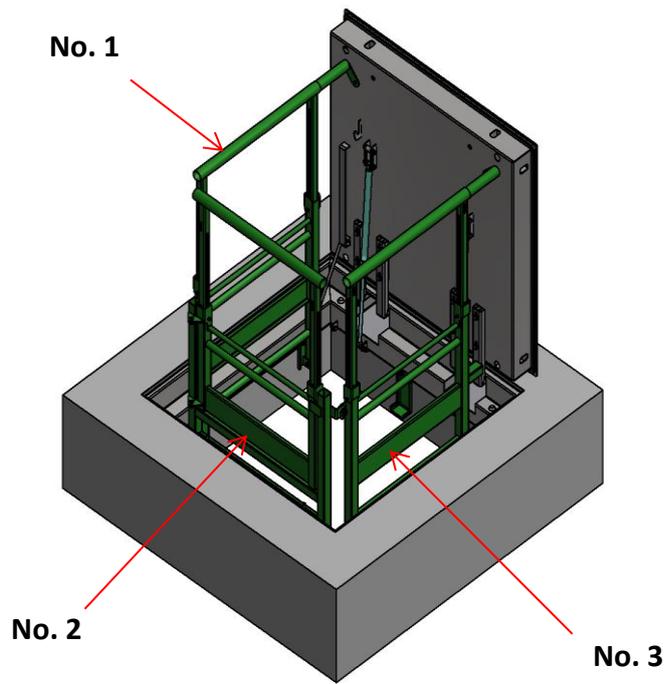
2. Folding to the side - Installation on mounting tracks on the hinge side and locking side of the frame. The grilles are inserted into these tracks. When opened they stand up on their own and they can be removed at any time.



Chapter 05: Mounting the safety barriers

**Safety barrier - Integrated fold-out guard rails**

The guard rail parts and attaching brackets are supplied unassembled in order to avoid damage during transport and concreting. After the construction works are completed, the shaft cover can be opened and the elements of the guard rail fitted. There are threaded bolts in the frame with pre-assembled washers and nuts, to which the attaching brackets and the guard rail elements are fitted. The elements of the guard rail are identified based on their position using stickers.



**Labelling using stickers**



Example: Guard rail folded into cover

### Opening and closing the shaft cover

To use the HS8 shaft cover, you need an operator key # 9515031 and, if used, the key to the profile cylinder used for locking (optional).

1. Use the operator key to release the upper brass three-sided screw bolt(s) of the locks and store them somewhere clean (figure 1).
2. Use the key to unlock and remove the lock assembly, if any.
3. Release the bottom brass three-sided screw bolt(s) (figures 2 and 3).
4. Use the key hook to reach into the opening on the neck of the lock and lift the lid (figure 4).
5. The gas-pressurised springs assist opening up to around 80°; beyond that you must open the lid further by hand until the latch locks into position (figure 5).



Figure 1



Figure 2



Figure 3



Figure 4

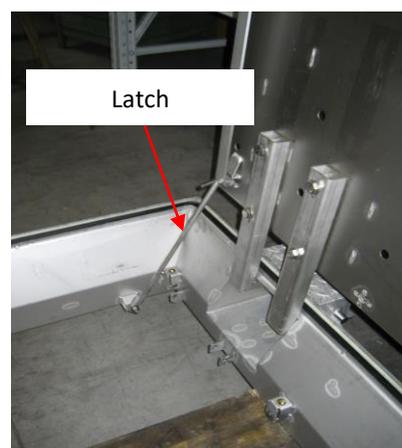


Figure 5

### Opening and closing the shaft cover

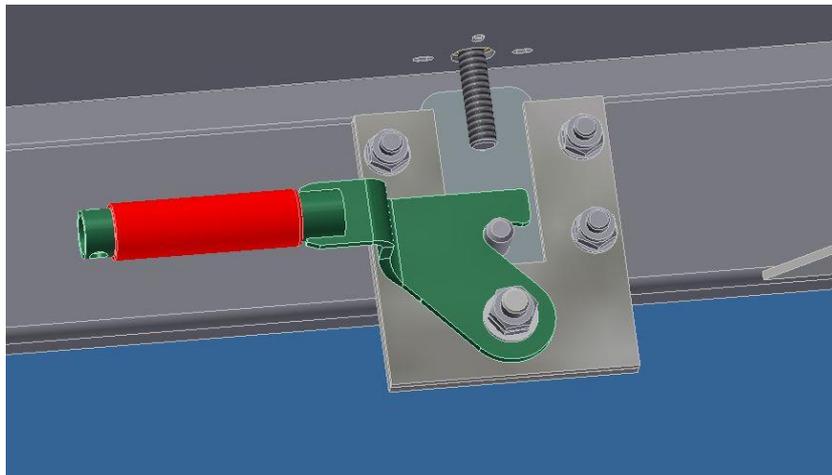
#### Emergency release (optional equipment):

To operate the emergency release from inside the structure (from below), the activating lever must be pulled downwards. This disables the locking mechanism function, and the lid can then be opened / or pushed upwards.

To close the cover, the locking bracket must be reinserted into the guide and the lever moved back into its original position.

Opening the shaft cover from outside the structure (from above) is performed as described on the previous page.

**Attention!** - We advise that a combination of emergency release and safety barriers such as safety grilles or guard rails is not sensible. After operating the emergency release, it may potentially not be possible, or only possible with great difficulty, for a fleeing person to open or push up the lid if this is obstructed by a grille or a folded-up guard rail sitting in the frame.



**Opening and closing the shaft cover - Electric actuator LA36**

Hailo e-controller for LA 36 (optional):

**Attention!** - When opening or closing the cover, please first ensure that no other persons are located in the immediate hazard area.

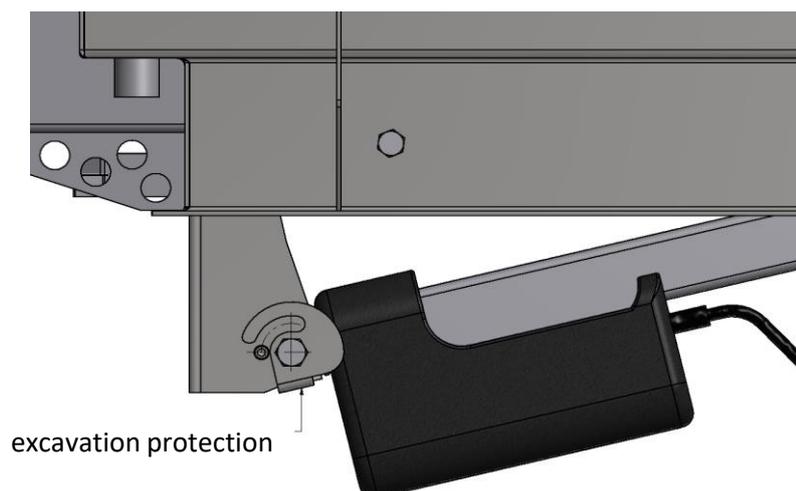
1. First release the locks using the operator key, as described on page 11.
2. Release the emergency off switch on the e-controller - the controller is now ready to operate.
3. To open the cover, press and hold the “Up / Open” button - the cover now opens for as long as the button is kept pressed, and switches off automatically when it reaches the end position. If the button is released before then, the lid immediately stops moving.
4. To close the cover, press and hold the “Shut / Close” button - the cover likewise only moves as long as the button is kept pressed and stops moving immediately the button is released, and at the latest in the end position.

**The lid latch must be released before the cover can be closed.**

5. When leaving the cover, the emergency off switch must be locked again in order to prevent inadvertent activation of the cover. Screw the locks in again correctly. This is important to ensure that the seal is pressed firmly against the frame and a watertight surface water seal is formed.

**Emergency opening:**

The lower attachment point of the LA36 actuator on the frame is designed in such a way that, when the shaft cover is in the closed position, the lid can be opened or raised easily e.g. using a crane, as it is only in this position that the anti-removal bolt clears the attachment point. The anti-removal bolt locks the attachment point immediately after an opening operation is started using the LA36 actuator, with the result that the actuator cannot unintentionally slip out of the frame bracket.



## Chapter 06: Using the shaft cover

### Opening and closing the shaft cover - Internal hydraulic cordless screwdriver unit

**Attention!** - When opening or closing the cover, please first ensure that no other persons are located in the immediate hazard area.

1. First release the locks using the operator key, as described on page 11. Then loosen the cover screws, using the hydraulic unit.

2. Opening: Covers with internal hydraulics are supplied with a special operator key. This has a long size 12 socket at one end. This end of the key can be used to operate the outlet valve on the hydraulic unit. First check whether the valve is closed by placing the operator key onto the valve's mounting cone and turning it carefully **in a clockwise direction**. (If the valve is not closed, the pump simply feeds the oil back into the reservoir and the lid does not open.)

The pump is powered by a cordless screwdriver and a four-sided 1/4" extender from a standard socket wrench set. For this, the cordless screwdriver must be set to **clockwise (rotating in a clockwise direction)** and placed onto the mounting cone of the pump. The different gear settings on the cordless screwdriver then influence the opening speed of the lid. Shortly before the end, before the lid is fully open, the cordless screwdriver should be operated at a slower speed.

4. Closing: When the operator key is placed onto the mounting cone of the outlet valve and turned **in an anti-clockwise direction**, the valve opens and the shaft cover lid closes under its own weight. Please operate the outlet valve carefully to familiarise yourself with this procedure and thus with the closing speed of the lid.

**The lid latch must be released before the cover can be closed.**

5. After closing the lid, please screw the locks in again correctly. This is important to ensure that the seal is pressed firmly against the frame and a watertight surface water seal is formed.

#### Note:

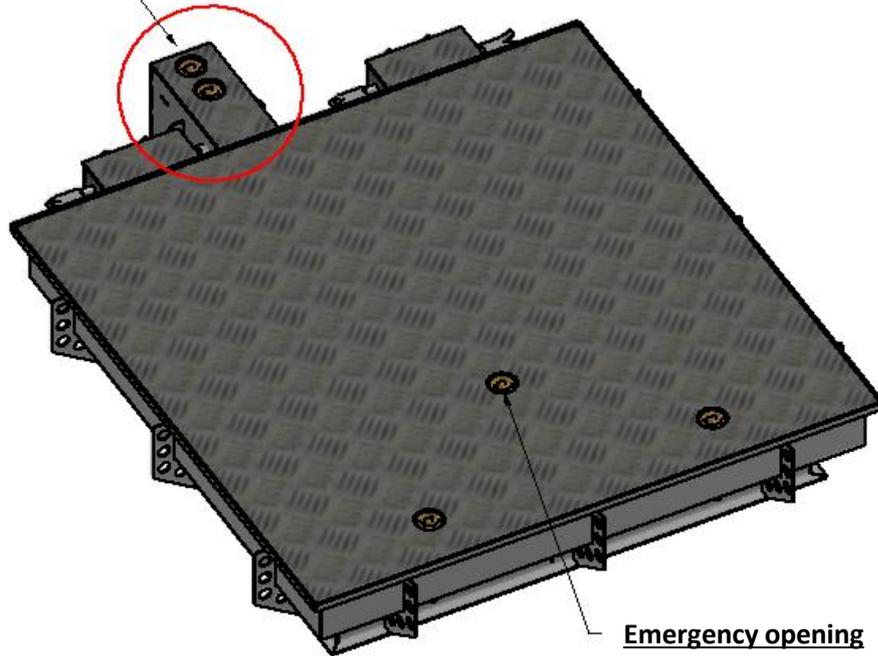
The hydraulic unit is fitted with an internal pressure limiter and is pre-set to a system pressure of max. 180 bar. This maximum pressure must not be changed or increased under any circumstances, otherwise the hydraulic components may be damaged. Through the possible use of additional gas-pressurised springs, the shaft covers are designed in such a way that the cover can be opened or closed using this system pressure. The hydraulic hoses are designed by the manufacturer for a max. pressure of 350 bar. Despite this, it is important to check the hoses for possible damage, cracks, porous points etc. every time the cover is operated or opened. **Defective hoses or other components are to be replaced immediately in order to ensure the safe use of the system.**

#### Emergency opening:

If the internal hydraulic unit should fail to operate correctly, for emergency opening from the outside it is possible to connect a hand-pump (#9559731) or a portable hydraulic unit with a cordless screwdriver actuator (#9559881) via a quick-release unit.

Opening and closing the shaft cover - Internal hydraulic cordless screwdriver unit

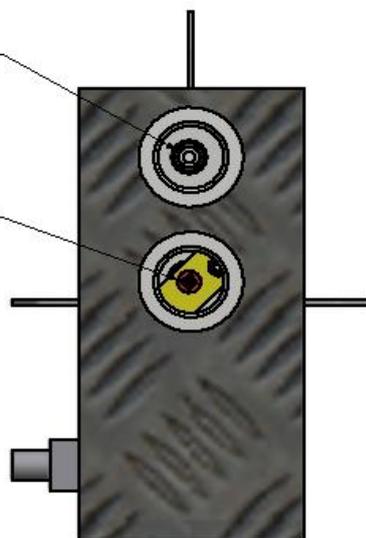
**Hydraulic unit**  
cover caps



**Emergency opening**  
Connection for hand pump  
or mobile hydraulic unit

**Valve**  
Cone hexagon 12mm

**Pump**  
Cone square 1/4"





Chapter 07: Maintenance and servicing information

1. To prevent or exclude "corrosion" or cold welding of the screwed connection between lid and frame, the three-sided screw bolts are made of brass.
2. The screw bolts can be greased on the thread so that they can be freed more easily if the shaft cover has not been opened for a prolonged period.
3. The seal must always be kept clean in order to avoid damage and the resulting loss of sealing.
4. For that reason, clean the seal around the frame and the stainless steel contact surfaces between the lid and the frame with a hand-brush or cloth every time before using the lid. The use of stainless steel removes the need to apply oil or grease.

This ensures that your Hailo shaft cover will have a long and trouble-free service life.

## Pflege und Wartung von Hailo Schachtabdeckungen

### Care and maintenance of Hailo manhole covers

### Entretien et maintenance Plaques de recouvrement Hailo

### Onderhoud van Hailo-schachtkappen

PROFESSIONAL

<p><b>(D)</b> Um die volle Funktion der Abdeckungen zu erhalten, hilft die Beachtung dieser Pflegetipps:</p> <ol style="list-style-type: none"> <li>1. Verunreinigungen können mit Hochdruckreiniger, Lappen, Bürsten und schwachen Laugen entfernt werden. Auf Drahtbürsten und Stahlwolle muss verzichtet werden, da zurückbleibende Partikel zu Korrosion führen!</li> <li>2. Achten Sie darauf, dass vor dem Schließen folgende Teile nicht verunreinigt sind:                     <ul style="list-style-type: none"> <li>• Dichtung und alle beweglichen Teile</li> </ul> </li> <li>3. Fetten Sie alle beweglichen Teile ein. Dichtung pflegen, wie bei PKW-Türen üblich.</li> <li>4. Durch den Anpressdruck der Dichtung in der Gasdruckfeder an das Gehäuse kommt es mit zunehmender Ruhezeit zu einer verstärkten Anhaftung am Gehäuse. Die Folge ist ein erhöhter Kraftaufwand beim Öffnen. Bewegt man die Gasdruckfeder ein paar mal, so stellt sich die ursprüngliche Kraft wieder ein.</li> </ol>	<p><b>(GB)</b> To bring out the full functionality of the covers, please follow these care tips:</p> <ol style="list-style-type: none"> <li>1. The covers can be cleaned with high-pressure cleaners, brooms, brushes and weak caustic solutions. Do not use wire brushes and steel wool as they can shed particles which can lead to traces of corrosion!</li> <li>2. Make sure that the following parts are not contaminated before you close the cover:                     <ul style="list-style-type: none"> <li>• Seal and all moving parts</li> </ul> </li> <li>3. Grease all moving parts. Take the same care of the seal as you would in car doors.</li> <li>4. The contact pressure of the seal in the gas compression spring on the housing leads to greater adhesion to the housing as time goes on. This will result in greater force being required to open the cover. If the gas compression spring is moved a couple of times, the original force will be restored.</li> </ol>	<p><b>(F)</b> Pour assurer le fonctionnement optimal de la plaque de recouvrement, nous vous recommandons de suivre les conseils d'entretien suivants:</p> <ol style="list-style-type: none"> <li>1. Eliminer les saletés à l'aide d'un nettoyeur haute pression, d'un chiffon ou d'une brosse et d'une solution légère. Toutefois, l'utilisation d'une brosse en fil de fer et de laine d'acier est interdite en raison des particules résiduelles qui risquent d'occasionner une corrosion!</li> <li>2. Avant de fermer le couvercle, vérifier l'absence de saletés sur les pièces suivantes:                     <ul style="list-style-type: none"> <li>• Joint et toutes les pièces mobiles</li> </ul> </li> <li>3. Lubrifier toutes les pièces mobiles. Entretenir le joint comme vous le feriez pour les portières d'une voiture.</li> <li>4. En raison de la pression que le joint du ressort à gaz comprimé exerce sur le boîtier, l'adhérence est renforcée après un certain temps de repos. L'ouverture du couvercle nécessite alors un effort accru. En actionnant le ressort à gaz comprimé plusieurs fois de suite, la force initiale se rétablit.</li> </ol>	<p><b>(NL)</b> Voor behoud van de volledige functionaliteit van de kappen zijn de volgende onderhoudstips handig:</p> <ol style="list-style-type: none"> <li>1. Verontreinigingen kunnen met hogedrukreiniger, doeken, borstels en zwakke loopplossingen verwijderd worden. Staalborstels en staalwol mogen niet gebruikt worden, aangezien achterblijvende deeltjes leiden tot corrosie!</li> <li>2. Let erop, dat vóór het sluiten de volgende delen niet verontreinigd zijn:                     <ul style="list-style-type: none"> <li>• afdichting en alle bewegende delen</li> </ul> </li> <li>3. Smeer alle bewegende delen met wat vet. Afdichting onderhouden op de manier waarop dit gewoonlijk bij autoportieren gebeurt.</li> <li>4. Door de aandrukkracht van de afdichting in de gasdrukveer tegen de behuizing komt het na een langere rustperiode voor, dat deze steviger tegen de behuizing geplakt is. Het gevolg is dat er meer kracht nodig is bij het openen. Wordt de gasdruk veer een paar keer bewogen, dan wordt de oorspronkelijke kracht weer ingesteld.</li> </ol>
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[www.hailo-professional.com](http://www.hailo-professional.com)