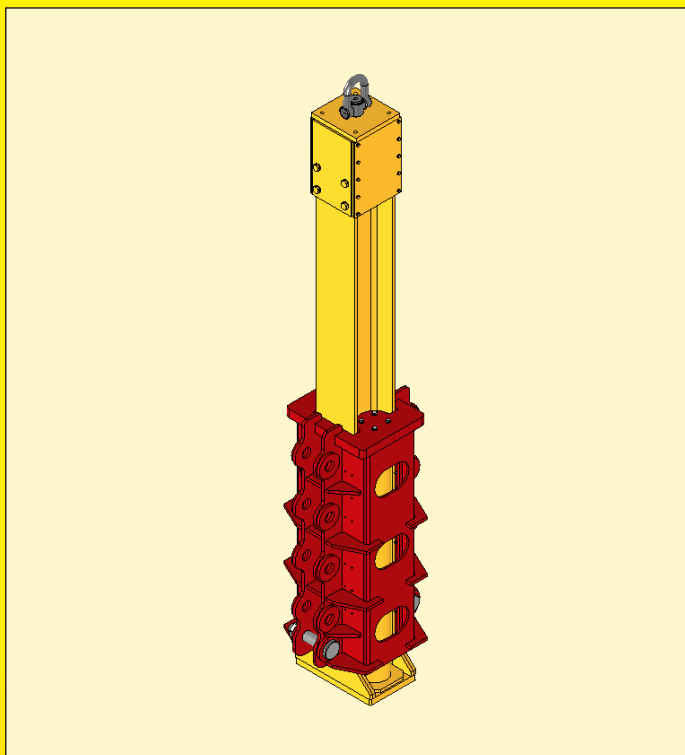




SHORING EXTRACTOR VZ100

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■ Preface

Read the operating instructions very carefully before using the machine for the first time. This will help you to avoid mishandling the machine.

Be sure to pass on all safety instructions and briefings to other users of the machine.

These instructions describe how to use the **VZ100 shoring extractor** on construction sites and during transportation.

Therefore, it should be kept in the document compartment of the excavator cab.

These operating instructions are only valid when used in conjunction with the operating instructions for the excavator or crane.

■ 1. Intended use

The **VZ100 shoring extractor** is an attachment tool designed exclusively for use in the commercial sector.

It is intended for loosening and pulling up the inner base and extension plates of the 700 series double slide rail shoring, as well as the slide rails of the 750 series, in accordance with the procedure described in this document.

The **VZ100 shoring extractor** (hereinafter referred to as the “attachment tool”) can only be used with a hydraulically driven excavator or crane. In this capacity, the VZ100 is an attachment tool for the carrier device (i.e., excavator or crane with a hydraulic unit). The shoring extractor cannot be used on its own.

Any other use is considered improper. The manufacturer is not liable for any resulting damage. The user alone bears the risk.

1.1 Foreseeable Misuse



Do not use the attachment tool to lift or transport shoring elements.

The **VZ100 shoring extractor** is not designed to remove rolling strut pairs, rolling struts, or support frames.

Using it with shoring systems from other manufacturers is not intended and is therefore not considered intended use.

1.2 Reading this protects lives!



The intended use includes complying with the manufacturer's specifications in the instruction manual:

- Handover with initial instruction
- Safety instructions and regulations (read before use)
- Observe and check the operating, maintenance, and servicing conditions

The attachment tool may only be used or serviced by persons who are familiar with it and have been informed of the dangers.

This document describes maintenance work; however, repair work may only be carried out by the manufacturer!

The manufacturer cannot be held liable for any damage resulting from unauthorised modifications to the attachment tool.

Observe the relevant country-specific accident prevention regulations, as well as other generally recognized safety, occupational health, and road traffic regulations.

► Shoring Extractor VZ100

The manufacturer, dealer, owner, and operator are all responsible for safety.

Please note that the lives of the user and others may depend on proper, safety-conscious operation.

Operators should have at least the qualifications of an experienced excavator or machine operator. Only experts or the manufacturer may carry out annual maintenance and safety checks.

■ 2. Safety instructions and accident prevention

Before beginning work, both the user and the machine operator must familiarise themselves with all operating elements and their respective functions. It is too late to do so during operation!



The warning sign alerts you to the safety instructions in this operating manual.

Failure to observe these instructions may result in bodily harm or damage.

2.1 General safety instructions

- In addition to the instructions in this operating manual, observe the applicable safety and accident prevention regulations and legal provisions!
- The attached warning and information signs provide important safety information and indicate danger points on the machine. Ensure to observe them for your own safety!

- When using public traffic routes, observe the relevant regulations!
- Standing in the working or turning/swivel area is strictly prohibited!
- Secure the work area before starting work!

2.2 Safety in rental operations (B2B only)

Our machines may only be operated by professionals. Only trained and attentive operators can ensure safe operation!

Before each machine handover, the handover declaration must be completed and archived in a folder as proof of handover. The employers' liability insurance association can classify a handover without documented instruction as negligent operation!

2.3 Safety instructions for operation



Select lifting gear and load hooks in accordance with the maximum tensile load specified in chapter 5.7, "Overview of required tensile loads".



Only use load hooks with a safety latch to prevent the load from unhooking unintentionally while pulling.

It is prohibited for people to stand under a suspended load or in the danger zone of the machine!

There is an increased risk of falling when manually aligning the attachment. Always use mechanical alignment!

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Never allow a person to guide the attachment by hand. There is a risk of injury (crushing of hands and feet). Guidance with a fixed connection (e.g., a rod) is also prohibited!

If manual alignment is unavoidable, use a thin, soft plastic rope pulled/balanced from two sides (similar to tug-of-war).



- Observe the signs and markings on the machines and danger points!
- When operating the machine, take care to avoid endangering others. We recommend using video technology for a safe all-around view, especially in areas that cannot be seen from the cab
- Before starting up or commissioning, check your immediate surroundings!
- Only put the equipment into operation if all safety devices are in place and in the protective position!
- Operation with the safety devices removed is prohibited



Avoid unnecessary, jerky movements when swivelling! Drive slowly and carefully!

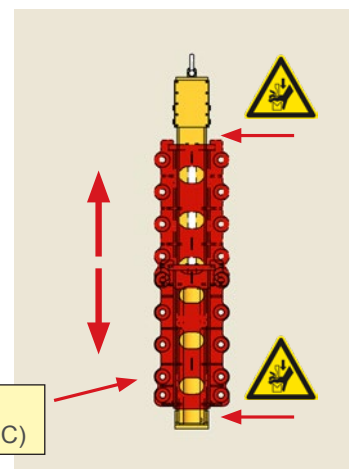


There are squeezing and shearing points on power-operated parts, such as hydraulically operated parts!

Please observe the signs posted at danger points!

Maintain a safe distance when moving the sliding carriage (SC). There are **squeezing and shearing points** that pose a high risk of injury!

Sliding carriage (SC)



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2.4 Hydraulic system

The hydraulic system operates at a maximum pressure of 310 bar. If pressure is lost, the system must be inspected immediately.

When connecting the hydraulic lines to the carrier device, observe the operating instructions.

- When connecting hydraulic cylinders, ensure that the hydraulic hoses are securely connected as prescribed!
- When connecting the hydraulic hoses to the hydraulic system of the excavator, ensure that the hydraulic systems are depressurised on both the machine and implement sides, and that the excavator engine is off!
- The coupling sockets and plugs between the carrier vehicle and the attachment tool should be clearly marked to prevent operating errors. Reversing the connections reverses the function (e.g., extension/retraction). **Risk of accidents!**
- The hydraulic hose lines must be regularly inspected and replaced if damaged or worn (at least every six years). Replacement lines must meet the specifications of the device manufacturer!
- Use suitable aids when searching for leaks due to the risk of injury.
- Fluids escaping under high pressure can penetrate the skin and cause serious injury. Seek immediate medical attention for injuries! **Risk of infection!**
- Do not inhale vapours caused by heating!
- Only use nitrogen to fill gas cylinders to avoid the **risk of explosion!** Filling must be carried out in a specialised workshop or by the manufacturer!
- If the diaphragm accumulator loses pressure, visit the workshop immediately!
- Before working on the hydraulic system, lower the device, depressurise the system, and turn off the engine!

2.5 Safety during maintenance work

- Repair, maintenance, cleaning, and elimination of malfunctions must only be carried out when the engine is switched off and parts are no longer moving (take engine run-on into account)!
- When performing maintenance work on a raised appliance, always secure it with suitable support elements (e.g., trestles)!
- There is an increased risk of accidents if guards are removed during maintenance work. To ensure that the protective devices function as intended, they must be properly reattached after maintenance.
- Dispose of oils and greases properly and in an environmentally friendly manner!
- Check nuts and bolts regularly (at least once a year) for tightness and retighten them if necessary!
- Before using the machine, check for worn and corroded areas. Worn and corroded parts must be replaced; otherwise, there is a risk of insufficient mechanical strength!

► Instruction manual

Please note that all weld seams must be visually checked for cracks daily and after overload situations, impacts, etc.

Checking for cracks prevents accidents and major repairs.

- All maintenance and repair work not described in the operating instructions must be carried out in a specialist workshop; otherwise, no warranty can be accepted!

When using spare parts, ensure that only original **TWF Tiefbautechnik GmbH** parts are used; otherwise, you will void your warranty!

The manufacturer accepts no liability for damage caused by installing incorrect parts.

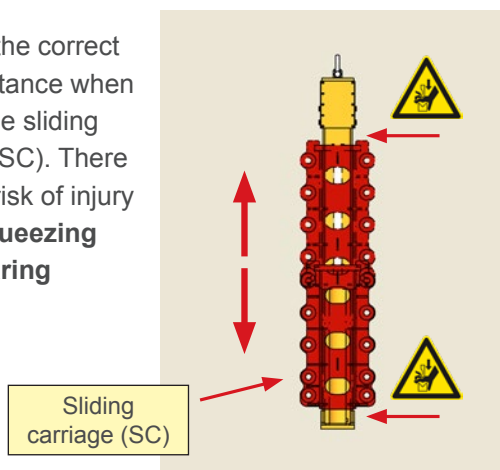
■ 3. Spare parts orders

Please include the following:

- The appliance type and number (found on the type plate), as well as photos of the parts to be replaced
- The spare part number (ET No.), from the spare parts list in the operating instructions.
- Please check which additional equipment or variants, as specified in the spare parts list, apply to your machine
- Shipping method: Parcel service or forwarding agent. Clearly state the exact address to which the shipment should be sent. Specify the zip code.
- Inquiries can be sent to:
info@TWF-tiefbautechnik.com

+49 (0) 245 9104 0
+49 (0) 245 9104 50
- In the event of loss, the current version of the operating instructions can be requested via email.
- If the operating instructions are lost, a copy can be requested via email or downloaded from the TWF website.
- All repairs within the 12-month warranty period may only be carried out with the manufacturer's consent. Repairs carried out without the manufacturer's consent will invalidate the operating license (carried out at the user's own risk).

Maintain the correct safety distance when moving the sliding carriage (SC). There is a high risk of injury due to **squeezing and shearing points**.



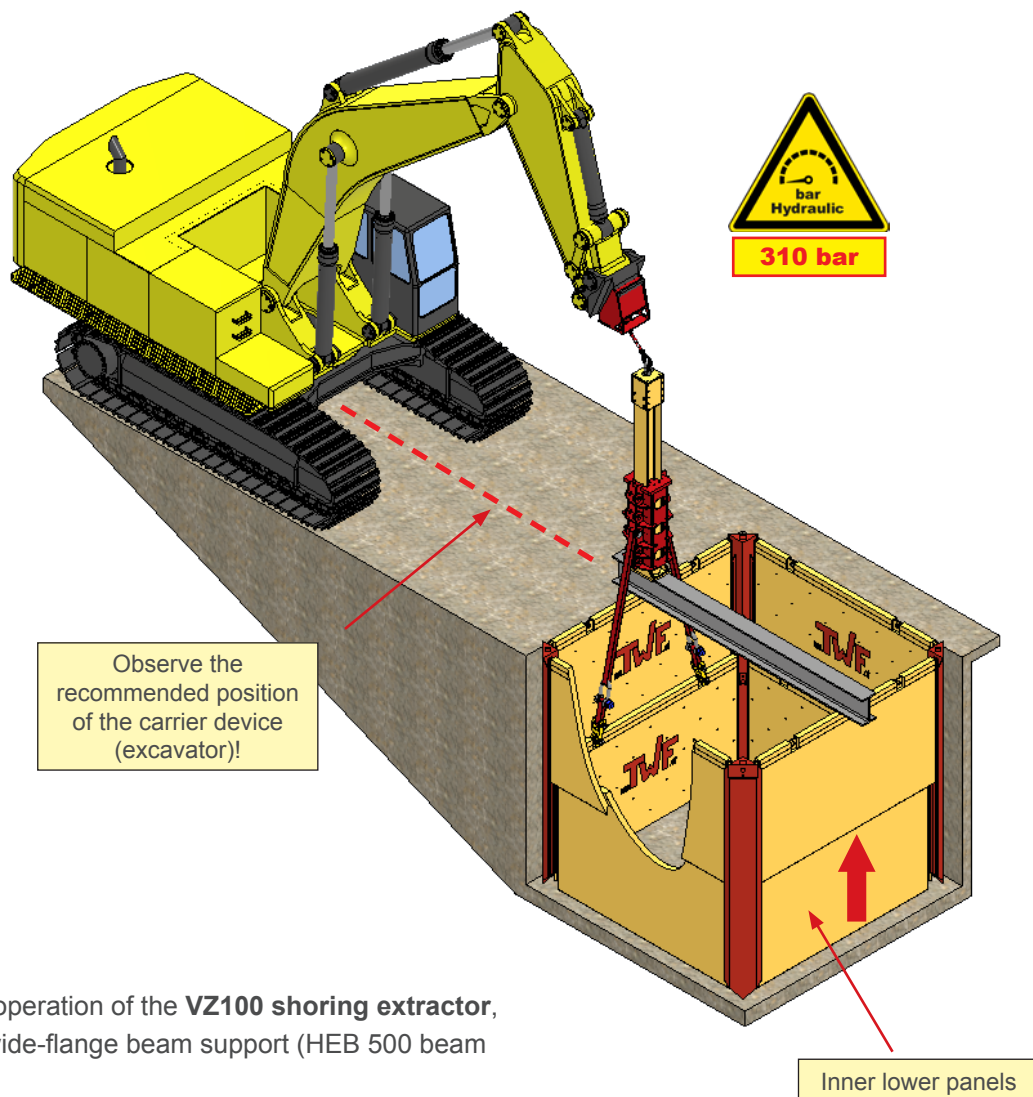
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■ 4. Intended applications

The **VZ100 shoring extractor** is intended for applications as set out in this document. Any other applications must be agreed upon in advance by our technical department. Refer to **chapter 5.7, “Overview of required tensile loads”** for more information.

4.1 Use case 1: Slide rail shoring / shaft, pulling inner panels

50% load per side — pulling is only permitted via **attachment point for pulling eyes!** The working pressure on the carrier device is **310 bar max.**

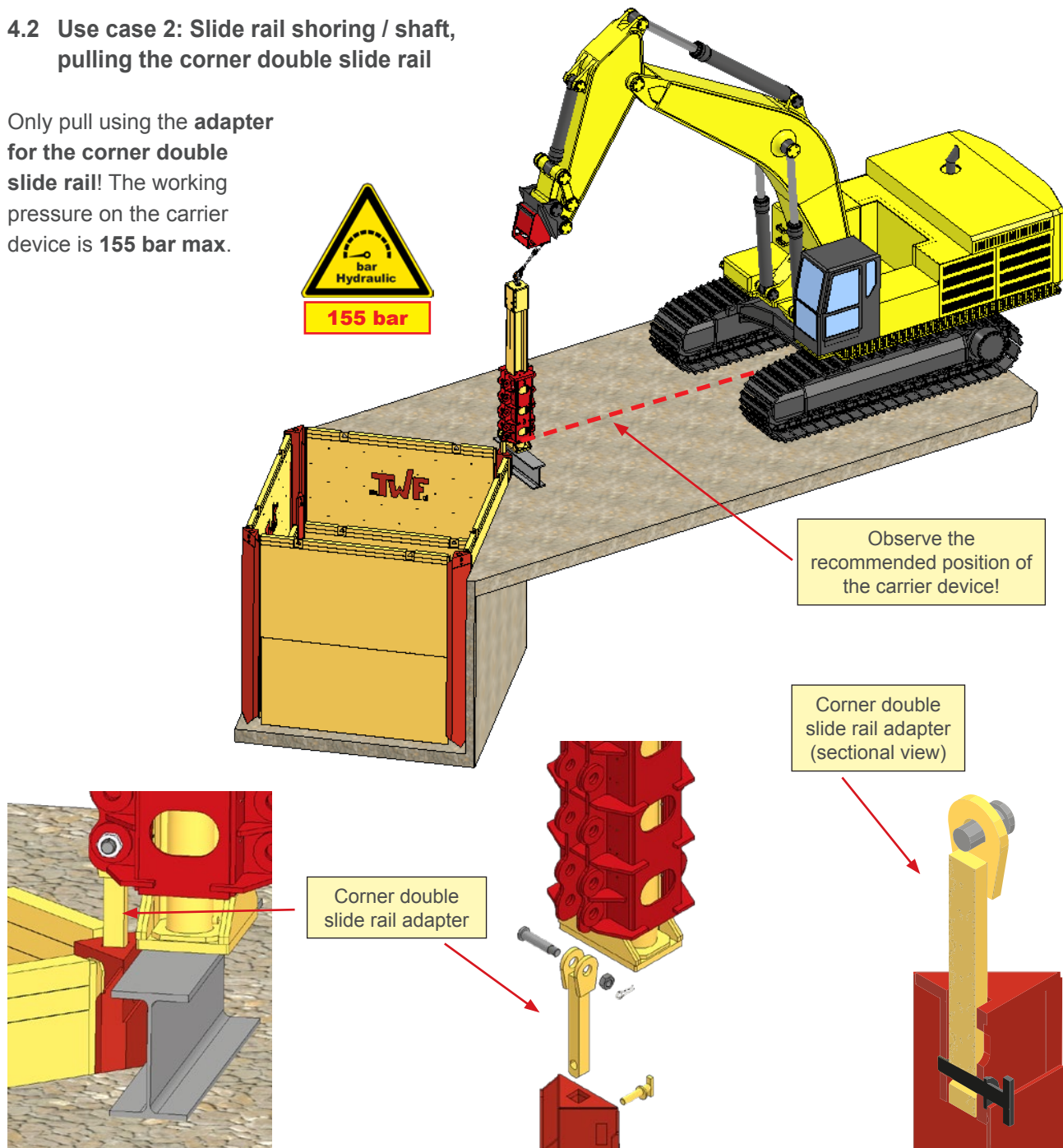


To ensure safe operation of the **VZ100 shoring extractor**, use a suitable wide-flange beam support (HEB 500 beam or larger).

► Instruction manual

4.2 Use case 2: Slide rail shoring / shaft, pulling the corner double slide rail

Only pull using the **adapter for the corner double slide rail**! The working pressure on the carrier device is **155 bar max.**

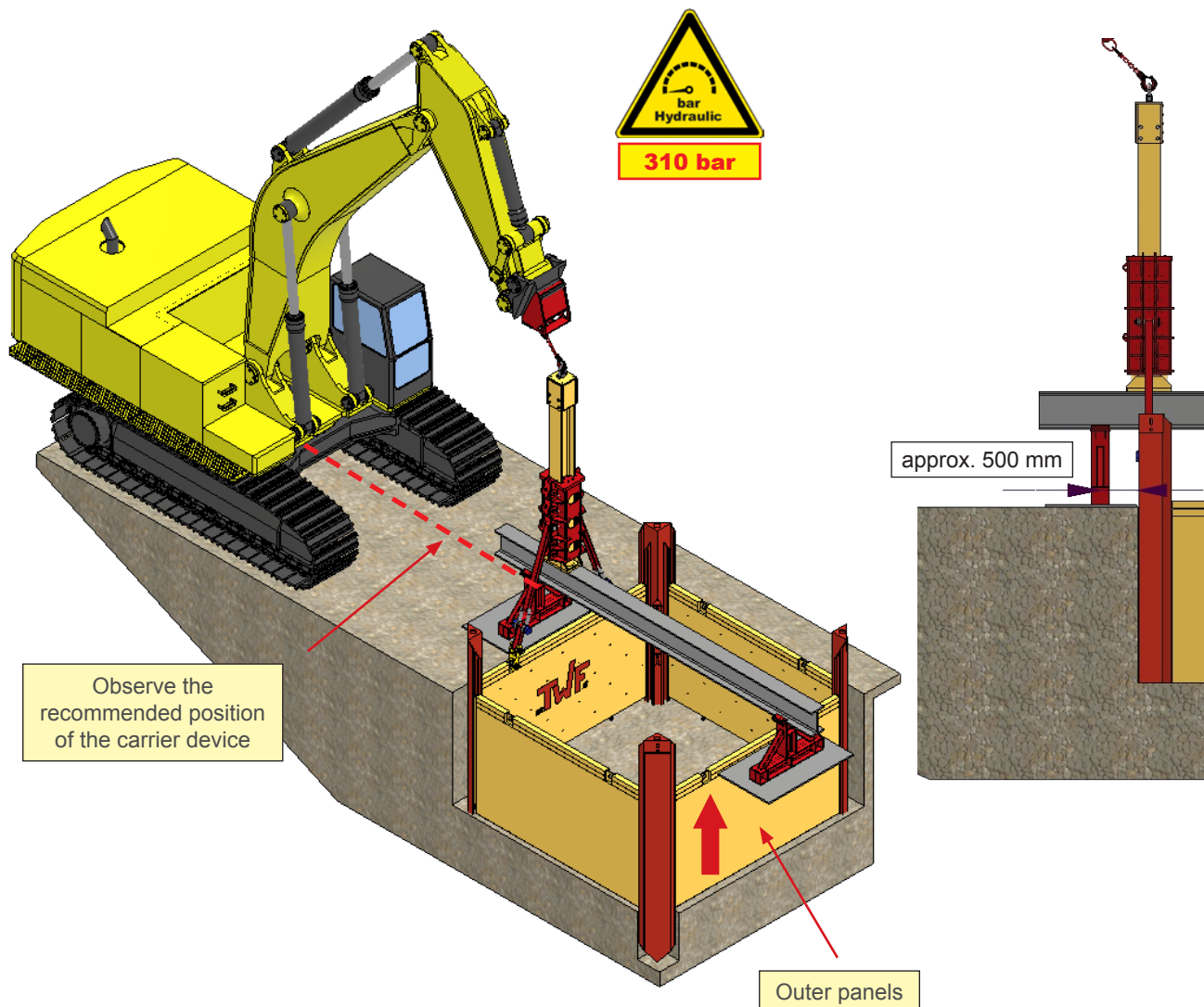


To ensure safe operation of the **VZ100 shoring extractor**, place it on firm ground. (If necessary, place a 2m x 1m x 30mm steel plate underneath.)

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4.3 Use case 3: Slide rail shoring / shaft, pulling the outer panels

50 % load per side — pulling is only permitted with an **attachment point for pulling eyes!** The working pressure on the carrier device is **310 bar max.**



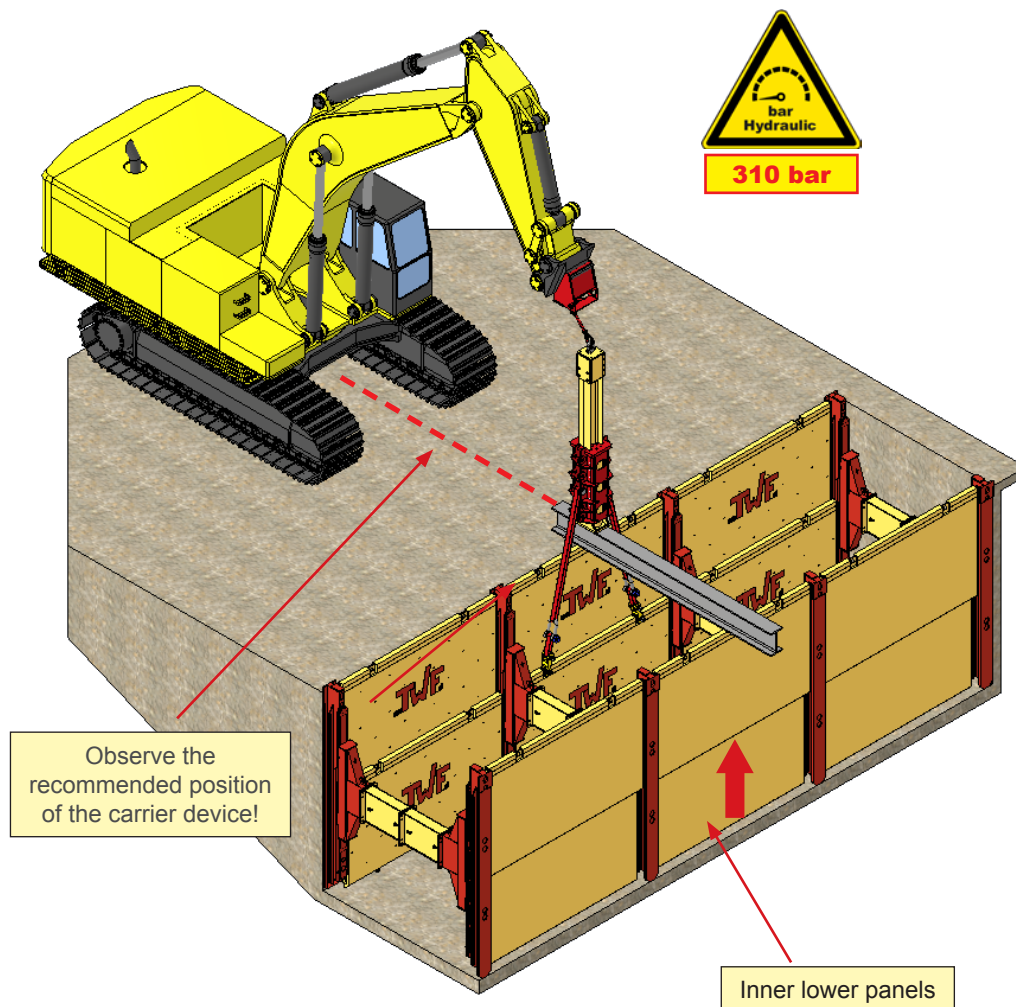
To ensure safe operation of the **VZ100 shoring extractor**, use a suitable wide-flange beam support (HEB 500 beam or larger).

Both shoring props should be mounted under the HEB beam, which should be placed on solid ground. If necessary, place a 2m x 1m x 30mm steel plate underneath.

► Instruction manual

4.4 Use case 4: Slide rail shoring / trench, pulling the inner panels

50 % load per side — pulling is only permitted with the **attachment point for pulling eyes!** The working pressure on the carrier device is **max. 310 bar**.

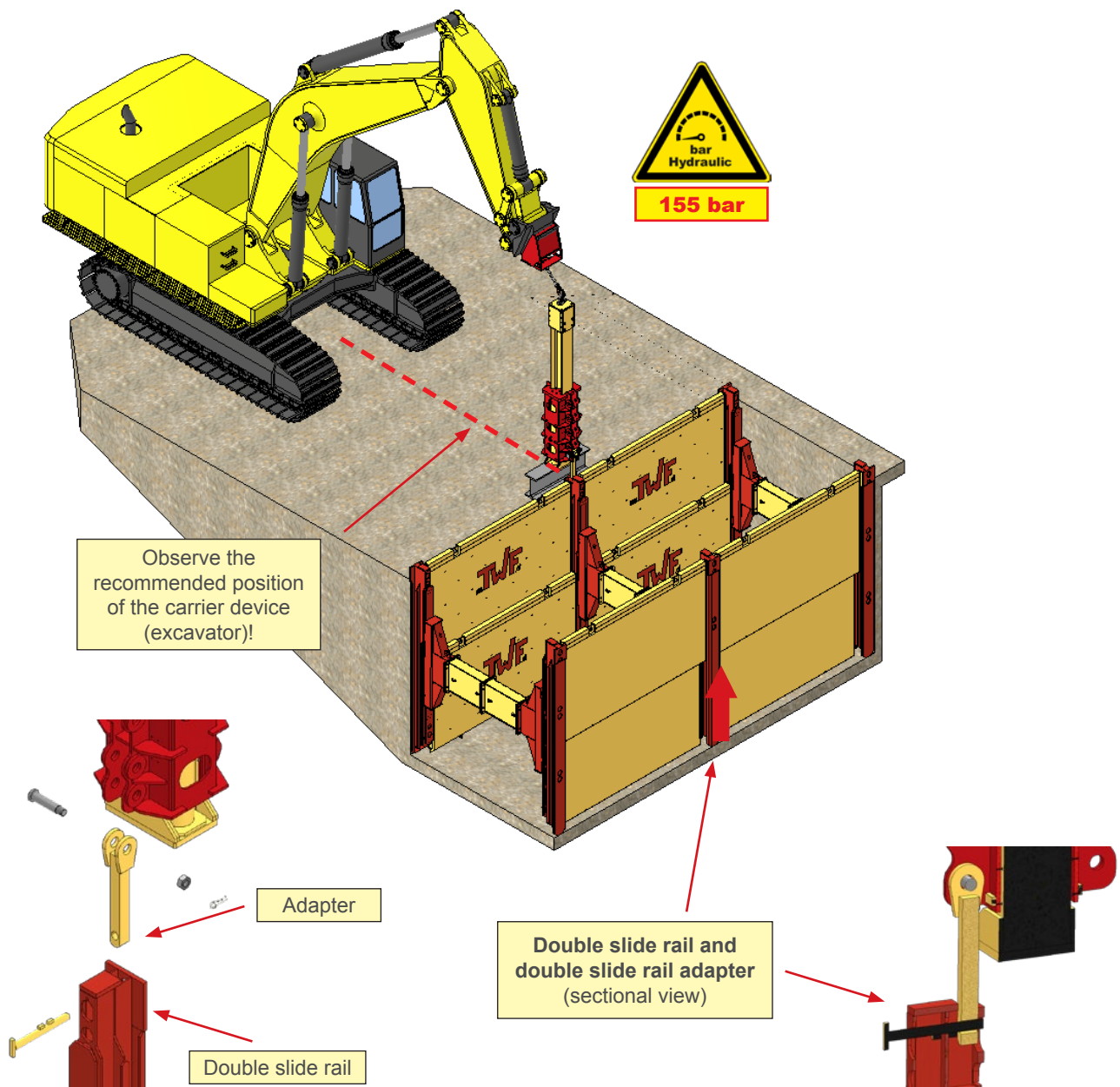


To ensure safe operation of the **VZ100 shoring extractor**, use a suitable wide-flange beam support (HEB 500 beam or larger).

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4.5 Use case 5: Slide rail shoring / trench, pulling the double slide rail

Only pull using the **double slide rail adapter**. The working pressure on the carrier is **155 bar max.**

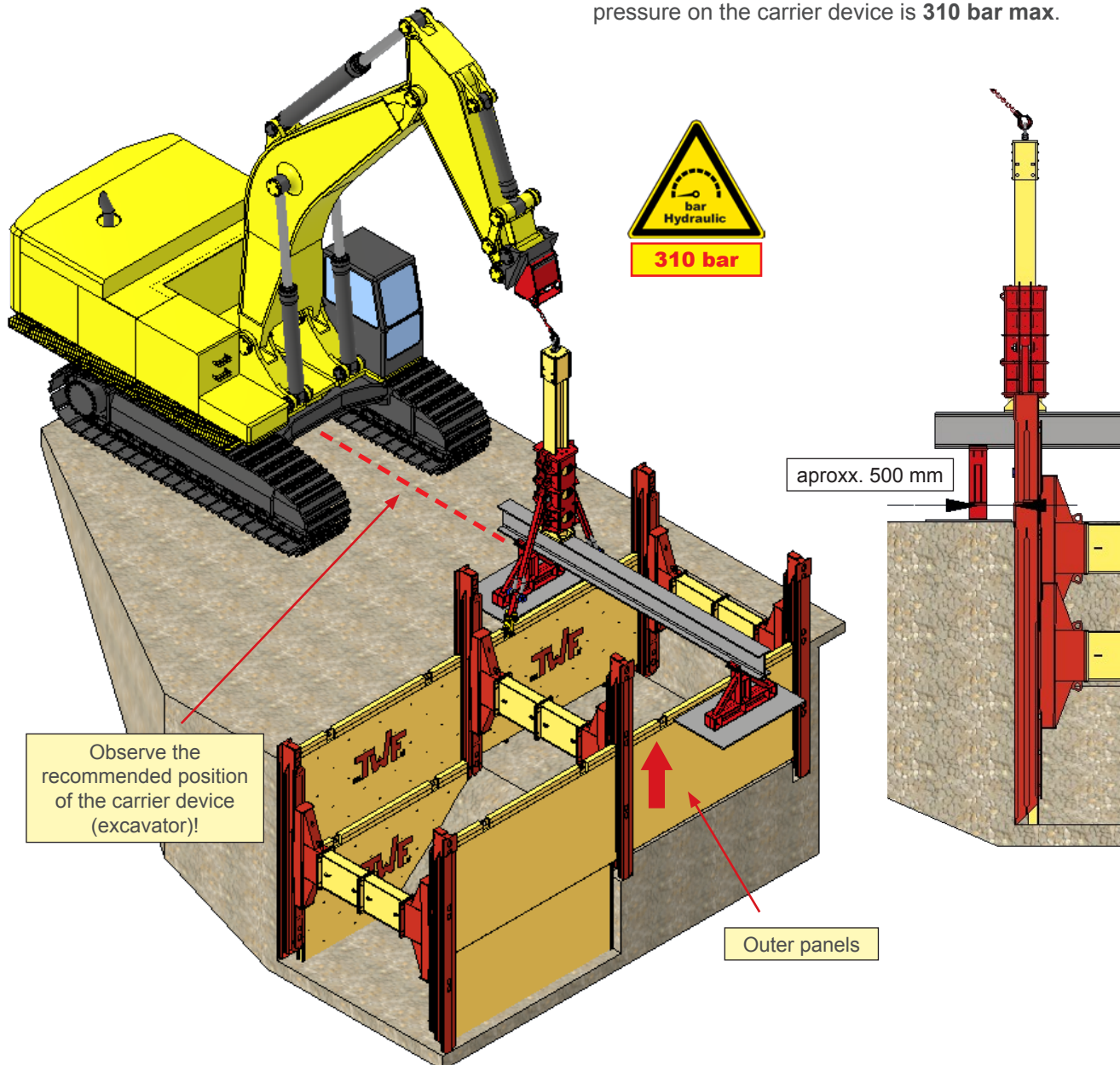


To ensure safe operation of the **VZ100 shoring extractor**, place it on firm ground. If necessary, place a 2m x 1m x 30mm steel plate underneath.

► Instruction manual

4.6 Use case 6: Slide rail shoring / trench, pulling the outer panels

50 % load per side — pulling is only permitted via the **attachment point for pulling eyes!** The working pressure on the carrier device is **310 bar max.**



To ensure safe operation of the **VZ100 shoring extractor**, use a suitable wide-flange beam support (HEB 500 beam or larger).

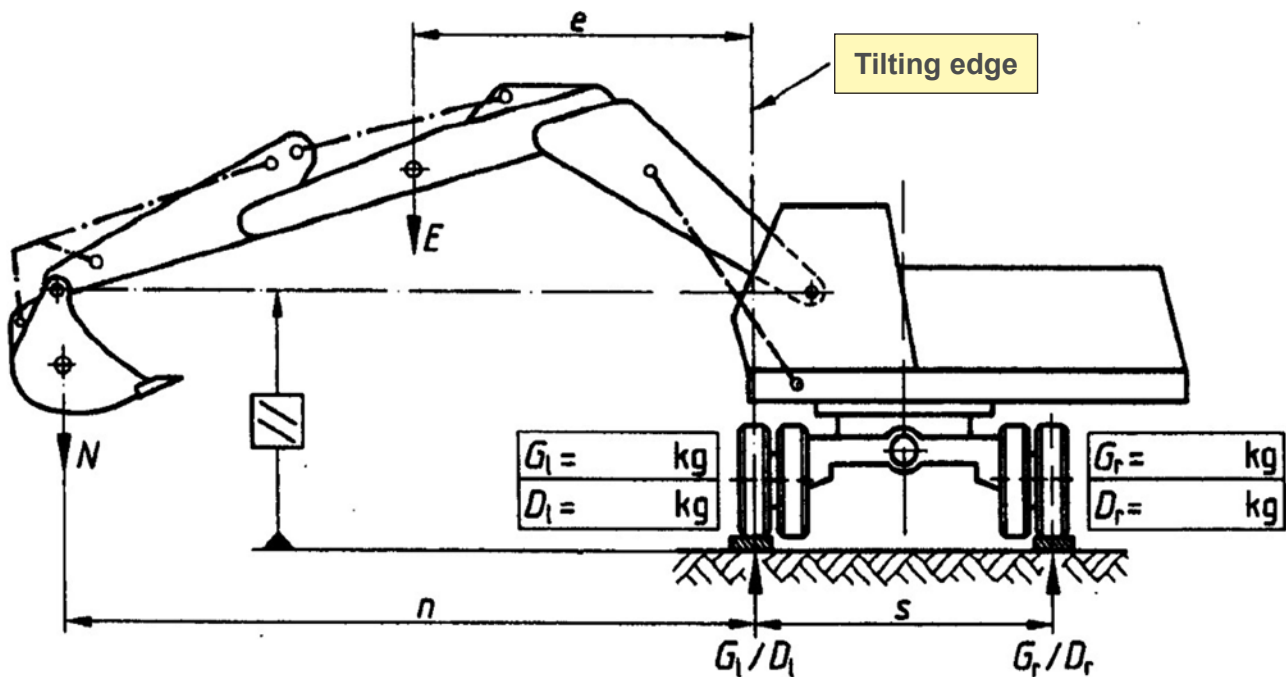
Both shoring props should be mounted under the HEB beam, which should be placed on solid ground. If necessary, place a 2m x 1m x 30mm steel plate underneath.

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4.7 Ensure sufficient stability

- Due to its design, the high tractive force remains within the **VZ100 shoring extractor** and is not applied by the carrier vehicle (excavator or crane incl. hydraulic unit).
- The carrier vehicle must be able to safely absorb the weight of the attachment (e.g., no tipping or slipping) in the respective location.
- Before each use, check that the ground's load-bearing capacity is sufficient and that the carrier vehicle's tipping safety is ensured.

Sketch: stability according to DIN24087



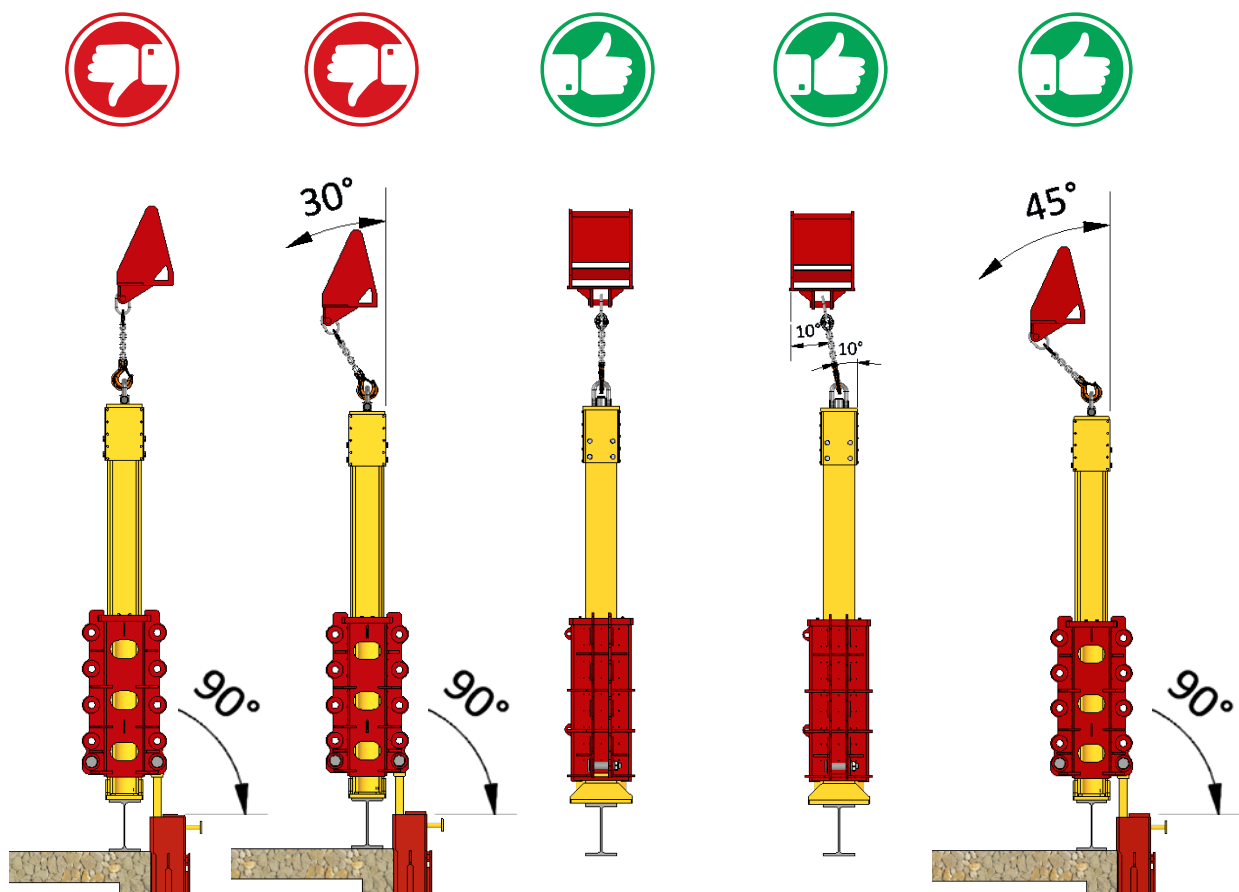
► Instruction manual

4.8 Points to note when working with the chain

The chain should not be subjected to any cylindrical forces; it should only support the shoring puller's tilting movement.

To achieve this, the angle to the vertical plumb line should be approximately 45° (one-sided pull).

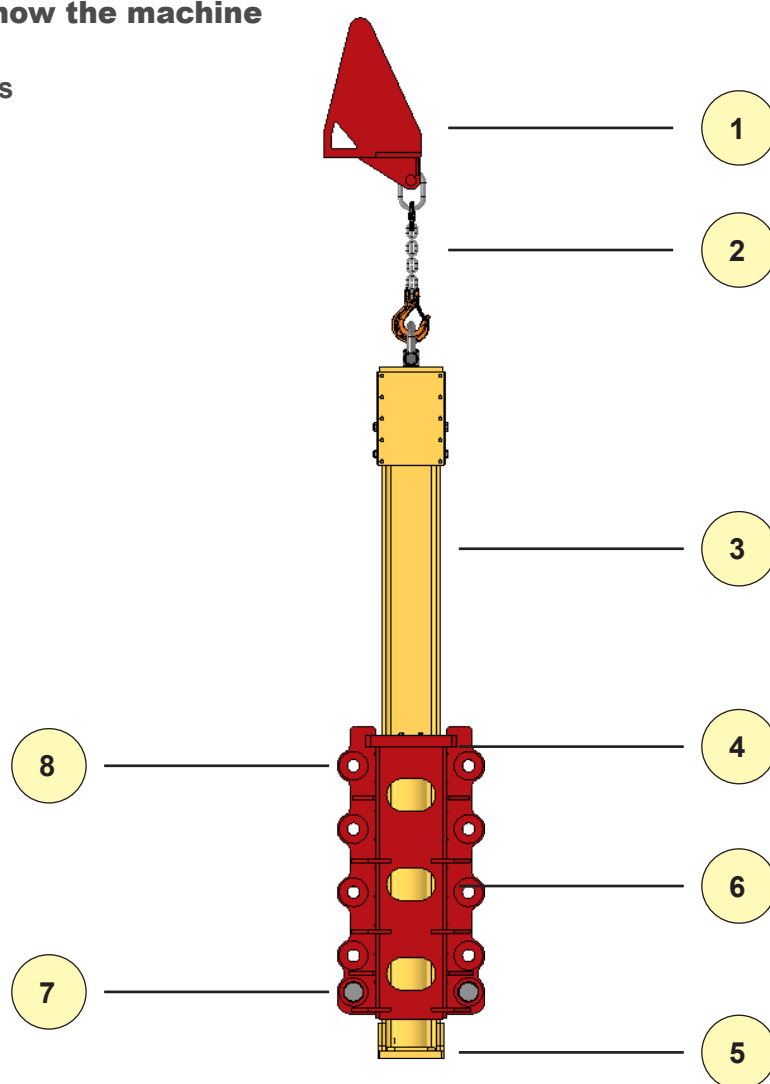
A deviation of max. 10° from the HEB beam axis is permissible. (Tension on both sides.)



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■ 5. Getting to know the machine

5.1 Main components



Item	Description
1	Quick-coupling system
2	Carrier chain
3	Carrier (T)
4	Type plate (TP)
5	Pressure foot (PF)
6	Hydraulic cylinder
7	Pins (2x)
8	Slide carriage (GS)

► Instruction manual

5.2 Transport and Storage



Never transport the attachment tool while it is standing on the pressure foot!

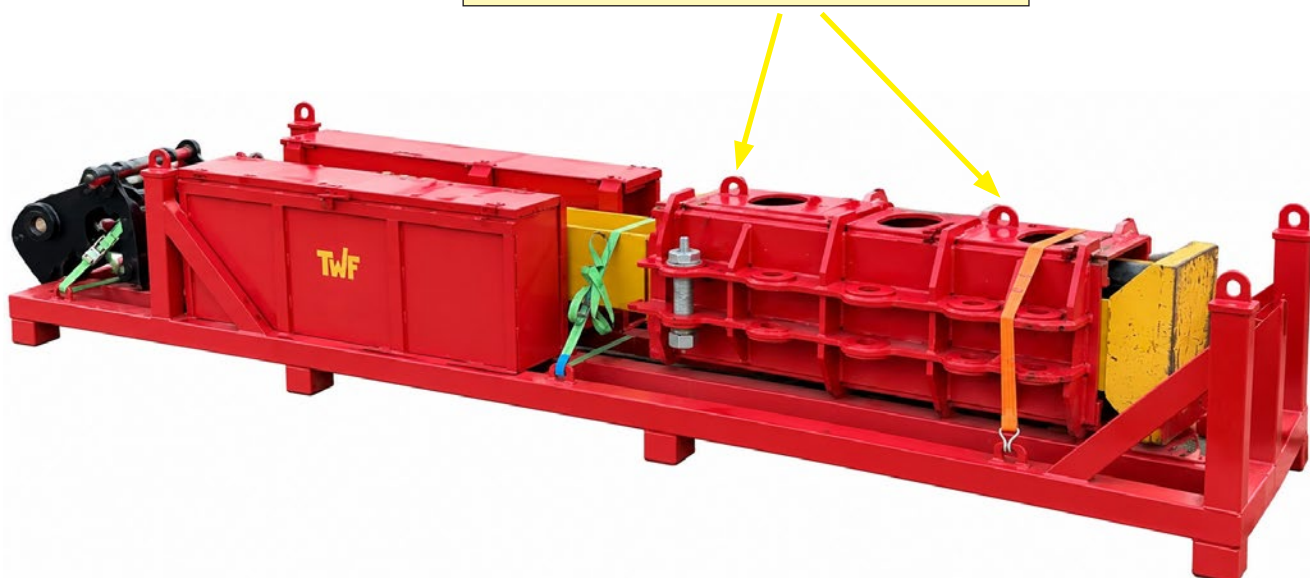
There is a risk of it falling or tipping over. Danger to life!



Never place the attachment tool on the pressure foot without securing it. There is a risk of it falling or tipping over. Danger to life!

- When separating the attachment from the carrier device, place it on a level, solid surface.
- When transported by a forklift truck, ensure that the attachment is securely positioned on the transport surface (e.g., to prevent tipping). Only lift the attachment as high as necessary for transportation.
- The easiest and safest means for transporting the **VZ100 shoring extractor** is the **TWF transport device**. All necessary lashing equipment and loose parts can be stowed in secure steel boxes.
- The **VZ100 shoring extractor** can only be removed from or placed into the **TWF transport device** using the relevant eyelets (see the picture below). To set it down, move the sliding carriage (GS) all the way down.

Placing + removing the VZ100 shoring extractor from the TWF transport device only via chains attached to these eyelets.



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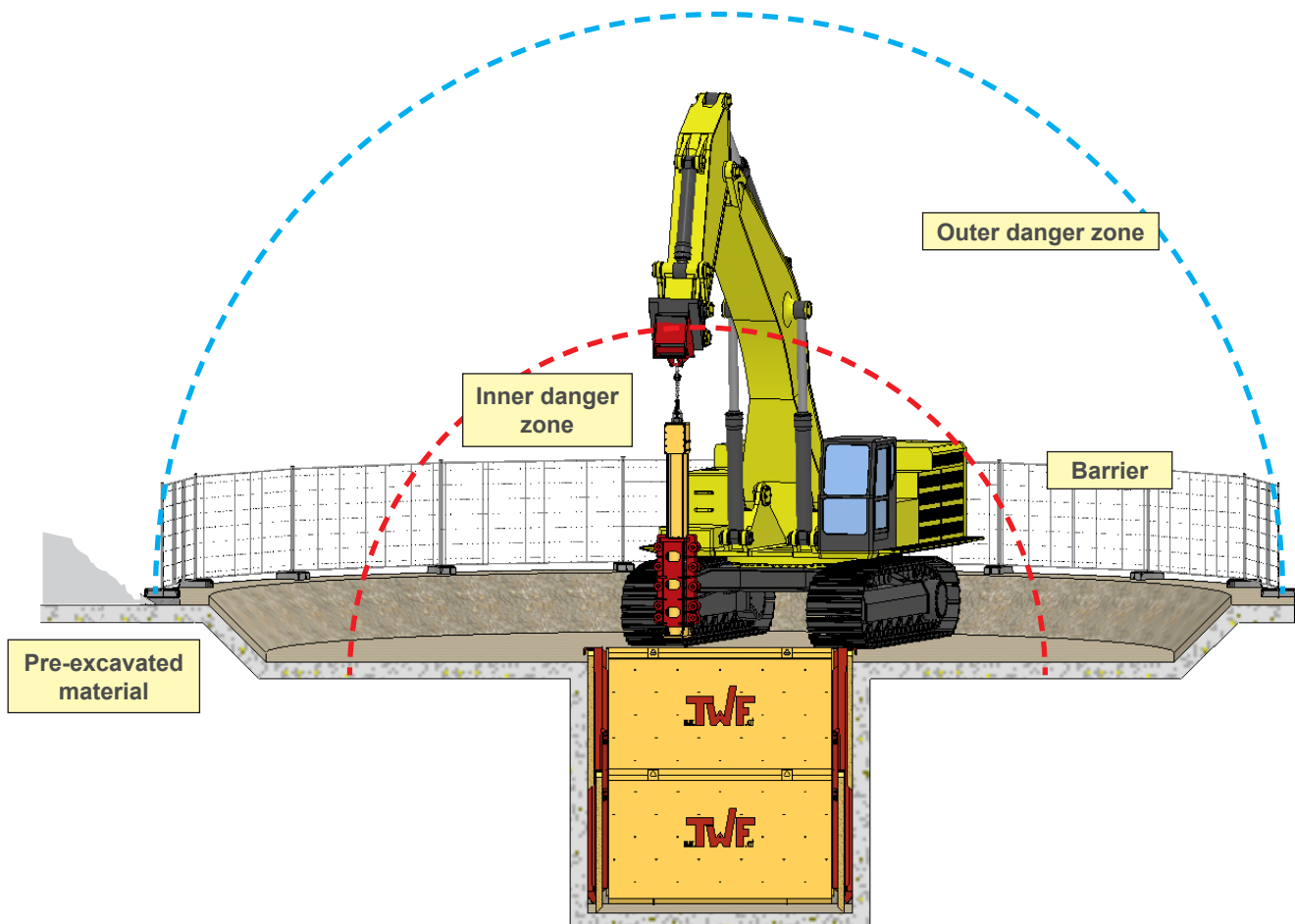
5.3 Knowing and securing danger zones

The general dangers in civil engineering are not discussed here.

Hazards such as slipping vehicles can be significantly reduced by using the **VZ100 shoring extractor**.

However, the high tensile force results in additional (but avoidable) risks when shoring is stuck:

- Make sure there are no people in the inner danger zone. The excavator driver should also protect themselves with a suitable screen.
- Use pre-excavated material and barriers to secure the external danger zone.
- Damaged or poorly maintained pull elements can tear or break off, releasing their energy in unpredictable directions.
- Do not park cars in the danger zone!



► Instruction manual

5.4 Commissioning

- The attachment tool features a hydraulically controlled mechanism for raising and lowering the sliding carriage.

The working pressure that should be set on the carrier device to control the attachment tool is determined by the permissible use cases described in chapter 4.

Set the working pressure on the carrier device as described below.

Please also observe the operating instructions for the carrier device.

Use case 1 + 3 + 4 + 6 (double-sided pull)	Use case 2 + 5 (single-sided pull)
Pulling inner or outer base panels	Pulling corner double slide rails and double slide rails
310 bar max.	155 bar max.

- The carrier device must have a quick and direct option for limiting pressure (“adjustment “at the push of a button”). Otherwise, work may only be carried out at a maximum pressure of 155 bar for all use cases.

5.5 Coupling and testing of the attachment tool

5.5.1 Coupling the attachment tool

Couple the attachment to the carrier device with the hydraulic quick-coupling system before each use.

Refer to the instruction manual for the quick-coupling system and the carrier!

1. Place the attachment tool within reach of the excavator arm as shown.
2. Couple the quick-coupling adapter (CA) by pulling in the **bucket locking cylinder** (LC).
3. Bring the attachment tool into the position shown in the illustration using the carrier machine. Follow the instruction manual for the quick-coupling adapter.

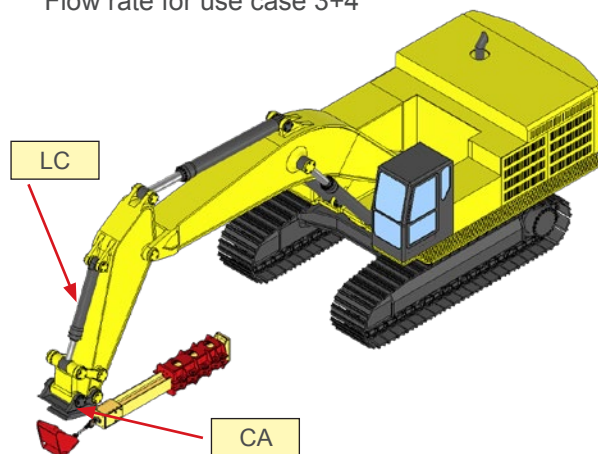
4. Set the working pressure and flow rate on the carrier device depending on the use case and the attachment tools:

- **310 bar and 80 litres per minute**

Flow rate for use case 1+2

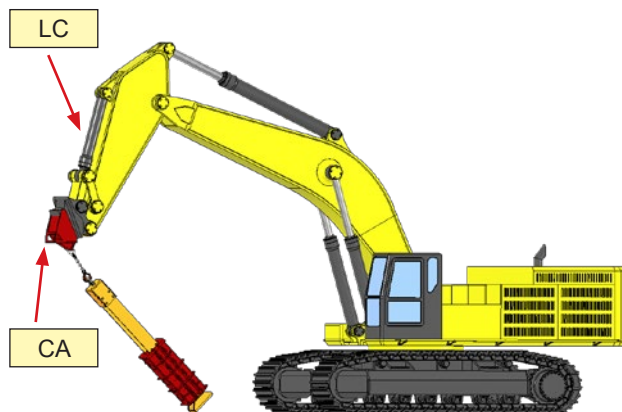
- **155 bar and 80 litres per minute**

Flow rate for use case 3+4

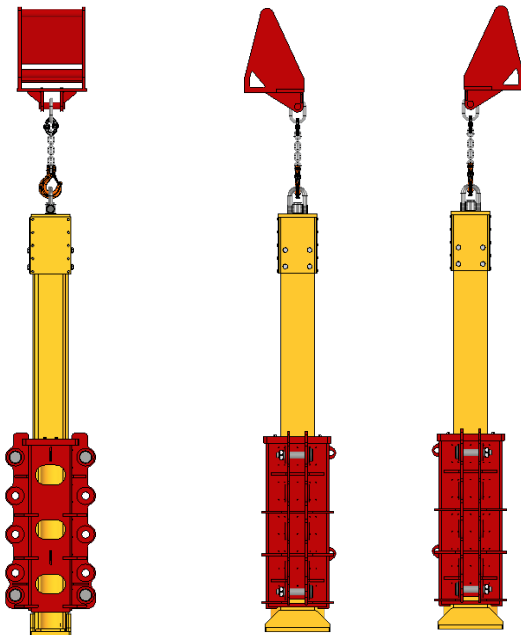


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5. The attachment tool can then be raised further



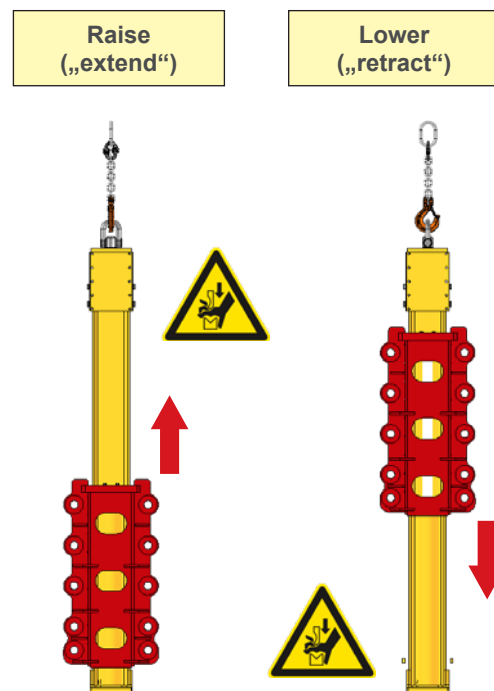
6. Raise the attachment tool completely



5.5.2 Function test of the attachment tool

Test whether the hydraulic control system of the carrier machine can control the attachment tool's operating functions as described in the carrier device's operating instructions:

If the control of the attachment tool's working function does not operate as described in the carrier device's operating instructions:



- Check the settings for controlling the hydraulic attachment tools in the operating instructions for the carrier device.
- If the sliding carriage "lowers" instead of "raises," or "raises" instead of "lowers," check and reset the hydraulic control setting in the carrier device to the default setting.
Then, repeat the function test.

► Instruction manual



Familiarise yourself with the controls for the functions of the attachment tool from the carrier device set out in **chapter 6 ("Malfunctions and troubleshooting")**.



Never allow people to remain in the danger or safety zones of the carrier machine!

- Then, visually check all hydraulic components for leaks.
- Use the following table to check the maximum working pressure set on the carrier device to control the attachment. The working pressure is de-

termined by the permissible use cases described in chapter 4.

Use case 1 + 3 + 4 + 6 (double-sided pull)	Use case 2 + 5 (single-sided pull)
Pulling base panels	Pulling corner double slide rails and double slide rails
310 bar max.	155 bar max.

The carrier device must be equipped with a quick, direct pressure limitation option (adjustment "at the push of a button").

Otherwise, only a maximum pressure of 155 bar may be used (for all use cases).

5.6 Correctly positioning the VZ100 shoring extractor

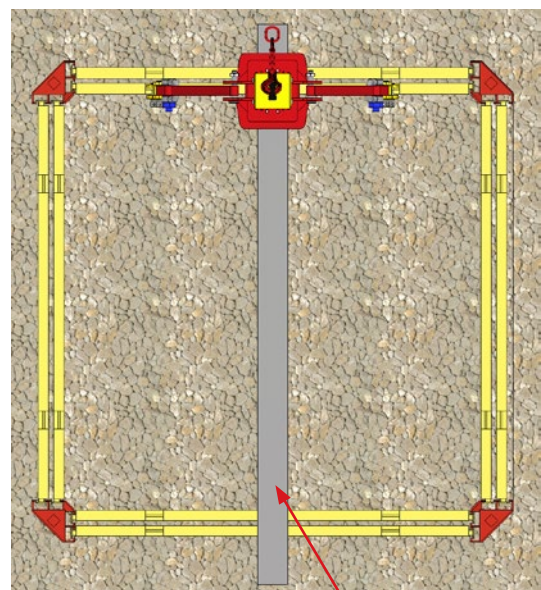
5.6.1 Use case 1: Shaft — pulling inner panels

Place a wide-flange beam (e.g., HEB 500 beam or larger) in the centre of the outer panels of the shoring.

The HEB beam must extend at least 0.8 to 1 metre over the left and right of the formwork.



Place the **VZ100 shoring extractor** on the wide flange beam so that both **lifting eye attachment points** are as central as possible and equidistant from the vertical symmetry axis of the inner shoring panel.



Wide flange beam (HEB)

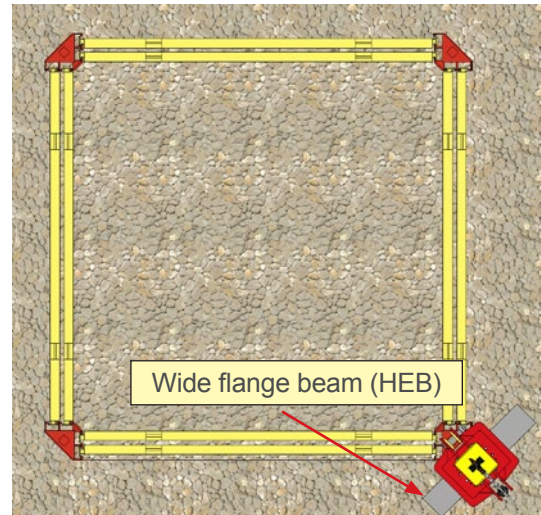
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5.6.2 Use case 2: Shaft, pulling corner double slide rail

As shown, place a wide-flange beam (e.g., HEB 500 beam or larger) or a steel plate that is at least 30 mm thick **on a firm surface** outside the shaft shoring.



Secure the **adapter for the corner double slide rails** directly to the shoring extractor and the corner double slide rail using the corresponding pin.



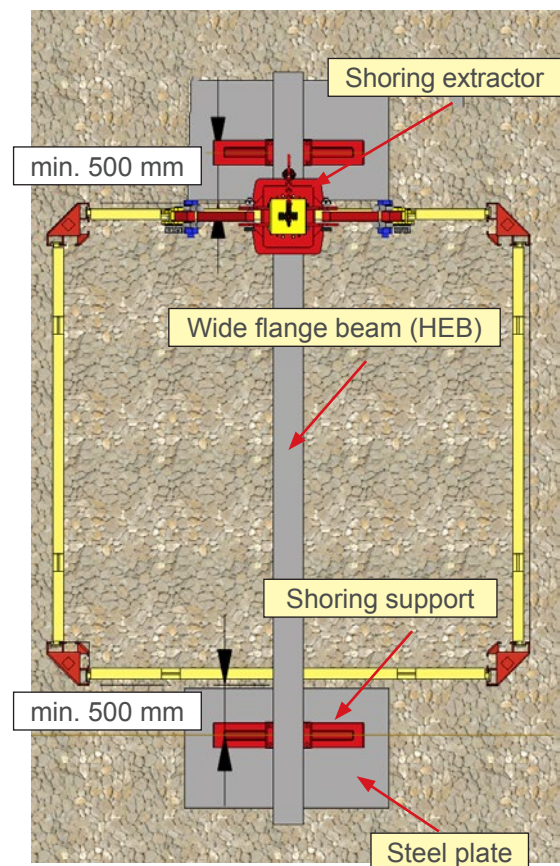
5.6.3 Use case 3: Shaft, pulling outer panels

Place a wide-flange beam with installed shoring supports (e.g., HEB 500 beam or larger) centrally over the shoring on firm ground.



If necessary, place a 2 m x 1 m x 30 mm steel plate underneath. Ensure that the distance between the shoring supports and the shoring/shaft is at least 0.5 m to the left and right.

Position the shoring extractor on the HEB beam so that both lifting eye attachment points are as central as possible and equidistant to the inner shoring panel's vertical axis of symmetry.



► Instruction manual

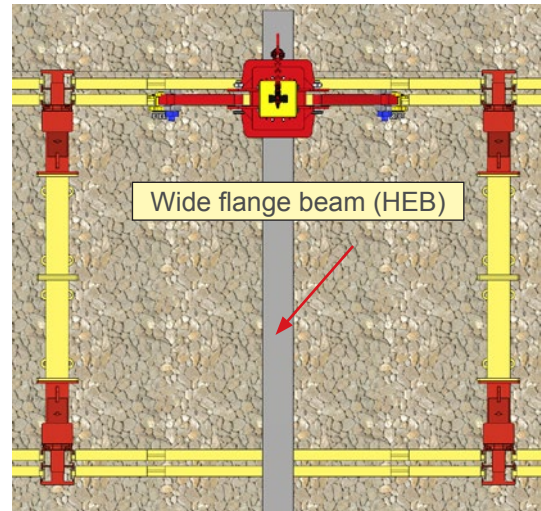
5.6.4 Use case 4: Trench, pulling inner panels

Place a suitable wide-flange beam (e.g. HEB 500 beam or larger) centrally on the outer panels of the shoring.

The HEB beam must protrude at least 0.8 m to 1 m to the left and right of the formwork.



Position the shoring extractor on the wide flange beam in such a way that both attachment points for lifting eyes are as central as possible, equidistant to the vertical symmetry axis of the inner shoring panel.

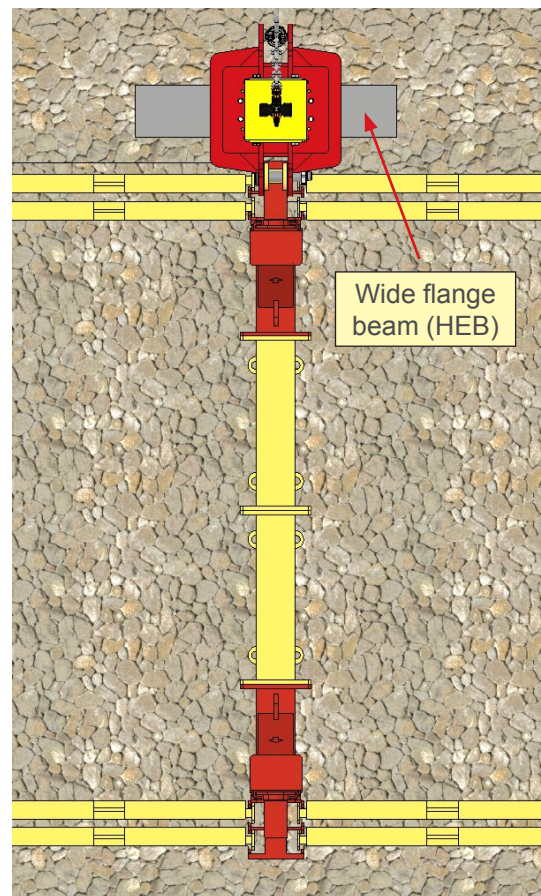


5.6.5 Use case 5: Trench, pulling double slide rail

Place a suitable wide-flange beam support (e.g. HEB 500 beam or larger) or a steel plate at least 30 mm thick as shown on a firm surface outside the shoring.



Attach the adapter for double slide rails with the corresponding pin directly to the shoring extractor and the double slide rail.



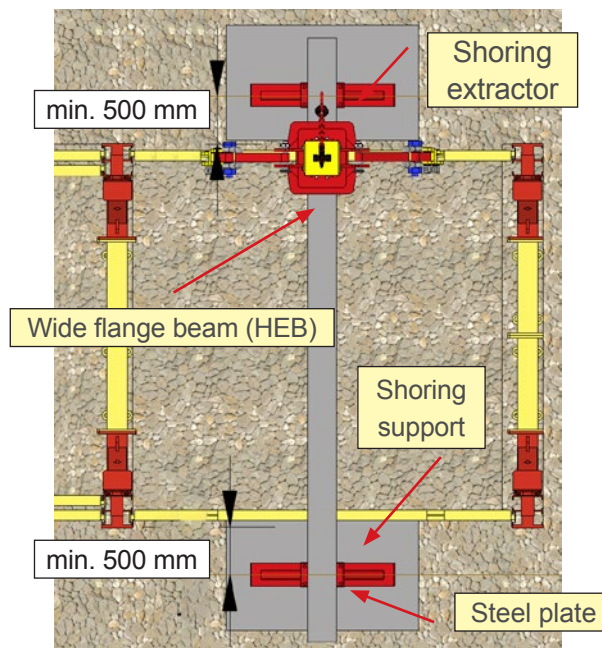
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5.6.6 Use case 6: Trench, pulling outer panels

Place a suitable wide-flange beam (e.g. HEB 500 beam or larger) with the installed shoring support's centrally over the shoring (place shoring supports on firm ground, if necessary place a 2m x 1m x 30mm steel plate underneath).



The distance between the shoring supports and the shoring / shaft must be at least 0.5 m to the left and right. Position the shoring extractor on the HEB beam in such a way that both **attachment points for lifting eyes** are as central as possible, equidistant to the vertical symmetry axis of the inner shoring panel.



5.7 Overview of required tensile loads



Lifting gear and load hooks must be designed to handle the maximum tensile loads that occur. Observe the manufacturer's specifications for the selected lifting gear. For use cases 2 and 5 (**one-sided pull**) max. **155 bar**!

The load-bearing capacity of the lifting gear must be at least sufficient for the tensile loads specified in the following table.

Only original round slings from TWF Tiefbautechnik GmbH may be used. (These slings can withstand the aforementioned tensile loads on each side.) This must be checked before each use!

Chains or ropes are not permitted for this purpose!
Using unsuitable lifting gear can be fatal!
Short lengths are preferable. (less energy storage).

The characteristic resistance RE.k of the pulling eyes and connection points must be observed (DIN EN 13331-1).

Use case	Oil pressure on excavator	Tensile load per side
Use cases 1 and 3 as well as 4 and 6  Shoring panel must be attached to 2 lifting eyes with one sling each!	80 bar	14,5 t
	100 bar	18,0 t
	120 bar	21,6 t
	155 bar	25,2 t
	160 bar	28,8 t
	180 bar	32,5 t
	200 bar	36,0 t
	220 bar	39,6 t
	240 bar	43,3 t
	260 bar	47,0 t
	310 bar	50,4 t

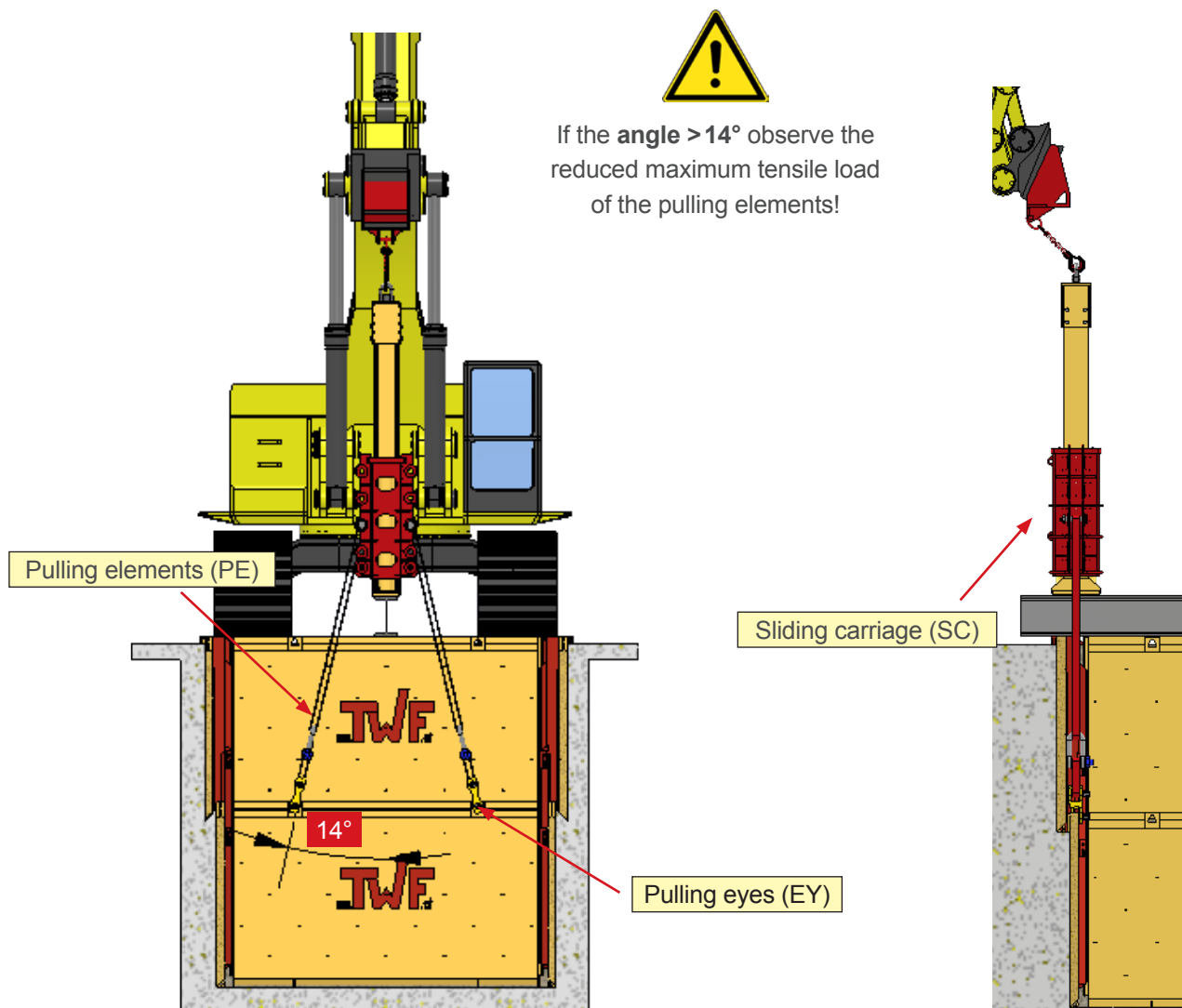


The slings supplied may only be used for the work described here and are not slings for lifting loads!

These slings (round slings, shackles, anchor point shackles for lifting eyes) are components of the machines and are not CE marked! Other uses with lifting equipment are prohibited!

► Instruction manual

5.8 Attaching inner panels

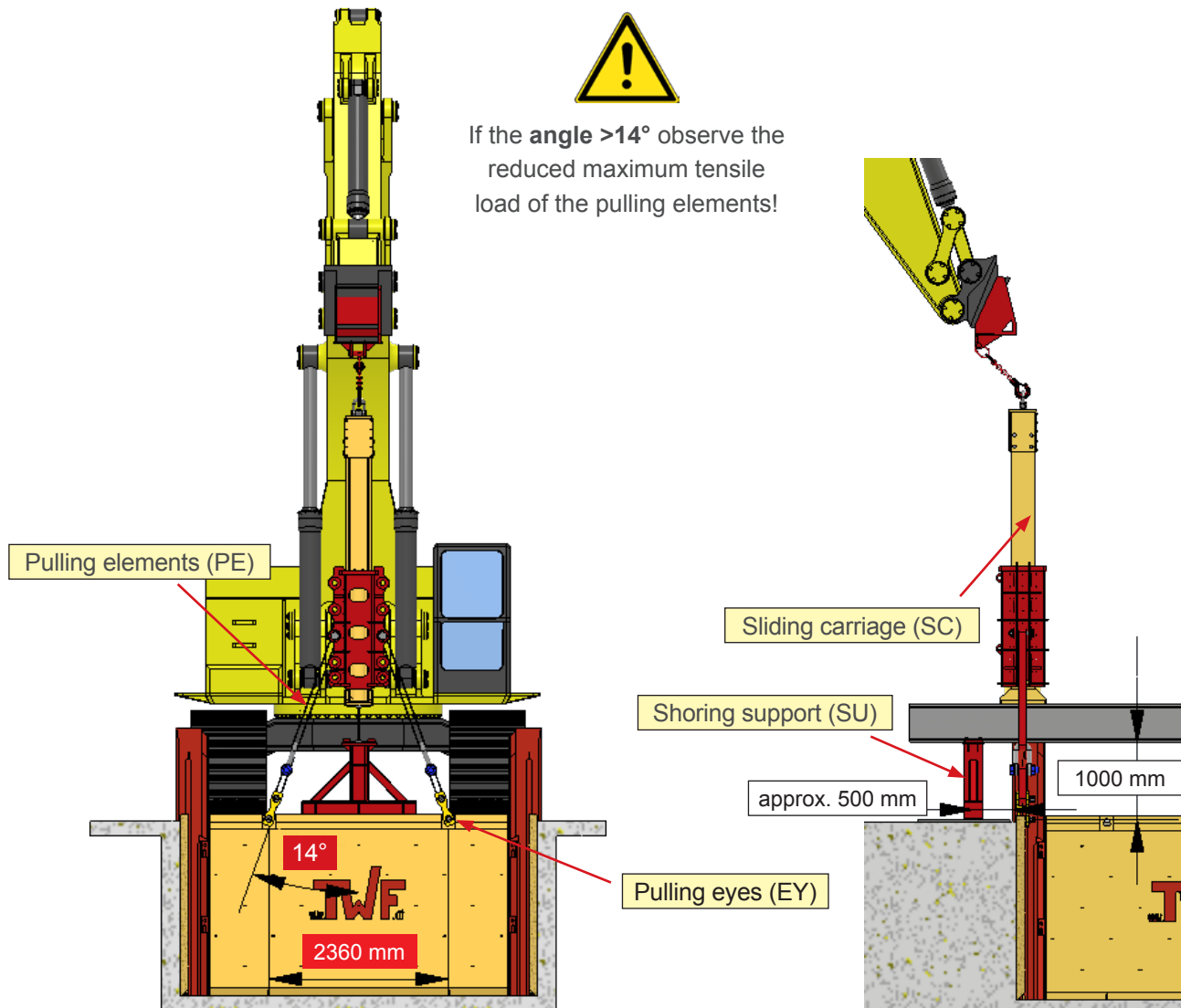


Procedure:

1. Move the sliding carriage (SC) all the way down.
2. Attach the base panel to the two pulling eyes (EY). Keep the lifting gear as short as possible. Only the supplied pulling elements (PE) may be used.
3. The angle of 14° to the vertical must be maintained for the pulling elements (PE)

► Shoring Extractor VZ100

5.9 Attaching outer panels

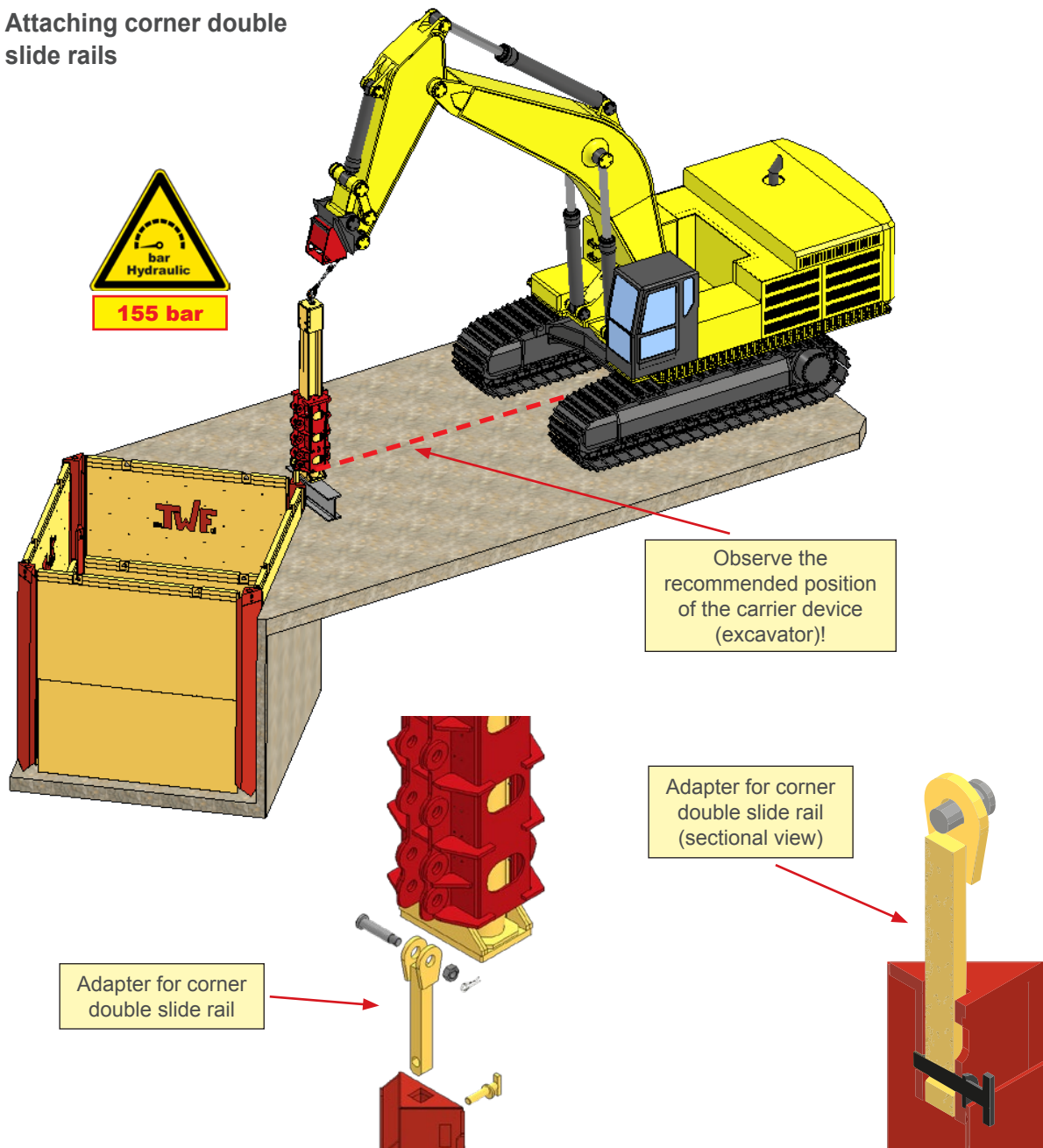


Procedure:

1. Move the sliding carriage (SC) all the way down.
2. Attach the base panel to the two pulling eyes (EY). Keep the lifting gear as short as possible. Only the supplied pulling elements (PE) may be used.
3. The angle of 14° to the vertical must be maintained for the pulling elements (PE)

► Instruction manual

5.10 Attaching corner double slide rails

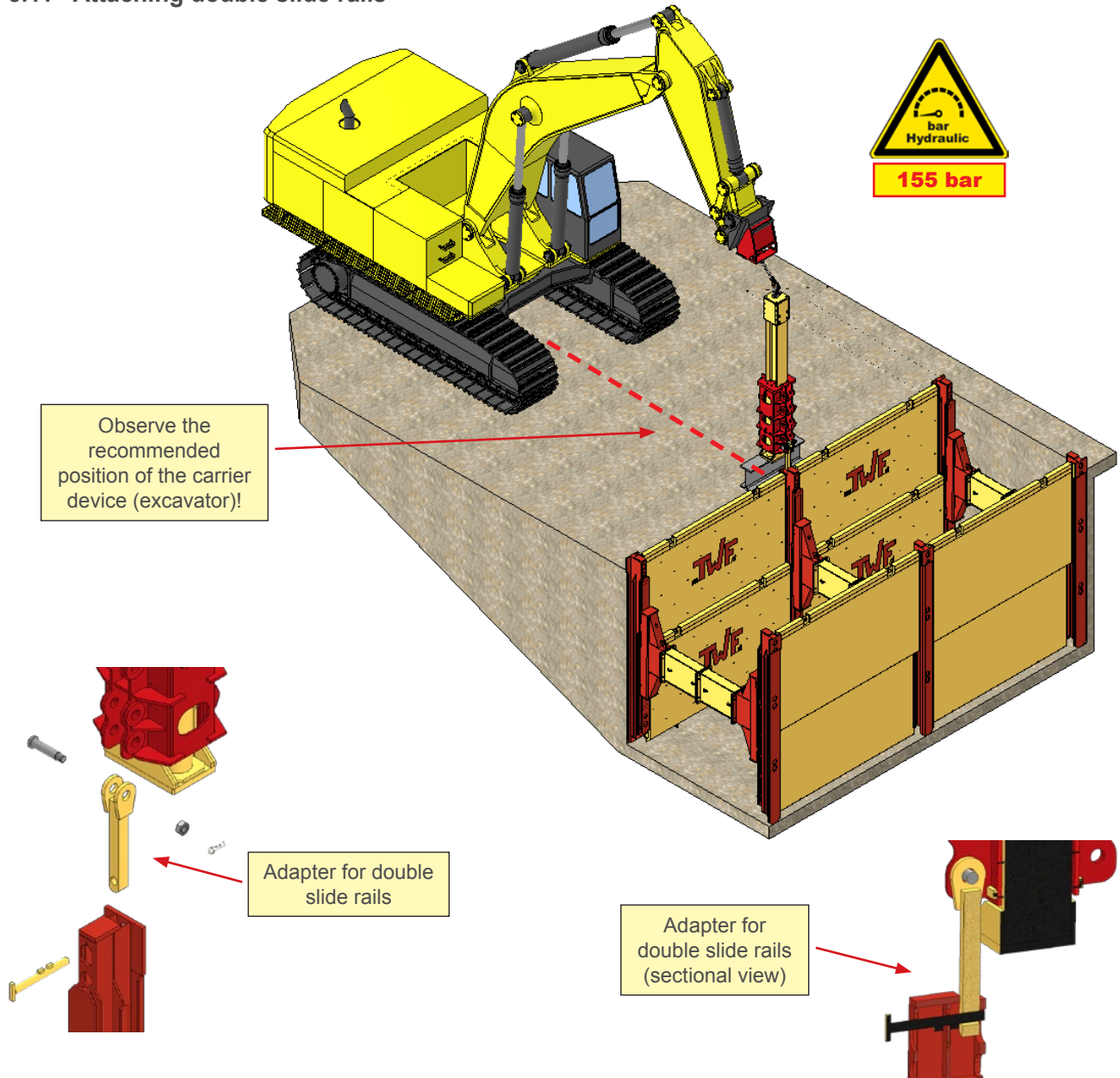


Procedure:

1. Insert the **adapter for corner double slide rails** into the corner double slide rail from above and secure with the **pin Ø40 mm x 145 mm for corner double slide rails**.
2. Connect the **VZ100 shoring extractor** to the **adapter for corner double slide rails**.

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5.11 Attaching double slide rails



Procedure:

1. Insert the **adapter for double slide rails** into the double slide rail from above and secure with the $\varnothing 47 \text{ mm} \times 470 \text{ mm}$ pin.
2. Connect VZ100 shoring extractor with the **adapter for double slide rails**.

► Instruction manual

5.12 Summary of correct operation (for instructing personnel)

- The application must correspond to **use case 1-6** (including the excavator position).
- Position the **VZ100 shoring extractor** on the wide flange beam (HEB 500 beam or larger), as described in **chapter 5.6, “Correctly positioning the VZ100 shoring extractor”**.
The appropriate HEB beam size for your use case depends on the maximum force and free beam length.
- Before each use, check the **attachment point for pulling eyes and round slings** for damage. Do not use damaged slings – **danger to life!**
- Attach the **lifting eye attachment point** to the inner or outer panel (helper required)
- Tighten the round slings, while the helper keeps at least a 2-metre distance
- The helper and all other persons must move at least 10 metres away from the danger zone
- No person may be in the trench during the extraction process
- Extracting the panels, (remove them from the shaft/trench if necessary)
- Release the panels
- Lower the shoring extractor until the round slings slack
- Release the **attachment point for pulling eyes** (helper required)
- Put down the shoring extractor

Failure to comply with the points above may result in personal injury or damage to the appliance.

■ 6. Malfunctions and troubleshooting

- In the event of malfunctions or accidents, immediately take the **VZ100 shoring extractor** out of operation. Ensure that operation is always carried out properly and correctly.
- Putting the **VZ100 shoring extractor back into operation** must be prevented at this time, e.g., by placing a „Malfunction” or „Do not use” sign in a visible area of the **VZ100 shoring extractor**.
- If there is leak of hydraulic oil, lubricant, grease, or similar substances, **take the VZ100 shoring extractor out of operation immediately**. Remove any contamination from the surrounding area in an environmentally friendly manner. Once the cause of the leak has been eliminated, a qualified person must inspect the attachment tool. The **VZ100 shoring extractor** may only be put back into operation after the inspection is complete.

► Shoring Extractor VZ100

■ 7. Maintenance and servicing

7.1 Cleaning

Clean the attachment tool daily, both before and after use.

When using a steam jet, cover the lubricating nipples.

7.2 Weld seam inspection

All weld seams must be visually inspected daily and after overload situations, impacts, etc.

Inspections for cracks prevent accidents and major repairs.

7.3 Check connections and pins

Daily visual inspection: If damage is found, the attachment tool must be taken out of service immediately.

7.3.1 Bracket for carrier chain

The bracket for the carrier chain must be visually inspected for damage daily.

7.4 Hydraulic system

The entire hydraulic system must be visually inspected daily. Damaged, chafed, or leaking hydraulic lines, couplings, and seals must be replaced immediately by a trained professional.

Hydraulic hoses must be replaced in accordance with applicable laws and technical regulations.

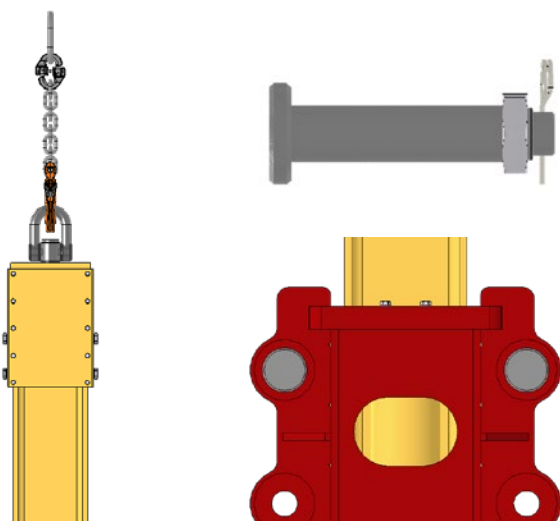
7.5 Requirements for lubricants, grease, etc.

Lubricants, grease, etc. must be checked daily. If necessary, lubricate or grease the relevant points.

7.6 Regular inspections

Please note!

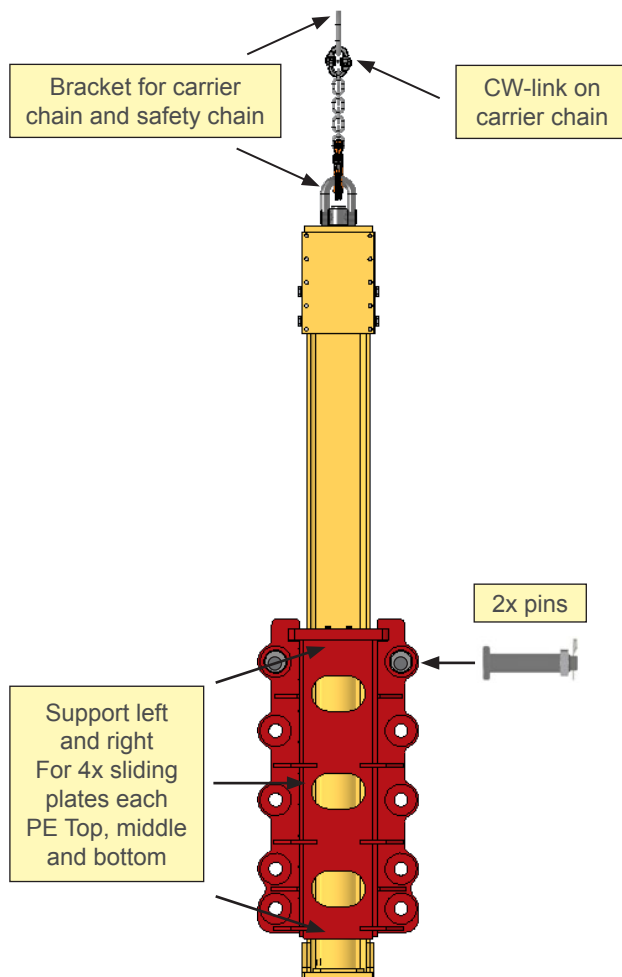
The attachment tool must undergo an annual safety inspection by the manufacturer or an expert, as set out in chapter 8.



► Instruction manual

7.7 Lubrication schedule

The following parts and points must be lubricated with grease weekly. (Apply with a brush, better with a spray.)



7.8 Damages

If any cracks, damage, or leaks are detected, the **VZ100 shoring extractor** must be taken out of service immediately. Once the defects have been rectified, another comprehensive inspection must be performed. Then, the **VZ100 shoring extractor** may be put back into operation.

7.9 Longer periods of non-use

- Clean the attachment tool thoroughly and lubricate it according to the lubrication schedule.
- Storage is only permitted in a suitable, dry environment.
- If the attachment tool is out of service for more than six months, drain and dispose of any residual hydraulic oil in an environmentally friendly manner.
- Before recommissioning, a competent person must inspect the machine in accordance with the checklist in chapter 8.

■ 8. Regular inspections pursuant to BetrSichV

(German Ordinance on Industrial Safety and Health)

The attachment tool must be regularly inspected, **at least once a year**, by the manufacturer or a **competent person instructed by the manufacturer**. This inspection must be documented.

► Shoring Extractor VZ100



Inspection Report – Shoring Extractor

Type	Shoring Extractor Type VZ100	Quick-coupling system	
Machine No.		Type	
Year of manufacture		Machine No.	
		Year of manufacture	

1. General	OK	Defects	Remarks
• Cleaning carried out	☐	☐	
• Bolts and nuts checked	☐	☐	
• Lubrication carried out	☐	☐	

2. Hydraulics	OK	Defects	Remarks
• No damage	☐	☐	
• No hydraulic oil leakage	☐	☐	
• Hydraulic hoses	☐	☐	
• Hydraulic cylinder	☐	☐	
• Hydraulic safety marking present	☐	☐	

3. Quick-coupling system	OK	Defects	Remarks
• Visual inspection: undamaged, no deformation	☐	☐	
• Visual inspection: weld seams free of cracks	☐	☐	

4. Upper Attachment (bracket with carrier chain)	OK	Defects	Remarks
• Visual inspection: not deformed or damaged	☐	☐	
• Visual inspection: weld seams free of cracks	☐	☐	
• Free movement ensured	☐	☐	
• Chain – no wear grooves	☐	☐	

5. Carrier (T)	OK	Defects	Remarks
• Visual inspection: undamaged, no deformation	☐	☐	
• Visual inspection: weld seams free of cracks	☐	☐	
• Cylinder mounting checked	☐	☐	
• Pressure foot (DF): no deformation	☐	☐	

6. Slide carriage (GS)	OK	Defects	Remarks
• Visual inspection: undamaged, no deformation	☐	☐	
• Visual inspection: weld seams free of cracks	☐	☐	
• Slide guides: undamaged, wear thickness ≥ 8 mm	☐	☐	
• Pin with lock nut undamaged	☐	☐	

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7. Identification Plate, Safety and Inspection Markings	OK	Defects	Remarks
• Present and clearly legible	☐	☐	

8. Lifting Gear, Shackles, Round Slings	OK	Defects	Remarks
• Inspection by a competent person for lifting accessories	☐	☐	

9. Adapter for Double Slide Rail with Pin	OK	Defects	Remarks
• Visual inspection: undamaged, no deformation	☐	☐	
• Visual inspection: weld seams free of cracks	☐	☐	

10. Adapter for Corner Double Slide Rail with Pin	OK	Defects	Remarks
• Visual inspection: undamaged, no deformation	☐	☐	
• Visual inspection: weld seams free of cracks	☐	☐	

11. Adapter for Shoring Panel with Pin (attachment point for pulling eyes)	OK	Defects	Remarks
• Visual inspection: undamaged, no deformation	☐	☐	
• Visual inspection: weld seams free of cracks	☐	☐	

Inspection passed	☐
-------------------	-----------------------

Defects/Remarks/INFO:

Date: _____

Inspector: _____

► Shoring Extractor VZ100

■ 9. Disposal

- Drain the oil and dispose of it in an environmentally friendly manner in accordance with legal regulations
- Roughly clean using a high-pressure cleaner (cover the lubrication nipples)
- All metals can be disposed of as scrap metal

■ 10. Technical details

10.1 Weight, lifting loads, dimensions

These load specifications must match the rating plate.

Property	Value	Comment
Own weight	2,570 kg	-/-
Lifting capacity	100,000 kg	(at 310 bar, two-sided)
Lifting height	max. 1,400 mm	(allow for reserve)
Total height	3,800 mm	plus chain
Operating range	-10°C to +40°C	-/-

10.2 Identification plate

Type	Verbauzieher VZ 100	Baujahr Year of manufacture	2024
Maschinen Nr. Machine No.	23046	Gewicht Weight	2570 kg
Hebelast Lifting load	100 ton	Öldruck max. Oil pressure max.	310 bar
Der Aufenthalt unter schwebender Last ist verboten. Bedienungsanleitung beachten. Standing under suspended loads is prohibited. Observe the operating instructions.			CE
Händler TWF Tiefbautechnik GmbH Düsseldorfer Straße 2, 52525 Heinsberg, GERMANY T: +49 2452 15678-0 office@twf-tiefbautechnik.de twf-tiefbautechnik.de		Hersteller Otten Metall- und Maschinenbau GmbH Im Hagenkamp 18, 52525 Waldfeucht, GERMANY T: +49 (0) 2455 / 1323 office@twf-tiefbautechnik.de metallbau-otten.de	

► **Instruction manual**

■ **11. EG-Konformitätserklärung**

Hiermit erklärt der Hersteller:

■ **11. Declaration of EG-confirmity**

We declare as the manufacturer:

EU declaration of conformity

Manufacturer:

Otten Metall- und Maschinenbau GmbH
Im Hagenkamp 18 & 6
52525 Waldfeucht
Germany

Authorised person:

Daniel Otten
Im Hagenkamp 18 & 6
52525 Waldfeucht
Germany

Product description:

Shoring extractor VZ100

Applicable EU directive(s):

2006/42/EC EU Machinery Directive

Please note:

Incomplete machine! Attachment device
The attachment must not be used until it is fitted to a machine and the complete machine meets the relevant directives and standards.



Waldfeucht, 06 May 2023
Place, Date



Jens Otten
Managing Director
Master metal worker / welding expert



Daniel Otten
Managing Director
CE officer / mechatronics engineer

► Shoring Extractor VZ100

■ 12. Appendices

12.1 Combination of pulling elements

12.1.1 Pulling base panels and base panels with extension panels in the inner rail of double/single slide rails

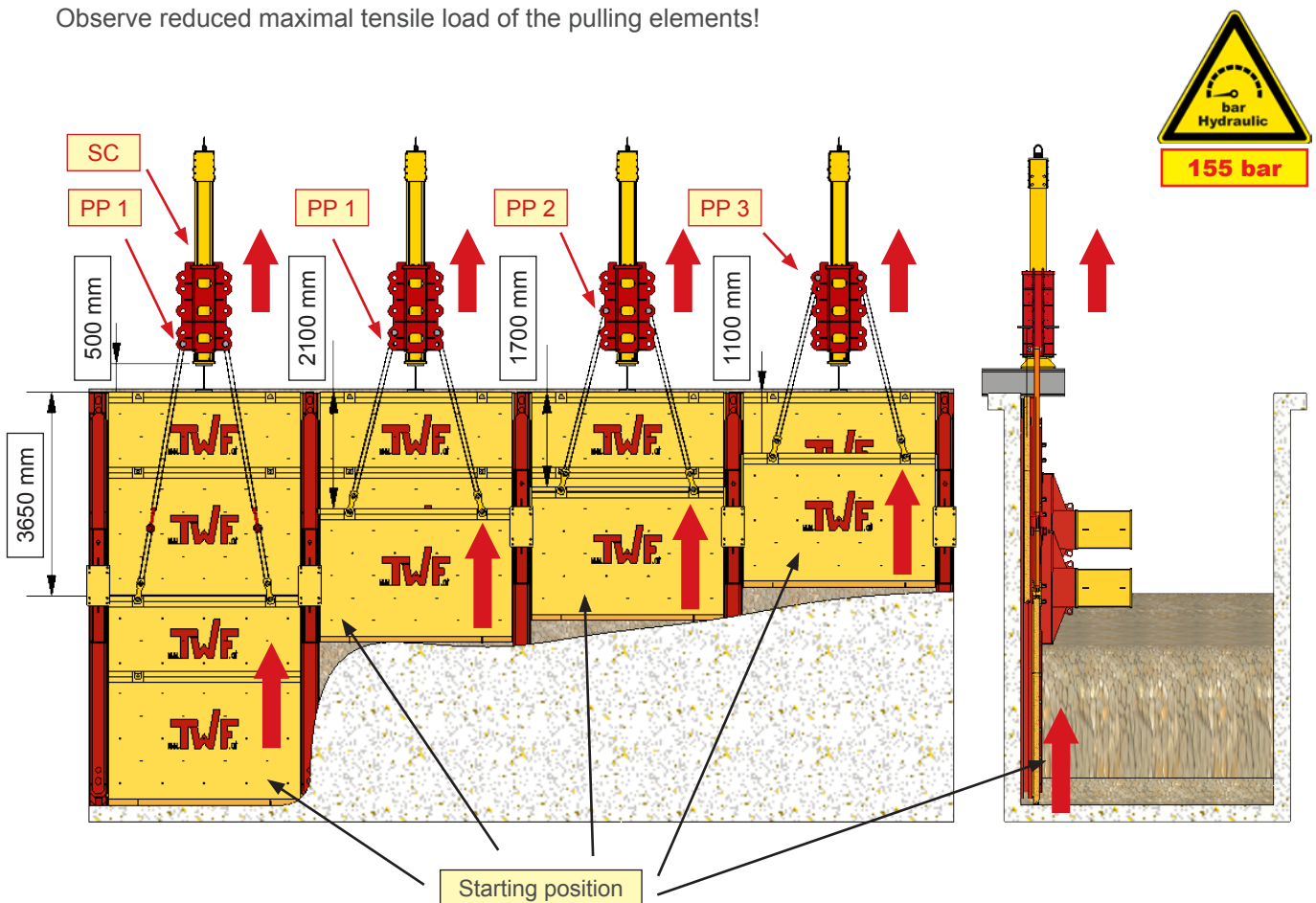
Place a wide-flange beam (e.g., HEB 500 beam or larger) in the middle of the outer panel. It must protrude at least 0.8 m to 1.0 m left and right.

Place the **VZ100 shoring extractor** vertically and in the centre of the HEB beam. Attach the **pulling element combinations to the pulling eyes** of the panels.

Pulling elements can be attached to all three pin positions (PP 1-3) on the sliding carriage (SC)!

Recommended attachment points for each use case at an angle > 14° (Pos. 5.8 + 5.9):

Observe reduced maximal tensile load of the pulling elements!



► Instruction manual

12.1.2 Pulling of base panels and base panels with extension panels in the outer guide profile of double/single slide rails

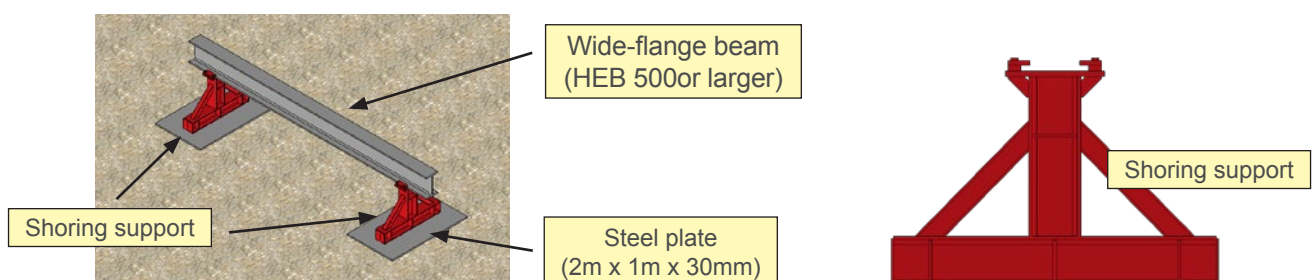
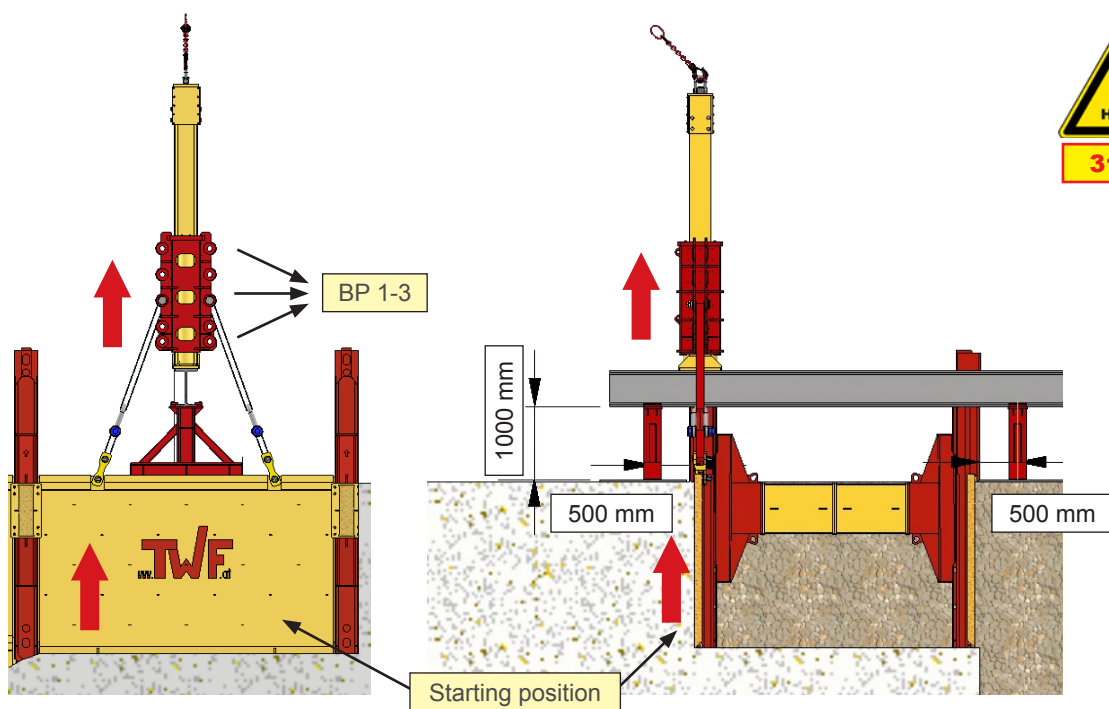
Place a suitable wide-flange beam (e.g. HEB 500 beam or larger) with the installed shoring supports centrally over the shoring (on firm ground. If necessary, place a steel plate 2m x 1m x 30mm underneath). The distance between the shoring supports and the shoring shaft / trench must be at least 0.5 m to the left and right.

Position the **VZ100 shoring extractor** vertically and centrally on the HEB-beam, then attach the **pulling element combinations to the pulling eyes** of the panel.

Pulling elements can be attached to all three bolt positions (PP 1-3) on the sliding carriage (SC)!

Recommended attachment points for each use case at an angle > 14° (Pos 5.8 + 5.9):

Observe reduced maximal tensile load of the pulling elements!



► Shoring Extractor VZ100

12.2 Accessories

Pulling element – combinations			
Pos	Length L1 (mm)	Length L2 (mm)	Note
1	3000	1500	Raising the panel by only approx. 500 mm
2	3000	1000	
3	3000	-,-	
4	3000	-,-	
5	1500	1000	

Round sling 3,000



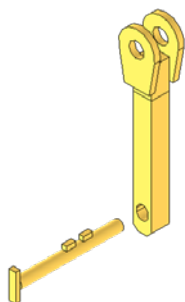
Round sling 1,500



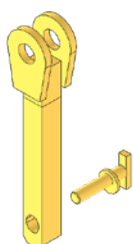
Round sling 1,000



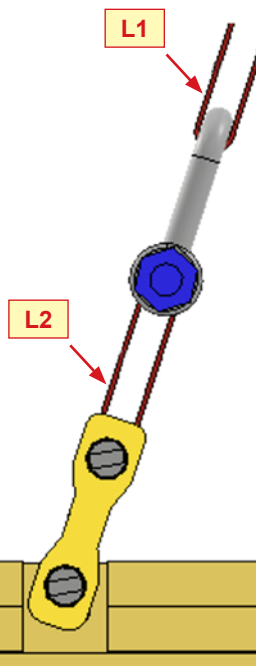
Adapter
Double slide rail



Adapter
Corner double slide rail



Shackle



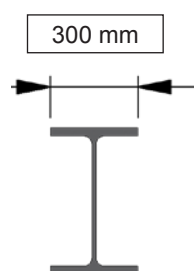
Attachment
point for
pulling eyes



Shoring support suitable for wide-flange beam HEB 500 or larger:



Clamp the wide-flange beam
flange to the shoring support



► Instruction manual

12.3 Warnings



Read the instruction manual!



Caution!



It is not permitted to stand under a suspended load or in the danger zone of the machine!



Caution!
Squeeze and shear points!



Caution!
Fluids under high pressure!



Note the next inspection date!

TWF TIEFBAUTECHNIK

Sales | Rental | Leasing



SHORING EXTRACTOR VZ100

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