



## **Operating instructions anhamm - flammable liquid stop barrier**

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If you should have any further questions, we would be pleased to be of assistance:

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## **1. Basic and important information**

### **1.1. Responsibility and safety**

The design, technology and function of this flammable liquid stop barrier comply with the actual state-of-the-art and the essential European health and safety requirements.

This flammable liquid stop barrier has been designed, manufactured and tested:

1. In accordance with the provisions of the German law on equipment and production safety and its ordinances as well as in accordance with the requirements of the EC Machinery directive and the so-called ATEX directive
2. Based on selected harmonised European standards
3. Taking into account risk and source of ignition analyses specially prepared for this flammable liquid stop barrier,
4. With the knowledge of many years practical and business experience,
5. By qualified personnel with modern production and test methods as well as
6. Using the quality system DIN EN ISO 9001:2000

This flammable liquid stop barrier therefore guarantees you a high level of quality with a recognised high level of reliability.

It corresponds to the state-of-the-art and provides a very high level of safety.

Among other aspects, the flammable liquid stop barrier features:

- A relatively high mass and relatively large dimensions,
- Continuously pre-loaded springs with their stored energy,
- Movements that are perceived by people as unexpected in many cases.



### ATTENTION!

- Incorrect operation and incorrect use,
- Unauthorised adjustment of the spring forces
- Errors or defects during installation, maintenance and repair
- Unauthorised removal of covers, post and liquid stop barrier parts
- The usage of unsuitable spare parts
- Or other shortcomings

May therefore cause significant **damage and injury**.

As the customer you are responsible for the safety of the machine on your premises. For this reason, among other aspects, you must ensure

- The flammable liquid stop barrier remains in a lasting safe and functional state,
- This flammable liquid stop barrier is only used correctly,
- The instructions in these operating instructions are fully understood, followed and applied,
- Only specifically qualified and trained personnel are tasked with work on the flammable liquid stop barrier and its surroundings.

### **In summary:**

We, Anhamm Liquid Barrier Products GmbH, are responsible for the safety of the design and construction of the flammable liquid stop barrier.

You as the operating organisation are responsible for the safety of the machine on your premises.

You will find important information on the safety of the machine in these operating instructions.



## **1.2. Description and function**

### **1.2.1. Safety symbols**

Specially marked safety instructions are used in these operating instructions.

These safety instructions are required to provide information on specific hazards and to provide important information.

The terms and safety instructions have the following significance:

**Danger! Hazards for personnel,  
Hazards for machine, material and the environment**

**Note! Information for improved understanding  
of the machine/the safety system!**

All other instructions and information that are not specially marked, whether in the operating instructions, whether in other product information or on the machine, are however **NO LESS IMPORTANT!**

Ignorance, misconduct or incorrect operation can cause malfunctions and, in turn, malfunctions can cause direct or indirect injury and damage.

**DANGER!**  
**Prior to the installation and the commissioning of the safety system, the  
operating instructions must be read in full and understood.**

These instructions on the use of the liquid stop barrier are as comprehensive as possible. However, there may be situations that are not explained in these operating instructions.



### **1.3. Operating instructions and proprietary rights**

These operating instructions are not allowed to be copied or provided to third parties without the approval of Anhamm. They are protected by copyright.

We reserve title to all information in these operating instructions including all drawings, documents etc. without restriction.

The operating instructions are only intended to place you and your employees in the position to be able to operate and maintain this flammable liquid stop barrier in a safe state. And you are only allowed to use this documentation for this purpose.

### **1.4. Service and maintenance contracts**

#### **NOTE!**

Among other aspects, the following are required for the correct operation of the flammable liquid stop barrier:

1. Careful installation, maintenance and repair
2. Specially trained employees

For this purpose, we, Anhamm Liquid Barrier Products, offer you the following services:

3. On-site commissioning
4. Delivery of suitable spare parts,
5. Maintenance and repair in your works,
6. Training and re-training of your employees and their managerial staff.

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### **1.5. Warranty and liability**

Each flammable liquid stop barrier is optimised and adjusted in the factory prior to delivery; it is also subject to a leak test and function check.

If, nevertheless, defects occur during the warranty period, we will address complaints in accordance with our general terms and conditions.

#### **DANGER!**

#### **Modifications to the flammable liquid stop barrier**

Modifications to the flammable liquid stop barrier by the operating organisation may degrade the function or safety.

The responsibility for changes to the flammable liquid stop barrier lies solely with the operating organisation.

Anhamm Liquid Barrier Products rejects all liability for injuries or damage in this context.

#### **Note!**

**We will reject claims under the warranty and any further liability if the damage has been caused by the following reasons:**

- 1. Failure to follow the operating instructions**
- 2. Incorrect use**
- 3. Inadequately qualified personnel**



## **2.0. Information on the flammable liquid stop barrier**

### **2.1 Manufacturer and designation**

Manufacturer: Anhamm Liquid Barrier Products GmbH

Designation:

anhamm-Sicherheitsklappschott / TÜV-approved  
(flammable liquid stop barrier / FM approved)

### **2.2. Description and function**

The flammable liquid stop barrier essentially comprises the following [components/assemblies](#):

#### **1. Ground tray**

The ground tray is quasi the base frame for the flammable liquid stop barrier. All other parts of the flammable liquid stop barrier are fastened to or mounted on the ground tray.

#### **2. Flap**

The flap lies flush with the ground in the ground tray and can be driven over. It is in the form of a float. If liquid flows into the ground tray, the flap floats on the liquid and pivots out of its horizontal position to the vertical position.

#### **3. Spring packs**

From an opening angle of approx. 30 °, the erection of the flap to the vertical position is supported by spring force.

#### **4. Posts and seals**

In its vertical position, the liquid stop barrier is pressed against sealing strips that are fastened to the vertical posts and the ground tray.

On one of the posts there is a hook that securely retains the flap in its vertical position.

For further information, please refer to the enclosed product sheet.



### **2.3. Correct use**

The anhamm - flammable liquid stop barrier (here termed the flammable liquid stop barrier) you have purchased is built into gate and door openings and is a safety feature to avoid the uncontrolled spread of chemically contaminated and/or water polluting liquids and to avoid the uncontrolled spread of fire due to flowing burning liquids by means of the mechanical retention of the stated liquids, which are a hazard for man and the environment.

#### **DANGER!**

**You are not allowed to disable the flammable liquid stop barrier. At no time is it allowed to store, pack or re-pack anything on the flammable liquid stop barrier.**

The flammable liquid stop barrier is suitable for zones 1 and 21, as well as 2 and 22. The temperature class is T6. It is suitable for flammable liquids in group IIa and IIb.

The flammable liquid stop barrier is delivered fully assembled and adjusted. It must be placed in an existing ground pit at the customer, aligned and grouted, during this process it is also sealed against the wall to prevent the passage of liquids. Installation is undertaken solely by the manufacturer. As an alternative, you can install the unit yourself, but with fitter support from the manufacturer (SUPERVISION).

**The flammable liquid stop barrier must be regularly serviced.**

The condition of the built-in springs must be checked regularly and the springs must be renewed at the latest after 10 years.

The responsibility for all static and construction-related issues that arise during the installation and operation of the flammable liquid stop barrier lies solely with the customer (operating organisation).





### **2.4. IMPORTANT SAFETY INSTRUCTIONS**

The design, technology and function of this flammable liquid stop barrier comply with the actual state-of-the-art and the essential European health and safety requirements.

This flammable liquid stop barrier features a high level of quality and a recognised high level of reliability.

It corresponds to the state-of-the-art and provides a very high level of safety.

As for almost all machines, so-called residual risks cannot be avoided with the flammable liquid stop barrier. Such residual risks are in the majority of cases the result of the purpose and function of the product.

In the case of the flammable liquid stop barrier they result from the combination of the following circumstances:

1. The flammable liquid stop barrier can be driven over with fork lift trucks, lorries, cars, etc. and is therefore of correspondingly robust design. The result is the first unavoidable residual risk: a relatively large mass and relatively large dimensions.
2. If water runs into the tray for the flammable liquid stop barrier, the flap will float due to its buoyancy and as a result leave its horizontal position in which it can be driven over. The result is the second conceivable residual risk: the movement from the horizontal position to the vertical position may come unexpectedly for people in the area around the liquid stop barrier.
3. From a certain liquid level, the floating action of the flap is supported by the tensile force of the built-in springs. The result is a further possible residual risk: the energy stored in the loaded springs and the movement of the liquid stop barrier supported by the spring forces.
4. In the vertical position, the flap is pressed by spring force against part of the seals. The result is the final residual risk: crushing and shearing by moving parts.



These residual risks have been largely minimised at the manufacturer by the design and construction of the flammable liquid stop barrier:

1. Reduction in the opening speed
2. Reduction in the spring forces required
3. Complete assembly of the flammable liquid stop barrier in the factory
4. Adjustment of the spring forces in the factory

The operating organisation must take the following measures against hazards due to the remaining residual risks:

1. The areas where crushing or shearing are conceivable are to be clearly marked as danger zones using red-white colour strips. The operating organisation must ensure this marking is durable.
2. The flammable liquid stop barrier "danger zone" must be clearly recognisable due to appropriate signs or marking, adapted to the local situation.
3. The signs with safety instructions supplied must be hung by the operating organisation so they are clearly visible.
4. The employees who work in the area of the flammable liquid stop barrier must be regularly informed about the function and residual risks of the flammable liquid stop barrier.
5. The employees who are tasked with the maintenance and repair of the flammable liquid stop barrier must be specially trained and regularly re-trained on safely tackling the special hazards due to the spring forces and due to the possibly large mass of the flap.

The operating organisation must take the following measures against hazards from the energy stored in the springs:

1. The springs must be regularly checked for corrosion and replaced if necessary.
2. All work that could damage the springs, such as welding or grinding work on the springs or in their surroundings is expressly forbidden.
3. The springs must be replaced by the manufacturer of the flammable liquid stop barrier at the end of their safe service life (10 years).
4. The post trim panels must always be closed and firmly bolted in place.
5. Work on the springs is only allowed to be undertaken after express approval by the manufacturer with the flap lying horizontal in the ground tray.



### **2.5. Important safety instructions for explosion protection**

Electrical stray currents and leakage currents in conductive components that, for instance result in the production of sparks capable of causing ignition, overheating of surfaces or dangerous corrosion, must be prevented by the organisation operating the system.

All metal parts of the flammable liquid stop barrier must be connected together electrically. In particular, the flap and the tray must be clearly connected together using an earthing strap and remain durably connected together.

The flammable liquid stop barrier must be safely connected to the equipotential bonding in the surrounding area by the organisation operating the system.

The operating organisation must ensure that the measures for equipotential bonding are durable.

Packaging materials made of plastic must be viewed as effective sources of ignition and it is imperative they are removed prior to transport into the potentially explosive atmosphere.

Incorrect or unsatisfactory maintenance can result in unacceptable wear or the failure of components and therefore in potential sources of ignition.

The safety of the unit in potentially explosive atmospheres is dependent on the correct fastening of the seal holders. Seals and their holders are only allowed to be replaced with genuine spare parts!

Small amounts of flammable liquids in the tray will not trigger the liquid stop barrier. However, they can cause a potentially explosive atmosphere to form. This situation is not critical. The liquid stop barrier is designed and built for potentially explosive atmospheres within the context of its correct use.

However, to maintain the zone categorisation the operating organisation must ensure that unintentional leaks of flammable liquids are removed immediately and completely, particularly also from the tray for the flammable liquid stop barrier.

The thickness of coatings or plastic coverings that can be charged on earthed metal surfaces must not be greater than 2 mm. For this reason, repeated repainting of components/assemblies is not allowed.



### **2.6. Transport and handling**

During transport and handling, there is a particular risk of hitting and crushing personnel in the forklift truck's and the load's danger zone due to falling and movement as a result of the unfavourable position of the centre of gravity and the large dimensions.

For this reason the following special measures must be taken during transport and handling:

1. There must not be any personnel in the area of the load!
2. As far as possible pick up load in the middle!
3. Use forklift truck with forks far apart!
4. Transport load close to the ground as far as possible
5. Only use trained forklift truck driver
6. Transport and handle with particular care and caution
7. Pay attention to obstacles over the entire width of the flammable liquid stop barrier

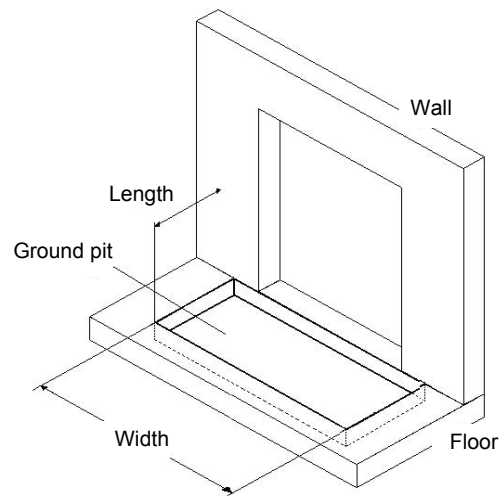
During transport and handling using a crane, attention must also be paid to the selection and arrangement of the lifting tackle such that the load always hangs horizontally.



### **3. Installation instructions anhamm – flammable liquid stop barrier**

#### **3.1. Ground pit**

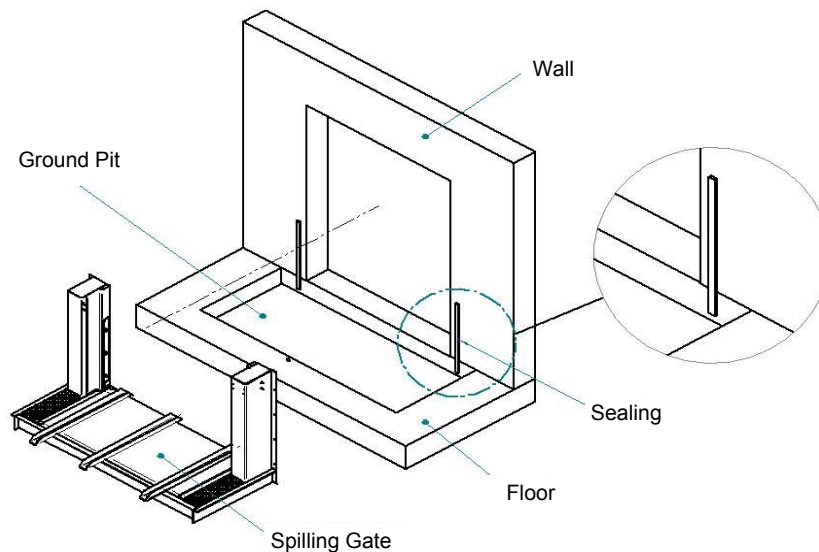
The anhamm flammable liquid stop barrier is installed flush with the ground. For this reason a pit is made in the ground. You will find the dimensions of the ground pit in the liquid stop barrier drawings or the order confirmation. The depth of the ground pit must be constant over the entire area.





### **3.2 Seals for the wall connection**

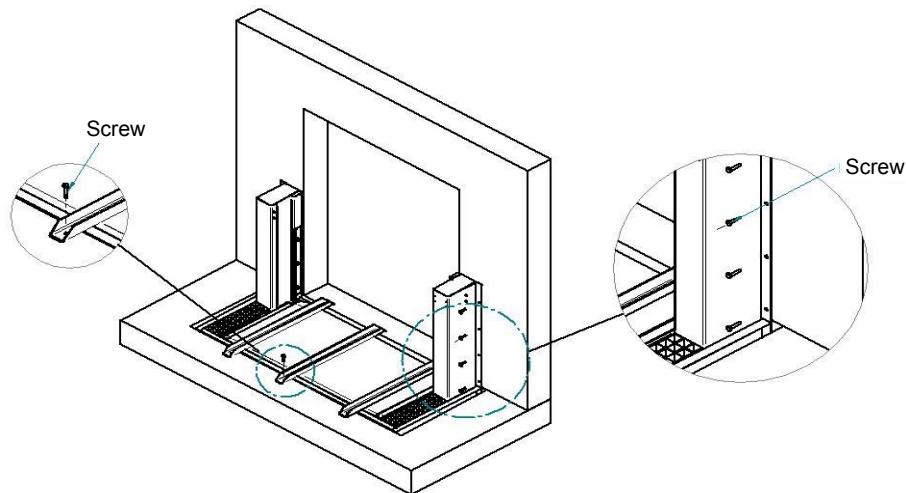
To ensure a liquid-proof connection between wall and the post for the liquid stop barrier, on fitting the liquid stop barrier in the ground pit the two seals supplied are inserted between the post and the wall. The bottom end of the sealing strip must be below the level of the building floor such that, on subsequent grouting of the liquid stop barrier, it is set in the grout.





### **3.3 Inserting and aligning**

The liquid stop barrier is then lifted into the prepared ground pit. The alignment brackets prevent the liquid stop barrier unit twisting on fitting the liquid stop barrier. The brackets are therefore to be left until the grout around the liquid stop barrier unit has set. It is to be ensured the top of the liquid stop tray barrier is at the required ground height. The alignment brackets can be used to help to align the liquid stop barrier at the required height using wooden chocks and clamping bolts such that it can be installed flat and straight.





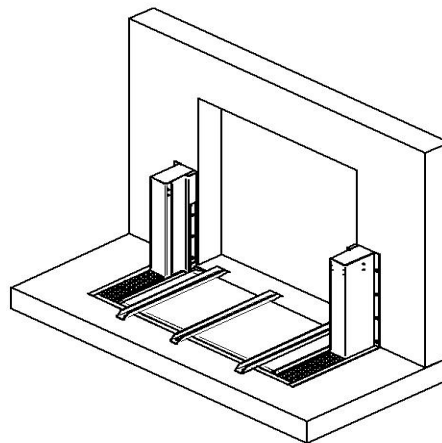
### 3.4 Mounting and grouting with PAGEL

Once the required height has been set, the liquid stop barrier can be bolted to the wall. First it is imperative the position of the seal between the liquid stop barrier and the wall is checked.

To ensure a liquid-proof wall connection and to prevent the liquid stop barrier lifting due to it floating during the grouting process, the liquid stop barrier is bolted to the wall on the right and left beside the liquid stop barrier unit. For this reason there are 4 holes in each of the posts. On bolting in place the liquid stop barrier posts, it is to be ensured the posts remain parallel to each other. The screws and wall plugs are included with the liquid stop barrier unit.

The parallel alignment can only be checked on the posts and not on their trim panels. **In the case of liquid stop barriers with 3 or more alignment brackets, the middle alignment bracket should be bolted to the existing floor.** This action will prevent the liquid stop barrier unit twisting during grouting.

The hollow space between the liquid stop barrier unit and the building floor can then be filled with grout. During this process it is necessary to use machine grout, as this has a constant volume on setting and therefore ensures a reliable contact between liquid stop barrier and the ground. We recommend the used of PAGEL V1-50, please follow the manufacturer's instructions on usage.







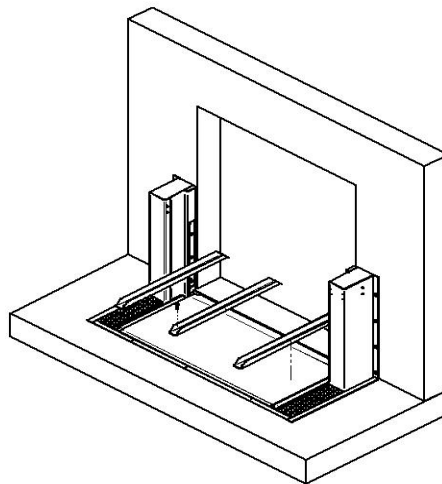
### **3.5 Final assembly/removal of the alignment brackets**

Only after the grout has set, the fittings for the alignment brackets can be undone and the alignment brackets removed. The setting time is heavily dependent on the weather. It is therefore imperative to follow the manufacturer's instructions.

After the grout has set and the alignment brackets have been removed, the liquid stop barrier is ready for use. It is imperative the liquid stop barrier tray is cleaned of any grout residue etc. Pay attention to section 4.3. Cleaning/maintenance.

For this purpose it is only necessary to raise the liquid stop barrier by hand. It will then rotate automatically to the vertical. After cleaning, press the liquid stop barrier back to the horizontal position by hand.

**Danger!**  
**It is specifically highlighted that the rotating element of the liquid stop barrier unit - the flap - can have a large mass (up to 1000kg).**





### **3.6 Function check/ commissioning**

Prior to commissioning, these operating instructions must have been read in full and understood. If part or all of these operating instructions has not been understood, contact the manufacturer without delay.

Prior to commissioning the safety system, the function of the flammable liquid stop barrier must be carefully by specialist personnel in accordance with the section Function check (4.4). After commissioning, this check must be made every six months.

During commissioning, the enclosed signs are to be hung beside the installation location where they are clearly visible.

The responsible employees are again to be specifically instructed and familiarised with this safety feature.

#### **Danger!**

**It is specifically highlighted that the rotating element of the flammable liquid stop unit - the flap - has a large mass (up to 1000kg).**

**If the tension of the springs in the liquid stop barrier unit is changed while the flap is in the vertical position, the flap may fall back to the horizontal position in an uncontrolled manner without warning!**

**During this process a significant amount of energy is built up that may result in serious injuries to personnel in the danger zone.**

**Touching moving parts while the system is in operation and/or during system maintenance may cause crushing, for this reason it is imperative physical contact is avoided.**

### **4. Inspection, maintenance and repair**



### **4.1. Mechanics and springs**

**The simultaneous maintenance of the safety system by two or more people is not recommended, as additional hazards may arise due to misunderstandings or misconduct. Should, nevertheless, it be necessary for several people to undertake the work, the work steps must be precisely co-ordinated.**

On the use of moving mechanical parts, injuries may be caused due to the parts moving on their own. It is imperative contact with these parts is avoided without appropriate safety features and/or personal protective equipment.

It is only allowed to use genuine ANHAMM components for the operation of the safety system. On the usage of components from manufacturers other than those used by ANHAMM, ANHAMM accepts no responsibility.

The genuine spare parts from ANHAMM for this product are all made of alloy, PTFE bearings, seals, cooling bags and their brackets, as well as springs and other metal parts (posts, transit plate, flap).

#### **DANGER!**

**It is not allowed to change the tension of the springs. Incorrect adjustment of the tension of the springs can result in malfunctions and injuries.**

The mechanics have already been adjusted in the factory.

If you find defects on checking the function of the safety system, record these defects in writing and contact the manufacturer without delay (1.6. Service address).

Checking the liquid stop barrier is described step-by-step in the section Function check.

#### **DANGER!**

**Work in the area of the springs that could damage the springs (e.g. grinding/welding work) is also forbidden while the springs are installed.**



### **Changing the tension of the springs can result in:**

1. The flap no longer lying correctly in the tray and in it triggering in an uncontrolled manner. This situation can result in a raised edge over which personnel may trip or that may cause sudden stopping on driving over with lifting equipment. Personnel may be injured and the liquid stop barrier unit and lifting equipment may be damaged.
2. The flap triggering in an uncontrolled manner, that is it pivots from the horizontal storage position to the vertical liquid barrier position. In particular, if personnel and/or vehicles and equipment want to pass over the liquid stop barrier, damage may be caused.
3. The liquid stop barrier unit not functioning correctly and as a result the loss of its function as a safety feature.

### **If it is necessary to remove the springs, the following steps are to be followed:**

1. Only remove the springs in consultation with the manufacturer
2. Record the position and tensioned length of the individual springs so that they can be re-adjusted after fitting
3. Only remove the springs with the flap in the horizontal position  
Fully relieve springs using the adjusting spindles and only then remove them
4. Prior to re-fitting, check for sound condition, in case of uncertainty, always contact the manufacturer

#### **Danger!**

**After collision damage, the springs should be checked by the manufacturer and, if necessary, replaced with genuine spare parts.**

**Check the springs for corrosion at least every 6 months if they are used in an environment that may cause corrosion. On the first signs of corrosion on the springs, immediately have the springs replaced with genuine spare parts by the manufacturer.**

**Replace the springs every 10 years with original spare parts, new springs.**

## **4.2. Cleaning and maintenance**

The area of the liquid stop barrier unit must be kept clean at all times.

In particular the area under the flap. If the flap for the liquid stop barrier unit is not correctly lowered, e.g. because there are stones under the flap, the front of the flap



will protrude above the ground. The situation can result in a raised edge over which personnel may trip or that may cause sudden stopping on driving over with lifting equipment. Personnel may be injured and the lifting equipment and flammable liquid stop barrier may be damaged.

To clean the liquid stop barrier unit, please refer to the information and instructions in the section 'Maintenance/repair' (4.3.).

#### Note!

The liquid stop barrier and its metal components are made of stainless steel. If the liquid stop barrier, however, comes incorrectly into contact with rusting steel (e.g. due to sparks from grinding; welding work in the area around the liquid stop barrier; steel particles etc.), rust spots may form at these contact points. These rust spots are to be removed using suitable abrasive agents, as otherwise the stainless steel in this area will lose its stainless effect.

### **4.3. Maintenance and cleaning**

The maintenance of the safety system comprises regular cleaning of the liquid stop barrier unit and keeping it clean. The area around the liquid stop barrier unit is to be kept clean.



During the regular maintenance, all components must be checked for unacceptable wear or unacceptable corrosion.

Weakened components must be correctly replaced with genuine spare parts without delay, as otherwise they could jeopardise the safety and function of the liquid stop barrier.

On cleaning the unit, proceed as follows:

1. Prior to starting cleaning work, put up clearly visible barriers to stop passage over the liquid stop barrier unit.
2. Clean the surface of the liquid stop barrier using a brush or vacuum cleaner, in particular the area over the moving flap. Do not sweep the dirt into the liquid stop barrier tray, but forward in the direction of the floor.

All flap parts for the safety system can be moved manually and lifted sufficiently until the automatic function starts, irrespective of the size of the unit.

### **Danger!**

**On raising the moving flap, attention is to be paid to ensuring that personnel wear the correct personal protective equipment in accordance with the regulations and that the flap does not slip from the tool/finger due to unsafe conduct and as a result fall back to the ground before the automatic function could start. This situation could result in crushing and trapping of extremities on the hand. In all circumstances it is to be ensured the pivoting area around the moving flap is kept clear.**

If the flap is pivoted to the vertical, the liquid stop barrier tray can be best cleaned using a vacuum cleaner or a dustpan and brush.

The liquid stop barrier tray must be cleaned of all soiling. Soiling due to solids and liquids would prevent the flap lying fully in the liquid stop barrier tray. If the flap does not lie completely in the tray, there may be a raised edge over which personnel may trip. Significant injury and damage may be caused as a result.



After cleaning, the flap can be pivoted manually to the horizontal position, the pivoting area around the flap must also be clear in this case to prevent injuries.

The area under the grid must only contain minor soiling (dust, sand) in small quantities. In case of greater soiling, remove grid and vacuum clean or clean using dustpan and brush.

**Danger!**

It is specifically highlighted that the rotating element of the flammable liquid stop unit - the flap - has a large mass (up to 1000kg).

Touching moving parts while the system is in operation and/or during system maintenance may cause crushing, for this reason it is imperative physical contact is avoided.

On completion of the work, the position of the flap must be checked again, the flap must not protrude above the floor, in the horizontal state the flammable liquid stop barrier should be flush with the finished floor height. There must not be a raised edge over which personnel may trip.

The frequency of the cleaning work depends on the degree of soiling in the area where the safety system is installed. **(at least 1 x month with low or normal soiling/ otherwise as necessary)**

A minor visual inspection should also be made 1 x week to exclude unevenness/a raised edge over which personnel may trip at the transition from the flap to the floor.

#### **4.4. Function check**

The flammable liquid stop barrier is delivered functional and fully adjusted. In the normal case, it is not necessary to re-adjust the closing force on the installed flammable liquid stop barrier after fitting. Nevertheless, in a few cases as a result of



fitting changes may occur on the flammable liquid stop barrier, that is the liquid stop barrier unit, that can adversely affect the function of the triggering and sealing of the safety system.

**The function check makes certain that fitting has been performed correctly.**

In accordance with the manufacturer's instructions, the function check should be performed at least every 6 months and documented.

**Prior to the function check, it is imperative the unit is cleaned in accordance with section (4.3.) Maintenance and cleaning'.**

**NOTE!**

Covers, trim panels, seals are not allowed to be removed except in case of service. In case of safety defects, the system must be taken out of operation immediately and the service personnel informed. If the system is taken out of operation, all local health and safety and environmental regulations must be followed.

**4.4.1. Visual check:**

The seal is to be checked for damage. The seal is resistant to ageing and does not need to be replaced at defined intervals.

Only if the seal is mechanically damaged or deformed must it be replaced, or if it is heavily soiled with adhering material. The seals will be degraded by storage rolled up





for an extended period. However, the manufacturer can deliver replacement seals within a few hours.

After the delivery of the seal, it must be fitted without delay or stored unrolled to be able to prevent any damage. However, every seal is to be checked again in detail prior to replacement.

Dirt that has been deposited on the seal can be removed carefully. The Teflon coating can fray. Under no circumstances try to pull off the threads, instead press the threads onto the seal using a flat cloth. Slight fraying is not a reason to replace the seal.

- The flap is to be checked visually for deformation or distortion
- The trim panels and the post sections are to be checked visually for mechanical damage.
- The cover plate, as well as the cover plate over the PTFE seals is to be visually checked for damage and deformation.

#### **4.4.2. Manual function check:**

The function of the liquid stop barrier can be checked dry, water is not required for the check.



The safety system is triggered by lifting the flap manually. During this process the force applied by hand can be checked using a spring balance and compared with the information from the factory. (The forces are allowed to vary by max. 20%, a difference of 50N is however always allowed.)

The barrier is then pivoted up further manually. The trigger height is reached when the barrier wants to automatically pivot to the vertical. This should occur at an angle of

Approx.  $30^\circ \pm 5^\circ$ .

If the flap is pivoted to the vertical position, the contact forces must press the flap against the vertical seals as a minimum up to half the sealing height.

## **4.5. Sealing check**

### **4.5.1. Visual check:**

The flap must press evenly against the seal over the entire width of the barrier.

To check the small, approx. 130mm wide, transit plate must be carefully pivoted away from the flap. Then the barrier can be gently pressed manually from the vertical



position. The flap must come into contact with the seal at the top at a distance of approx. 5..10cm. To check a glass of water can be poured into the gap between seal and flap. Puddles must not form on the inner side (of the tray)

If the flap is pivoted automatically to the vertical position, at the top it must be a distance from the seal. This distance is reduced with increasing hydrostatic pressure. This pressure can be simulated manually. The flap must be fully in contact with the seal with the maximum force on the flap as per the value in the table.

If, during this check, deviations from the factory settings are found, the measured values entered on the form are to be sent to the manufacturer. In the majority of cases it is possible to detect the cause of the fault and how to rectify it from these figures.

Should you have further questions or if you have not understood these instructions or parts of these instructions, please contact us on 0049 (0)2841 8890090 or at [info@klappschott.de](mailto:info@klappschott.de) . We will be pleased to be of assistance.

### **5. Disassembly of the flammable liquid stop barrier**

**The packaging and the flammable liquid stop barrier are to be disposed of by the operating organisation in accordance with applicable national or regional regulations in the place of use.**



### **DANGER!**

**During all work on the flammable liquid stop barrier it is to be ensured the stipulated personal protective equipment is worn. (Gloves, glasses and shoes with steel toe caps).**

During the disassembly of the flammable liquid stop barrier the flap can be removed from the liquid stop barrier tray, and the transit plate, the covers for the liquid stop barrier posts as well as the seals and the springs can also be removed.

### **Danger!**

**It is specifically highlighted that the rotating element of the flammable liquid stop unit - the flap - has a large mass (up to 1000kg).**

**If the tension of the springs in the liquid stop barrier unit is changed while the flap is in the vertical position, the flap may fall back to the horizontal position in an uncontrolled manner without warning!**

**During this process a significant amount of energy is built up that may result in injuries to personnel in the danger zone.**

**Touching moving parts while the system is in operation and/or during system maintenance may cause crushing, for this reason it is imperative physical contact is avoided.**

All liquid stop barrier parts to be removed are to be disposed of correctly. The materials used are metal, wood and PTFE components.

To be able to disassemble the flap unit, first the mechanics built into the posts must be removed, **the flap must be in the horizontal position.**

1. Remove the covers on the posts to expose the mechanics.
2. Only remove the springs if the flap is in the horizontal position. Fully relieve springs using the adjusting spindles and only then remove them.
3. Remove the levers fastened to the shaft with a screw.
4. Then remove the 2 bearings, which are each fastened with 3 screws.
5. Only then can the flap be removed from the tray.



6. Finally, the posts can be cut-off above the floor using an angle grinder.

As the liquid stop barrier tray is grouted into the floor, this part of the flammable liquid stop barrier can only be removed or ripped up with construction work.

Now dispose of the removed liquid stop barrier parts correctly. On request we can undertake this work for you.

### **DANGER!**

**If you have not understood these operating instructions or part of the instructions, or your questions have not be satisfactorily answered, in this case please contact the manufacturer or your dealer. In case of incorrect work, the function of the unit, your personal safety and safety in the surroundings may placed at considerable risk.**