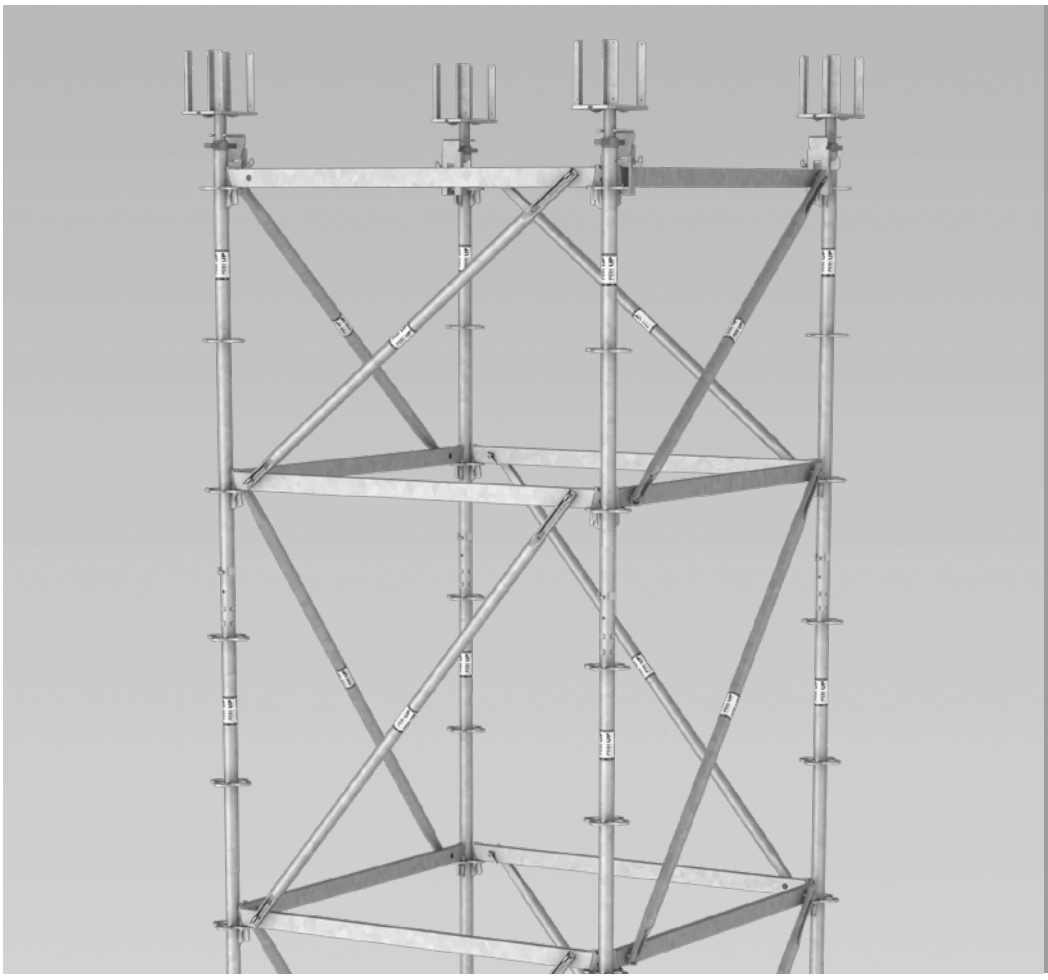
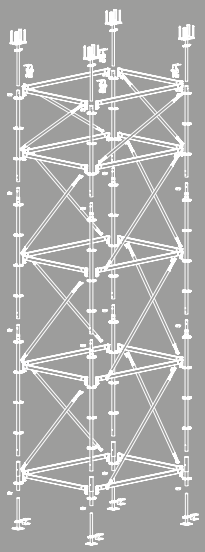
PERI UP Flex
Shoring Tower

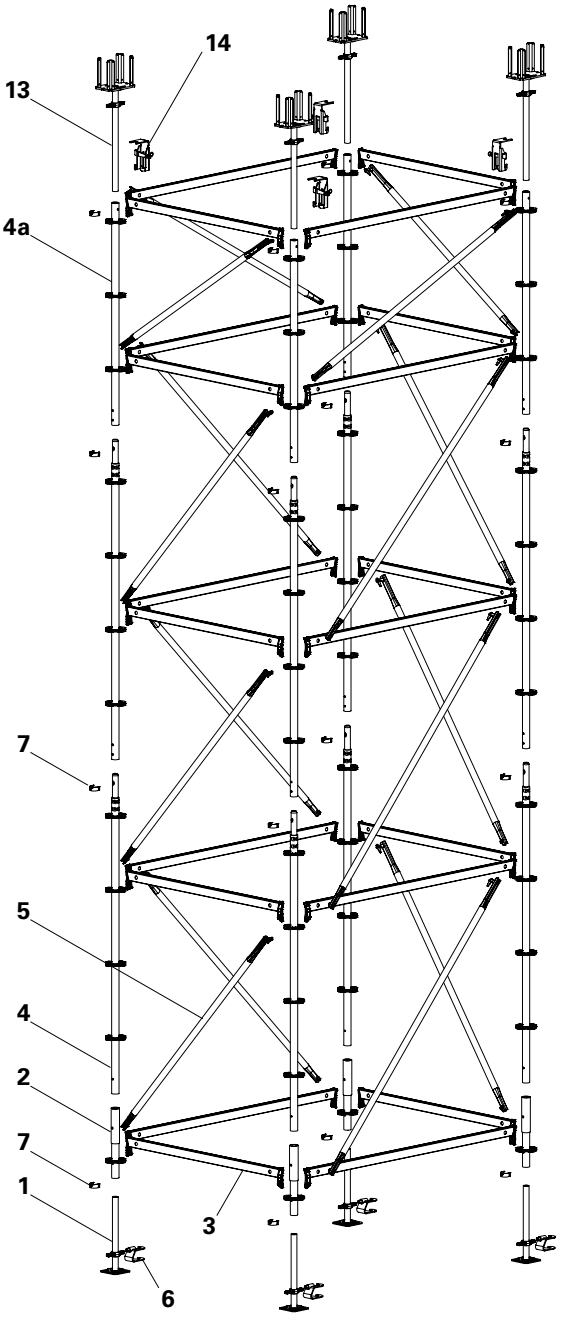
Instructions for Assembly and Use – Standard Configuration – Issue 02/2020
incl. supplemental pages PERI UP Flex 2nd generation

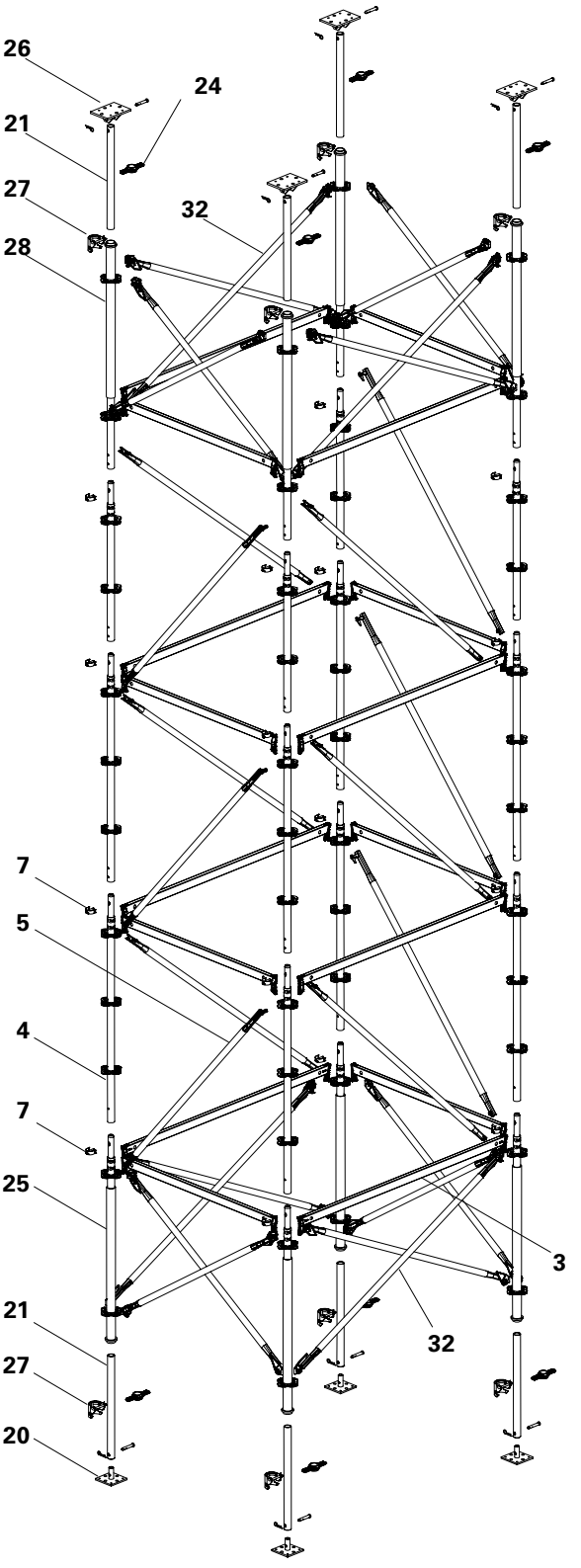




Overview

Main components





1	Adjustable Base Plate UJB	6	Spindle Locking UJS	24	Quick Jack Nut TR 48-2
2	Base Standard UVB 24	7	Locking Pin Ø 48/57	25	Base Standard UVB 135 Plus
3	Ledger UH	11	Cross Forkhead TR 38-70/50 alternatively: Head Spindle	26	Head Plate for Spindle Tube TR 48 alternatively: Cross Head Spindle TR 48
4	Standard UVR	12	Head Spindle Locking UJH	27	Spindle Locking UJS Plus
4a	Top Standard UVH	20	Base Plate for Spindle Tube TR 48	28	Top Standard UVH 165 Plus
5	Ledger Brace UBL	21	Spindle Tube TR 48	32	Shoring Brace UBS

Content

Key

Pictogram | Definition


Safety instructions


Note


Load-bearing point


Visual check


Tip


Misapplication

Dimension specifications
Dimensions are usually given in cm. Other units of measure, e.g. m, are shown in the illustrations.

Conventions
- Instructions are numbered with: 1. ....., 2. ....., 3. .....
- The result of an instruction is shown by: →
- Position numbers are clearly provided for the individual components and are given in the drawing, e.g. **1**, in the text in brackets, for example (1).
- Multiple position numbers, i.e. alternative components, are represented with a slash, e.g. **1 / 2**.

Arrows

→ Arrow representing an action

⇨ Reaction arrow representing an action

→ Forces

Presentational reference

The illustration on the front cover of these instructions is understood to be a system representation only. The assembly steps presented in these Instructions for Assembly and Use are shown in the form of examples with only one component size. They are correspondingly valid for all component sizes contained in the standard configuration.

For a better understanding, detailed illustrations are partly incomplete. The safety installations which have possibly not been featured in these detailed drawings must nevertheless still be available.

Target groups

Contractors
These Instructions for Assembly and Use are designed for contractors who use the scaffolding either for
- assembling, modifying and dismantling, or use
- it e.g. for concreting or
- who have it used, e.g. for forming operations.

Competent person
(Construction Site Coordinator)
The Safety and Health Coordinator*
- is appointed by the client,
- must identify potential hazards during the planning phase,
- determines measures that provide protection against risks,
- creates a safety and health plan,
- coordinates the protective measures for the contractor and site personnel so that they do not endanger each other,
- monitors compliance with the protective measures.

Competent person qualified to carry out inspections
Due to the specialist knowledge gained from professional training, work experience and recent professional activity, the competent person has a reliable understanding of safety-related issues and can correctly carry out inspections. Depending on the complexity of the test to be undertaken, e.g. scope of testing, type of testing or the use of a certain measuring device, a range of specialist knowledge is necessary.

Qualified persons
The scaffolding may only be assembled, modified or dismantled by personnel who are suitably qualified to do so.
For the work to be carried out, the qualified persons must have received instructions** which contain at least the following points:
- An explanation of the plan for the assembly, modification or dismantling of the scaffolding in an understandable form and language.
- Description of the measures in order to safely assemble, modify or dismantle the scaffolding.
- Designation of the preventive measures to avoid the risk of persons and objects falling.
- Designation of the safety precautions in the event of changing weather conditions which could adversely affect the safety of the scaffolding as well as the personnel concerned.
- Details regarding the permissible loads.
- Description of any other risks that are associated with the assembly, modification or dismantling procedures.

- **In other countries, ensure that the relevant national guidelines and regulations in the respective current version are complied with!**
- **If no country-specific regulations are available, it is recommended to proceed according to German rules and regulations.**
- **A competent person must be present on site during scaffolding work.**

* Valid in Germany: Regulations for Occupational Health and Safety on Construction Sites 30 (RAB 30).

** Instructions are given by the contractor himself or a competent person selected by him.

Additional technical documentation

- Type Test No. S/N 030340
- Instructions for Use
  - Trolley with Winch
  - Pallets and Stacking Devices
- Data Sheet for Anchor Bolt PERI 14/20 x 130
- PERI Design Tables – Formwork and Shoring
- Design Tables – PERI UP Flex

Intended use

Product description
PERI products have been designed for exclusive use in the industrial and commercial sectors by qualified personnel only.

The PERI UP Flex Shoring Tower allows a large range of project-specific application possibilities. As a result of the building-specific risk assessment, there are also other possibilities of ensuring assembly reliability and working safety with the help of components from the PERI UP Scaffolding Kit, e.g. decks, hatches, stairs.

Features
The PERI UP Flex Shoring Tower is used in shoring constructions in a systematic vertical position for transferring vertical and, in part, horizontal loads. All components are galvanized. The main feature of the PERI UP Flex Shoring Tower is the particularly rigid node connection between the rosettes of the standards and the ledgers.

For erecting the shoring towers, individual standards are connected with ledgers which are particularly easy to assemble due to the wedge connections. Bracing is installed in the form of system diagonals.

Through the combination of standards with lengths of L = 2.0 m and top standards of varying lengths, all heights can be continuously achieved.

Shoring tower dimensions
Assembly of the shoring tower is shown using the dimensions 2.00 x 1.50 m as an example. The following dimensions are possible:
Longitudinal direction: 1.00 / 1.50 / 2.00 / 2.50 / 3.00 m.
Lateral direction:
1.00 / 1.50 / 2.00 / 2.50 / 3.00 m
Any combination is allowed.

System dimensions

PERI UP Flex Shoring Tower
Type-tested assembly heights as free-standing individual towers up to 8.39 m: restrained at the top up to 21.89 m (22.34 m with spindle section) for ground plans with 1.50 x 1.50 m and more.

PERI UP Flex Shoring Tower with Additional Frame (VSS)
Assembly heights 1.33 m to 21.89 m.

PERI UP Flex Shoring Tower Plus
Adj. Base Plate TR 48, Head Spindle TR 48 up to 15.58 m.
Adj. Base Plate and Head Spindle TR 48 up to 16.26 m.

Technical data
Permissible load-bearing capacities: see type tests and PERI design tables.
PERI UP Flex Shoring Towers correspond to Rating Class B1 in accordance with DIN EN 12812.

Instructions for use

The use in a way not intended, deviating from the standard configuration or the intended use according to the Instructions for Assembly and Use, represents a misapplication with a potential safety risk, e.g. risk of falling.
Deviations from the standard configuration for each individual application must be verified by means of separate strength and stability calculations (Industrial Safety Regulation Appendix 1, No. 3.2.1) and explicitly reflected in the assembly instructions.

Only original PERI scaffolding components may be used.
The use of other products and spare parts is not allowed.

Changes to PERI components are not permitted.

Cleaning and maintenance instructions

In order to maintain the value and operational readiness of the PERI products over the long term, clean the elements after each use.

Some repair work may also be inevitable due to the tough working conditions. The following points should help to keep cleaning and maintenance costs as low as possible.

Do not clean powder-coated or galvanized components with steel brushes or metal scrapers.

Mechanical components, e.g. spindles, must be cleaned of dirt or concrete residue before and after use.

Provide suitable support for the components during cleaning so that no unintentional change in their position is possible.

Do not clean components suspended on a crane.

Any repairs to PERI products are to be carried out by PERI qualified personnel only.

Cross-system

General
The contractor must ensure that the Instructions for Assembly and Use supplied by PERI are available at all times and understood by the site personnel.

These Instructions for Assembly and Use can be used as the basis for creating a risk assessment. The risk assessment is compiled by the contractor. These Instructions for Assembly and Use do not replace the risk assessment!

Always take into consideration and comply with the safety instructions and permissible loads.

For the application and inspection of PERI products, the current safety regulations and guidelines must be observed in the respective countries where they are being used.

Materials and working areas are to be inspected on a regular basis, especially before each use and assembly, for:
- signs of damage,
- stability and
- function.

Damaged components must be exchanged immediately on site and may no longer be used.

Safety components are to be removed only when they are no longer required.

Components provided by the contractor must conform with the characteristics required in these Instructions for Assembly and Use as well as all valid construction guidelines and standards. Unless otherwise indicated, this applies in particular to:
- Timber components: Strength Class C24 for Solid Wood according to EN 338.
- Scaffold tubes: galvanised steel tubes with minimum dimensions of Ø 48.3 x 3.2 mm according to EN 12811-1:2003 4.2.1.2.
- Scaffold tube couplings according to EN 74.

Deviations from the standard configuration are only permitted after a further risk assessment has been carried out by the contractor.

On the basis of this risk assessment, appropriate measures for working and operational safety as well as stability are to be determined.

Corresponding proof of stability can be provided by PERI on request if the risk assessment and resulting measures to be implemented are made available.

Before and after exceptional occurrences that may have an adverse effect regarding the safety of the scaffolding system, the contractor must immediately
- create an additional risk assessment, with appropriate measures for ensuring the stability of the formwork system being carried out based on the results,
- and arrange for an extraordinary inspection by a competent person. The aim of this inspection is to identify and rectify any damage in good time in order to guarantee the safe use of the scaffolding system.

Exceptional occurrences can include:
- accidents,
- longer periods of non-use,
- natural events, e.g. heavy rainfall, icing, heavy snowfall, storms or earthquakes.

Assembly, modification and dismantling work
Assembly, modification or dismantling of scaffolding systems may only be carried out by qualified persons and under the supervision of a competent person. The qualified persons must have received appropriate training for the work to be carried out with regard to specific risks and dangers.

On the basis of the risk assessment and Instructions for Assembly and Use, the contractor must create installation instructions in order to ensure safe assembly, modification and dismantling of the scaffolding system.

Before initial use, the safe functioning of the scaffold must be checked by a person qualified to carry out the inspection. The result of the inspection must be documented in an inspection record.

The contractor must ensure that the personal protective equipment required for the assembly, modification or dismantling of the system, e.g.
- safety helmet,
- safety shoes,
- safety gloves,
- safety glasses,

is available and used as intended.

If personal protective equipment against falling (PPE) is required or specified in local regulations, the contractor must determine appropriate attachment points on the basis of the risk assessment.
The personal protective equipment against falling to be used is determined by the contractor.

The contractor must
- provide safe working areas for site personnel which are to be reached through the provision of safe access ways. Areas of risk must be cordoned off and clearly marked.
- ensure the stability during all stages of construction, in particular during assembly, modification and dismantling operations.
- ensure and prove that all loads can be safely transferred.

Utilization
Every contractor who uses or allows the scaffolding system or sections of the scaffolding system to be used, has the responsibility for ensuring that the equipment is in good condition.

If the scaffolding system is used successively or at the same time by several contractors, the health and safety coordinator must point out any possible mutual hazards, and all work must be then coordinated.

System-specific

Retract components only when the concrete has sufficiently hardened and the person in charge has given the go-ahead for striking to take place.

Anchoring is to take place only if the anchorage has sufficient concrete strength.

The load-distributing support used, such as planking, must match the respective base. If several layers are required, planks are to be arranged crosswise.

Tighten couplings with screw closures using 50 Nm. This corresponds to a force of 20 kg using a lever arm length of 25 cm.

Secure wedges using a 500 g hammer.

Storage and transportation

Store and transport components ensuring that no unintentional change in their position is possible. Detach lifting accessories and slings from the lowered components only if they are in a stable position and no unintentional change is possible.

Do not drop the components.

Use PERI lifting accessories and slings as well as only those load-bearing points provided on the component.

During the moving procedure
- ensure that components are picked up and set down so that unintentional falling over, falling apart, sliding, falling down or rolling is avoided.
- no persons are allowed to remain under the suspended load.

Always guide pre-assembled scaffolding bays, scaffolding units or scaffolding sections with ropes when moving them by crane.

The access areas on the jobsite must be free of obstacles and tripping hazards as well as being slip-resistant.

For transportation, the surface used must have sufficient load-bearing capacity.

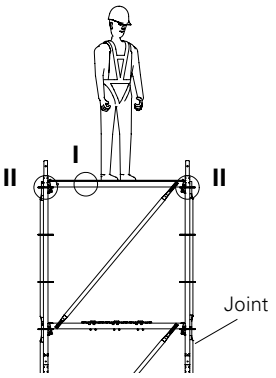
Use original PERI storage and transport systems, e.g. pallet cages, pallets or stacking devices.

Attachment points for PPE

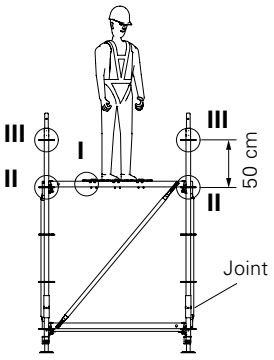
Each specified attachment point is intended for securing one person only!

General information
- The use of personal protective equipment to prevent falling is regulated in the project-related risk assessment that has been prepared by the contractor (user).
- When using personal protective equipment to prevent falling from a height, all valid standards and safety regulations are to be taken into consideration by the scaffolding contractor.
- Each shoring tower is to be secured against tipping by the user.
- The application is valid for the assembly, modification and dismantling of shoring towers.

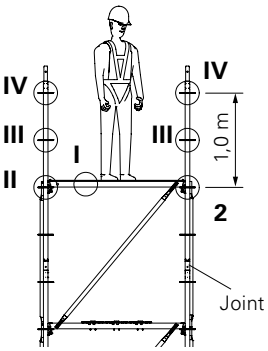
Requirements
- The shoring underneath the final assembly level is complete.
- This means, all ledgers and diagonal bracing have been installed and the decking is in place as the topmost assembly level.
- The joints of the topmost standards must lie underneath the last assembly level.



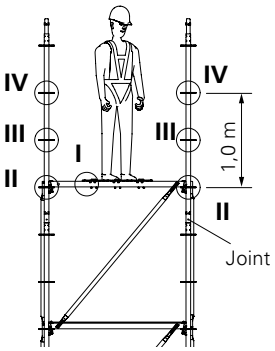
Attachment points
The standard ends in the last assembly level:
- each ledger is in the assembly level (I)
- each rosette in the assembly level (II)



Attachment points
The standard ends 50 cm above the last assembly level:
- each ledger is in the assembly level (I)
- each rosette up to max. 50 cm above the last assembly level (II, III)



Attachment points
The standard ends 1.0 m above the last assembly level:
- each ledger is in the assembly level (I)
- each rosette up to max. 1.0 m above the last assembly level (II, III, IV)



Attachment points
The standard ends 1.5 m above the last assembly level:
- each ledger is in the assembly level (I)
- each rosette up to max. 1.0 m above the last assembly level (II, III, IV)

A1 PERI UP Flex Shoring Tower

General

The PERI UP Flex Shoring Tower is shown without additional ledgers. Assemble the shoring tower so that the wider side is lying flat on the ground. The tower is subsequently erected via this side.

Base unit

The base unit is vertically assembled up to a height of 2.0 m.
For further assembly, the base unit is positioned on its side and forms the basis for the horizontal assembly.

Components		Qty
1	Adjustable Base Plate UJB	4x
2	Base Standard UVB 24	4x
3	Ledger UH 200 Plus*	2x
3a	Ledger UH 150 Plus*	2x
6	Spindle Locking UJS	4x
10	H-Brace UBH Flex (as assembly aid)	1x

* Length is dependent on the layout of the shoring tower.

Assembly

1. Assemble base frame using the components. (Fig. A1.01)
2. Right-angle adjustment of the frame with H-Brace (10). (Fig. A1.02)
3. Horizontally align frame by adjusting the Adjustable Base Plates (1).
4. Securely fix all wedges to the ledgers using a 500 g hammer (hammer in tightly).
5. Secure Adjustable Base Plates by means of Spindle Locking devices. (Fig. A1.01a)

The H-Braces also ensure the squareness during crane transport.

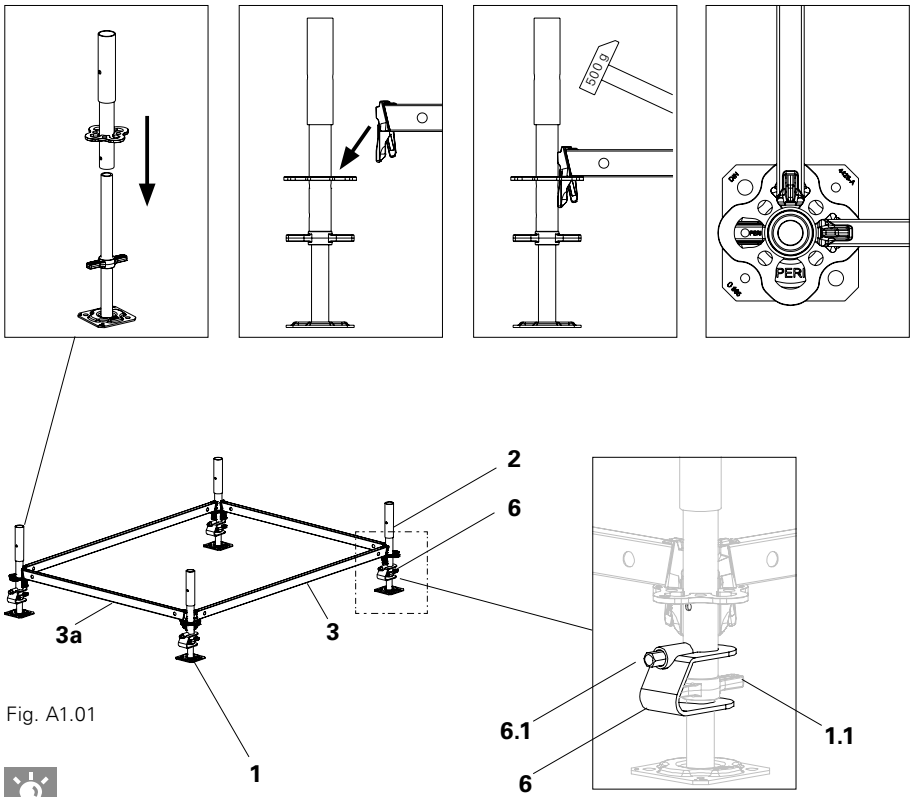


Fig. A1.01

– Align all the pegging holes in the Base Standard in one direction.

Fig. A1.01a

Fix the Spindle Locking UJS (6) to the bottom hole of the Base Standard by screwing in the bolt (6.1). The Quick Jack Nut (1.1) must be positioned within the Spindle Locking UJS.

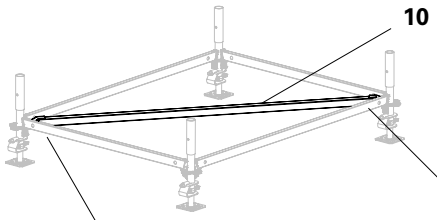
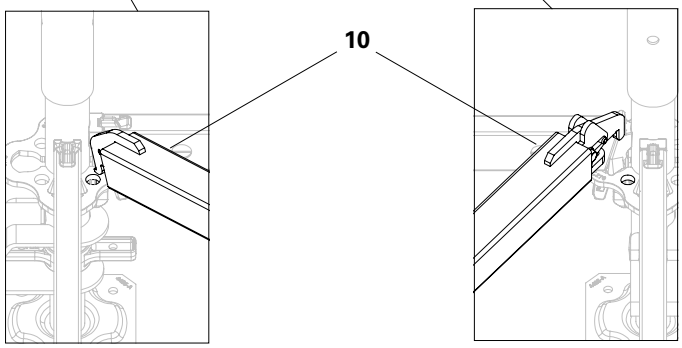


Fig. A1.02



Standards and ledgers

Components		Qty
4	Standard UVR 200	4x
3	Ledger UH 200 Plus*	2x
3a	Ledger UH 150 Plus*	2x
5	Ledger Brace UBL 200/150*	2x
5a	Ledger Brace UBL 150/150*	2x
7	Locking Pin Ø 48/57	4x

* Length is dependent on the layout of the shoring tower.

Ledger spacing
- Example: ledger spacing according to the type test 1.50 m.
- Other ledger spacings are possible but these required separate static proof. They do not form part of the type test.

Assembly
1. Insert Standards (4) and tightly connect using Locking Pins (7). (Fig. A1.03c)
2. Install Ledgers (3).
3. Insert Ledger Braces (5) with the finger (5.1) in the bottom Ledgers (3). (Fig. A1.03b)
4. Insert the gravity pin (5.2) into the holes of the top ledger, turn pin to secure. (Fig. A1.03a)
5. Secure Ledgers with a hammer.
6. Position Base Unit on support timbers (min. 6 cm high) for further assembly.
7. If necessary, the H-Brace (10) can be removed.

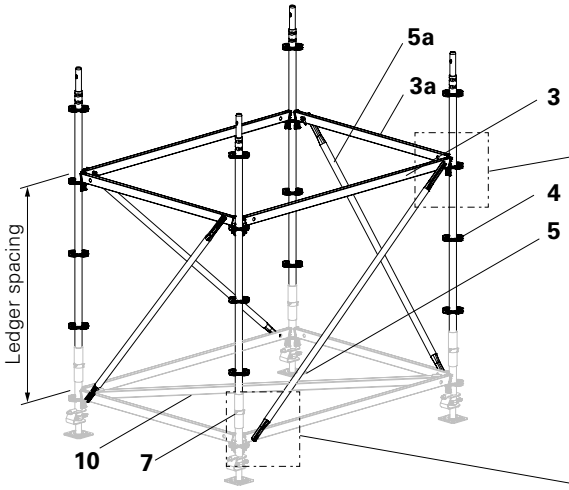


Fig. A1.03

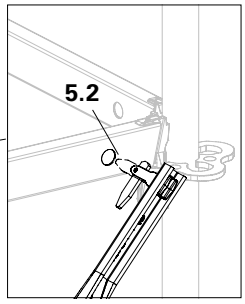


Fig. A1.03a

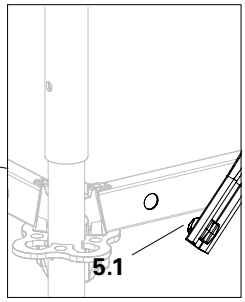


Fig. A1.03b

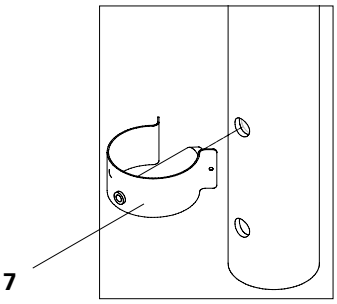


Fig. A1.03c

- Ledgers are secured with hammer blows only after ledger braces have been installed.
- As an alternative to Locking Pin Ø 48/57, Bolt M10x70, 8.8 with Nut M10 (4x) can always be used.

Height units

Standards

Components		Qty
4	Standard UVR 200	4x
7	Locking Pin Ø 48/57	4x

Assembly
Insert Standards (4) and tightly connect using Locking Pins (7).
(Fig. A1.04)

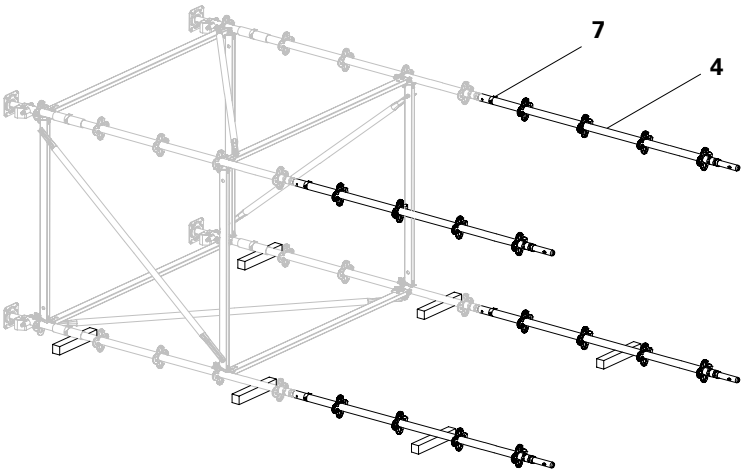


Fig. A1.04

Ledgers and diagonals

Components		Qty
3	Ledger UH 200 Plus*	2x
3a	Ledger UH 150 Plus*	2x
5	Ledger Brace UBL 200/150*	2x
5a	Ledger Brace UBL 150/150*	2x

* Dependent on the layout of the shoring tower.

Assembly
1. Install Ledgers (3, 3a) using 1.50 m spacings. (Every third rosette)
2. Mount Ledger Braces (5, 5a):
   – Mount the bottom-positioned Ledger Brace (5) from the inside.
   – Mount the remnaining Ledger Braces from the outside. (Fig. A1.05)
3. Repeat steps 1 and 2 until the required end height has been reached. Last Standard = Top Standard UVH, see Top Tower Unit.

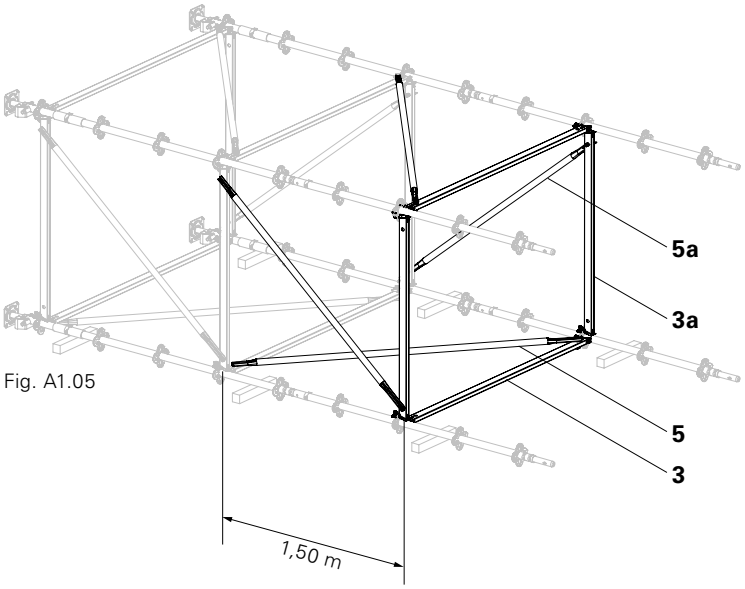


Fig. A1.05

Top tower unit

Shown here in a vertical position due to didactical reasons!
The assembly example shows a height adjustment of 1.50 m. (Fig. A1.07c)

Components		Qty
4a	Top Standard UVH 150*	4x
3	Ledger UH 200 Plus*	4x
3a	Ledger UH 150 Plus*	4x
5	Ledger Brace UBL 200/150*	2x
5a	Ledger Brace UBL 150/150*	2x
5b	Ledger Brace UBL 200/100*	2x
5c	Ledger Brace UBL 150/100*	2x
7	Locking Pin Ø 48/57	4x
11	Cross Forkhead TR 38-70/50	4x
12	Head Spindle Locking UJH	4x

* Dependent on the shoring tower layout and height.

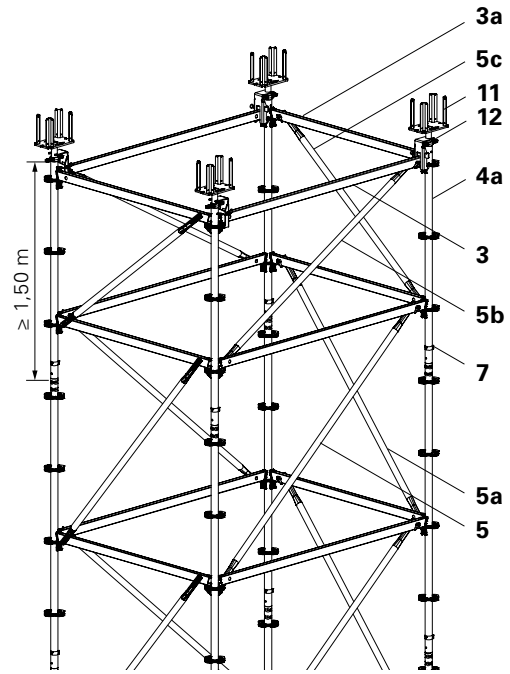


Fig. A1.06

Assembly
1. Insert Top Standards (4a) to adjust the height (UVH 100, 150, 200, 250).
2. Tightly connect Top Standards using Locking Pins (7).
3. Install Ledgers (3, 3a).
4. Mount Ledger Braces (5 – 5c) and secure Ledgers.
5. Insert Cross Forkhead (11).
6. Place the Head Spindle Locking (12) at an angle on the Ledger and first insert the hooks (12.1) into the rosette holes (4.1) from below.
7. Swivel the Head Spindle Locking upwards over the Quick Jack Nut (11.1), hammer in wedge (12.2) and secure with cotter pin (12.3).

(Fig. A1.06 – A1.06b)

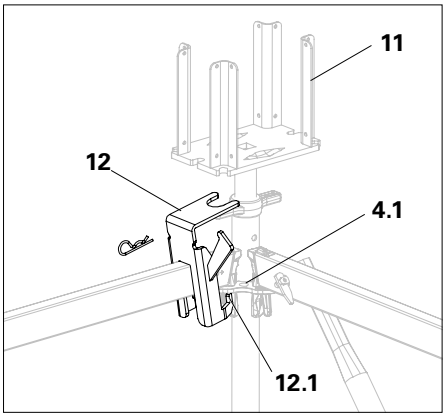


Fig. A1.06a

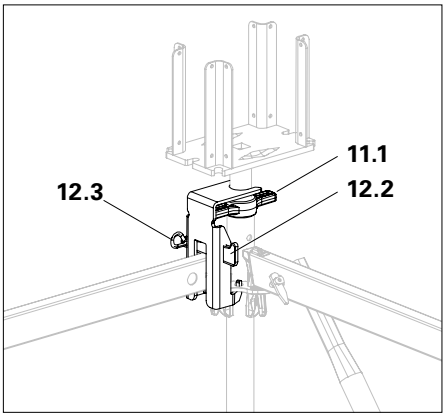


Fig. A1.06b

Height adjustment

Height adjustment takes place through the use of corresponding Top Standards (heights of 100/150/200/25 cm) and adjusting the spacing of the Ledgers.
(Fig. A1.07a – A1.07d)

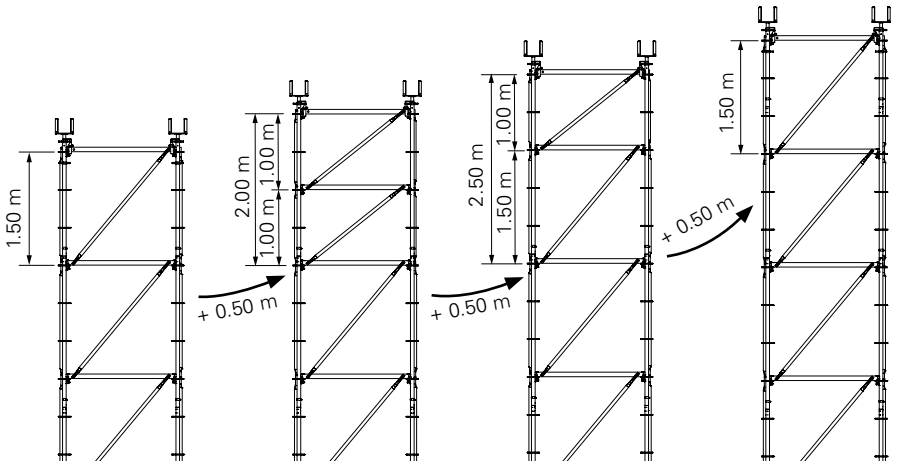


Fig. A1.07a / 07d Fig. A1.07b Fig. A1.07c Fig. A1.07d / 07a

Erection with the crane

⚠

- **Risk of injury from falling components!**
  Ensure that all Standards are tightly connected!
- **Risk of falling!**
  Ensure that removal of the lifting gear is carried out from a safe working position!
- **Only attach to those rosette nodes which are directly connected to the Ledgers.**

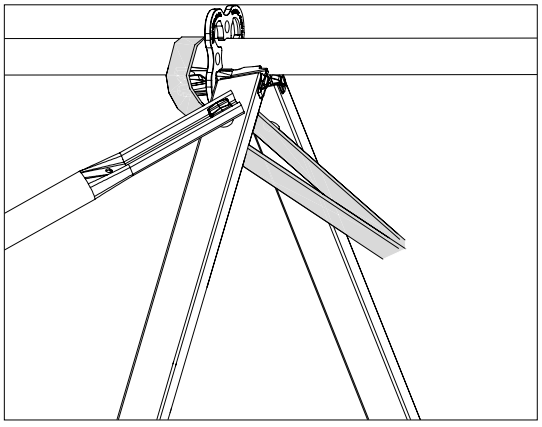


Fig. A1.08a

Erection

1. Completely spindle in the bottom Adjustable Base Plates in order to prevent overloading the components during erection.
2. Place four chains or textile lifting slings, e.g. round slings, underneath those rosette nodes complete with Ledgers.
3. Erect shoring tower.
4. Whilst suspended on the crane lifting gear, adjust the Adj. base plates to the required height.

(Fig. A1.08 + A1.08a)

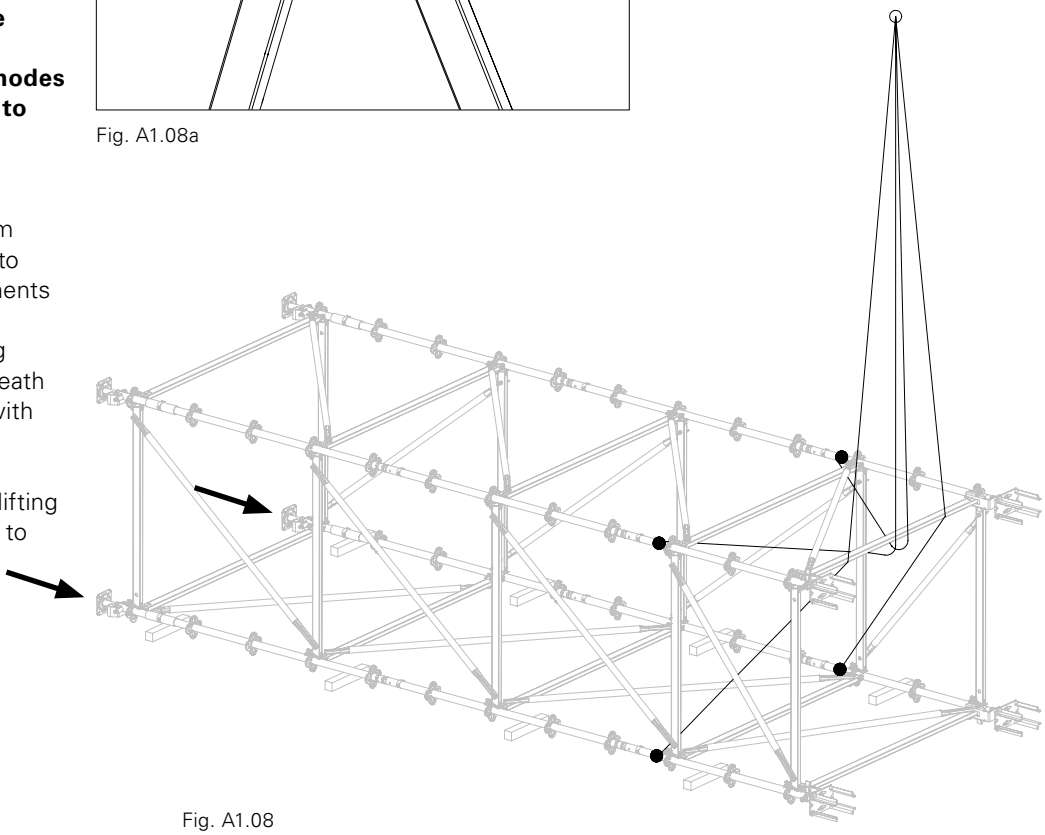


Fig. A1.08

Dismantling

⚠

- **Risk of injury from falling components!**
  Ensure that all Standards are tightly connected!
- **Risk of falling!**
  Attach the lifting gear from a safe working position!
- **Only attach to rosette nodes which are directly connected to the Ledgers.**

1. Place four chains or textile lifting slings, e.g. round slings, underneath those rosette nodes complete with Ledgers, and attach to the crane lifting gear. (Fig. A1.09)
2. Completely spindle in the subsequent bottom Adjustable Base Plates in order to prevent overloading the components during setting down.
3. Using the wider side, position tower on support timbers with the crane.
4. Dismantle the tower beginning with the head side:
   - Remove Head Spindles.
   - Remove each height unit one after the other. First dismantle the Ledger Braces and Ledgers, and then the Standards.
   - Dismantle the base unit.
5. Store individual components accordingly, e.g. in pallets.

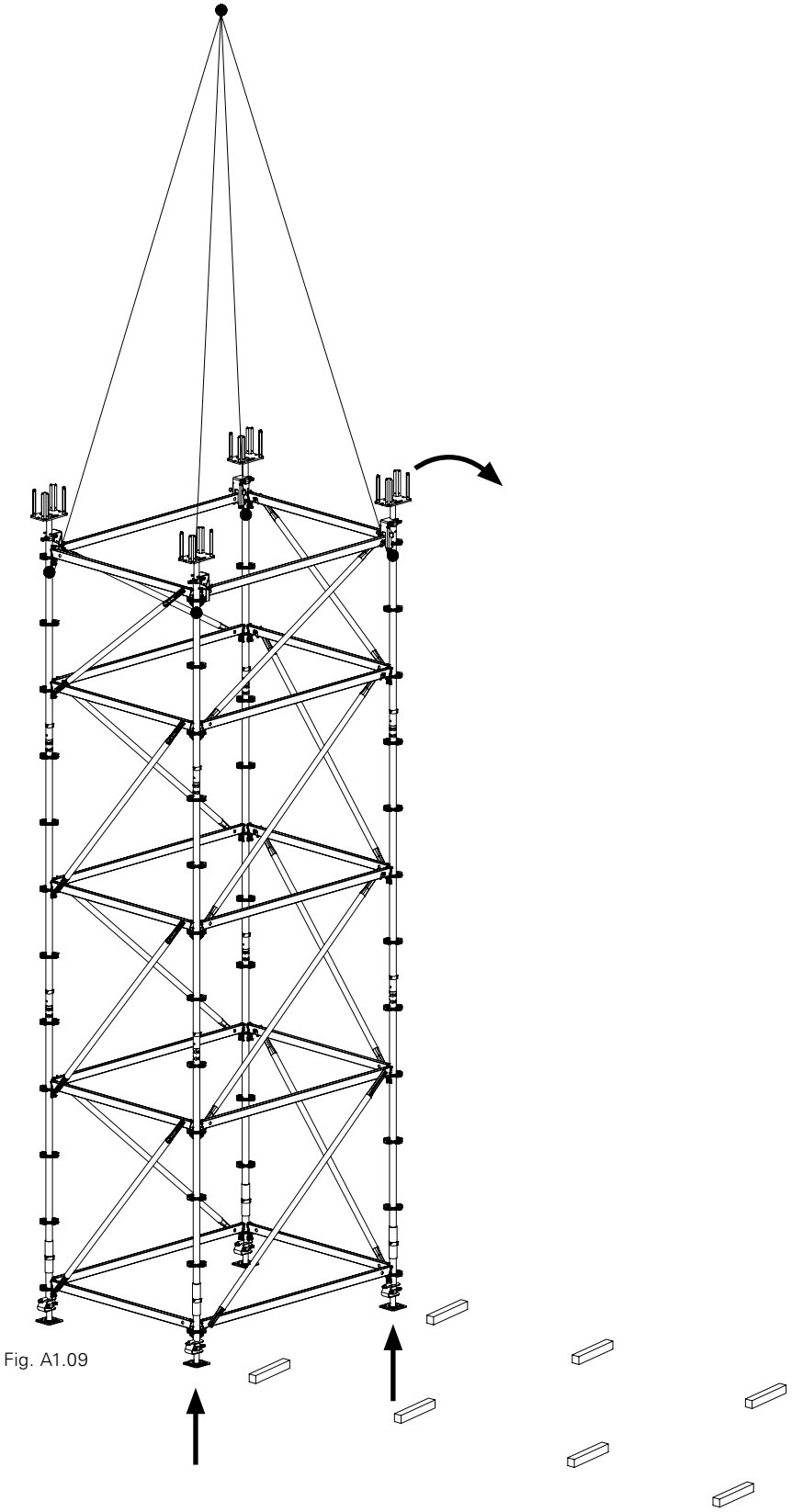


Fig. A1.09

A2 Additional Frames

Ground plans

For transferring concentrated loads while simultaneously saving on materials, up to 2 Additional Frames (VSS) can be connected on an individual tower. The spacing of the frames to one another is freely selectable according to the requirements. (Fig. A2.01)

A maximum of 2x VSS can be connected one behind the other.
Extensions over the corners are not permitted.

The assembly example shown is carried out on a 2.00 x 1.50 m shoring tower with 2x VSS, each 1.00 m.

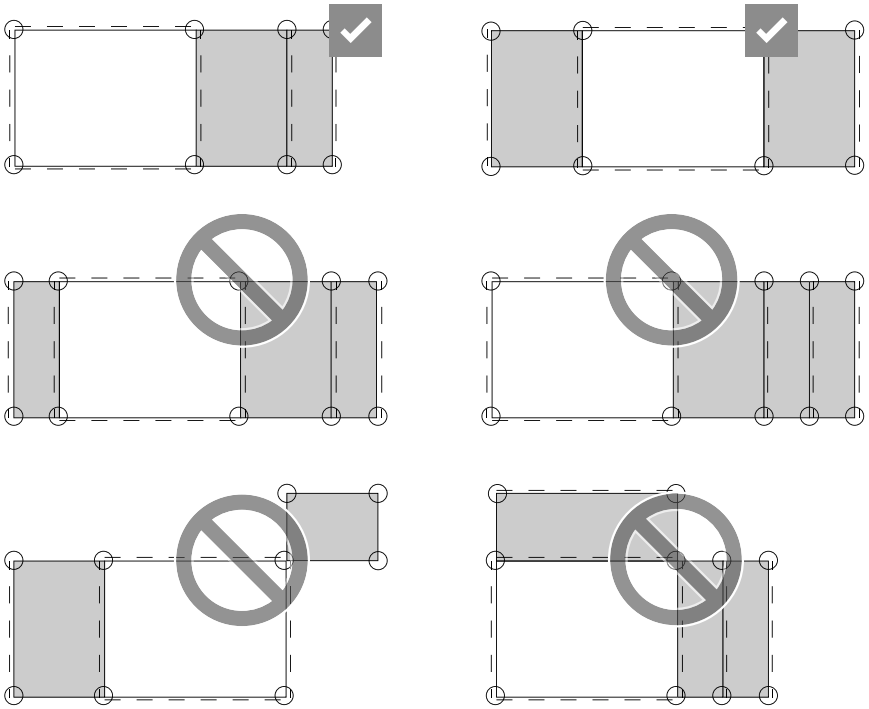


Fig. A2.01

Dimensions

Minimum size of an individual tower:
1.50 x 1.50 m.

Grid dimensions for VSS:
0.25 / 0.50 / 0.75 / 1.00 / 1.50 / 2.00 / 2.50 / 3.00 m.
Second dimension as for the respective base tower side.
(Fig. A2.01a)

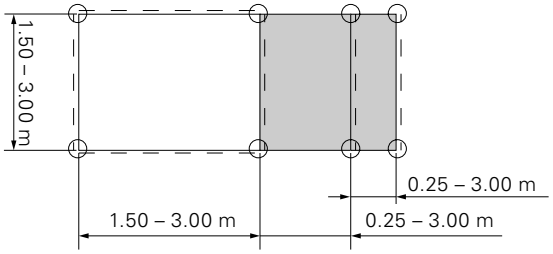


Fig. A2.01a

Arrangement of the diagonals

In the direction of the Additional Frames, only additional diagonals are required in the main tower.
Transverse to the direction of the Additional Frames, brace all frame columns of the main tower and the Additional Frames with diagonals.
(Fig. A2.01b)

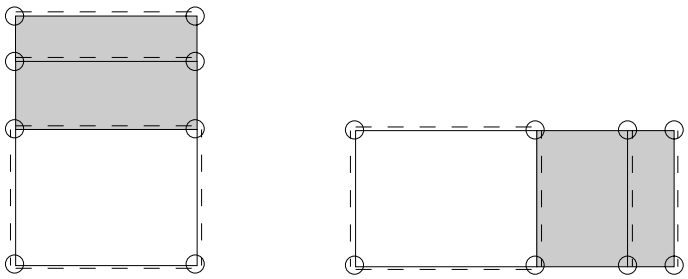


Fig. A2.01b

Key:

_ _ _ _ _ Diagonal bracing

A2 Additional Frames

General

Assembly correspondingly takes place as described in section A1, PERI UP Flex Shoring Tower.

Assemble the shoring tower so that the wider side (with Additional Frames) is lying flat on the ground. The tower is subsequently erected via this side.

Base Frame VSS

Components		Qty
1	Adjustable Base Plate UJB	4x
2	Base Standard UVB 24	4x
3	Ledger UH 150 Plus	2x
3a	Ledger UH 100 Plus	4x
6	Spindle Locking UJS	4x

(Fig. A2.02)

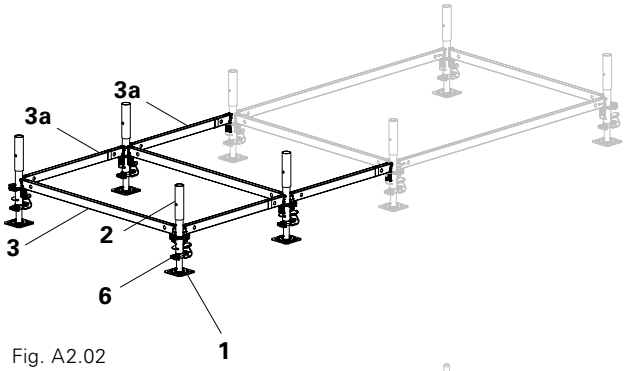


Fig. A2.02

Standards and Ledgers VSS

Components		Qty
4	Standard UVR 200	4x
3	Ledger UH 150 Plus	2x
3a	Ledger UH 100 Plus	4x
5a	Ledger Brace UBL 150/150	2x
7	Locking Pin Ø 48/57	4x

(Fig. A2.03)

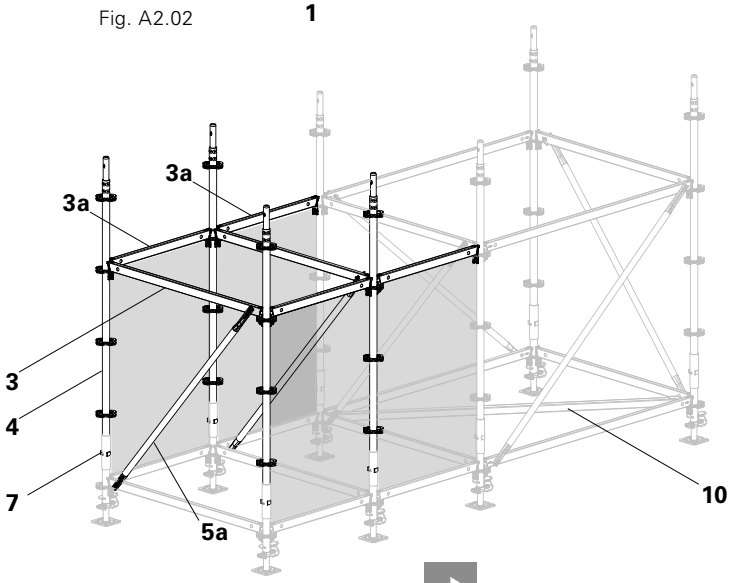


Fig. A2.03

No additional diagonals are required in the marked fields!

– Ledgers are secured with hammer blows only after Ledger Braces have been installed.
– As an alternative to the Locking Pin Ø 48/57, Bolt M10x70, 8.8 with Nut M10 (4x) can always be used.

Height Units VSS

Standards

Components		Qty
4	Standard UVR 200	4x
7	Locking Pin Ø 48/57	4x

(Fig. A2.04)

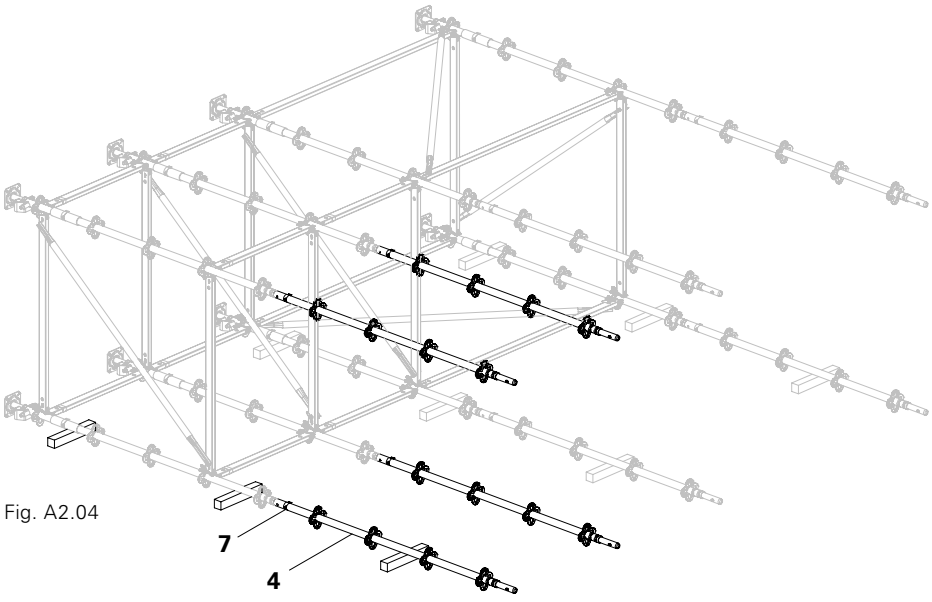


Fig. A2.04

Ledgers and Diagonals VSS

Components		Qty
3	Ledger UH 150	2x
3b	Ledger UH 100	4x
5a	Ledger Brace UBL 150/150	2x

(Fig. A2.05)

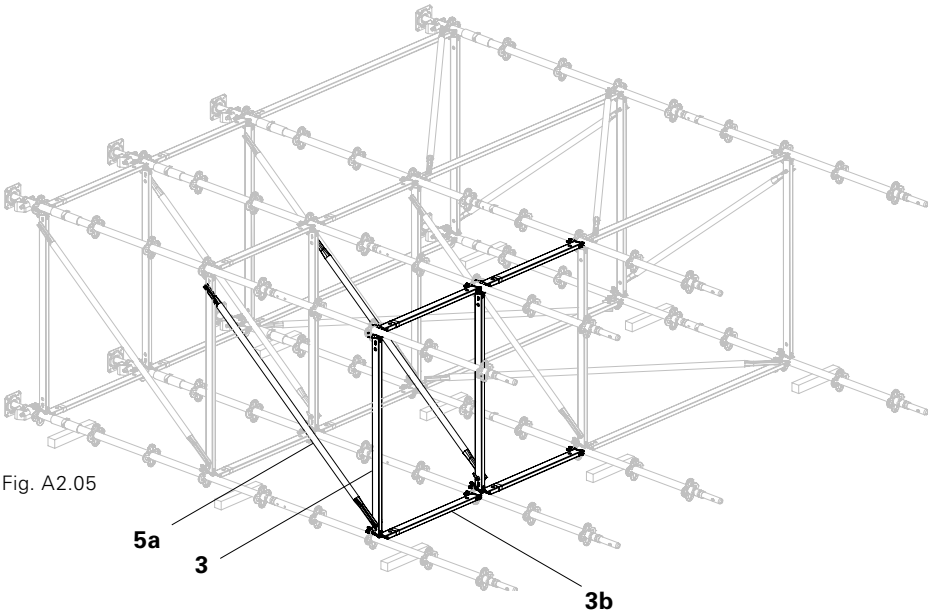


Fig. A2.05

Head Element with Height Adjustment VSS

Shown here in a vertical position due to didactical reasons!
The assembly example shows a height adjustment of 2.50 m. (Fig. A2.06)

Components		Qty
4a	Top Standard UVH 250*	4x
3a	Ledger UH 150 Plus*	4x
3b	Ledger UH 100 Plus*	8x
5a	Ledger Brace UBL 150/150*	2x
5c	Ledger Brace UBL 150/100*	2x
7	Locking Pin Ø 48/57	4x
11	Cross Forkhead TR 38-70/50	4x
12	Head Spindle Locking UJH	4x

* Dependent on the layout of the shoring tower and height.

Height adjustment takes place through the use of corresponding Top Standards (100/150/200/25 cm heights) and adjusting the spacing of the Ledgers. see Section A1 PERI UP Flex Shoring Tower, Height Adjustment.

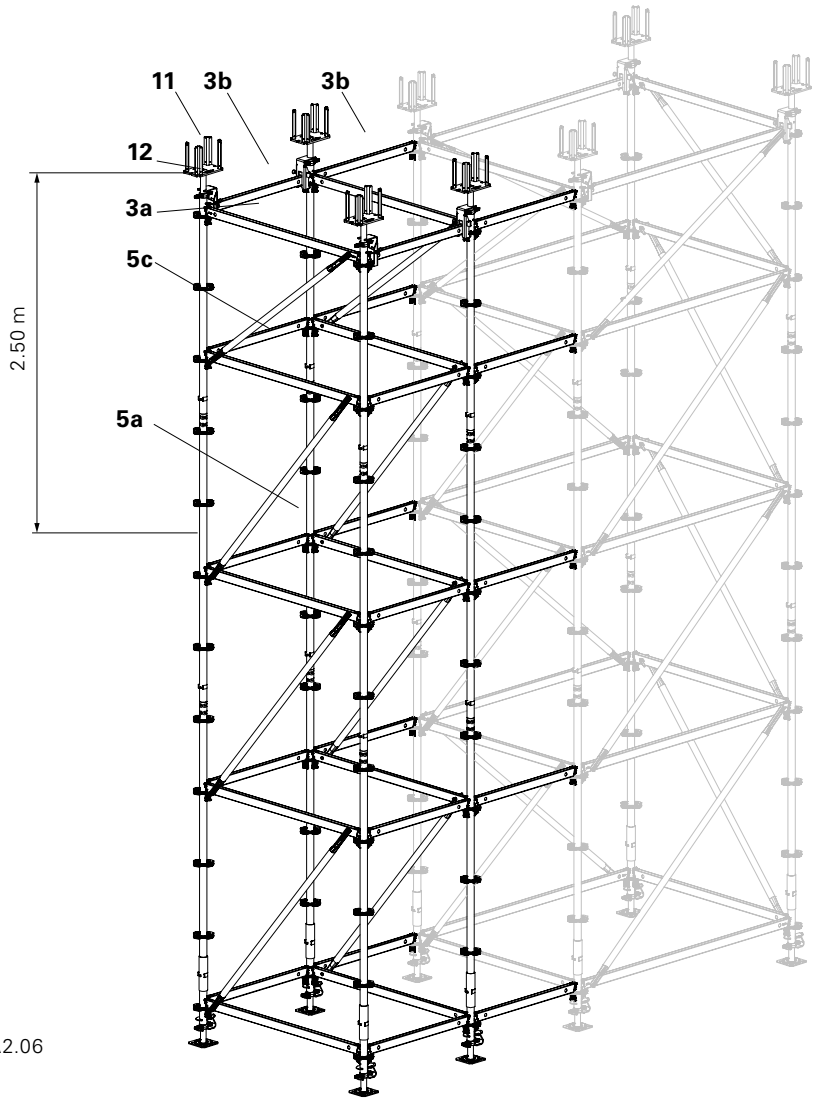


Fig. A2.06

Erection with the crane

- **Risk of injury from falling components!**
  Ensure that all Standards are tightly connected!
- **Risk of falling!**
  Ensure that removal of the lifting gear is carried out from a safe working position!
- **Only attach to those rosette nodes which are directly connected to the Ledgers.**

Erection

1. Completely spindle in the bottom Adjustable Base Plates in order to prevent overloading the components during erection.
2. Place four chains or textile lifting slings, e.g. round slings, underneath those rosette nodes complete with Ledgers.
3. Erect shoring tower.
4. Whilst suspended on the crane lifting gear, adjust the Adj. Base Plates to the required height.

(Fig. A2.08 + A2.08a)

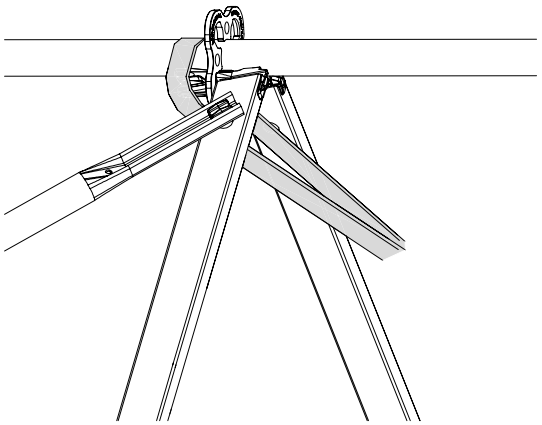


Fig. A2.08a

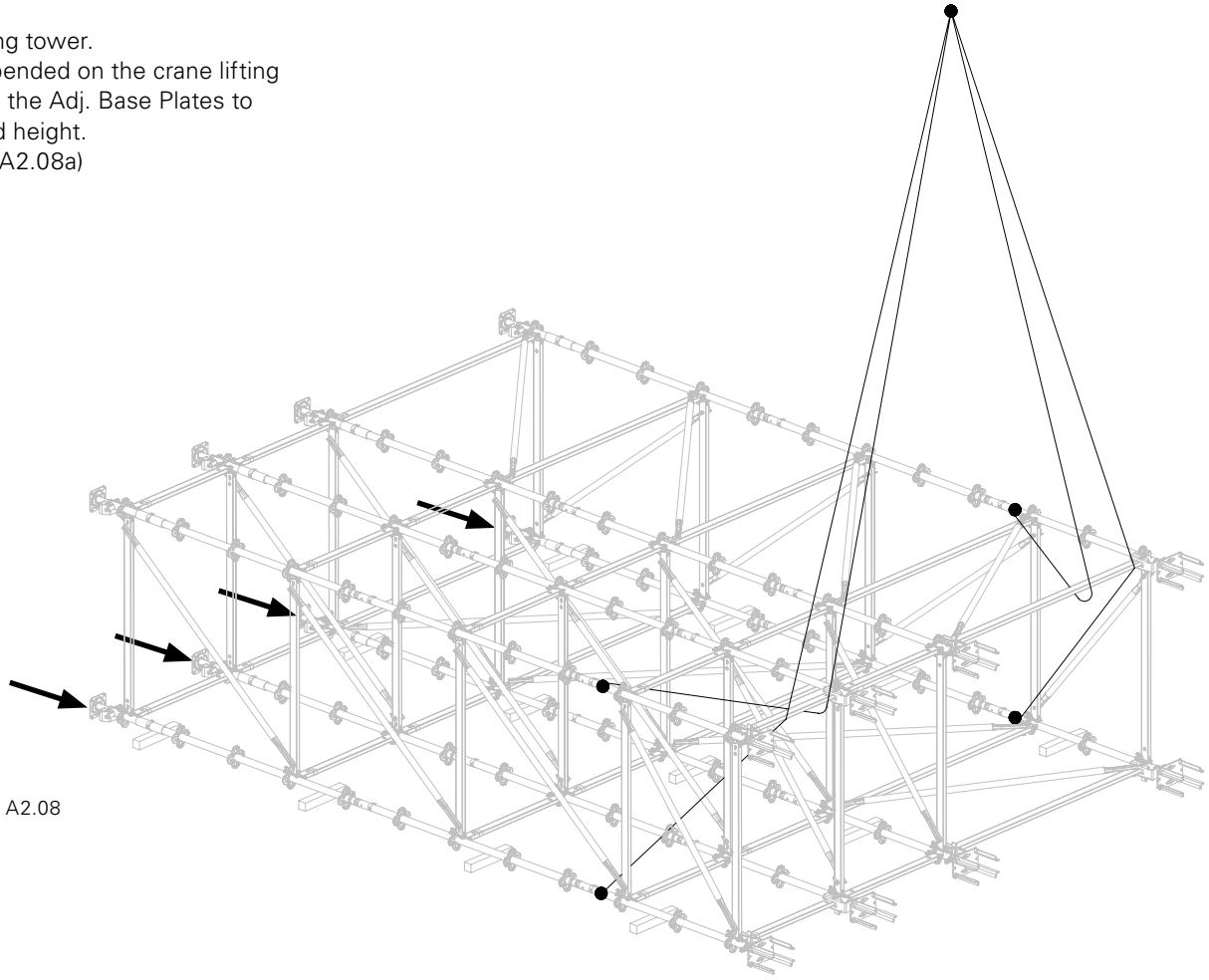


Fig. A2.08

Dismantling

- **Risk of injury from falling components!**
  Ensure that all Standards are tightly connected!
- **Risk of falling!**
  Attach the lifting gear from a safe working position!
- **Only attach to those rosette nodes which are directly connected to the Ledgers.**

1. Place four chains or textile lifting slings, e.g. round slings, underneath those rosette nodes complete with Ledgers, and attach to the crane lifting gear.
2. Completely spindle in the subsequent bottom Adjustable Base Plates in order to prevent overloading the components during setting down.
3. Using the wider side, position tower on support timbers with the crane.
4. Dismantle the tower beginning with the head side:
   - Remove Head Spindles.
   - Remove each Height Unit one after the other. First dismantle the Ledger Braces and Ledgers, and then the Standards.
   - Dismantle the base unit.
5. Store individual components accordingly, e.g. in pallets.

(Fig. A2.09)

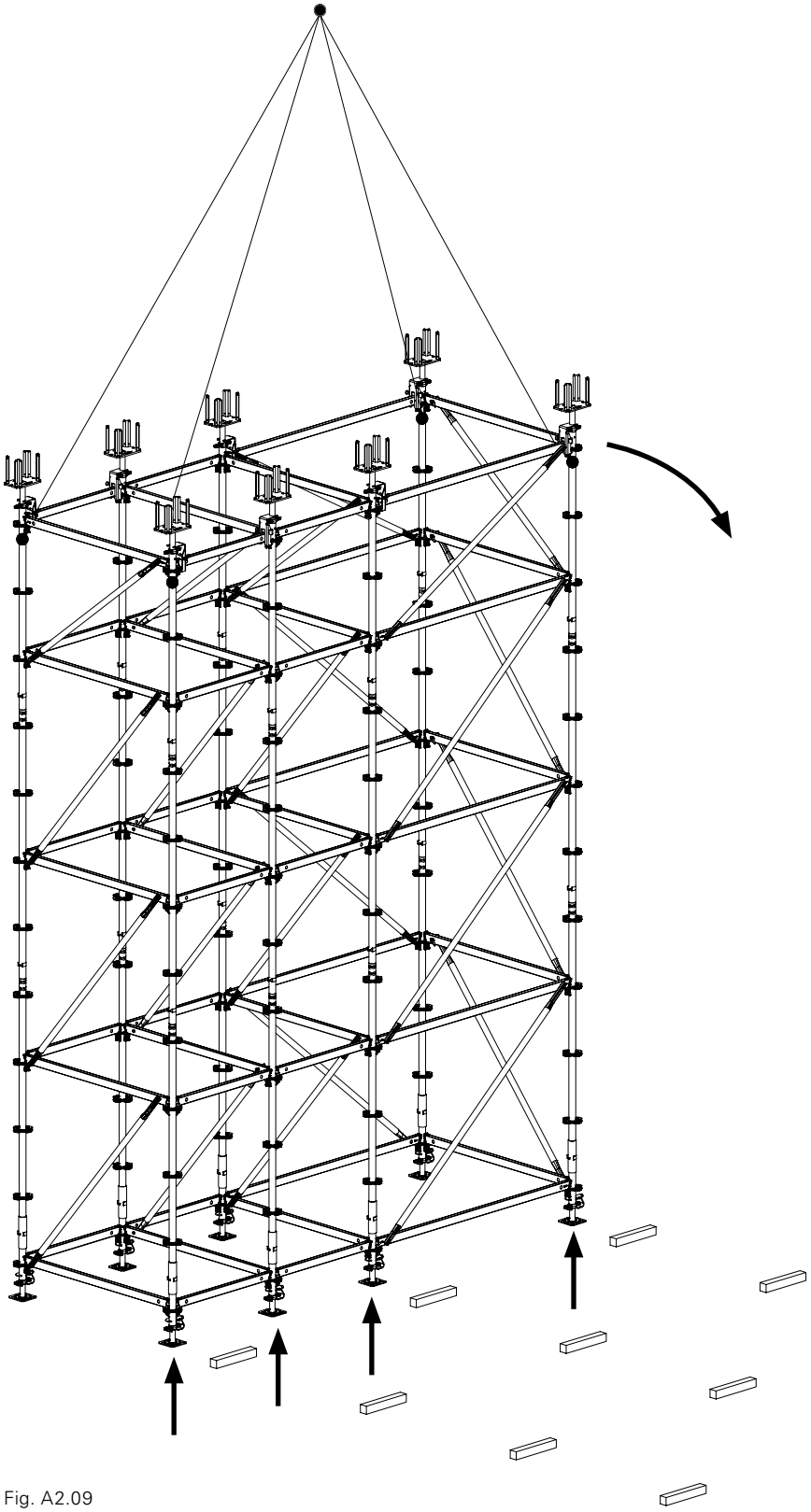


Fig. A2.09

A3 PERI UP Flex Shoring Tower Plus

General

PERI UP Flex Shoring Tower Plus facilitates an increase in the load-bearing capacity of the standards or significantly larger spindle extensions which are required when moving slab tables under beams.

Preparation

Preparation of the Head Spindles
4 Head Spindles are required.
Number of pieces per spindle.

Components		Qty
26	Head Plate for Spindle Tube TR 48	1x
21	Spindle Tube TR 48	1x
22	Bolt Ø 16 x 65/86	1x
23	Cotter Pin 4/1	1x
24	Quick Jack Nut TR 48-2	1x

Assembly
1. Screw Quick Jack Nut (24) on the Spindle Tube (21) – using only a few turns.
2. Postion the Head Plate (26) with the top side facing downwards.
3. Place the Spindle Tube on the Head Plate and connect using Bolts (22).
4. Secure Bolts with Cotter Pins (23).

→ Head Spindles have now been prepared. (Fig. A3.01)

Preparation of the Adjustable Base Plates
4 Adjustable Base Plates are required.
Number of pieces per spindle.

Components		Qty
20	Base Plate for Spindle Tube TR 48	1x
21	Spindle Tube TR 48	1x
22	Bolt Ø 16 x 65/86	1x
23	Cotter Pin 4/1	1x
24	Quick Jack Nut TR 48-2	1x

Assembly
1. Screw Quick Jack Nut (24) on the Spindle Tube (21) – using only a few turns.
2. Position Base Plate.
3. Insert Spindle Tube on Base Plate (20).
4. Connect Base Plate and Spindle Tube using Bolts (22).
5. Secure Bolts by means of Cotter Pins (23).

→ Adjustable Base Plates have now been prepared. (Fig. A3.02)

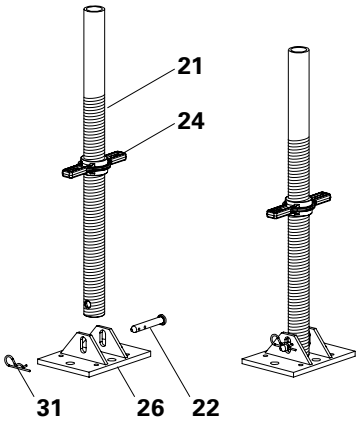


Fig. A3.01

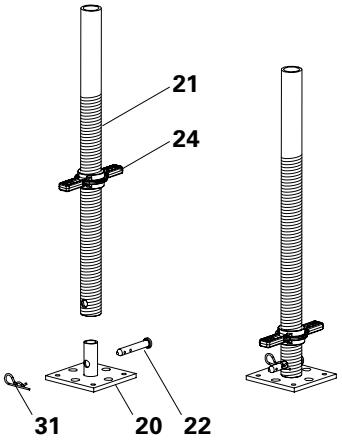


Fig. A3.02

Preparation of the Head Elements
2 Head Elements are required.
Number of pieces per Head Element.
The Head Element forms the wider side of the shoring tower.

	Components	Qty
	Prepared Head Spindles	2x
3	Ledger UH Plus*	1x
27	Spindle Locking UJS Plus	2x
28	Top Standard UVH 165 Plus	2x
32	Shoring Brace UBS*	2x

* Length is dependent on the layout of the shoring tower.

Assembly
1. Place the Top Standards (28) with smaller diameters on timbers and attach Ledgers (3). Securely fix the wedges. (Fig. A3.03)
2. Install Shoring Braces (32) crosswise.
   – Insert the Base Connection (32.1) into the round rosette hole at a 45° angle and swivel the Shoring Brace inwards in the ledger level. (Fig. A3.04 + A3.04a)
   – Pull out the spring bolt (32.3) on the head piece, and push the head piece (32.2) laterally onto the rosette until the bolt is positioned in the round rosette hole. (Fig. A3.04 + A3.04b)
   – Release the spring bolt and allow it to engage in the rosette hole. (Fig. A3.04)
   – Turn the Head Element and mount the Shoring Brace on the other side in the same way. (Fig. A3.05)

Direction of the Shoring Braces "from bottom left to top right" each time.

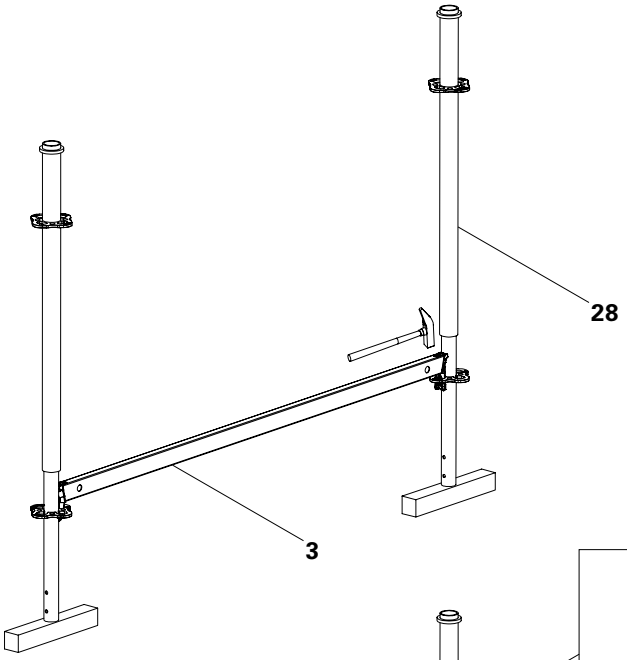


Fig. A3.03

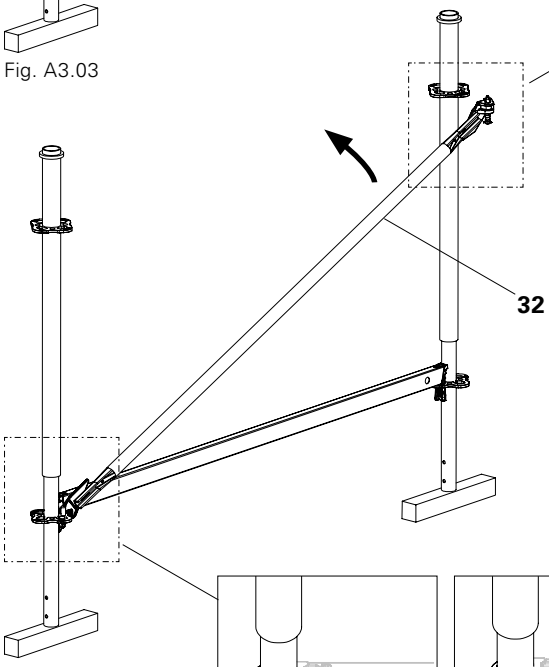


Fig. A3.04

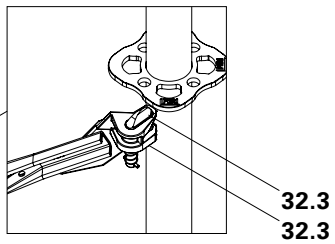


Fig. A3.04b

Is the spring bolt properly engaged?

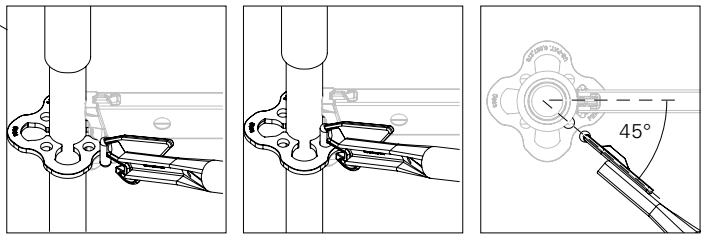


Fig. A3.04a

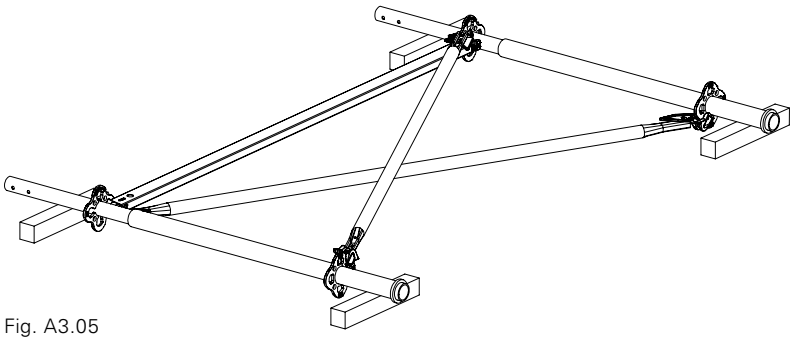


Fig. A3.05

3. Insert the prepared Head Spindles into the Top Standards and adjust to the required height.
4. Secure Head Spindles with the Spindle Locking.
   – For this purpose, pull out Cotter Pins (27.2).
   – Laterally turn the positioning pins (27.1) and pull out as far as the round hole.
   – Position the collar (27.3) of the Spindle Locking behind the ring (28.1) of the Top Standard.
   – Quick Jack Nut (24) must engage in the recess (27.4) of the Spindle Locking.
   – Insert positioning pin (27.1) through the hole (27.5) and secure by means of a Cotter Pin (27.2).

→ Head Element has now been prepared. (Fig. A3.06 – A3.06b)

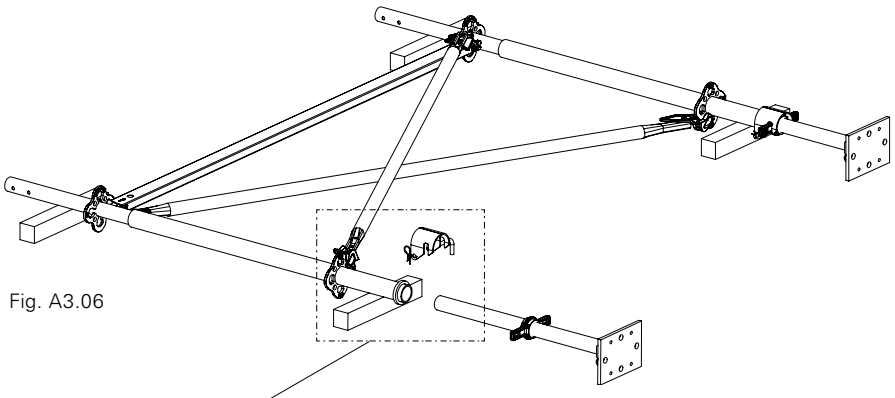


Fig. A3.06

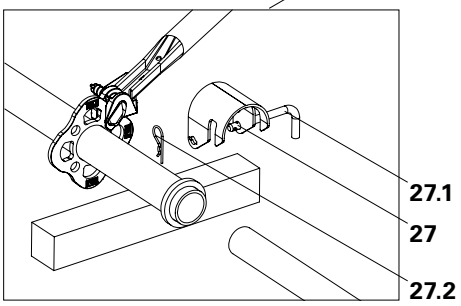


Fig. A3.06a

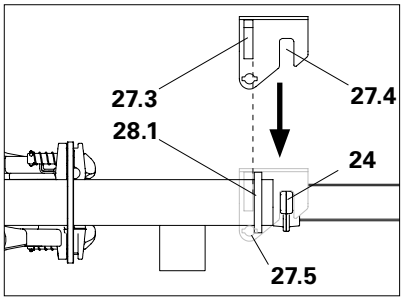


Fig. A3.06b

Alternatively: use the Cross Forkhead TR 48.

Preparation of the Base Element

2 Base Elements are required.
Number of pieces per Base Element.
The Base Element forms the wider side of the shoring tower.

Components		Qty
	Prepared Adjustable Base Plate	2x
25	Base Standard UVB 135 Plus	2x
3	Ledger UH 200 Plus*	1x
27	Spindle Locking UJS Plus	2x
32	Shoring Brace UBS	2x

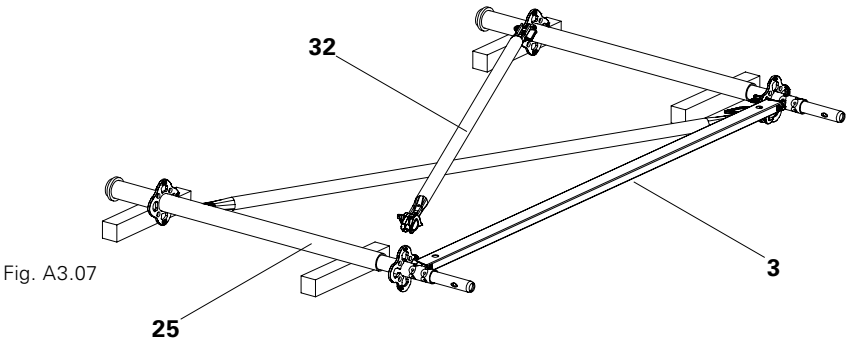


Fig. A3.07

Assembly

1. Connect Base Standards (25) to the Ledger (3).
2. Install Shoring Braces (32) crosswise. (Fig. A3.07)
3. Insert the prepared Adjustable Base Plates in the Base Standards (25) and secure with Spindle Locking (27). (Fig. A3.07a)

→ Base Element has now been prepared.

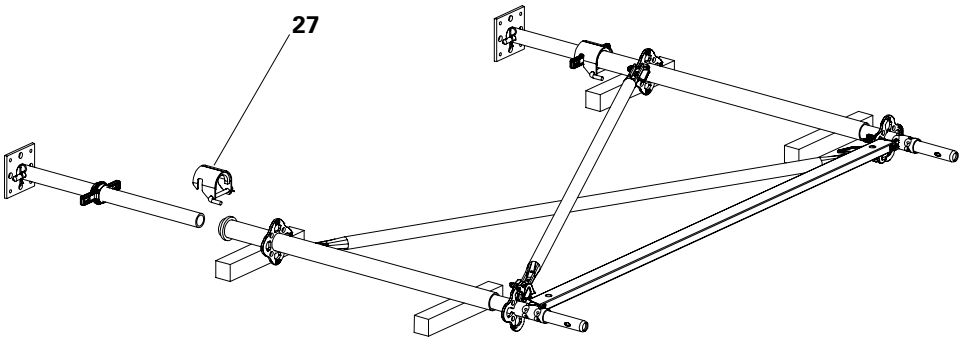


Fig. A3.07a

Assembly

Assembly of the PERI UP Flex Shoring Tower Plus takes place horizontally, beginning with the Head Element. Assemble the shoring tower so that the wider side (with Additional Frames) is lying flat on the ground. The tower is subsequently erected via this side.

Components		Qty
34	Prepared Head Element	2x
33	Prepared Base Element	2x
3	Ledger UH 200 Plus*	x
3a	Ledger UH 150 Plus*	x
4	Standard UVR 200	*
5	Ledger Brace UBL 200/150*	x
5a	Ledger Brace UBL 150/150*	x
7	Locking Pin Ø 48/57	*x

* Dependent on the layout of the shoring tower and height.

Assembly
Position timbers minimum 6 cm thick as support on a flat working surface.

1. Insert Standards (4) into the prepared head section (34) and secure with Locking Pins (7).
2. Connect Standards with Ledgers (3) and Ledger Braces (5) to form a wider shear frame arrangement.
3. Assemble additional Standards, Ledgers and Ledger Braces until the required length has been realized. Secure all Standards with Locking Pins and securely fix all wedges.
4. Position the prepared base section (33) and secure with Locking Pins (7).

(Fig. A3.08)

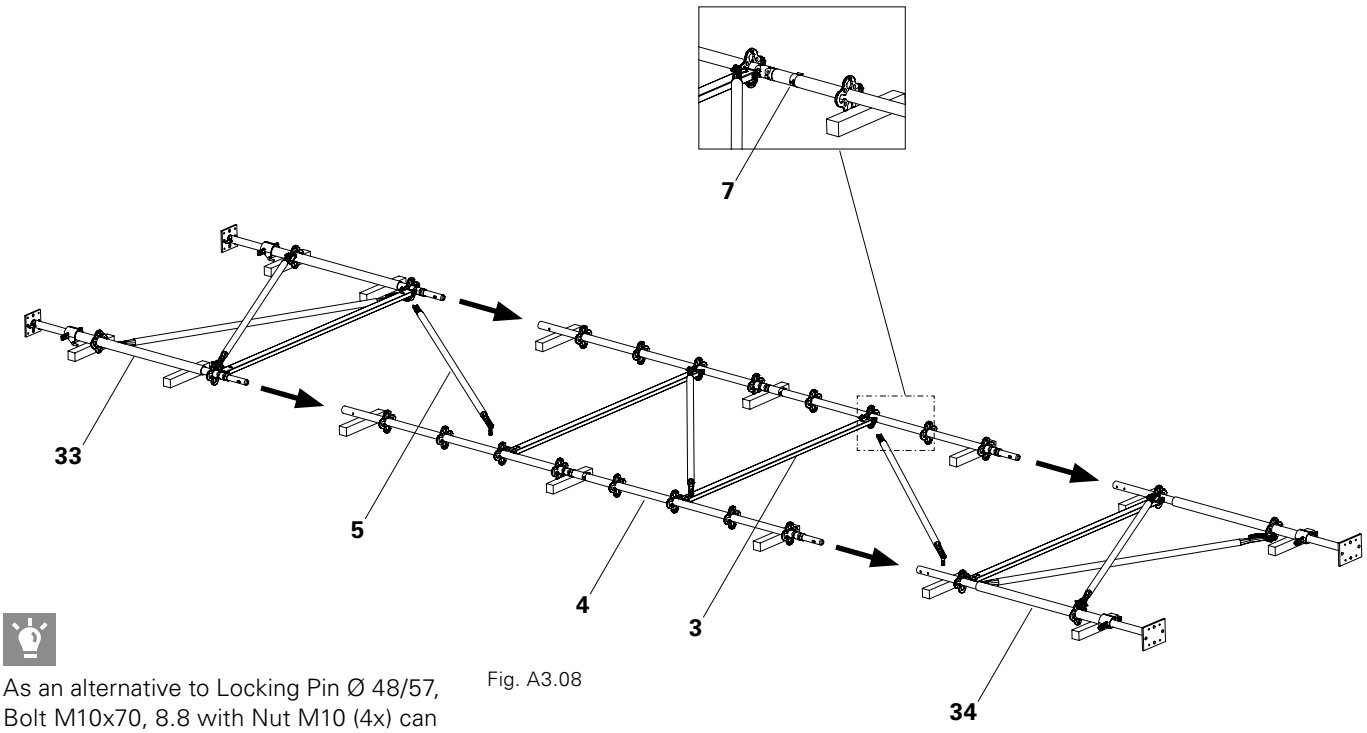


Fig. A3.08

As an alternative to Locking Pin Ø 48/57, Bolt M10x70, 8.8 with Nut M10 (4x) can always be used.

5. Mount Ledgers (3a) for the narrow side of the shoring tower on both shoring tower standards. Do not secure the wedges yet.
6. Place the prepared Head Element (34) of the second shear frame arrangement on the UH Ledgers and support temporarily.
7. Brace the Head Element by means of Shoring Braces (32). Remove support.

(Fig. A3.09)

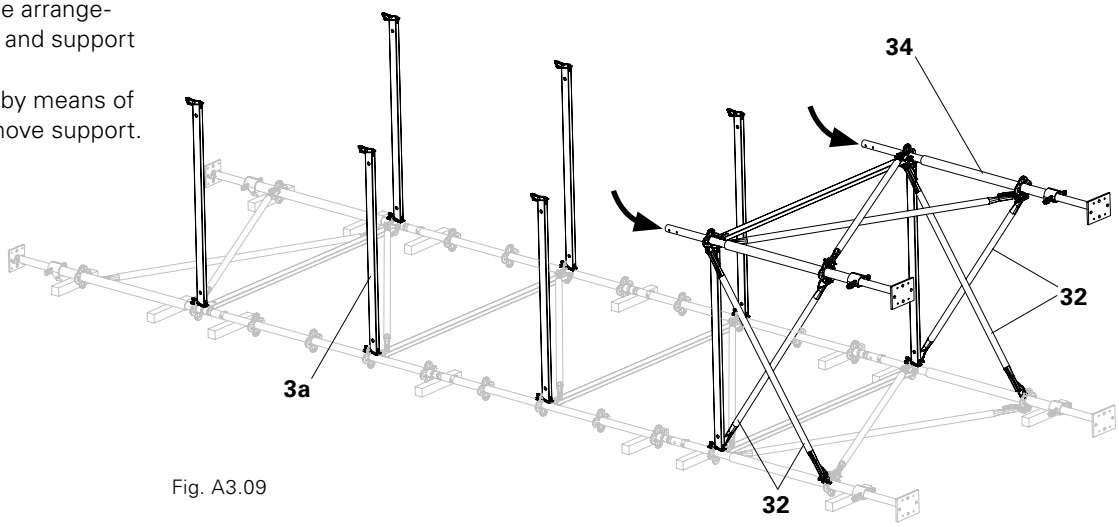


Fig. A3.09

8. Beginning on the head side, attach the Standards (4) for the second shear frame arrangement to the Ledgers and secure with Cotter Pins (7).

(Fig. A3.10)

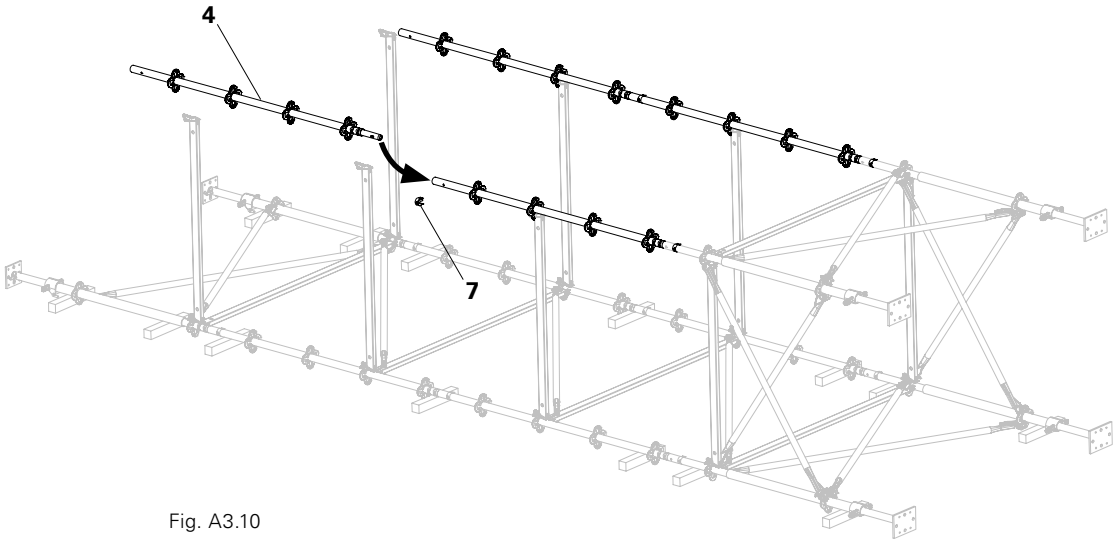


Fig. A3.10

9. Attach prepared Base Element (33) for the second shear frame arrangement and secure with Locking Pins (7). Provide the Base Element with temporary support.
10. Brace the Base Element using Shoring Braces (32). Remove support.

(Fig. A3.11)

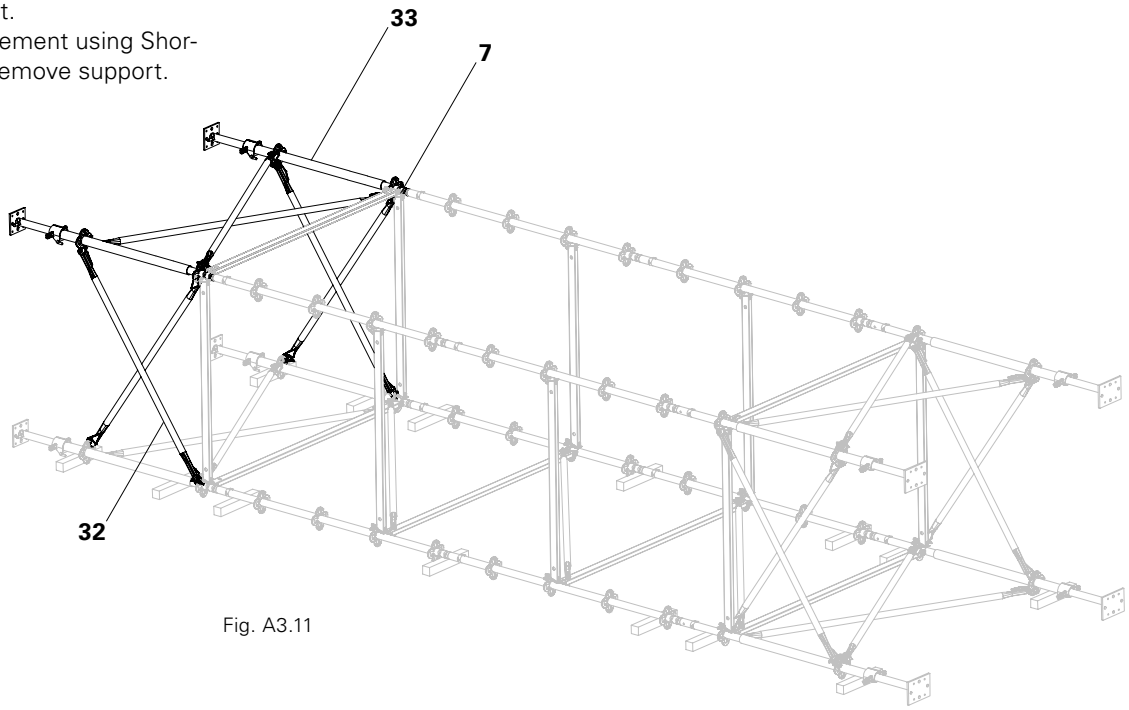


Fig. A3.11

11. Brace Standards by means of Ledgers (3) and Ledger Braces (5, 5a).
12. Securely fix the wedges of all Ledgers.

(Fig. A3.12)

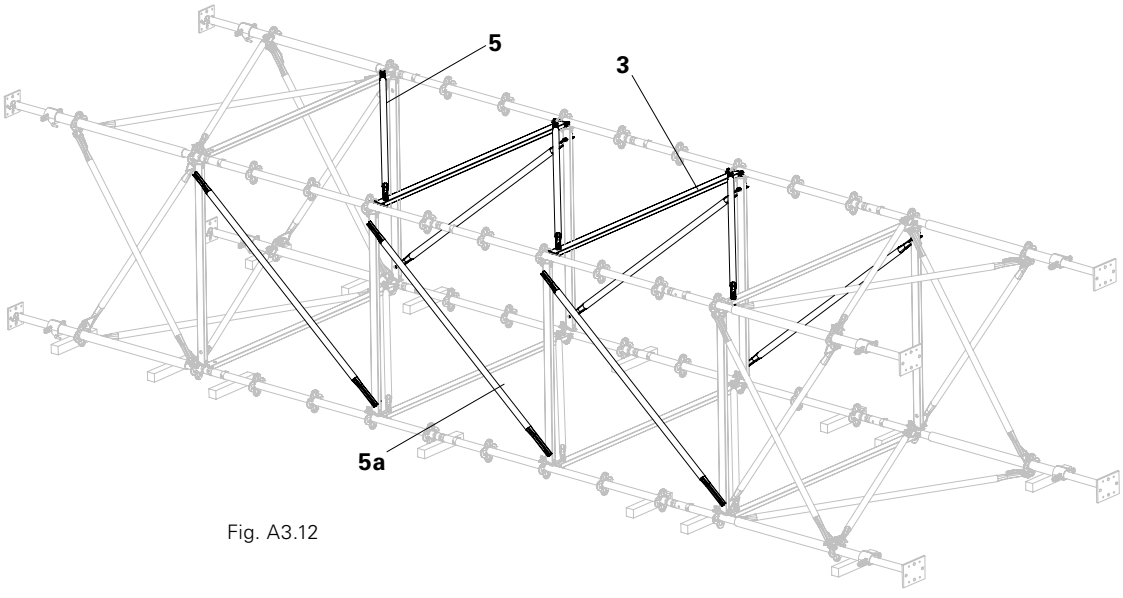


Fig. A3.12

Erection with the crane

⚠

- **Risk of injury from falling components!**
  Ensure that all Standards are tightly connected!
- **Risk of falling!**
  Remove the lifting gear from a safe working position!
- **Only attach to those rosette nodes which are directly connected to the Ledgers.**

Erection

1. Completely spindle in the bottom Adjustable Base Plates in order to prevent overloading the components during erection.
2. Place four chains or textile lifting slings, e.g. round slings, underneath those rosette nodes complete with Ledgers.
3. Erect shoring tower.
4. Whilst suspended on the crane lifting gear, adjust the Adj. Base Plates to the required height.

(Fig. A3.13 + A3.14)

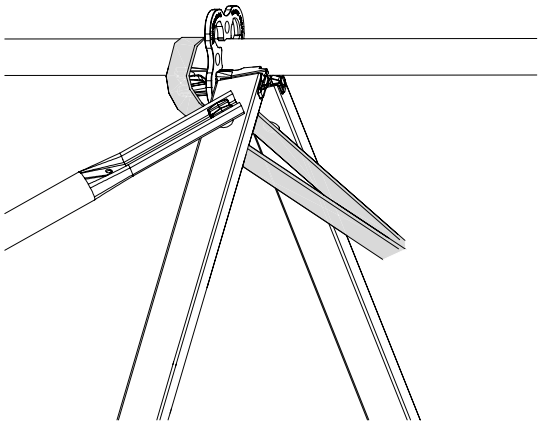


Fig. A3.13

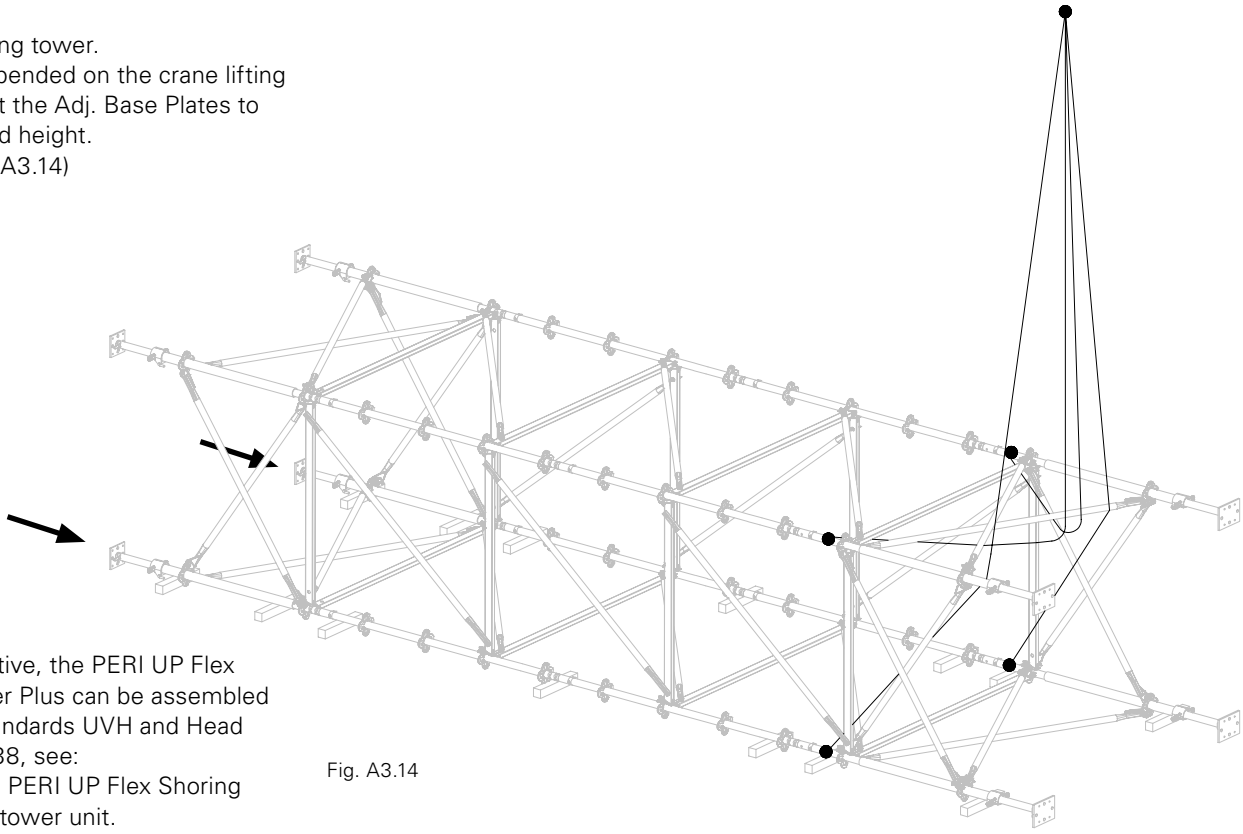


Fig. A3.14

Alternative

As an alternative, the PERI UP Flex Shoring Tower Plus can be assembled using Top Standards UVH and Head Spindles TR 38, see:

- Section A1, PERI UP Flex Shoring Tower, top tower unit.
- Load-bearing capacity table of permissible loads with TR 48 / 38.

Dismantling

⚠

- **Risk of injury from falling components!**
  Ensure that all Standards are tightly connected!
- **Risk of falling!**
  Attach the lifting gear from a safe working position!
- **Only attach to those rosette nodes which are directly connected to the Ledgers.**

Dismantling

1. Place four chains or textile lifting slings, e.g. round slings, underneath those rosette nodes complete with Ledgers, and attach to the crane lifting gear.
2. Completely spindle in the subsequent bottom Adjustable Base Plates in order to prevent overloading the components during setting down.
3. Using the wider side, position tower on support timbers with the crane.
4. Dismantle the tower beginning with the topmost frame:
   - Remove the top Base Element and dismantle it.
   - Remove each height unit one after the other. First dismantle the Ledger Braces and topmost Ledgers, and then the Standards.
   - Remove vertically positioned Ledgers.
   - Dismantle the bottom scaffold frame from the base side.
5. Store individual components accordingly, e.g. in pallets.

(Fig. A3.15)

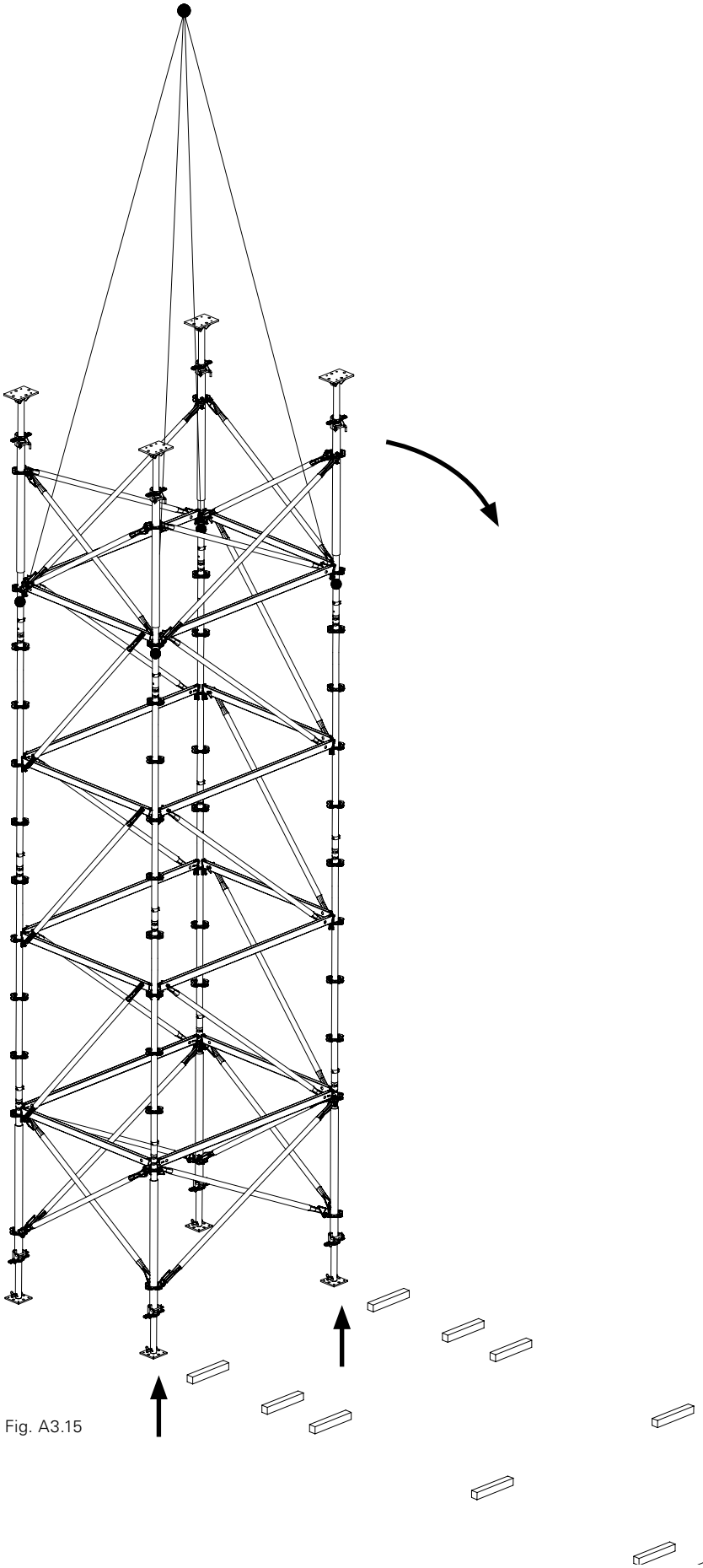


Fig. A3.15

Supporting individual towers

- **To safeguard against falling over or horizontal movement, temporary support may be necessary during the installation process.**
- **Mount 3 Push-Pull Props as assembly aids.**
- **For high shoring towers, additional higher-positioned holders could be required.**
- **Alternatively, a corresponding holder on sufficiently load-bearing components already installed is possible.**

Components		Qty
40	Push-Pull Prop RS	3x
41	Brace Connector HDR	3x
42	Base Plate RS	3x
43	Anchor Bolt PERI 14/20 x 130	3x

Take into consideration the Data Sheet for Anchor Bolt PERI 14/20 x 130.

Preparation
Remove Cotter Pins (41.2) and Bolts (41.1) from the Brace Connectors (41).

Assembly
1. Secure coupling (41.3) of the Brace Connector (41) to the Standard of the shoring tower, and align. (Fig. A4.01a)
2. Insert lug (40.1) on the Push-Pull Prop (40) between the lugs of the Brace Connector.
3. Fix Push-Pull Prop with Bolts (41.1) and Cotter Pins (41.2) to the Brace Connector. (Fig. A4.01a)
4. Fix Base Plate (42) to the ground using Anchor Bolts (43).Inclination angle of the Push-Pull Prop to the ground approx. 60°. (Fig. A4.01b)
5. Fix Push-Pull Prop (40) to the Base Plate (42) using Bolts (42.1) and Cotter Pins (42.2). (Fig. A4.01b)

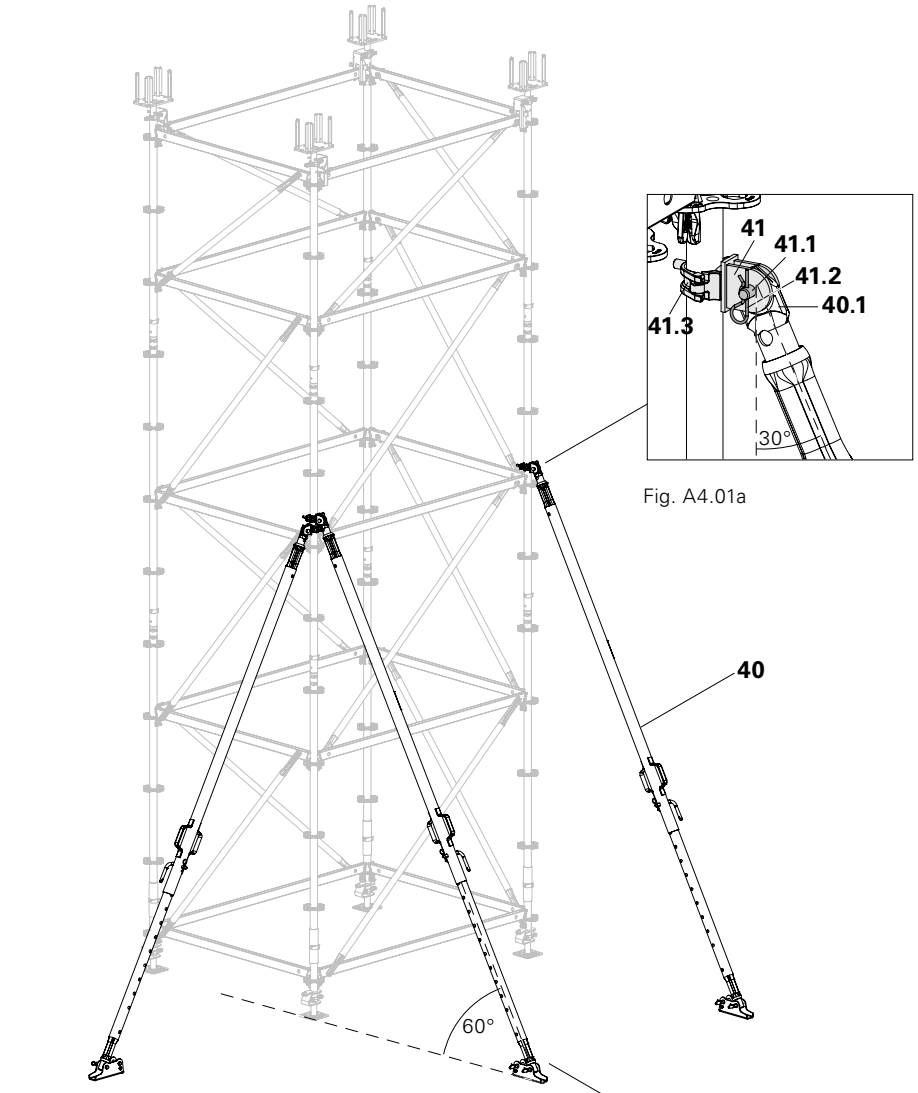


Fig. A4.01a

Fig. A4.01

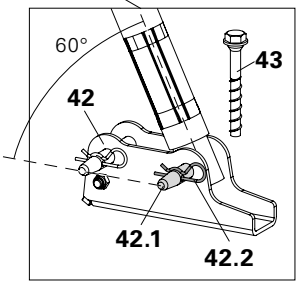


Fig. A4.01b

Bracing sets of shoring towers

For providing stability, mount Push-Pull Props and Ledgers.

Components

3	Ledger UH Plus
40	Push-Pull Prop RS
41	Brace Connector HDR
42	Base Plate RS
43	Anchor Bolt PERI 14/20 x 130

Number of pieces according to assembly instructions of the contractor.

Assembly

– Secure first shoring tower against tipping, see Supporting individual towers.
– Connect further shoring towers using Ledgers (3) and Push-Pull Props.

(Fig. A5.02)

Alternatively, the shoring towers can also be secured against falling or horizontal movement during assembly operations using existing structural parts, e.g. walls.

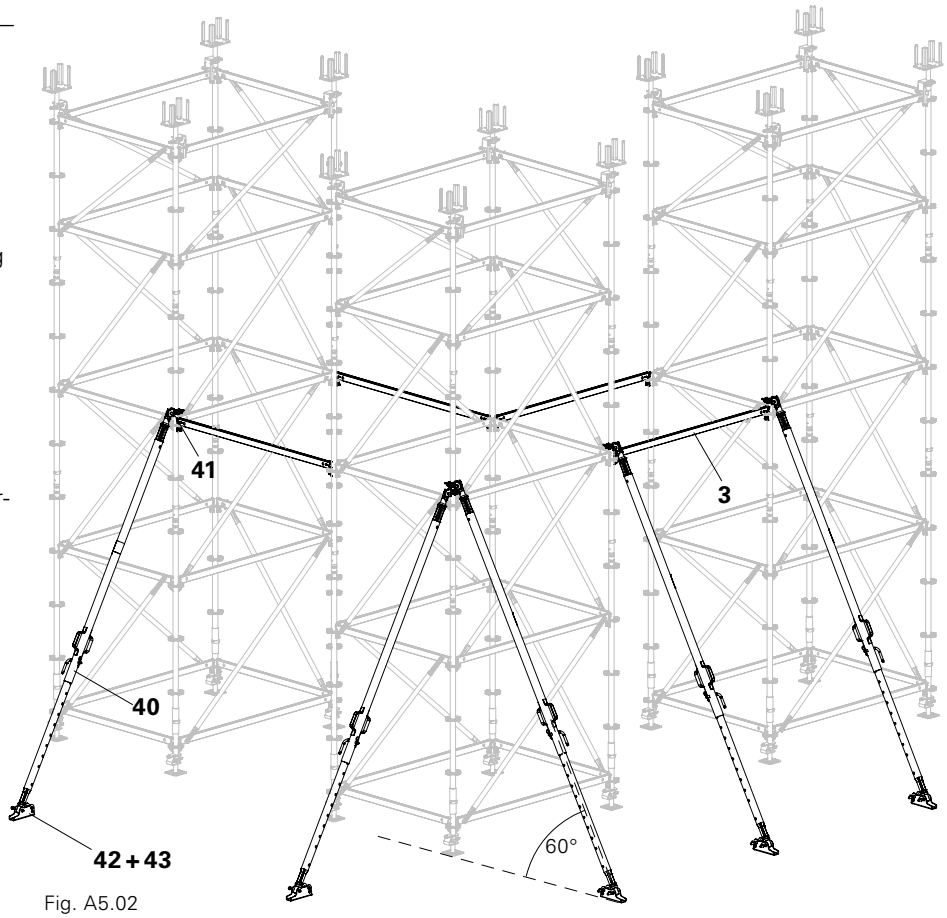


Fig. A5.02

Tower with Section Spindles

Section Spindles are used to further increase the load-bearing capacity of the PERI UP Flex Shoring Tower. The spindle extension of the Head Spindles and Adjustable Base Plates can be minimized in each case whereby rough height adjustment takes place via the Section Spindles. Fine adjustment takes place using the Head Spindles and Adjustable Base Plates.

Spindle extensions
Adj. Base Plate: max. 250 mm Head Spindle: max. 200 mm

Application conditions
See Section Tables PERI UP Flex Shoring Tower with Spindle Section

Assembly
1. Assemble base unit as described in Section A1 PERI UP Flex Shoring Tower.
2. Position Top Standards (4a) on the Base Standards.
3. Connect the Top Standards with Ledgers (3).
4. Install Ledger Braces (5).
5. Place the Section Spindles (13) with Quick Jack Nuts on the Top Standards (4a) below, adjust the height and secure by means of Spindle Lockings (6).

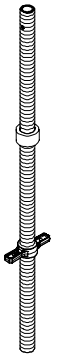
(Fig. B1.01)

6. Install Base Standards (2) and secure by means of Locking Pins (7).
7. Insert Standards (4) in the Base Standards and brace using additional Ledgers (3a).

(Fig. B1.01a)

Components*		Qty
2	Base Standard UVB 24	4x
3	Ledger UH	8x
4a	Top Standard UVH 150	4x
6	Spindle Locking UJS	4x
7	Locking Pin Ø 48/57	4x
13	Section Spindle UJK 38-110	4x

*in addition to Section A1 PERI UP Flex Shoring Tower.



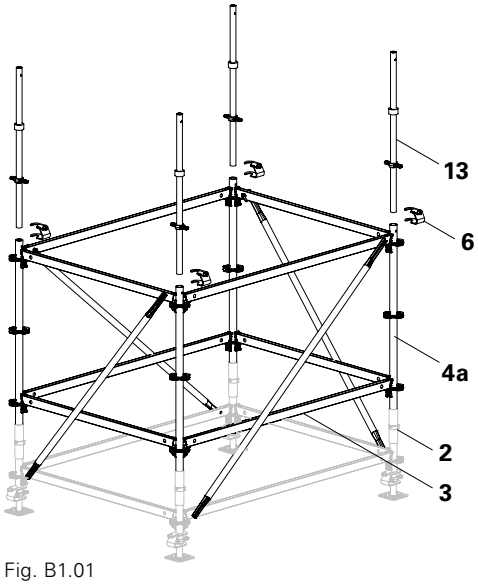


Fig. B1.01

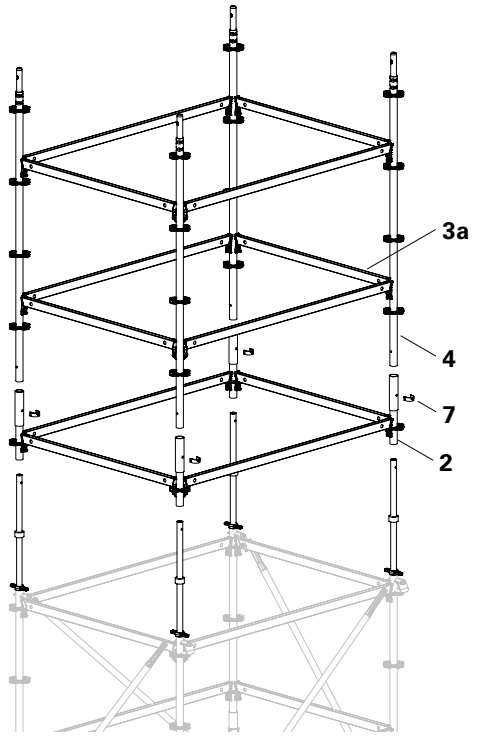


Fig. B1.01a

7. Complete assembly of the shoring tower as described in Section A1.
Fig. B1.01b

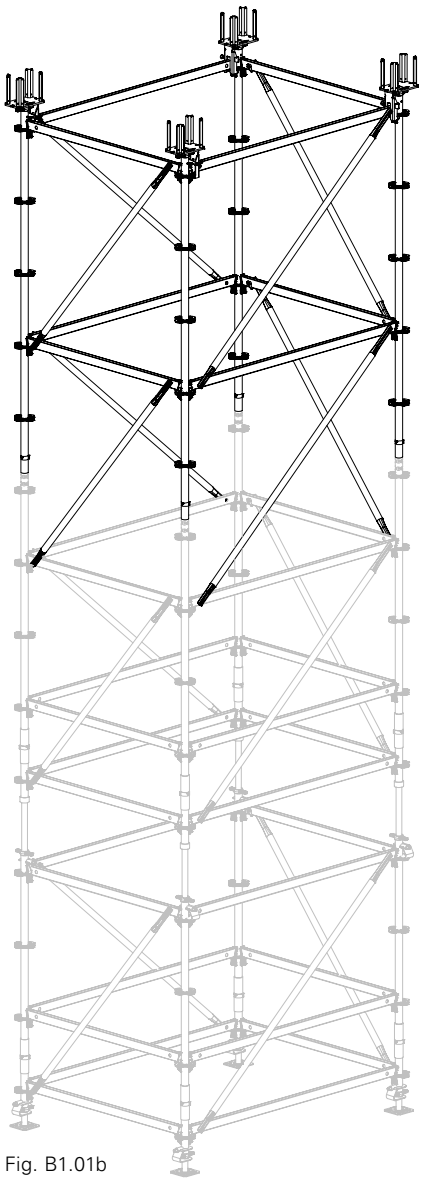


Fig. B1.01b

Additional Frames with Section Spindles

Assembly is carried out in the same way as for the shoring tower with Section Spindles.
(Fig. B1.02)

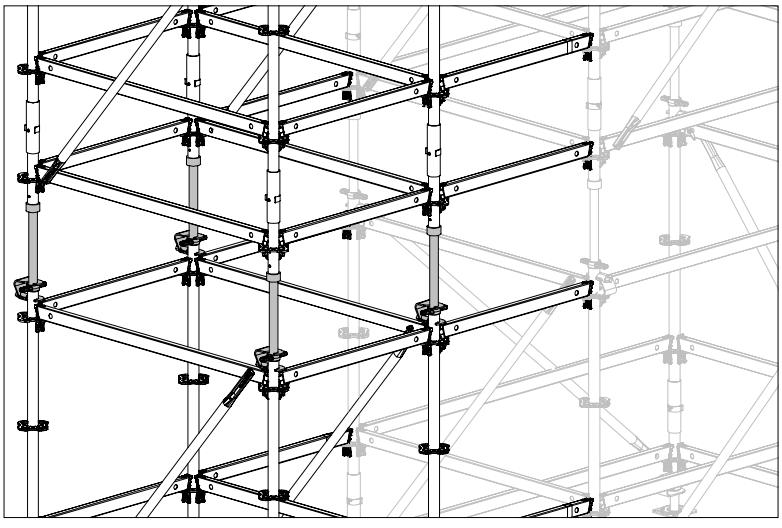


Fig. B1.02

Height extensions or reductions

Extending or reducing the height of the shoring tower is always useful if different supporting heights which are positioned one after the other are required. Completely dismantling and then re-assembling the tower is thus not necessary.
Shown here is the joining together of two individual towers.

Application conditions
See Section Tables PERI UP Flex Shoring Tower with Spindle Section.

Components		Qty
13	Section Spindle UJK 38-110	4x

Assembly
1. Remove the Spindle Locking UJS and Head Spindle Locking UJH.
2. Remove the Head Spindles and Adjustable Base Plates (1, 11).
3. Place the Section Spindles (13) on the Top Standards (4a) and adjust the height.
4. Remove the Locking Pins (7) on the top tower.
5. Attach the second shoring tower unit on the Section Spindles.
6. Secure top Section Spindles (13) using Locking Pins (7). Secure bottom Section Spindle using Head Spindle Locking (12).

Fig. B1.03

For height reductions (the tower is divided into 2 units), the 4 Section Spindles are replaced:
– on the top tower unit through 4 Adjustable Base Plates,
– on the bottom tower unit through 4 Head Spindles.

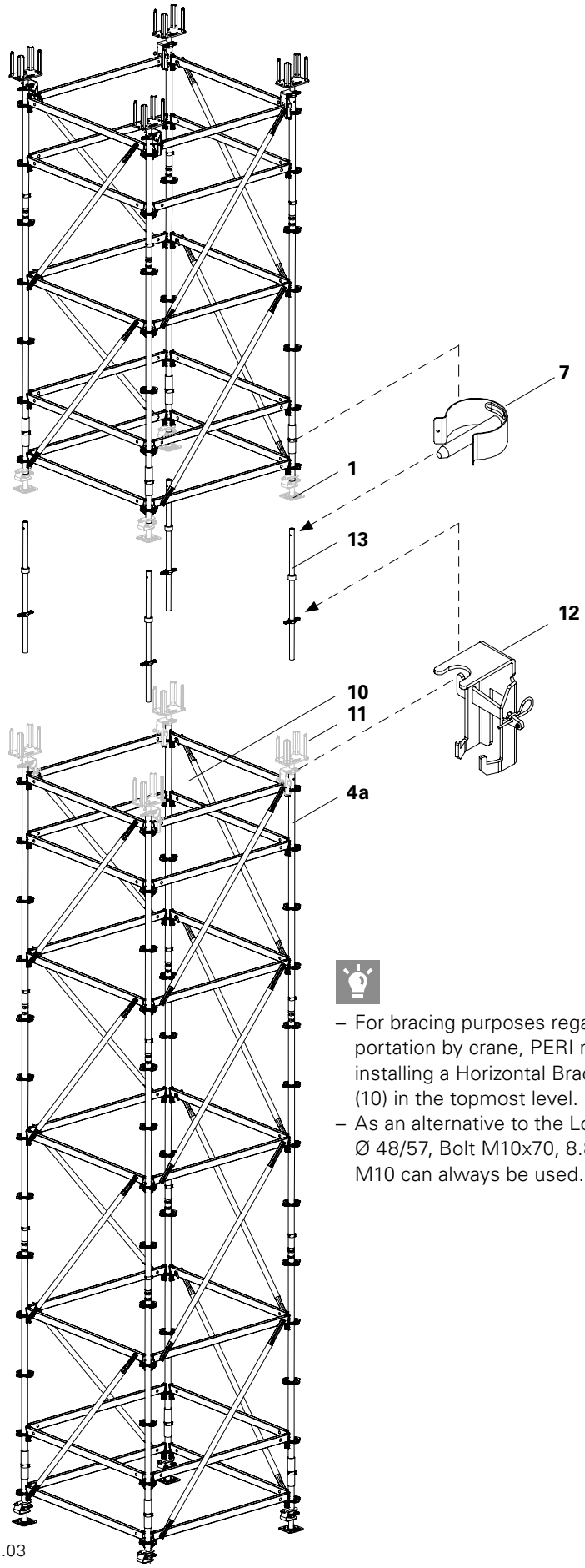


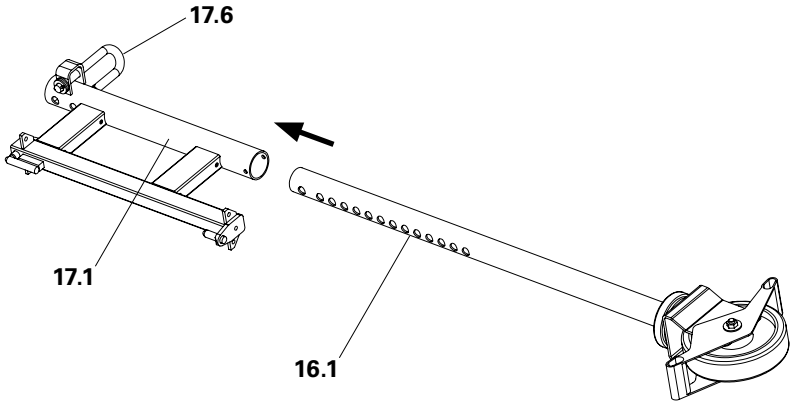
Fig. B1.03

– For bracing purposes regarding transportation by crane, PERI recommends installing a Horizontal Brace UBH Flex (10) in the topmost level.
– As an alternative to the Locking Pin Ø 48/57, Bolt M10x70, 8.8 with Nut M10 can always be used.

Transportation Wheel UEW

The Transportation Wheel UEW can be used for the PERI UP Flex Shoring Tower and PERI UP Flex Shoring Tower with VSS.

Components		Qty
16	Transportation Wheel UEW	4x
17	Connection Transportation Wheel UER	4x



Pre-assembly

1. Completely insert the adjusting tube (16.1) of the Transportation Wheel UEW (16) into the guide tube (17.1) of the Connection Transportation Wheel UER (17).
2. Secure the adjusting tube with positioning pins (17.6).

Completely retract the Transportation Wheel!

Assembly

1. Insert Transportation Wheels with Spigots (17.2) from below into the rosettes. Insert the spigot first in the bottom rosette and then in the top rosette. Firmly hold the Transportation Wheels. (Fig. B1.04)
2. Insert locking lever (17.3) and turn downwards. Roll pin (17.4) must be fully engaged in the groove.

(Fig. B1.04a – B1.04b)

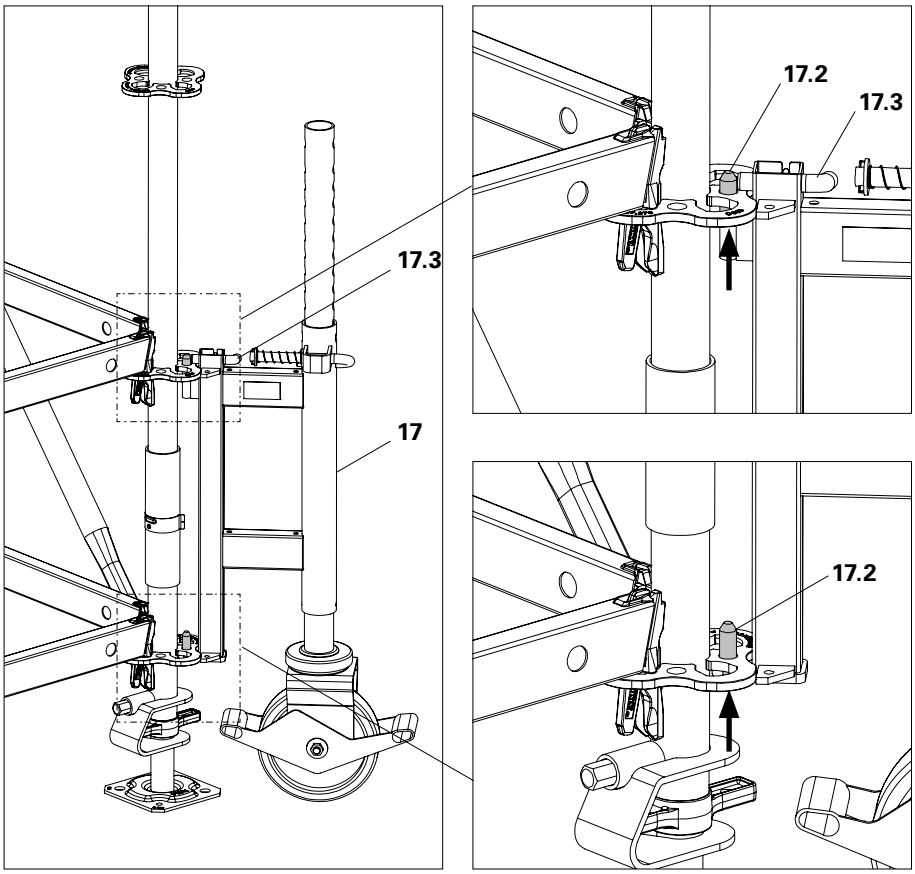


Fig. B1.04

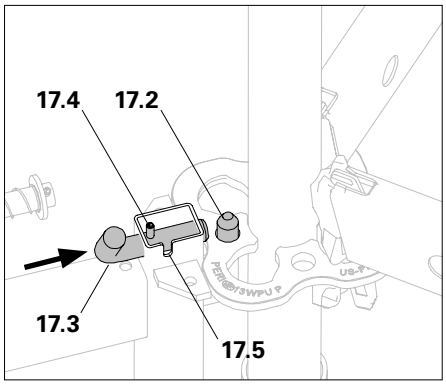


Fig. B1.04a

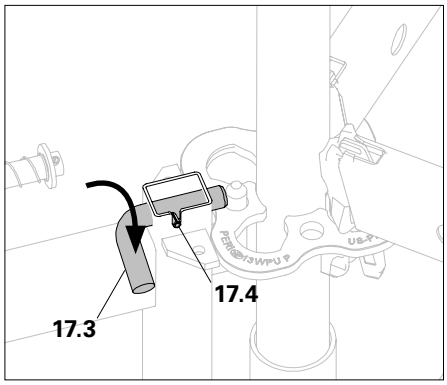


Fig. B1.04b

Moving the tower

1. Set down the Transportation Wheels UEW (16) completely on the ground, raise to the next pegging hole and peg with positioning pin (17.6). Secure positioning pin with cotter pins (17.7). (Fig. B1.04c - B1.04d)
2. Spindle in the Adjustable Base Plates of the shoring tower evenly until the dead weight of the shoring tower has been transferred to the Transportation Wheels and sufficient ground clearance has been achieved.
3. Horizontally move the shoring tower.
4. After the moving procedure, evenly spindle out the Adjustable Base Plates of the shoring tower until the Transportation Wheels are free of any load.

Do not load the Transportation Wheels!
After the moving procedure, spindle out the Adjustable Base Plates again until the Transportation Wheels are completely free of any load.

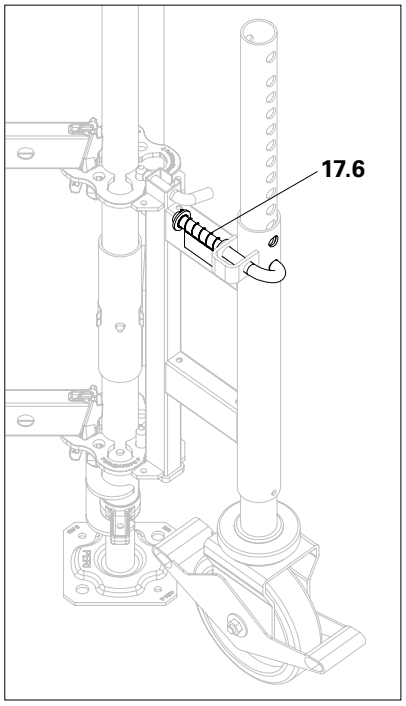


Fig. B1.04c

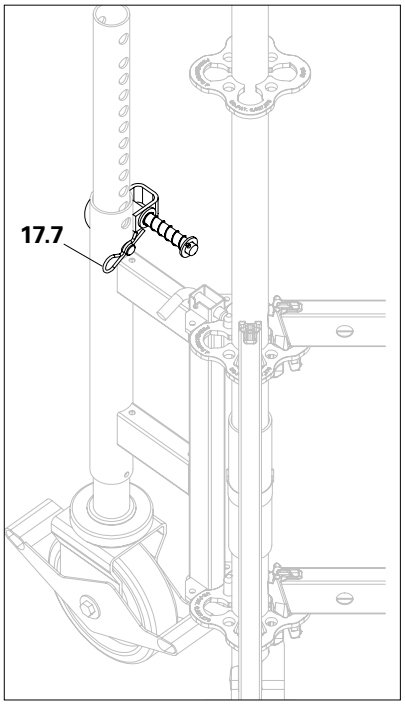


Fig. B1.04d

The stability of the shoring tower against overturning must be guaranteed. Ratio h/w < 3/1 or in accordance with a separate verification.

Use positioning pins in the top or bottom hole depending on which hole is reached first.
Through the given hole pattern, the Transportation Wheel can be pegged in half-steps.

Dismantling the Transportation Wheels

The Transportation Wheels must be completely free of any load!

1. Completely retract the Transportation Wheel and peg.
2. Hold the moving unit firmly, turn up the locking lever and pull out.
3. Lower the moving unit until both bolts are out of the rosettes.

→ The Transportation Wheel has now been dismantled.

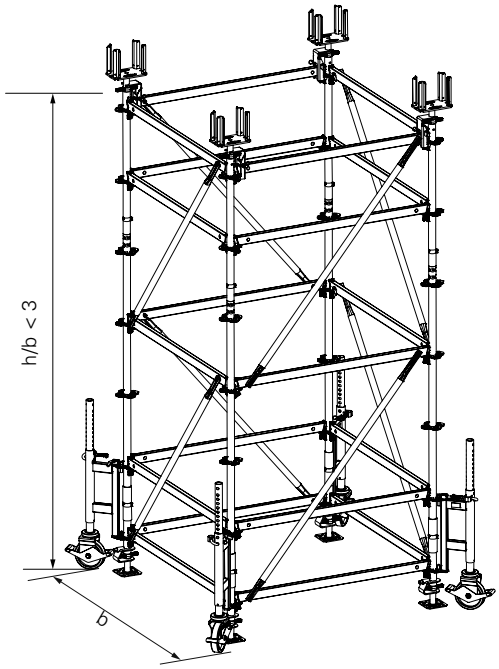


Fig. B1.04e

Trolley with Winch

The Trolley with Winch can be used for the PERI UP Flex Shoring Tower and PERI UP Flex Shoring Tower with VSS as well as PERI UP Flex Shoring Tower Plus.

Components		Qty
18	PERI UP Trolley	2x
19	Trolley with Winch	2x

Trolley with Winch on PERI UP Flex Shoring Tower

Assembly

1. Mount the top connectors of the Trolley with Winch at the respective middle (18.1) and bottom (18.2) holes. The top hole (18.3) remains free. (Fig. B1.05)
2. For improved installation, the Ledger Braces of the shoring tower should be moved inside.
3. Move the Trolley with Winch against the shoring tower and raise the lifting device with the winch. Make sure that
   – the bottom connector (18.5) engages the rosette,
   – whilst the top connector (18.6) is positioned under the Ledger UH.
   → Lifting device secures automatically by means of a pivot lock.
6. Raise the lifting devices evenly until the dead weight of the shoring tower has been transferred to the Trolley with Winch and sufficient ground clearance has been achieved.

(Fig. B1.05a – B1.05c)

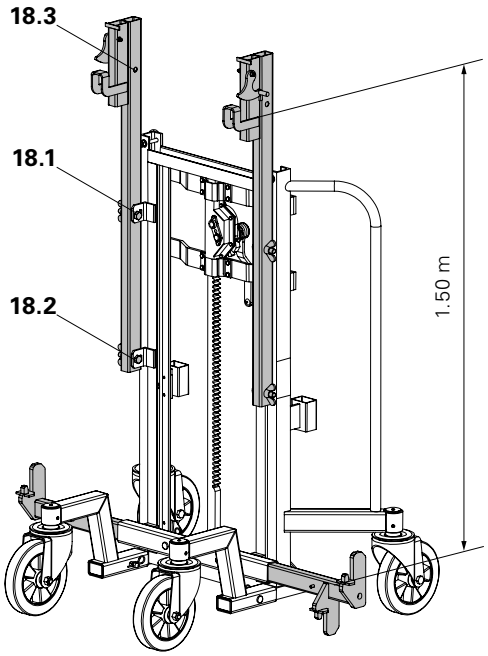


Fig. B1.05

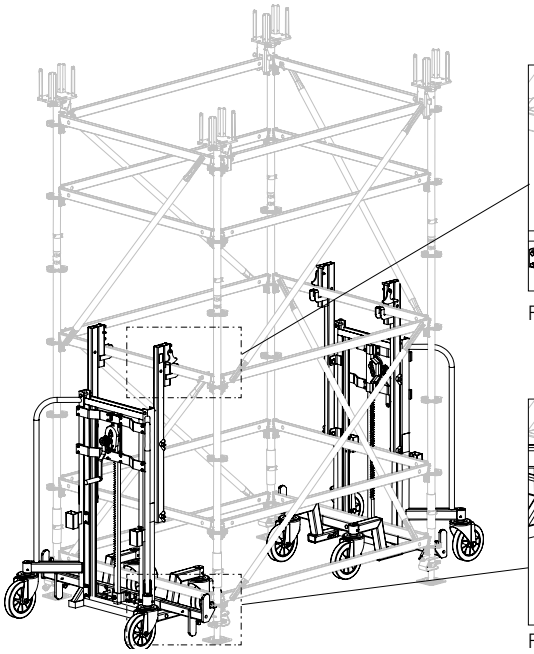


Fig. B1.05a

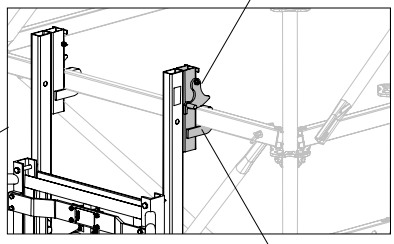


Fig. B1.05b

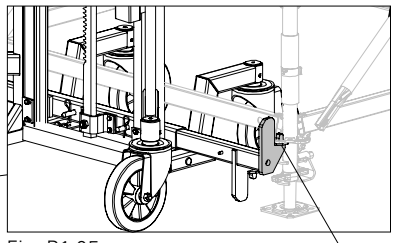


Fig. B1.05c

The stability of the shoring tower against overturning must be guaranteed. Ratio h/w < 3/1 or in accordance with a separate verification.

– Follow the Instructions for Use for the Trolley and Winch!
– Raise and lower the tower evenly.

Trolley with Winch on PERI UP Flex Shoring Tower with Additional Frame

Assembly takes place in the same way as for the PERI UP Flex Shoring Tower. For VSS with 25 cm, the following applies:

- For VSS with 25 cm spacing to the next frame, remove the bottom Ledger of the second frame.
- Check the clearance to the Ledger Braces (5)! (Fig. B1.06 – B1.07)
- After the moving procedure has finished, re-install the Ledger!

Assembly
See Section Trolley with Winch on PERI UP Flex Shoring Tower.

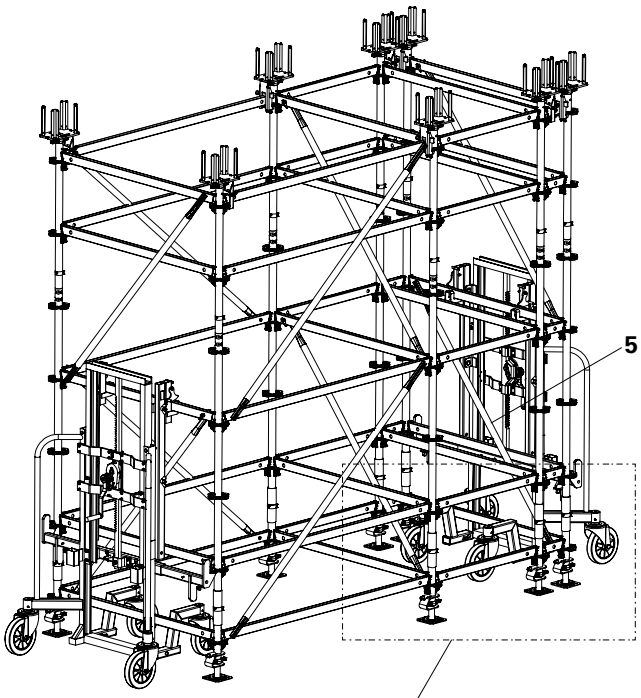


Fig. B1.06

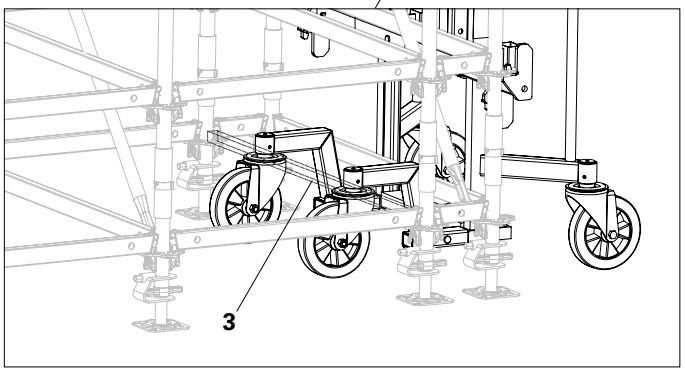


Fig. B1.07

Trolley with Winch on PERI UP Flex Shoring Tower Plus

Assembly

1. Mount the top connector of the Trolley with Winch at the respective top (18.3) and middle (18.1) holes. The bottom hole (18.2) remains free. (Fig. B1.08 – B1.08c)

Additional assembly: see Section Trolley with Winch on PERI UP Flex Shoring Tower.

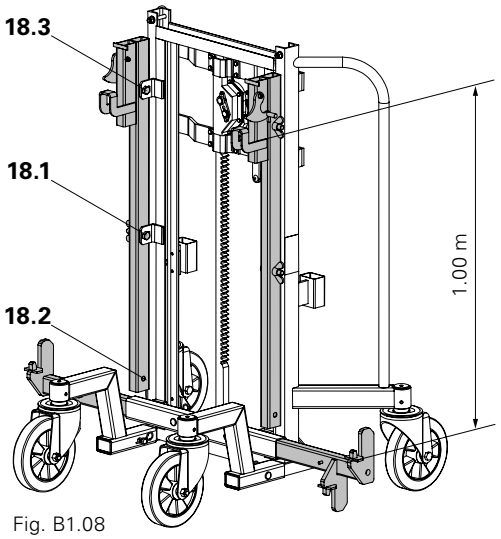


Fig. B1.08

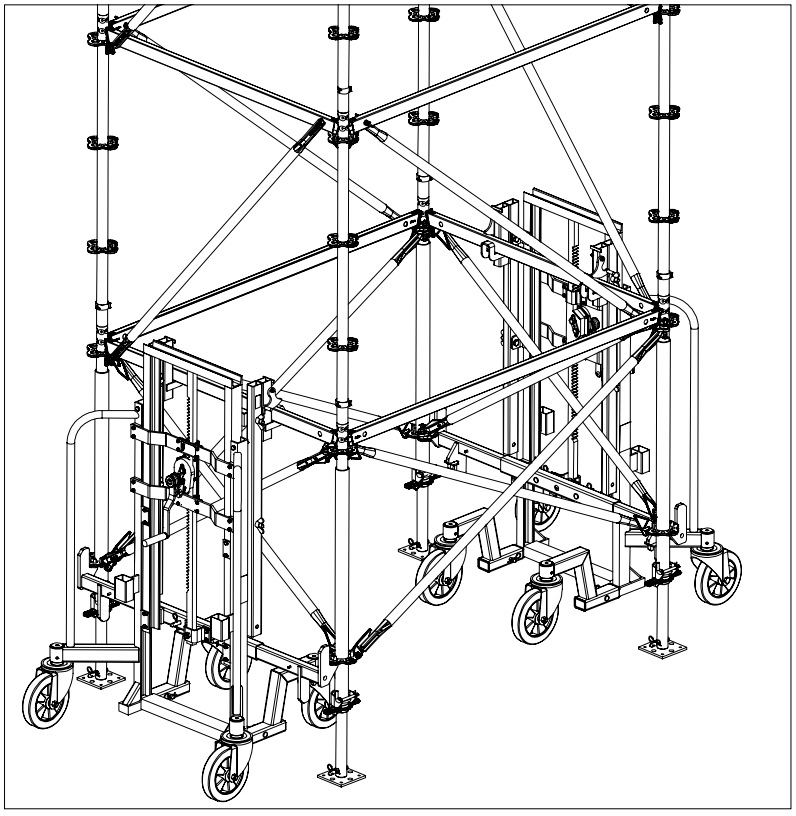


Fig. B1.08a

Inclined erection areas, inclined slab decks

The PERI UP Flex Shoring Tower can be adjusted to accommodate inclined erection areas or inclined slab decks.

The longer side of the shoring tower must point in the direction of the inclination.

Risk of collapse!
- **All occurring horizontal forces must be safely transferred.**
- **Separate static proof is required for use on inclined erection areas or under inclined slabs.**

The pegging holes to be used on the Connector MP/SRU are determined by the angle of inclination.

Components

53	Spindle Head SRU
54	Connector MP/SRU
55	Fitting Pin Ø 21*120
56	Cotter Pin 6/1
57	Swivel Coupling DK 38/48
58	Swivel Coupling DK 48/48

Assembly on inclined erection areas

1. Align the Steel Waler SRU to accommodate the slope. Secure the Steel waler to prevent slipping, e.g. by anchoring into the ground.
2. Mount Connector MP/SRU (54) on the Steel Waler SRU using Fitting Pins (55). Secure Fitting Pins with Cotter Pins (56).
3. As Adjustable Base Plates, mount Spindle Head SRU (53) to the Connector MP/SRU using Fitting Pins (55) and Cotter Pins (56).
4. Insert Spindle Head SRU (53) in the Base Standard (2) and secure by means of the Spindle Locking UJS (6).
5. Set up Standards (4) which have been adapted to accommodate the inclination and brace with Ledgers (3) at the first level of rosettes.
6. Horizontally align the assembly.
7. Diagonally brace the longer Standards with scaffold tubes between the Spindle Head SRU and Standard UVR. For this, mount a Swivel Coupling DK 38/48 (57) on the Spindle Head, as close as possible to the Connector MP/SRU. Mount a Swivel Coupling DK 48/48 (58) on the Standard directly above the first rosette.
8. Erection of the shoring tower continues in accordance with Section A1.

(Fig. B1.09 – B1.09a)

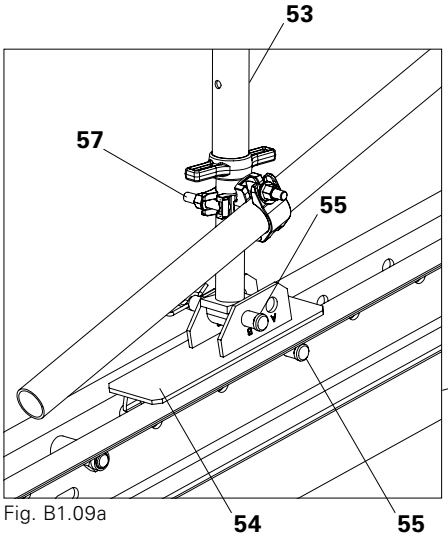


Fig. B1.09a

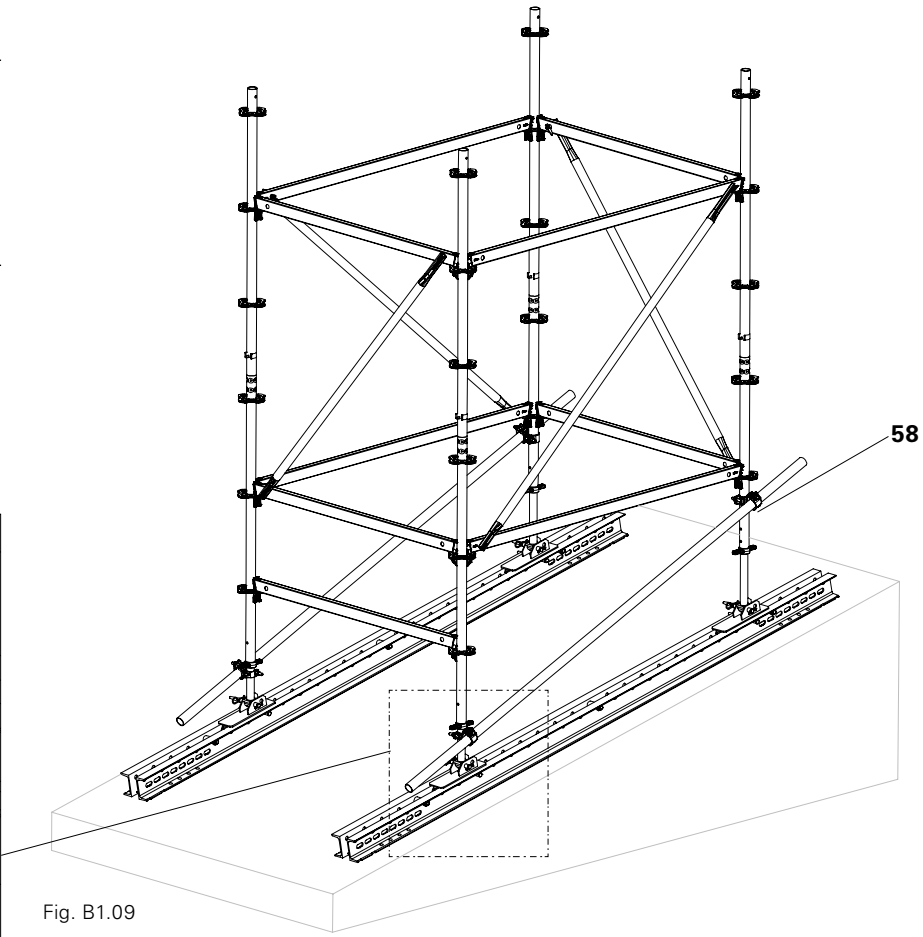


Fig. B1.09

Assembly under inclined slab decks

1. Assemble the shoring tower up to the head section according to Section A1.
2. Set up Top Standards (4a) which have been adapted to accommodate the inclination and brace with Ledgers (3) at the top level of rosettes.
3. As Head Spindles, insert Spindle Head SRU (53) in the Top Standards and secure using the Spindle Locking UJS (6).
4. Diagonally brace the longer Standards with scaffold tubes between the Spindle Head SRU and Standard UVR (4). For this, mount a Swivel Coupling DK 38/48 (57) on the Spindle Head, as close as possible to the Connector MP/SRU. Mount a Swivel Coupling DK 48/48 (58) on the Standard directly under the first rosette.
5. Mount Connector MP/SRU (54) on the Spindle Head SRU using Fitting Pins (55) and Cotter Pins (56).
6. Mount Connector MP/SRU on the Steel Waler SRU using Fitting Pins. Secure Fitting Pins with Cotter Pins (56).
7. Safely transfer horizontal loads as directly as possible, e.g. via the bracing on the Steel Waler SRU.

(Fig. B1.10 – B1.10a)

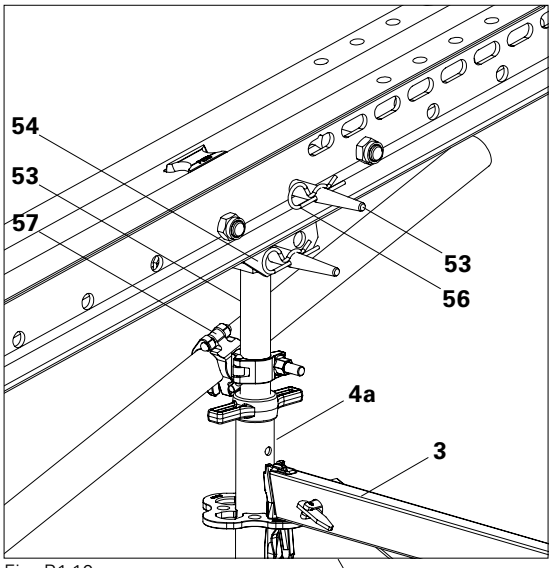


Fig. B1.10a

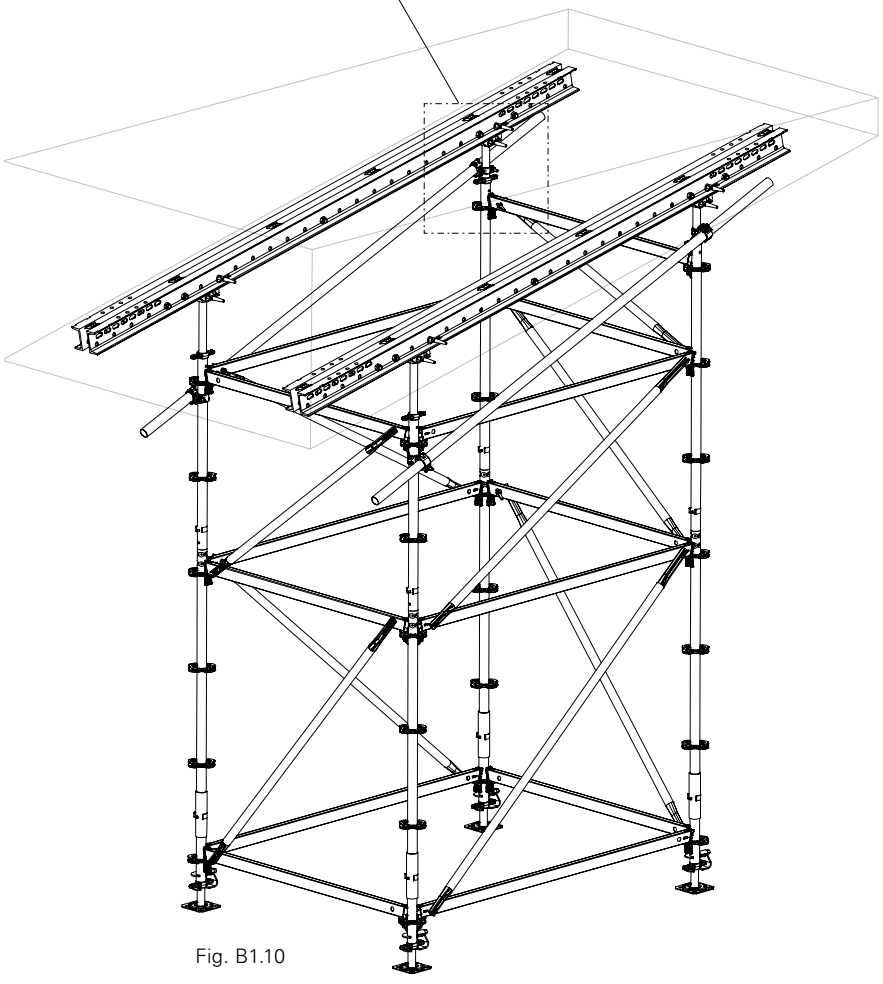


Fig. B1.10

- **Instructions for Use for PERI pallets and stacking devices must be followed at all times!**
- **Pallets and stacked items are to be protected against the effects of the weather!**
- **Always attach the 4-sling lifting gear using the four load-bearing points!**

Transport
PERI pallets and stacking devices are suitable for lifting by crane or forklift. They can also be moved with the PERI Pallet Lifting Trolley.
All pallets and stacking devices can be lifted using both the longitudinal and front sides.
The illustrations show examples.

Pallet RP-2 80 x 120
(Fig. C.01)
Pallet RP-2 80 x 150
(Fig. C.02)

Load-bearing capacity = 1.5 t.
Crane sling angle ≤ 15° from the vertical.
Stacking height: 4 pallets on top of each other.

Storage examples

Pallet RP-2 80 x 120

3	Ledger UH Plus	108
5c	Ledger Brace UBL 150/100	225
25	Base Standard UVB 135 Plus	48
28	Top Standard UVH 165 Plus	48

(Fig. C.03)

Pallet RP-2 80 x 150

4	Standard UVR 200	56
10	H-Braces UBH Flex 200/150	104
3a	Ledger UH Plus 200	48
5b	Ledger Brace UBL 200/100	48

(Fig. C.04)

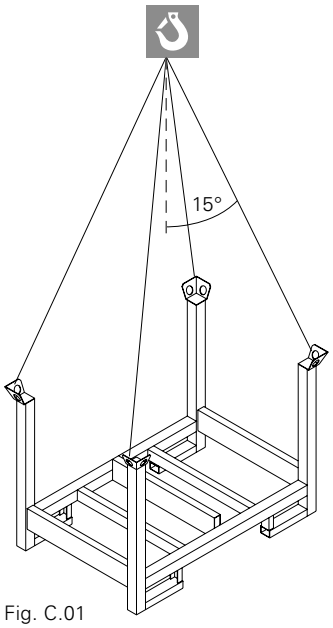


Fig. C.01

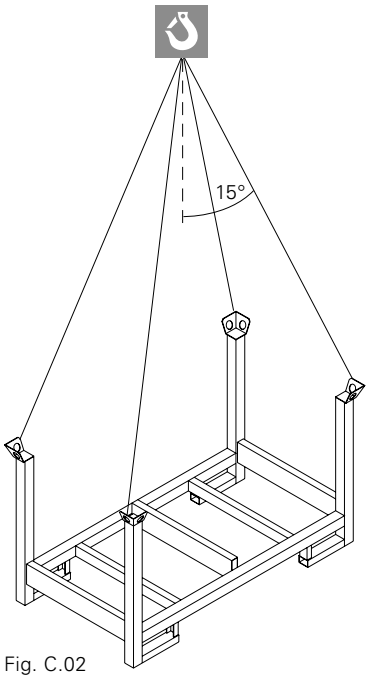


Fig. C.02

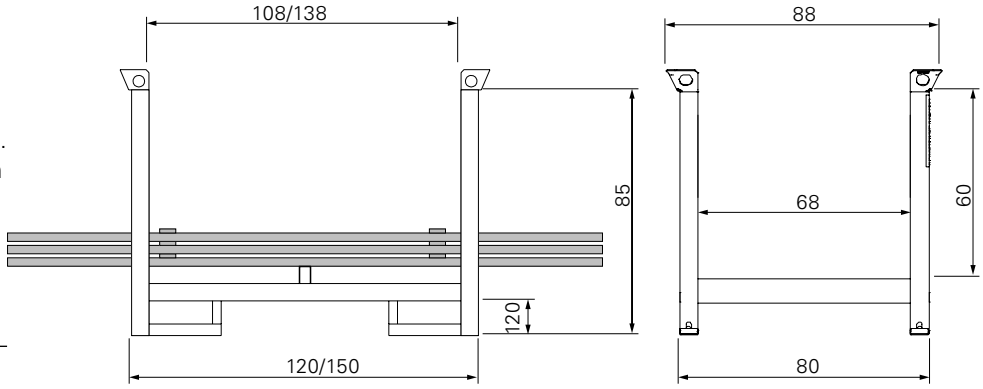


Fig. C.02a

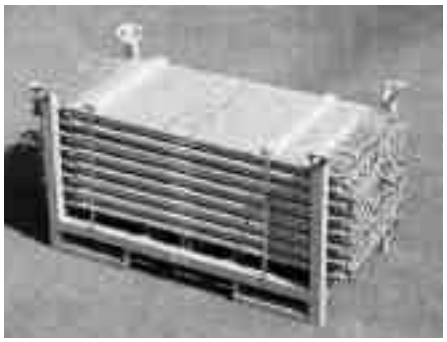


Fig. C.03

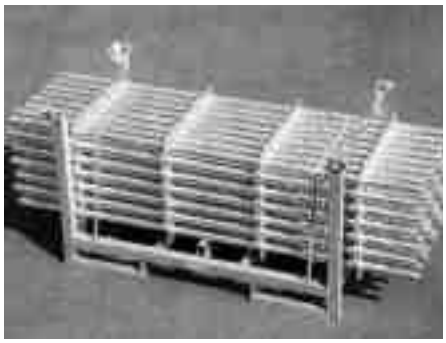


Fig. C.04

– **Always attach the 4-sling lifting gear using the four load-bearing points!**
– **Before transporting, close and lock the flap and, if necessary, secure the cover!**

Pallet Cage 80 x 120
(Fig. C.05 + C.05a)

Load-bearing capacity = 1.5 t.
Crane sling angle ≤ 15°.
Stacking height: 3 pallet cages on top of each other.

Storage examples

Pallet RP-2 80 x 120

1	Cross Forkhead TR 38-70/50	40
5a	Adjustable Base Plate UJB 38-50/30	200

(Fig. C.06)

For better loading and unloading, the flap (52) can be pivoted downwards.

For securing the load against theft, the crate pallet can be optionally fitted with a cover.

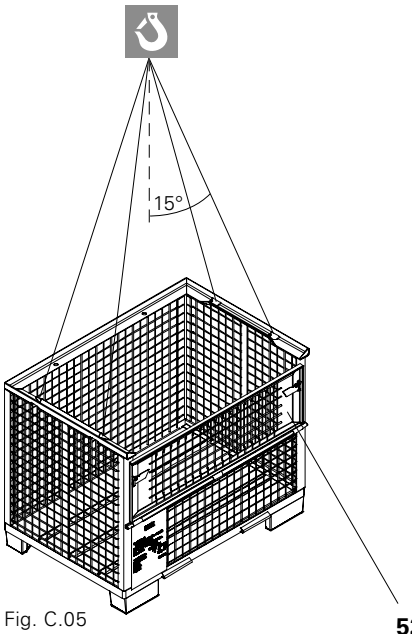


Fig. C.05

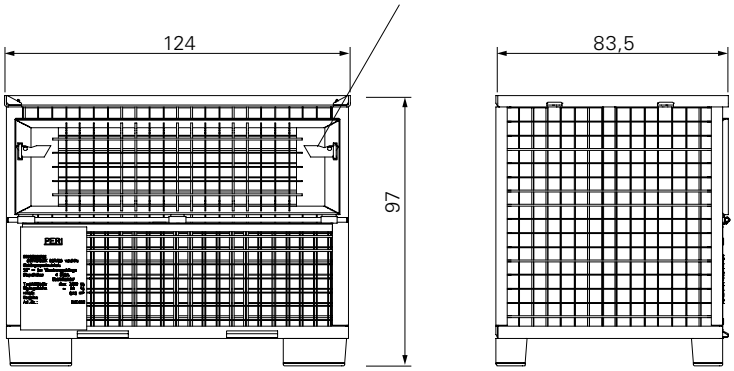


Fig. C.05a


Fig. C.06

PERI UP Rosett Shoring Tower
Restrained at the top, h ≤ 21.89 m

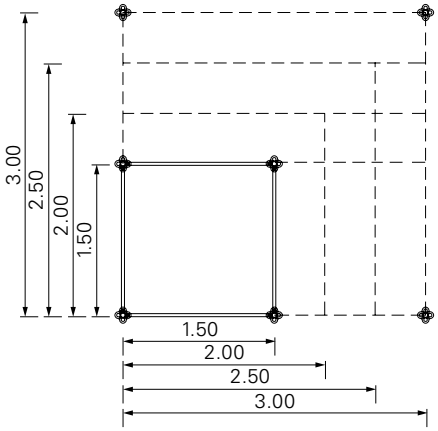
Application conditions

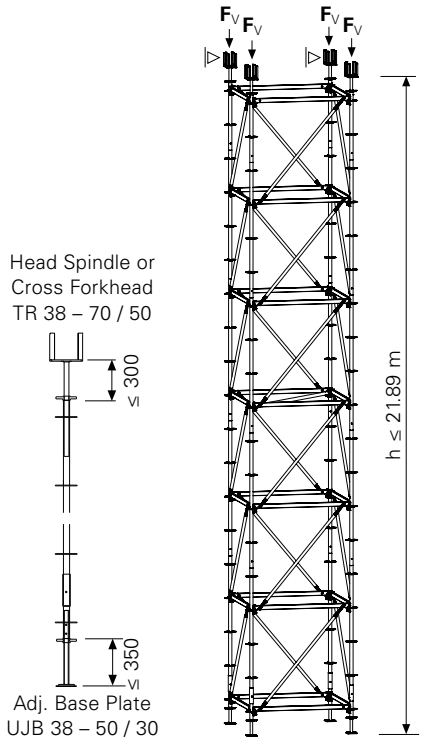
- Restrained at the top
- Without additional ledgers in top and bottom sections
- Horizontal cross strut min. every 9 m
- Head Spindle or Cross Forkhead
- h ≤ 21.89 m

Perm. leg load

	h [m]	F_V [kN]										F_V [kN]
		Ground plan [m]										all ground plans
		1.5 x				2.0 x			2.5 x		3.0 x	
		1.5	2.0	2.5	3.0	2.0	2.5	3.0	2.5	3.0	3.0	
q = 0.5	1.83 -8.39	35.7	34.4									38.0
Dynamic pressure [kN/m²] q = 0.8	8.33 - 8.89	33.9	33.1	32.4	31.6	33.7	33.1	32.4	33.8	33.2	34.0	37.9
	8.83 - 9.39	33.6	32.8	32.0	31.2	33.4	32.7	32.0	33.3	32.8	33.5	37.8
	9.33 - 9.89	33.2	32.4	31.6	30.7	33.0	32.2	31.5	32.9	32.3	33.1	37.7
	9.83 - 10.39	32.9	32.0	31.1	30.3	32.6	31.8	31.0	32.5	31.8	32.6	37.6
	10.33 - 10.89	32.6	31.7	30.7	29.8	32.2	31.4	30.6	32.1	31.3	32.1	37.5
	10.83 - 11.39	32.3	31.3	30.3	29.3	31.9	31.0	30.1	31.6	30.9	31.6	37.4
	11.33 - 11.89	32.0	30.9	29.9	28.9	31.5	30.6	29.6	31.2	30.4	31.1	37.3
	11.83 - 12.39	31.6	30.6	29.5	28.4	31.1	30.1	29.2	30.8	29.9	30.7	37.2
	12.33 - 12.89	31.3	30.2	29.1	28.0	30.7	29.7	28.7	30.4	29.4	30.2	37.1
	12.83 - 13.39	31.0	29.8	28.7	27.5	30.4	29.3	28.2	29.9	29.0	29.7	37.0
	13.33 - 13.89	30.7	29.5	28.3	27.0	30.0	28.9	27.8	29.5	28.5	29.2	36.9
	13.83 - 14.39	30.4	29.1	27.8	26.6	29.6	28.5	27.3	29.1	28.0	28.7	36.8
	14.33 - 14.89	30.0	28.7	27.4	26.1	29.2	28.0	26.8	28.7	27.5	28.3	36.7
	14.83 - 15.39	29.7	28.4	27.0	25.7	28.9	27.6	26.4	28.2	27.1	27.8	36.6
	15.33 - 15.89	29.4	28.0	26.6	25.2	28.5	27.2	25.9	27.8	26.6	27.3	36.5
	15.83 - 16.39	29.2	**For this area, please refer to Appendices T1 + T2 of the type test.**									36.5
	16.33 - 16.89	28.9										36.4
	16.83 - 17.39	28.7										36.4
	17.33 - 17.89	28.4										36.4
	17.83 - 18.39	28.2										36.3
	18.33 - 18.89	27.9										36.3
	18.83 - 19.39	27.7										36.3
	19.33 - 19.89	27.4										36.2
	19.83 - 20.39	27.2										36.2
	20.33 - 20.89	27.0										36.2
	20.83 - 21.39	26.7										36.1
	21.33 - 21.89	26.5										36.1
												without wind, q = 0

Ground plan



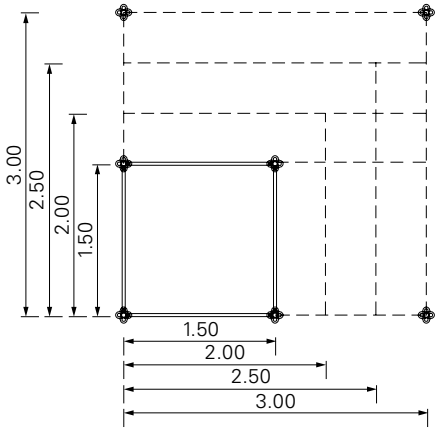


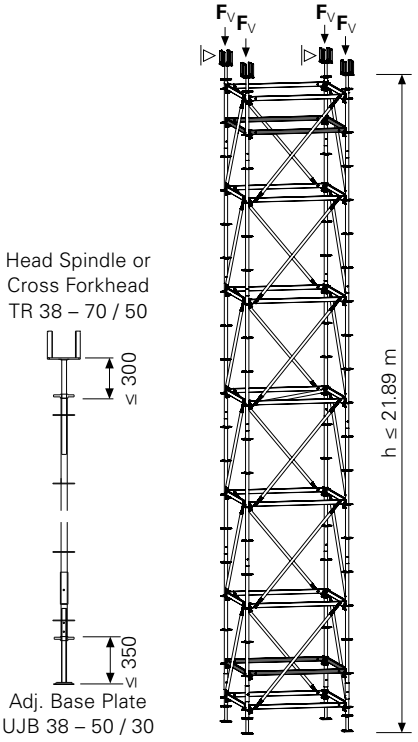
PERI UP Rosett Shoring Tower
Restrained at the top, h ≤ 21.89 m, with additional ledger

Application conditions

- Restrained at the top
- With additional ledgers in top and bottom sections
- Horizontal cross strut min. every 9 m
- Head Spindle or Cross Forkhead
- h ≤ 21.89 m

Ground plan





Perm. leg load

	h [m]	F_V [kN]										F_V [kN]
		Ground plan [m]										all ground plans
		1.5 x				2.0 x			2.5 x		3.0 x	
		1.5	2.0	2.5	3.0	2.0	2.5	3.0	2.5	3.0	3.0	
q = 0.5	1.83 -8.39	39.9	38.9									41.6
Dynamic pressure [kN/m²] q = 0.8	8.33 - 8.89	38.5	37.7	37.0	36.2	37.9	37.3	36.6	37.6	37.1	37.5	41.5
	8.83 - 9.39	38.1	37.3	36.5	35.7	37.5	36.9	36.2	37.2	36.6	37.0	41.4
	9.33 - 9.89	37.8	36.9	36.1	35.3	37.2	36.4	35.7	36.8	36.2	36.6	41.3
	9.83 - 10.39	37.4	36.6	35.7	34.8	36.8	36.0	35.2	36.4	35.7	36.2	41.2
	10.33 - 10.89	37.1	36.2	35.2	34.3	36.4	35.6	34.8	36.0	35.3	35.7	41.1
	10.83 - 11.39	36.8	35.8	34.8	33.8	36.0	35.2	34.3	35.6	34.8	35.3	41.0
	11.33 - 11.89	36.4	35.4	34.4	33.3	35.6	34.8	33.8	35.2	34.4	34.9	40.9
	11.83 - 12.39	36.1	35.0	33.9	32.9	35.3	34.3	33.4	34.7	33.9	34.4	40.8
	12.33 - 12.89	35.7	34.6	33.5	32.4	34.9	33.9	32.9	34.3	33.5	34.0	40.7
	12.83 - 13.39	35.4	34.2	33.1	31.9	34.5	33.5	32.4	33.9	33.0	33.6	40.6
	13.33 - 13.89	35.1	33.8	32.6	31.4	34.1	33.1	32.0	33.5	32.6	33.1	40.5
	13.83 - 14.39	34.7	33.5	32.2	30.9	33.7	32.7	31.5	33.1	32.1	32.7	40.4
	14.33 - 14.89	34.4	33.1	31.8	30.5	33.4	32.2	31.0	32.7	31.7	32.3	40.3
	14.83 - 15.39	34.0	32.7	31.3	30.0	33.0	31.8	30.6	32.3	31.2	31.8	40.2
	15.33 - 15.89	33.7	32.3	30.9	29.5	32.6	31.4	30.1	31.9	30.8	31.4	40.1
	15.83 - 16.39	33.4	**For this area, please refer to Appendices T3 + T4 of the type test.**									40.1
	16.33 - 16.89	33.2										40.1
	16.83 - 17.39	32.9										40.1
	17.33 - 17.89	32.6										40.0
	17.83 - 18.39	32.4										40.0
	18.33 - 18.89	32.1										40.0
	18.83 - 19.39	31.8										40.0
	19.33 - 19.89	31.6										39.9
	19.83 - 20.39	31.3										39.9
	20.33 - 20.89	31.0										39.9
	20.83 - 21.39	30.8										39.8
	21.33 - 21.89	30.5										39.8

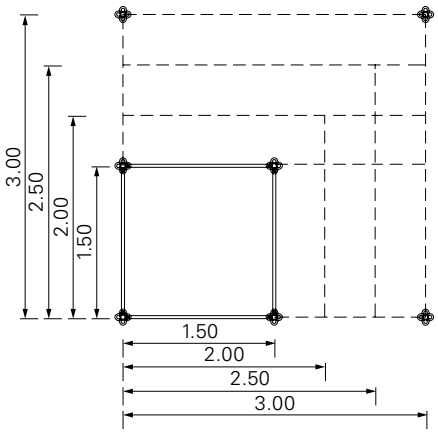
without wind, q = 0

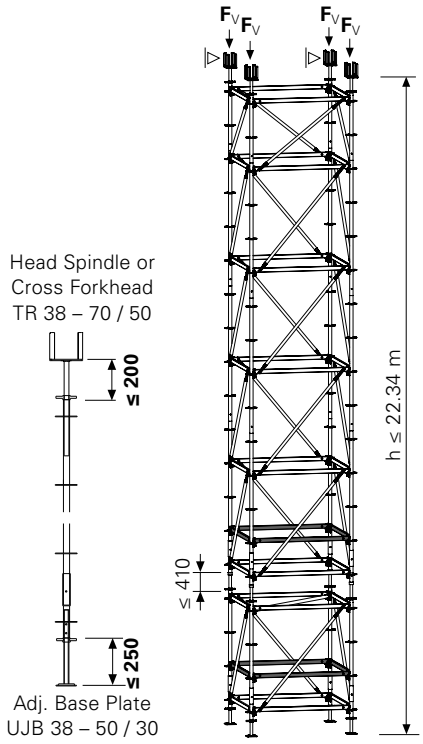
PERI UP Rosett Shoring Tower
Restrained at the top, h ≤ 22.34 m, with Spindle Section

Application conditions

- Restrained at the top
- With additional ledgers in top and bottom sections and above the Spindle Section
- Horizontal cross strut min. every 9 m and directly below the Spindle Section
- Head Spindle or Cross Forkhead
- h ≤ 22.34 m

Ground plan





Perm. leg load

	h [m]	F_V [kN] Ground plan [m] 1.5 x 1.5	1.5 x 2.0	1.5 x 2.5	1.5 x 3.0	2.0 x 2.0	2.0 x 2.5	2.0 x 3.0	2.5 x 2.5	2.5 x 3.0	3.0 x 3.0	F_V [kN] all ground plans
q = 0.5	2.64 - 8.34	44.9	43.5									46.3
Dynamic pressure [kN/m²] q = 0.8	8.14 - 8.84	43.4	42.9	42.4	41.9	42.8	42.2	41.7	42.2	41.6	41.5	46.3
	8.64 - 9.34	43.2	42.7	42.1	41.6	42.6	42.0	41.5	41.9	41.3	41.3	46.3
	9.14 - 9.84	43.0	42.4	41.9	41.3	42.4	41.7	41.2	41.7	41.1	41.0	46.3
	9.64 - 10.34	42.8	42.2	41.6	41.0	42.1	41.5	40.9	41.4	40.8	40.7	46.3
	10.14 - 10.84	42.6	42.0	41.3	40.7	41.9	41.2	40.6	41.2	40.5	40.5	46.3
	10.64 - 11.34	42.3	41.7	41.1	40.4	41.7	41.0	40.3	40.9	40.3	40.2	46.3
	11.14 - 11.84	42.1	41.5	40.8	40.1	41.5	40.7	40.0	40.7	40.0	40.0	46.3
	11.64 - 12.34	41.9	41.3	40.5	39.8	41.2	40.5	39.7	40.4	39.7	39.7	46.3
	12.14 - 12.84	41.7	41.0	40.3	39.5	41.0	40.2	39.4	40.2	39.5	39.4	46.3
	12.64 - 13.34	41.5	40.8	40.0	39.2	40.8	40.0	39.2	39.9	39.2	39.2	46.3
	13.14 - 13.84	41.3	40.6	39.7	38.9	40.6	39.7	38.9	39.7	38.9	38.9	46.3
	13.64 - 14.34	41.1	40.3	39.5	38.6	40.3	39.5	38.6	39.4	38.7	38.7	46.3
	14.14 - 14.84	40.9	40.1	39.2	38.3	40.1	39.2	38.3	39.2	38.4	38.4	46.3
	14.64 - 15.34	40.7	39.8	38.9	38.0	39.8	38.9	38.0	38.9	38.1	38.1	46.2
	15.14 - 15.84	40.4	39.5	38.6	37.7	39.6	38.6	37.7	38.6	37.8	37.8	46.2
	15.64 - 16.34	40.2	39.3	38.3	37.4	39.3	38.3	37.4	38.3	37.5	37.5	46.1
	16.14 - 16.84	39.9	39.0	38.0	37.1	39.0	38.0	37.1	38.0	37.2	37.2	46.0
	16.64 - 17.34	39.7	38.7	37.8	36.7	38.8	37.8	36.7	37.8	36.8	36.8	46.0
	17.14 - 17.84	39.4	38.4	37.5	36.4	38.5	37.5	36.4	37.5	36.5	36.5	45.9
	17.64 - 18.34	39.2	38.2	37.2	36.1	38.2	37.2	36.1	37.2	36.2	36.2	45.8
	18.14 - 18.84	38.9	37.9	36.9	35.8	38.0	36.9	35.8	36.9	35.9	35.9	45.8
	18.64 - 19.34	38.7	37.6	36.6	35.5	37.7	36.6	35.5	36.6	35.6	35.6	45.7
	19.14 - 19.84	38.5	37.4	36.3	35.2	37.4	36.3	35.2	36.3	35.3	35.3	45.6
	19.64 - 20.34	38.2	37.1	36.0	34.8	37.2	36.0	34.9	36.0	35.0	35.0	45.5
	20.14 - 20.84	38.0	36.9	35.7	34.5	36.9	35.8	34.6	35.8	34.7	34.7	45.4
	20.64 - 21.34	37.8	36.6	35.4	34.2	36.6	35.5	34.2	35.5	34.3	34.3	45.3
	21.14 - 21.84	37.5	36.4	35.1	33.8	36.4	35.2	33.9	35.2	34.0	34.0	45.2
	21.64 - 22.34	37.3	36.1	34.8	33.5	36.1	34.9	33.6	34.9	33.7	33.7	45.1

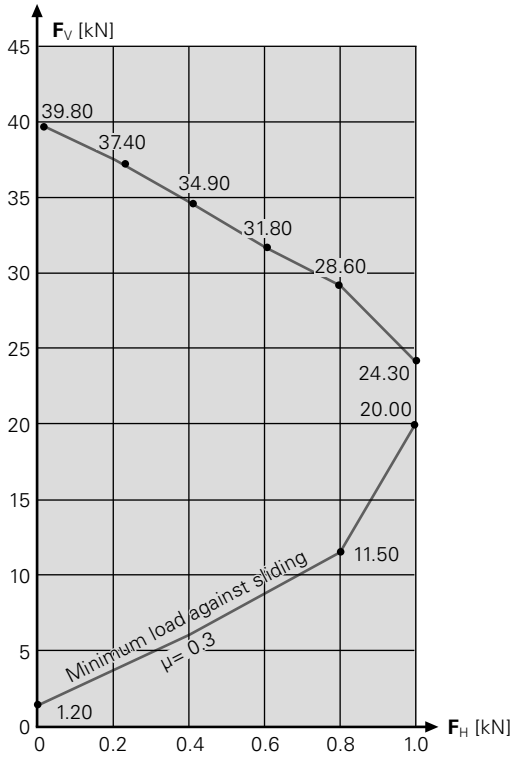
without wind, q = 0

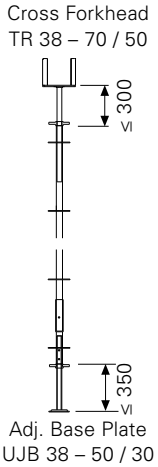
PERI UP Rosett Shoring Tower
Free standing, 1.5 m x 1.5 m, h ≤ 8.39 m, with additional ledger

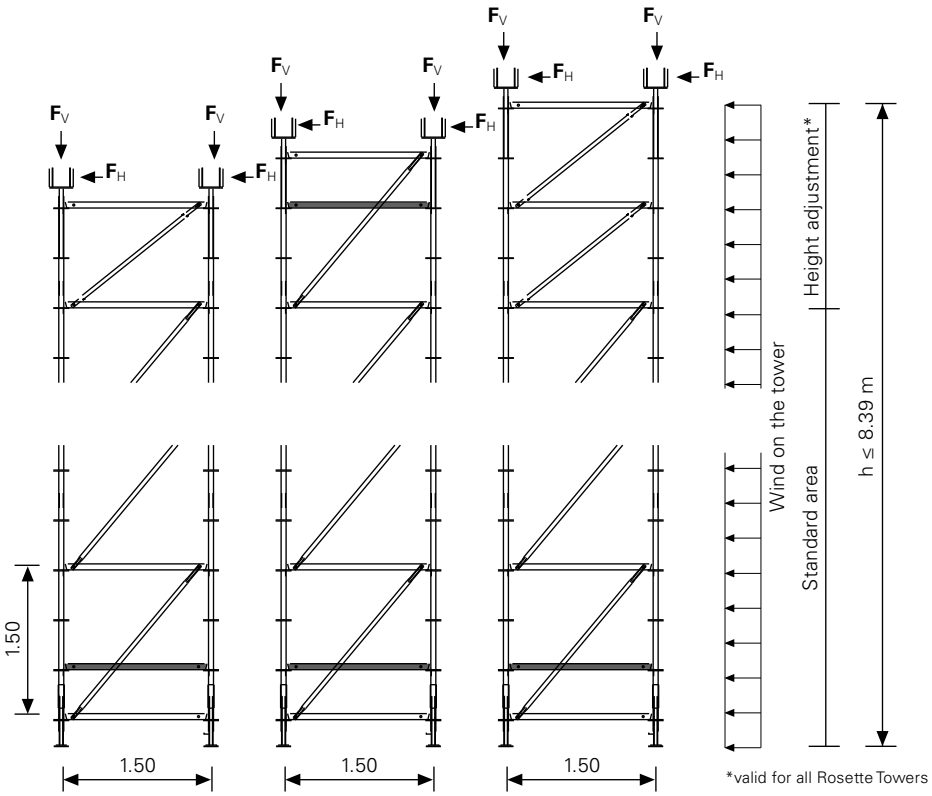
Application conditions

- Free standing
- With wind
- With additional ledgers in top and bottom sections
- Head Spindle or Cross Forkhead
- height h ≤ 8.39 m

Perm. leg load







PERI UP Flex Shoring Tower Plus
Permissible loads with TR 48 / TR 48

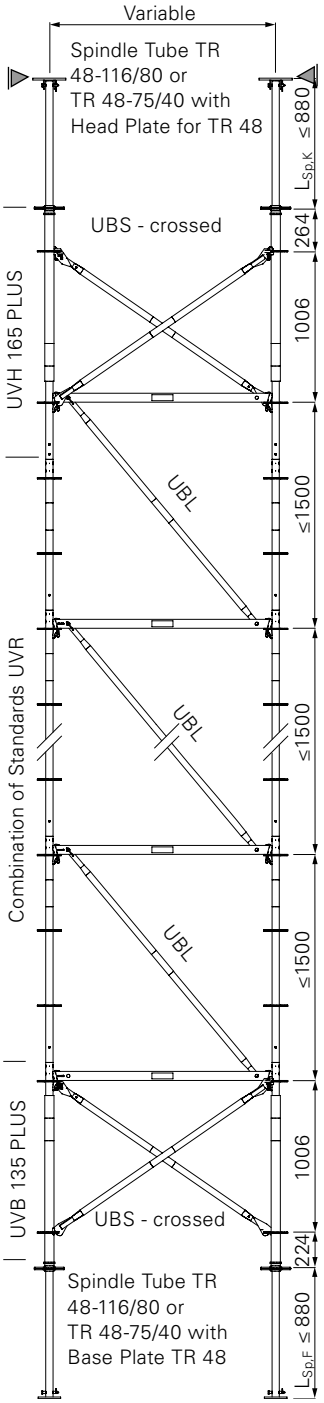
Load-bearing capacity per leg for shoring towers with Spindles TR 48 with a maximum supporting height of up to 16.26 m (restrained at the top).

Ground plan 150 x 150 cm

Height of tower [m]	Spindle extensions [cm]		Permissible loads [kN / leg]	
	Base $L_{Sp,F}$	Head $L_{Sp,K}$	without wind (0.0 kN/m²)	with wind (0.5 kN/m²)
15.15	35	30	52.37	50.05
10.65	35	30	53.99	51.99
7.65	35	30	56.43	55.03
15.58	20	88	30.45	24.40
11.08	20	88	37.05	32.73
8.08	20	88	44.47	42.04
15.58	88	20	43.14	31.02
11.08	88	20	48.07	41.53
8.08	88	20	50.36	48.76
15.78	88	40	40.32	27.85
11.28	88	40	42.68	36.31
8.28	88	40	42.73	38.27
16.26	88	88	25.50	16.98
11.76	88	88	25.96	19.72
8.76	88	88	26.27	21.71

Ground plan 150 x 250 cm

Height of tower [m]	Spindle extensions [cm]		Permissible loads [kN / leg]	
	Base $L_{Sp,F}$	Head $L_{Sp,K}$	without wind (0.0 kN/m²)	with wind (0.5 kN/m²)
15.15	35	30	52.37	48.02
10.65	35	30	53.99	50.97
7.65	35	30	56.43	54.13
15.58	20	88	30.45	22.24
11.08	20	88	37.05	31.07
8.08	20	88	44.47	41.16
15.58	88	20	43.14	26.08
11.08	88	20	48.07	38.39
8.08	88	20	50.36	47.48
15.78	88	40	40.32	23.07
11.28	88	40	42.68	33.25
8.28	88	40	42.73	36.73
16.26	88	88	25.50	13.64
11.76	88	88	25.96	17.55
8.76	88	88	26.27	19.97



The values given also apply to lower system heights.
Length of the standards, ledgers and diagonals in accordance with geometrical requirements.
The standard joints must be at the same height of the ledgers.

PERI UP Flex Shoring Tower Plus
Permissible loads with TR 48 / TR 48

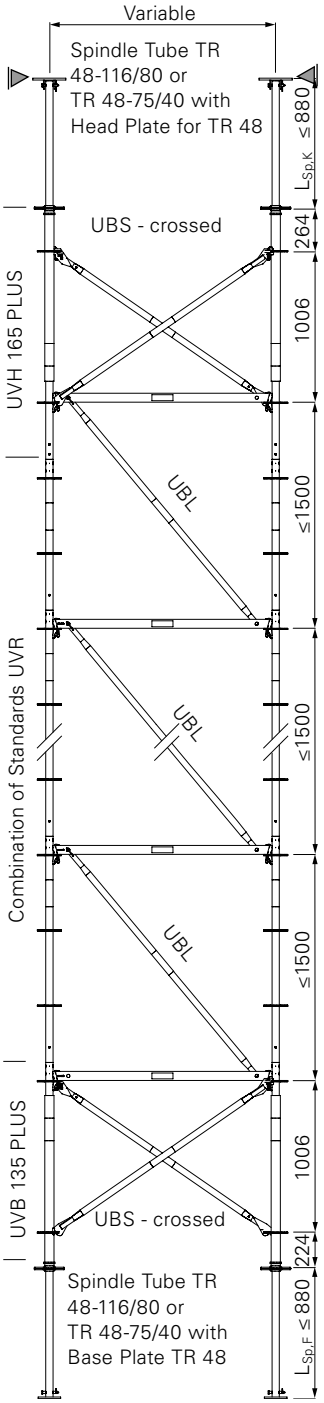
Load-bearing capacity per leg for shoring towers with Spindles TR 48 with a maximum supporting height of up to 16.26 m (restrained at the top).

Ground plan 100 x 150 cm

Height of tower [m]	Spindle extensions [cm]		Permissible loads [kN / leg]	
	Base $L_{Sp,F}$	Head $L_{Sp,K}$	without wind (0.0 kN/m²)	with wind (0.5 kN/m²)
15.15	35	30	50.72	45.55
10.65	35	30	51.20	47.75
7.65	35	30	55.04	52.88
15.58	20	88	26.23	20.29
11.08	20	88	30.31	25.98
8.08	20	88	36.24	33.04
15.58	88	20	38.49	25.28
11.08	88	20	42.74	34.77
8.08	88	20	47.14	42.56
15.78	88	40	37.40	24.00
11.28	88	40	40.13	31.77
8.28	88	40	42.29	37.57
16.26	88	88	24.30	16.50
11.76	88	88	25.45	19.19
8.76	88	88	25.94	21.30

Ground plan 100 x 250 cm

Height of tower [m]	Spindle extensions [cm]		Permissible loads [kN / leg]	
	Base $L_{Sp,F}$	Head $L_{Sp,K}$	without wind (0.0 kN/m²)	with wind (0.5 kN/m²)
15.15	35	30	50.72	43.39
10.65	35	30	51.20	46.50
7.65	35	30	55.04	51.80
15.58	20	88	26.23	18.00
11.08	20	88	30.31	24.27
8.08	20	88	36.24	31.73
15.58	88	20	38.49	20.61
11.08	88	20	42.74	31.56
8.08	88	20	47.14	40.37
15.78	88	40	37.40	19.43
11.28	88	40	40.13	28.43
8.28	88	40	42.29	35.56
16.26	88	88	24.30	13.00
11.76	88	88	25.45	17.02
8.76	88	88	25.94	19.62



The values given also apply to lower system heights.
Length of the standards, ledgers and diagonals in accordance with geometrical requirements.
The standard joints must be at the same height of the ledgers.

PERI UP Flex Shoring Tower Plus
Permissible loads with TR 48 / TR 48

Load-bearing capacity per leg for shoring towers with Spindle TR 48 at Base or Head with a maximum supporting height of up to 15.58 m (restrained at the top).

Ground plan 150 x 150 cm

Height of tower [m]	Spindle extensions [cm]		Permissible loads [kN / leg]	
	Base LSp,F	Head LSp,K	without wind (0.0 kN/m2)	with wind (0.5 kN/m2)
15,58	88	20	42,47	28,76
11,08	88	20	46,02	39,19
8,08	88	20	46,35	41,95

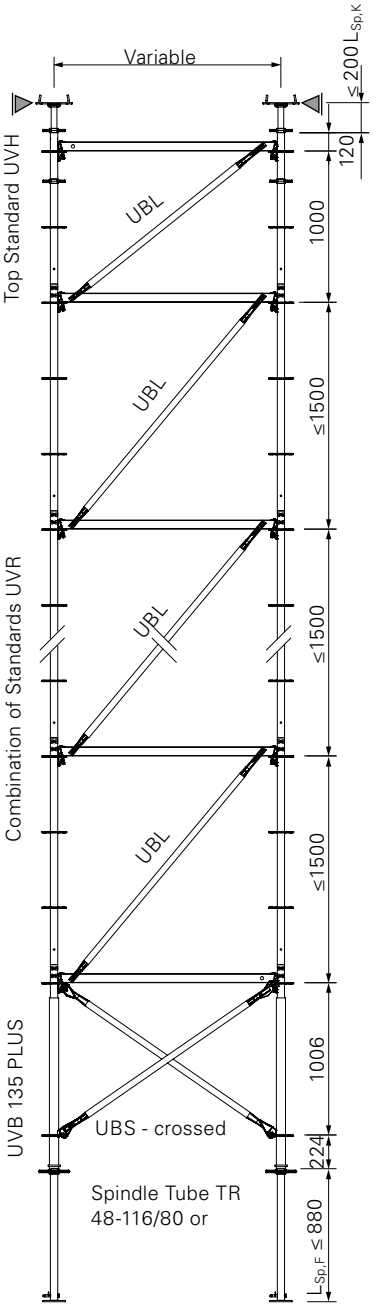
Height of tower [m]	Spindle extensions [cm]		Permissible loads [kN / leg]	
	Base LSp,F	Head LSp,K	without wind (0.0 kN/m2)	with wind (0.5 kN/m2)
15,58	88	20	42,47	26,60
11,08	88	20	46,02	37,98
8,08	88	20	46,35	41,46

Ground plan 150 x 250 cm

Height of tower [m]	Spindle extensions [cm]		Permissible loads [kN / leg]	
	Base LSp,F	Head LSp,K	without wind (0.0 kN/m2)	with wind (0.5 kN/m2)
15,58	88	20	42,47	24,43
11,08	88	20	46,02	36,47
8,08	88	20	46,35	40,51

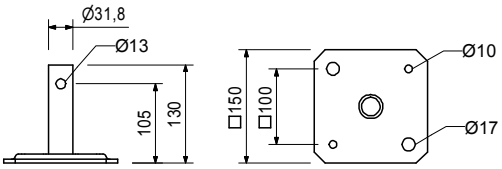
Ground plan 100 x 150 cm

Height of tower [m]	Spindle extensions [cm]		Permissible loads [kN / leg]	
	Base LSp,F	Head LSp,K	without wind (0.0 kN/m2)	with wind (0.5 kN/m2)
15,58	88	20	37,60	23,72
11,08	88	20	41,27	32,83
8,08	88	20	44,90	39,40



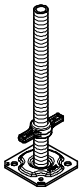
The values given also apply to lower system heights.
Length of the standards, ledgers and diagonals in accordance with geometrical requirements.
The standard joints must be at the same height of the ledgers.

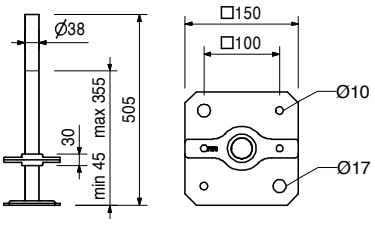
Item no.	Weight kg	
100244	1.200	**Base Plate UJP** Without height adjustment.



100411	3.390	**Adj. Base Plate UJB 38-50/30**

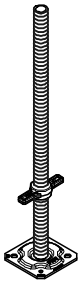
Note
With captive red Quick Jack Nut.

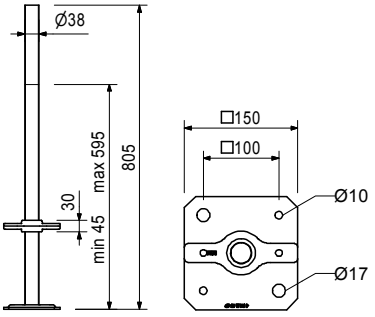




100242	4.570	**Adj. Base Plate UJB 38-80/55**

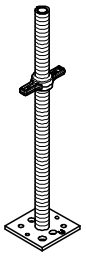
Note
With captive yellow Quick Jack Nut.

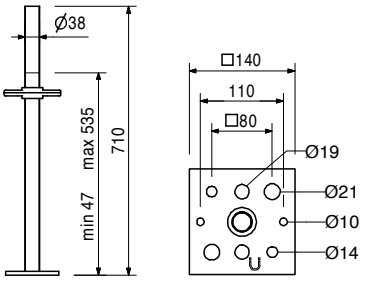




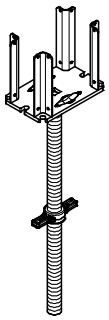
019780	5.250	**Base Spindle TR 38-70/50** For heavily loaded shoring.

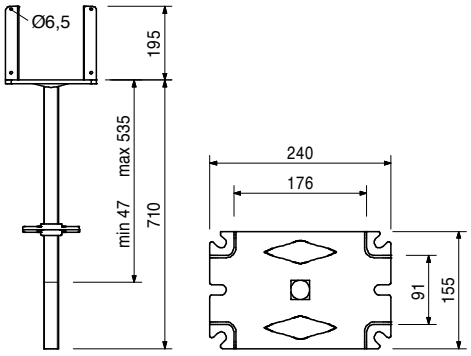
Note
With captive silver Quick Jack Nut.





Item no.	Weight kg		
019950	7.770	**Cross Forkhead TR 38-70/50** Tilt-resistant head spindle for holding one or two GT 24 or VT 20 Girders.	**Note** With captive Quick Jack Nut.

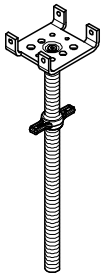


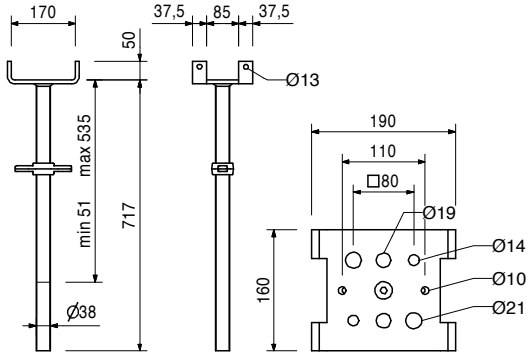


Accessories

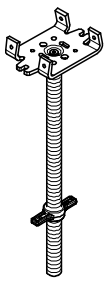
028590	0.568	**Tension Strap 16-25, galv.**

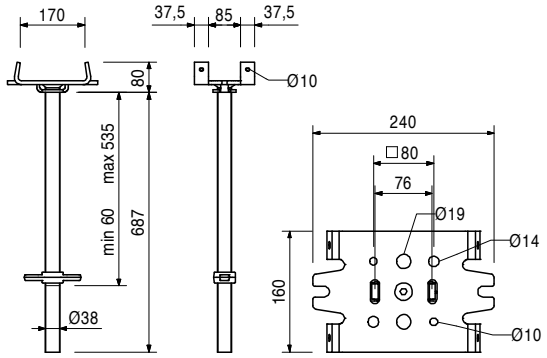
319790	6.460	**Head Spindle TR 38-70/50, galv.** Maximum inclination of the head plate on all sides 4.4°.	**Note** With captive Quick Jack Nut.





116081	7.040	**Head Spindle-2 TR 38-70/50** Maximum inclination of the head plate on all sides 4.4°.	**Note** With locking device and captive Quick Jack Nut.

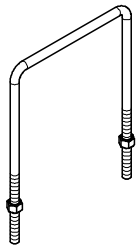


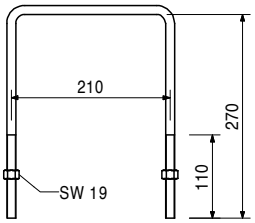


Accessories

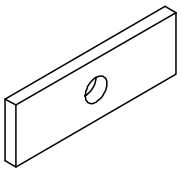
028590	0.568	**Tension Strap 16-25, galv.**
018300	0.564	**Cross Strap, galv.**

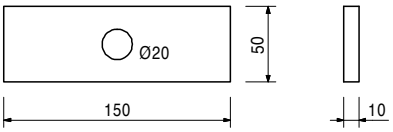
Item no.	Weight kg	
028590	0.568	**Tension Strap 16-25, galv.** For mounting 2 GT 24 or VT 20 Girders on the Cross Forkhead and Head Spindle TR 38 and on the Crosshead 20/24 or 20/24S.





018300	0.564	**Cross Strap, galv.** For fixing Steel Walers SRZ and SRU on the Head Spindle TR 38.



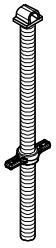


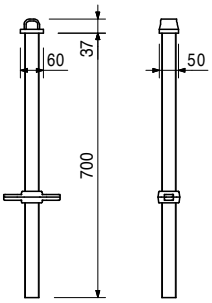
Accessories

018350	0.310	**Bolt ISO 4016 M16 x 160-4.6 MU, galv.**

109630	4.240	**Spindle Head SRU** For connecting the Steel Walers SRU and SRZ to the shoring.

Note
With captive Quick Jack Nut.

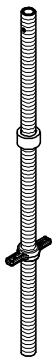


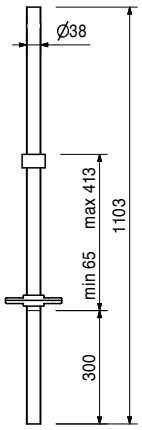


Accessories

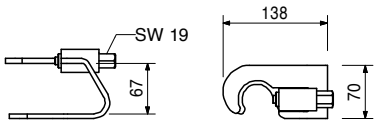
104031	0.462	**Fitting Pin Ø 21 x 120**
018060	0.030	**Cotter Pin 4/1, galv.**

Item no.	Weight kg		
111072	6.300	**Section Spindle UJK 38-110/41** For erection of shoring with tower units.	**Note** With captive Quick Jack Nut.

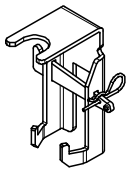


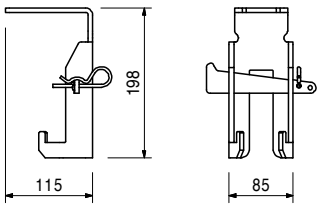


100863	1.020	**Spindle Locking UJS** Secures the Adjustable Base Plates and Section Spindles Ø 38 mm in the leg while moving.	**Technical Data** Permissible load 1.5 kN.

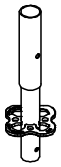


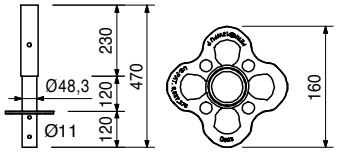
109563	1.460	**Head Spindle Locking UJH** Connects Head Spindle and Section Spindle with Ledger UH when moving.	**Complete with** 1 pc. 018060 Cotter Pin 4/1, galv. **Technical Data** Permissible load 2.1 kN.



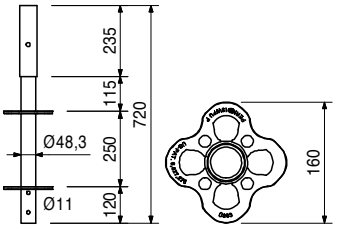


100014	2.470	**Base Standard UVB 24** For assembly directly on the base spindle.	

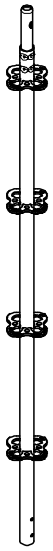


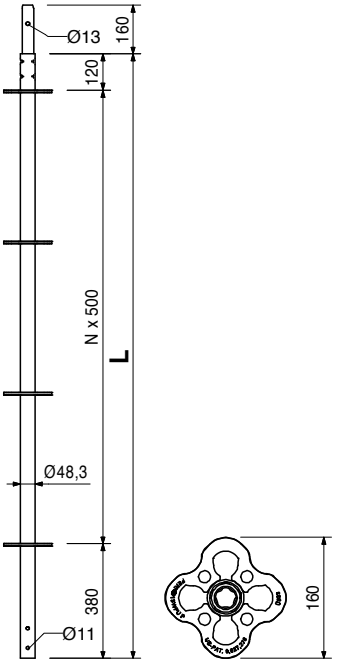


Item no.	Weight kg	
117194	3.980	**Base Standard UVB 49** For assembly directly on the base spindle. Reduces necessary spindle extension lengths through distance between rosettes of 25 cm.



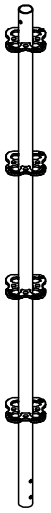
		Standards UVR	L
102859	3.080	**Standard UVR 50**	500
101306	5.380	**Standard UVR 100**	1000
102860	7.690	**Standard UVR 150**	1500
100009	10.000	**Standard UVR 200**	2000
100012	14.700	**Standard UVR 300**	3000
100013	19.200	**Standard UVR 400**	4000

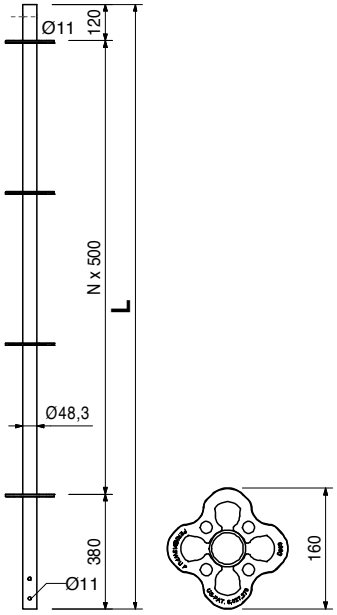




Item no.	Weight kg	Top Standards UVH	L
100000	4.610	**Top Standard UVH 100**	1000
100003	6.920	**Top Standard UVH 150**	1500
100005	9.240	**Top Standard UVH 200**	2000
100007	11.500	**Top Standard UVH 250**	2500

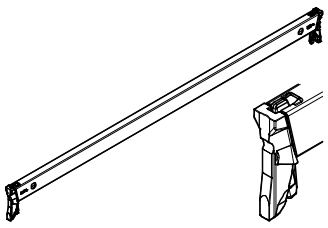
Without spigot for supporting head spindles.

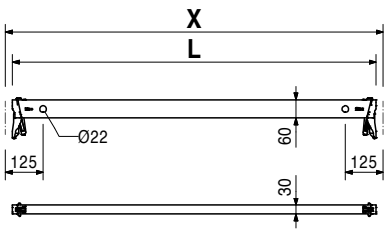




Item no.	Weight kg	Ledgers UH Plus	L	X	Sticker
114613	1.420	**Ledger UH 25 Plus**	204	250	
114595	2.070	**Ledger UH 50 Plus**	454	500	
114629	2.730	**Ledger UH 75 Plus**	704	750	White
114632	4.460	**Ledger UH 100 Plus**	954	1000	White
114638	5.430	**Ledger UH 125 Plus**	1204	1250	
114641	4.710	**Ledger UH 150 Plus**	1454	1500	
117032	5.380	**Ledger UH 175 Plus**	1704	1750	
114645	6.040	**Ledger UH 200 Plus**	1954	2000	
116356	6.700	**Ledger UH 225 Plus**	2204	2250	
114648	7.360	**Ledger UH 250 Plus**	2454	2500	
114651	8.680	**Ledger UH 300 Plus**	2954	3000	

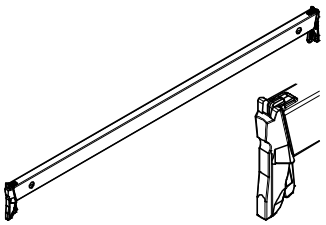
Note
Longitudinelly-stamped and with coloured label for easier identification.

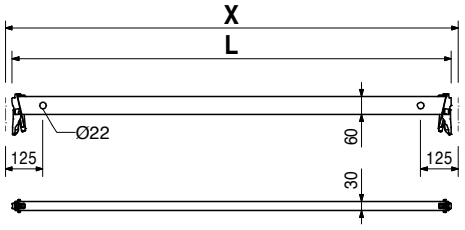




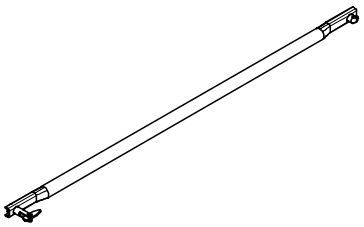
Item no.	Weight kg	Ledgers UH	L	X	Sticker
404780	1.390	**Ledger UH 25**	204	250	
404779	2.040	**Ledger UH 50**	454	500	
400017	2.710	**Ledger UH 75**	704	750	White
401159	3.370	**Ledger UH 100**	954	1000	White
410347	4.020	**Ledger UH 125**	1204	1250	
400021	4.690	**Ledger UH 150**	1454	1500	
400023	6.020	**Ledger UH 200**	1954	2000	White
400025	7.340	**Ledger UH 250**	2454	2500	Red
400027	8.670	**Ledger UH 300**	2954	3000	Black

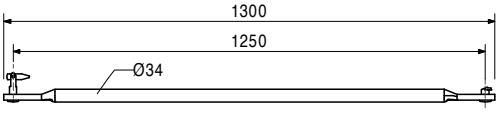
Note
Longitudinally-stamped and with coloured label for easier identification.
Ledgers UH can be replaced by Ledgers UH Plus.





Item no.	Weight kg		
019940	2.270	**Diagonal Strut ST 100, galv.** Diagonals for Stacking Tower ST 100. Number required depends on the static system.	



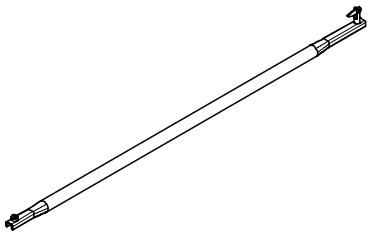


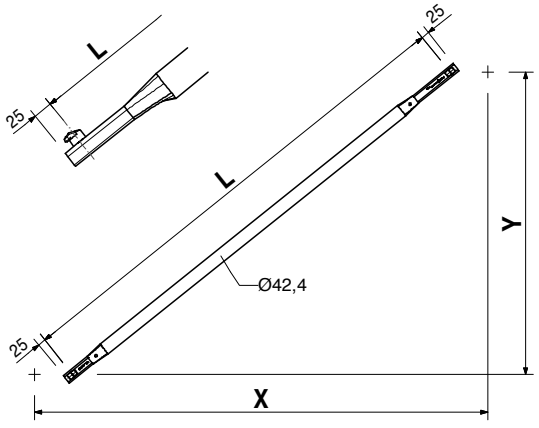
Item no.	Weight kg	Ledger Braces UBL	L	X	Y	Sticker
115156	2.660	**Ledger Brace UBL 100/50**	901	1000	500	
115513	4.640	**Ledger Brace UBL 100/150**	1677	1000	1500	
115157	5.810	**Ledger Brace UBL 100/200**	2136	1000	2000	
107867	3.790	**Ledger Brace UBL 150/50**	1347	1500	500	
100055	4.440	**Ledger Brace UBL 150/100**	1601	1500	1000	
102846	5.340	**Ledger Brace UBL 150/150**	1953	1500	1500	
100057	6.380	**Ledger Brace UBL 150/200**	2358	1500	2000	
109034	6.740	**Ledger Brace UBL 175/200**	2500	1750	2000	
104391	5.000	**Ledger Brace UBL 200/50**	1820	2000	500	
100059	5.500	**Ledger Brace UBL 200/100**	2016	2000	1000	
102862	6.240	**Ledger Brace UBL 200/150**	2305	2000	1500	
100061	7.160	**Ledger Brace UBL 200/200**	2658	2000	2000	White
130282	5.620	**Ledger Brace UBL 225/50**	2062	2250	500	
130283	6.070	**Ledger Brace UBL 225/100**	2236	2250	1000	
117689	7.580	**Ledger Brace UBL 225/200**	2829	2250	2000	
100063	6.640	**Ledger Brace UBL 250/100**	2462	2500	1000	
102861	7.260	**Ledger Brace UBL 250/150**	2705	2500	1500	
100065	8.050	**Ledger Brace UBL 250/200**	3010	2500	2000	Red
104762	7.490	**Ledger Brace UBL 300/50**	2795	3000	500	
100067	7.830	**Ledger Brace UBL 300/100**	2926	3000	1000	
104766	8.360	**Ledger Brace UBL 300/150**	3133	3000	1500	
100069	9.050	**Ledger Brace UBL 300/200**	3400	3000	2000	Black

Mounted in the holes of the ledger.

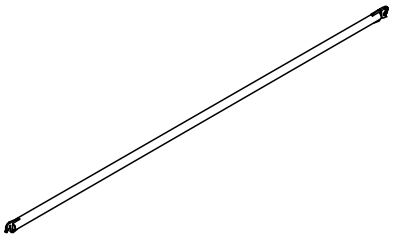
Note

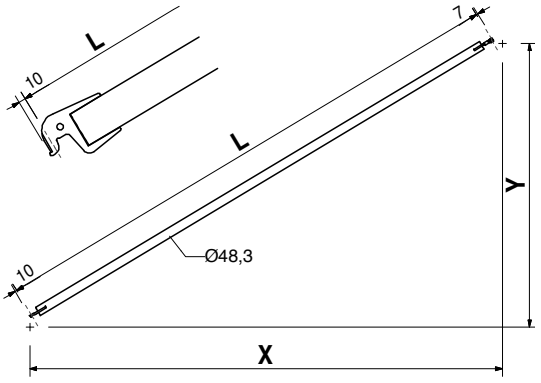
Longitudinally-stamped and with coloured label for easier identification.
UBL 150/250 identical to UBL 300/50,
UBL 225/150 identical to UBL 175/200,
UBL 250/50 identical to UBL 200/150.
UBL 75/200 identical to UBL 225/50.
UBL 100/100 identical to Diagonal Strut ST 100 (Item no. 019940).





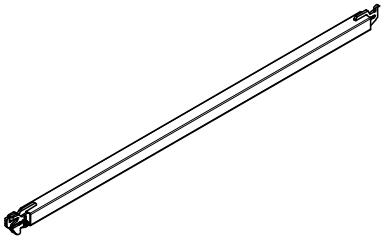
Item no.	Weight kg	Horizontal Braces UBH	L	X	Y
400042	7.350	**Horizontal Brace UBH 150/150**	2042	1500	1500
407815	8.700	**Horizontal Brace UBH 200/150**	2422	2000	1500
400047	9.870	**Horizontal Brace UBH 200/200**	2749	2000	2000
406931	10.200	**Horizontal Brace UBH 250/150**	2838	2500	1500
404356	11.300	**Horizontal Brace UBH 250/200**	3123	2500	2000
400049	12.400	**Horizontal Brace UBH 250/250**	3456	2500	2500
400051	11.800	**Horizontal Brace UBH 300/150**	3279	3000	1500
423483	12.700	**Horizontal Brace UBH 300/200**	3528	3000	2000
402617	13.800	**Horizontal Brace UBH 300/250**	3826	3000	2500
400053	15.000	**Horizontal Brace UBH 300/300**	4164	3000	3000

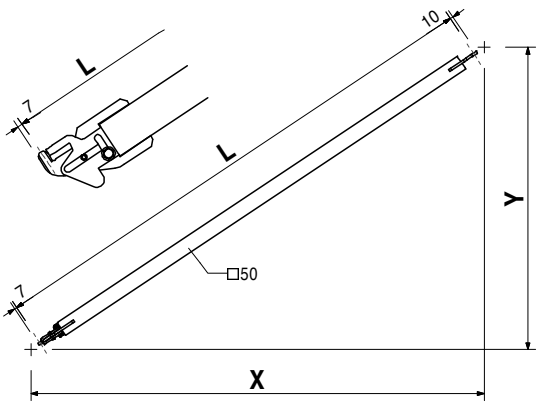




		H-Braces UBH Flex	L	X	Y
114818	4.580	**H-Brace UBH Flex 100/100**	1335	1000	1000
114821	5.720	**H-Brace UBH Flex 150/100**	1725	1500	1000
114912	6.650	**H-Brace UBH Flex 150/150**	2042	1500	1500
114820	7.000	**H-Brace UBH Flex 200/100**	2161	2000	1000
114916	8.730	**H-Brace UBH Flex 200/200**	2749	2000	2000
114819	8.350	**H-Brace UBH Flex 250/100**	2620	2500	1000
114996	8.640	**H-Brace UBH Flex 250/125**	2720	2500	1250
124101	8.990	**H-Brace UBH Flex 250/150**	2838	2500	1500
114920	9.830	**H-Brace UBH Flex 250/200**	3123	2500	2000
114928	10.800	**H-Brace UBH Flex 250/250**	3456	2500	2500
114892	9.730	**H-Brace UBH Flex 300/100**	3092	3000	1000
114924	11.000	**H-Brace UBH Flex 300/200**	3528	3000	2000
114932	11.900	**H-Brace UBH Flex 300/250**	3826	3000	2500
114936	12.900	**H-Brace UBH Flex 300/300**	4163	3000	3000

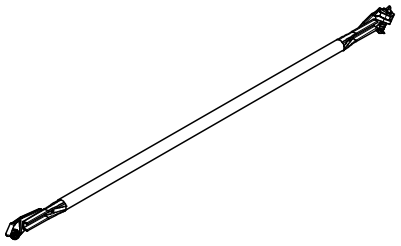
For horizontal bracing of towers. Also useable underneath deckings UDI and UDG.

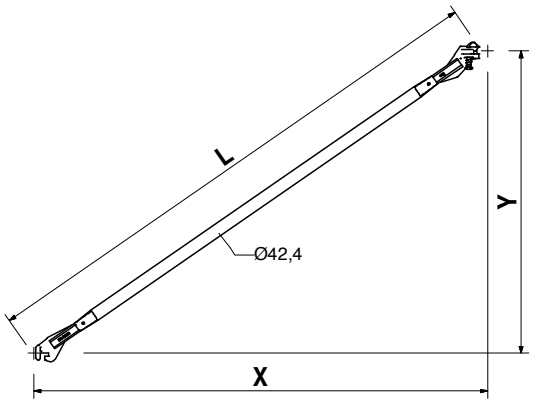




Item no.	Weight kg	Shoring Braces UBS	L	X	Y
128936	4.250	**Shoring Brace UBS 100/100**	1413	1000	1000
129354	5.300	**Shoring Brace UBS 100/150**	1771	1000	1500
107801	5.260	**Shoring Brace UBS 150/100**	1792	1500	1000
107810	6.050	**Shoring Brace UBS 150/150**	2122	1500	1500
115504	6.360	**Shoring Brace UBS 200/100**	2219	2000	1000
115291	7.050	**Shoring Brace UBS 200/150**	2492	2000	1500
123592	7.630	**Shoring Brace UBS 250/100**	2672	2500	1000
123588	8.090	**Shoring Brace UBS 250/150**	2902	2500	1500
123584	8.820	**Shoring Brace UBS 300/100**	3139	3000	1000
123580	9.360	**Shoring Brace UBS 300/150**	3337	3000	1500

Standard diagonal for shoring frames.



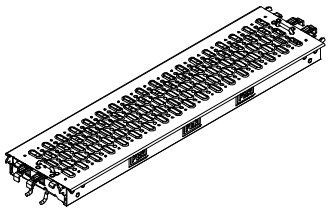


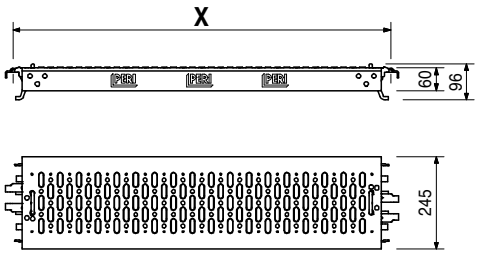
		Industrial Decks Steel UDI 25	X	perm. p [kN/m²]	max. p [kN/m²]
404029	4.090	**Industrial Deck UDI 25 x 50**	500	6.0	40.0
405925	5.520	**Industrial Deck UDI 25 x 75**	750	6.0	40.0
406092	6.950	**Industrial Deck UDI 25 x 100**	1000	6.0	40.0
406880	8.380	**Industrial Deck UDI 25 x 125**	1250	6.0	28.4
407002	9.790	**Industrial Deck UDI 25 x 150**	1500	6.0	19.6
408380	12.700	**Industrial Deck UDI 25 x 200**	2000	6.0	10.9
408540	15.500	**Industrial Deck UDI 25 x 250**	2500	4.5	6.9
408689	18.400	**Industrial Deck UDI 25 x 300**	3000	3.0	4.7

Mounted on Ledgers UH.

Note

perm. p according to DIN EN 12811-1.
max. p = maximum possible load without deflection limitation.





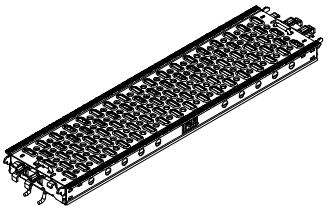
Item no.	Weight kg	
		Steel Decks UDG
124124	3.880	**Steel Deck UDG 25 x 50**
124121	5.260	**Steel Deck UDG 25 x 75**
124118	6.630	**Steel Deck UDG 25 x 100**
124115	8.010	**Steel Deck UDG 25 x 125**
124112	9.410	**Steel Deck UDG 25 x 150**
124109	12.200	**Steel Deck UDG 25 x 200**
123771	14.900	**Steel Deck UDG 25 x 250**
124915	17.700	**Steel Deck UDG 25 x 300**

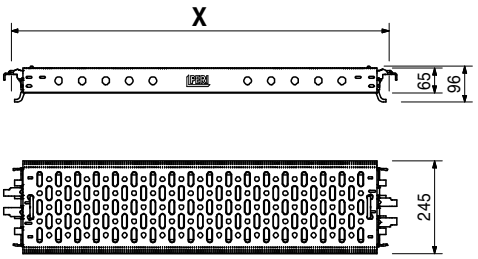
Mounted on Ledgers UH.

X	perm. p [kN/m²]	max. p [kN/m²]
500	6.0	40.0
750	6.0	40.0
1000	6.0	40.0
1250	6.0	28.4
1500	6.0	19.6
2000	6.0	10.9
2500	4.5	6.9
3000	3.0	4.7

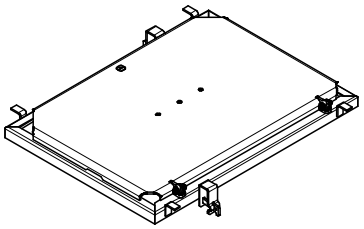
Note

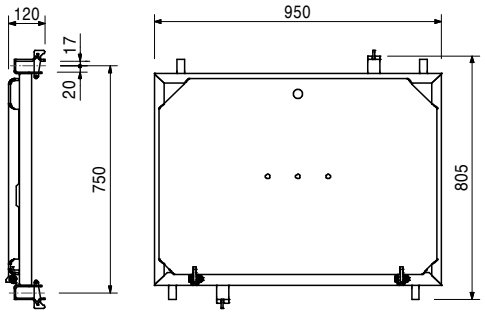
Perm. p according to DIN EN 12811-1.
max. p = maximum possible load without deflection limitation.





109755	15.700	**Hatch UAF 75 x 100**



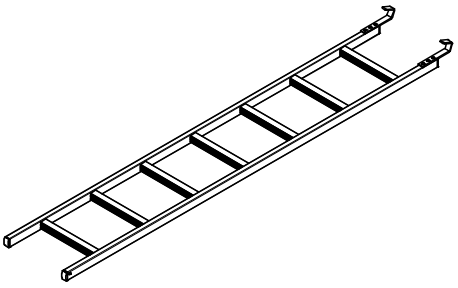


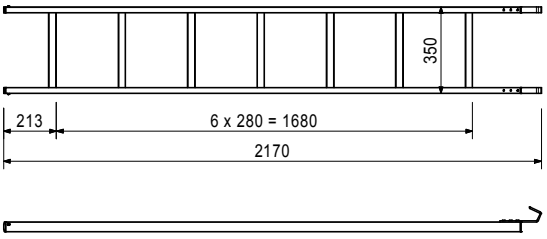
Accessories

109879	3.820	**Ladder UAF 200, Alu**

109879	3.820	**Ladder UAF 200, Alu**

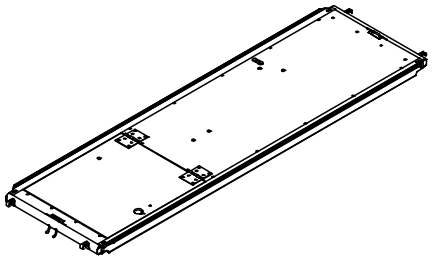
For mounting to Hatch UAF.

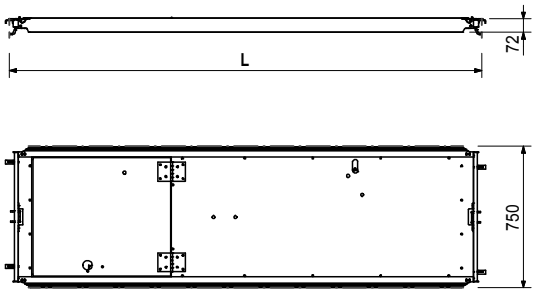




Item no.	Weight kg		
		Access Decks UAL-3	**L**
126393	15.600	**Access Deck UAL-3, 75 x 150/3**	1500
126392	19.600	**Access Deck UAL-3, 75 x 200/3**	2000
126314	23.500	**Access Deck UAL-3, 75 x 250/3**	2500

Technical Data
Load Class 3, 2.0 kN/m².

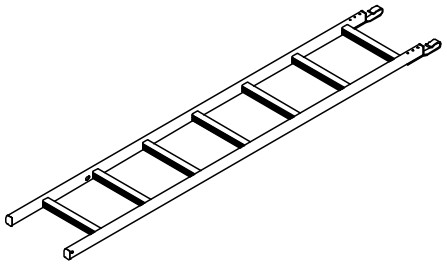


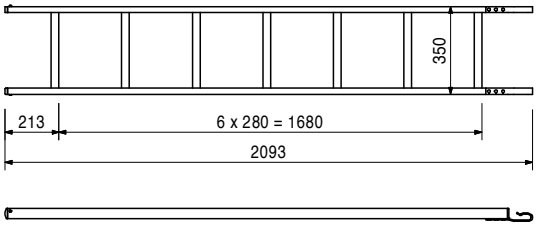


Accessories

126318	3.750	**Ladder Flex UEL with hook**

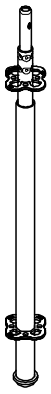
126318	3.750	**Ladder Flex UEL with hook**

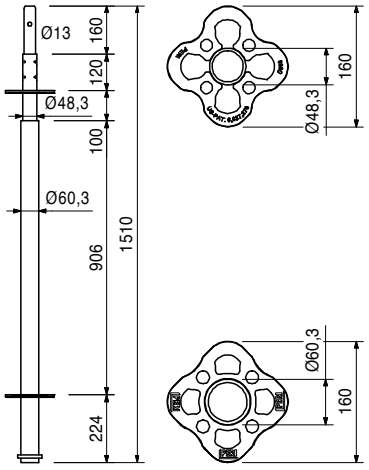




117196	9.930	**Base Standard UVB 135 Plus** Use of Spindle Tube TR 48 in the base area through the transition of standard Ø 48 mm on a standard with Ø 60 mm.

Note
For horizontal bracing by Shoring Braces UBS (crossed)

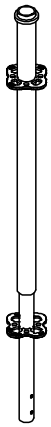


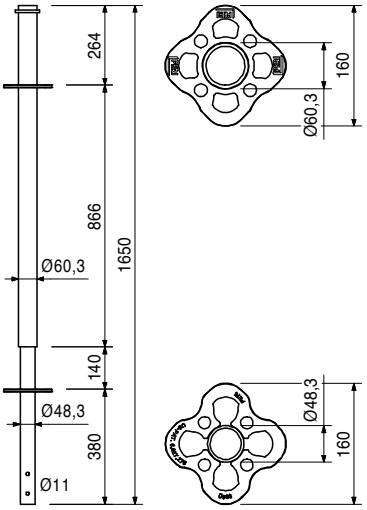


Item no.	Weight kg
117197	10.400

Top Standard UVH 165 Plus
Use of Spindle Tube TR 48 and Cross Forkhead TR 48 in the top area through the transition of standards Ø 48 mm on a standard with Ø 60 mm.

Note
For horizontal bracing by Shoring Braces UBS (crossed)

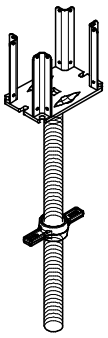


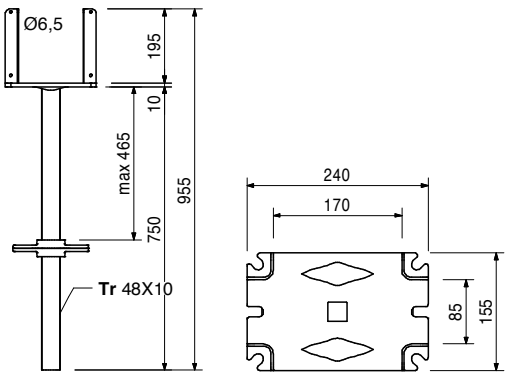


018630	9.500

Cross Head Spindle TR 48-75/47, galv.
Head spindle for PD 8 Slab Table and Flex Plus Shoring.

Complete with
1 pc. 018270 Quick Jack Nut TR 48, galv.





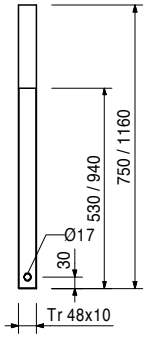
Accessories

028590	0.568

Tension Strap 16-25, galv.

Item no.	Weight kg	
		Spindle Tubes TR 48, galv.
018120	4.400	**Spindle Tube TR 48-75/40, galv.**
018030	6.820	**Spindle Tube TR 48-116/80, galv.**

For use as head and base spindle for the PD 8 Systems and Flex Plus Shoring.

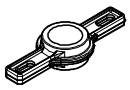


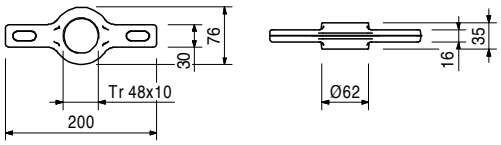
Accessories

127604	1.270	**Quick Jack Nut TR 48-2, galv.**

318270	0.800	**Quick Jack Nut TR 48, galv.**

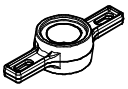
For spindles Ø 48 mm.

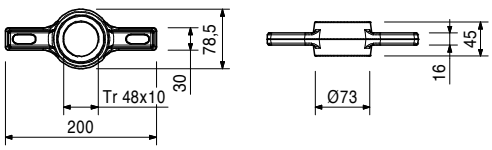




127604	1.270	**Quick Jack Nut TR 48-2, galv.**

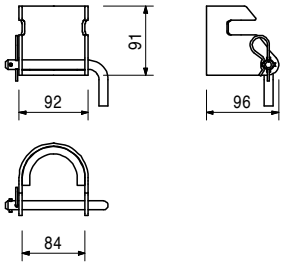
For spindles Ø 48 mm; with additional groove.



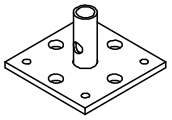


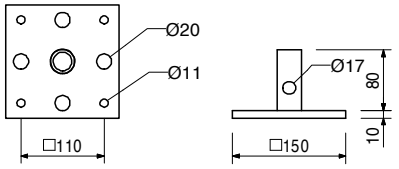
117743	0.798	**Handle Lock UJS Plus**

Secures Head- and Base Spindles Ø 48 mm in the Standard Plus during moving.



Item no.	Weight kg	
018070	1.770	**Base Plate for Spindle Tube TR 48** Base plate for Spindle Tubes and Foot Tube FR 80.



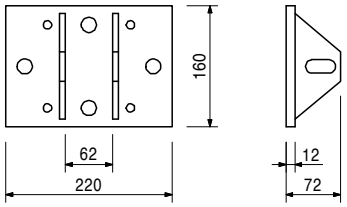


Accessories

018050	0.171	**Pin Ø 16 x 65/86, galv.**
018060	0.030	**Cotter Pin 4/1, galv.**

018040	3.770	**Head Plate for Spindle Tube TR 48**

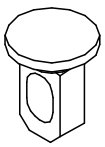
Note
Can be pivoted by 2.1 % in combination with Cap Piece.

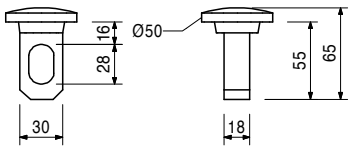


Accessories

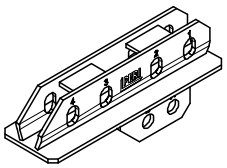
018050	0.171	**Pin Ø 16 x 65/86, galv.**
018060	0.030	**Cotter Pin 4/1, galv.**
019660	0.288	**Cap Piece, galv.**

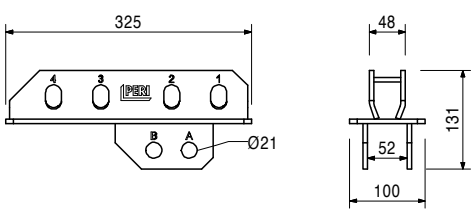
019660	0.288	**Cap Piece, galv.** For centric load application. Allows 2.1% inclination of the head plate.





107160	3.960	**Connector MP-SRU** As compensation element between the Prop Head MP/SRU and inclined positioned Steel Waler SRU.

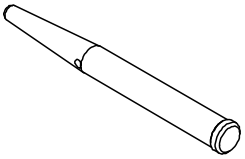


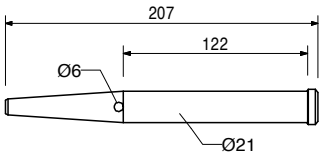


Accessories

104031	0.462	**Fitting Pin Ø 21 x 120**
018060	0.030	**Cotter Pin 4/1, galv.**

Item no.	Weight kg	
104031	0.462	**Fitting Pin Ø 21 x 120** For different connections.

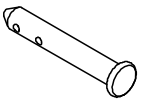


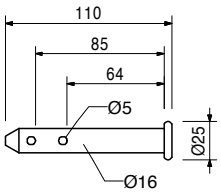


Accessories

018060	0.030	**Cotter Pin 4/1, galv.**

018050	0.171	**Pin Ø 16 x 65/86, galv.** For different connections.



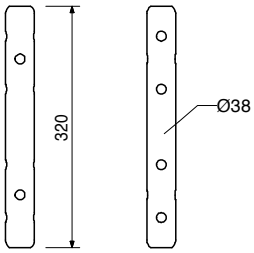


Accessories

018060	0.030	**Cotter Pin 4/1, galv.**

018060	0.030	**Cotter Pin 4/1, galv.**

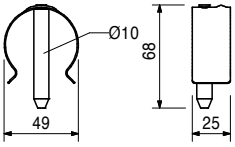
100301	1.020	**Spigot ULT 32** Lose pin for connecting Scaffold Tubes Ø 48.3 x 3.2 mm, e.g. top standards, lattice girders.



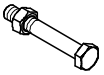
Accessories

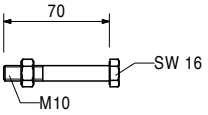
111053	0.059	**Locking Pin Ø 48/57**
100719	0.060	**Bolt ISO 4014 M10 x 70-8.8 MU**

Item no.	Weight kg	
111053	0.059	**Locking Pin Ø 48/57** As tension-proof connection of standards with a diameter of 48 up to 57 mm.

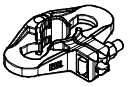


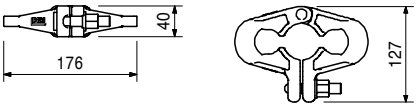
100719	0.060	**Bolt ISO 4014 M10 x 70-8.8 MU** As tension-proof connection of standards for suspended scaffolds or lattice girders.



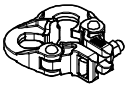


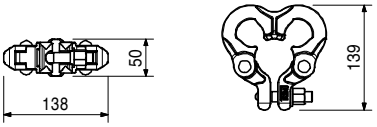
116306	1.700	**Rosett Coupler UEV 180°**





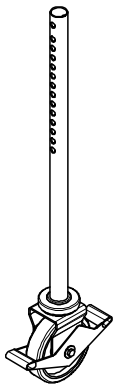
126453	1.630	**Rosett Coupler UEV 90°**

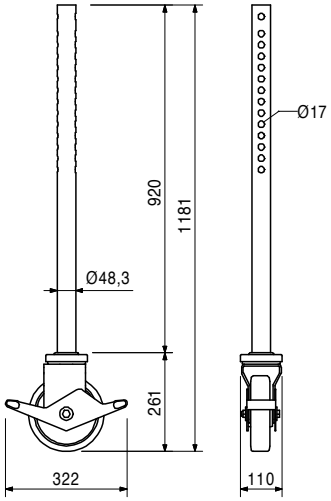




Item no.	Weight kg	
116176	15.000	**Transportation Wheel UEW** For inserting in Connection Transportation Wheel UER (for Rosett) and Transportation Wheel ST 100.

Technical Data
Permissible load-bearing capacity 3.5 kN per wheel with spindle extension of Shoring Tower up to 30 cm.

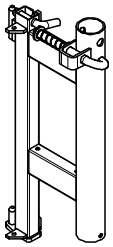


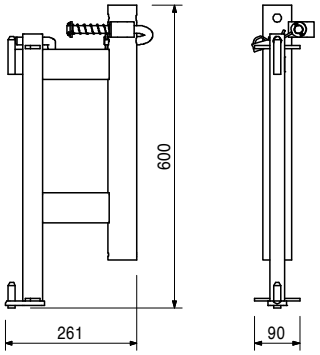


Accessories

116193	5.150	**Connection Transportation Wheel UER**

116193	5.150	**Connection Transportation Wheel UER** Mounted on Standards UVR. Allows moving of complete frameworks.



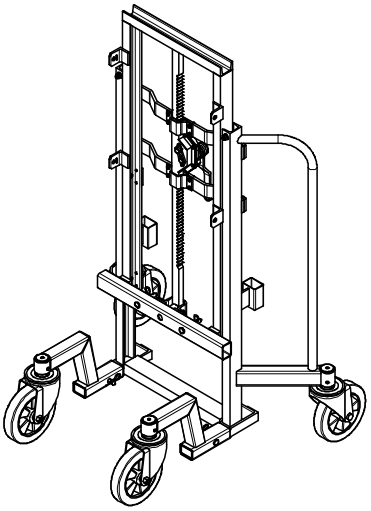


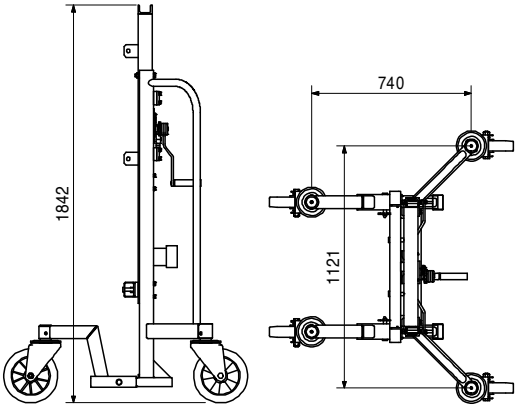
Accessories

116176	15.000	**Transportation Wheel UEW**

Item no.	Weight kg	
019200	162.000	**Trolley with Winch** For moving towers and tables with MULTIPROP, Flex, Flex Plus and PD 8 with appropriate support for the system.

Note
Follow Instructions for Use!
Technical Data
Permissible load-bearing capacity 1.0 t.

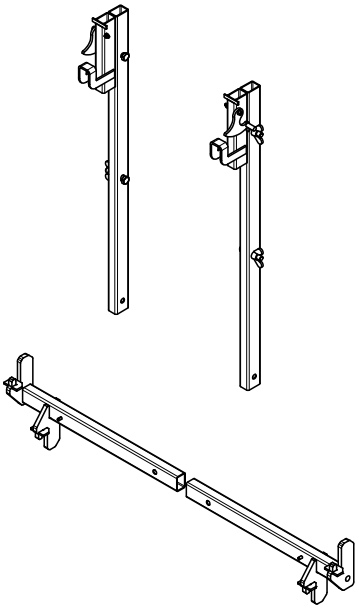


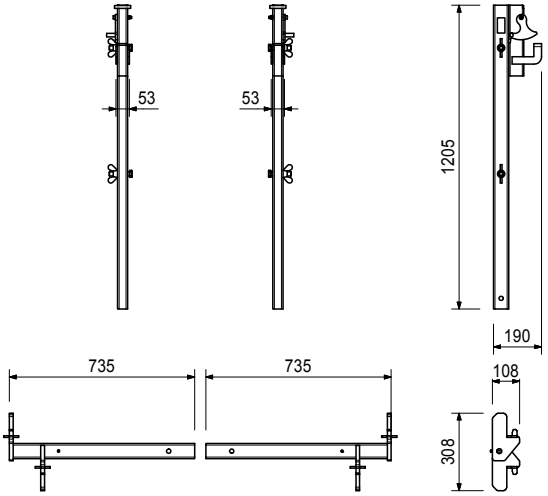


Accessories

118114	14.200	**Connector MP – Trolley**
118115	11.000	**Connector PD 8 – Trolley**
130501	27.600	**Connector PERI UP – Trolley**

130501	27.600	**Connector PERI UP – Trolley**





PERI UP Flex – 2nd generation

Comparison of components

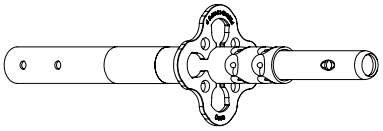
As part of ongoing product optimisation, the following components have been replaced by 2nd generation components.

The following comparison tables describe the visible features of 1st and 2nd generation.

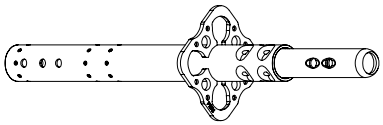
1st and 2nd generation components can be combined.

- The previous components
  – Standard UVR,
  – Steel Deck UDG
  are no longer available as new components.
- The optimised components
  – Standard UVR-2,
  – Steel Deck UDG-2
  are available under new article numbers.

Standard UVR

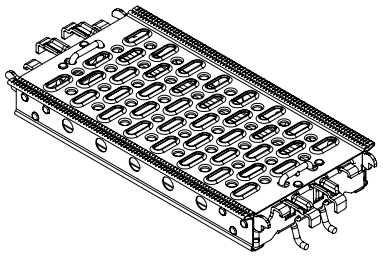


Standard UVR-2

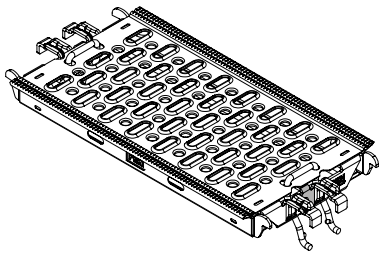


Tube	RO 48.3 mm x **3.2 mm**	RO 48.3 mm x **2.7 mm**, embossed points result in slight play on the joint.
Spigot tube connection	2 rows, with 5 pinch points each	2 rows, with 4 pinch points each
Rosette	160 mm x 130 mm x 8 mm	152 mm x 120 mm x 6 mm
Hole for suspended scaffold for fixing with screws and bolts M10	1 hole perm. F = 20 kN when fixed 1x	2 holes perm. F = 15 kN when fixed 1x perm. F = 30 kN when fixed 2x
Marking	none	striped band at the top and bottom
Compatibility	Can be mixed based on geometric and static* compatibility. * Only applies when combined with UH Plus and UHV Plus horizontal ledgers. * The load tables shown in the Instructions for Assembly and Use for the Flex Heavy-Duty Prop HD and Shoring Tower Plus systems do not apply to use of the Standard UVR-2. Check the statics beforehand!	

Steel Deck UDG



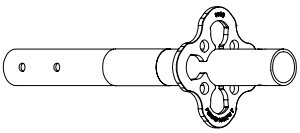
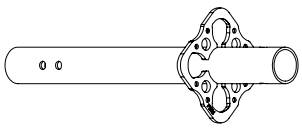
Steel Deck UDG-2

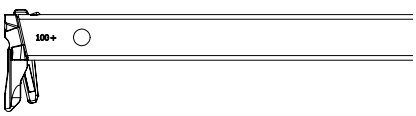
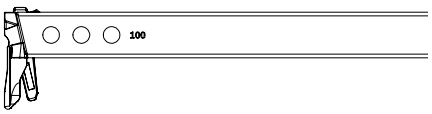


Deck assembly	riveted and welded	welded
Profile height	65 mm, uniform	L 50 – 150: 45 mm L 200 – 250: 60 mm L 300: 70 mm
Marking	without	yellow clip on the front side
Compatibility	Can be mixed based on geometric and static* compatibility. Take *Load Class (perm. p) into account.	

PERI UP Flex – 2nd generation

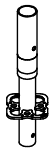
- The previous components
  – Top Standard UVH
  – Horizontal Ledger UH Plus
  are replaced by the optimised version and are no longer available in their previous form.
- The optimised components are available under their previous article number.

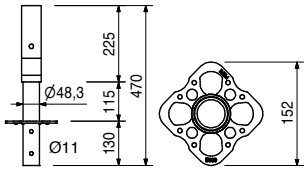
	Top Standard UVH	**Top Standard UVH (2nd generation)**
		
Tube	RO 48.3 mm x **3.2 mm**	RO 48.3 mm x **3.2 mm**
Rosette	160 mm x 130 mm x 8 mm	152 mm x 120 mm x 6 mm
Hole for suspended scaffold for fixing with screws and bolts M10	1 hole perm. F = 20 kN when fixed 1x	2 holes perm. F = 15 kN when fixed 1x perm. F = 30 kN when fixed 2x
Compatibility	Can be mixed based on geometric and static compatibility.	

	Horizontal Ledger UH Plus	**Horizontal Ledger UH Plus (2nd generation)**
		
UBL assembly points	2 x 1, for assembly of a Ledger Brace UBL	2 x 3, for assembly of up to three Ledger Braces UBL When installing only one ledger brace preferably use the middle assembly point. UBL ledger braces can be mounted at very flat installation angles using the middle assembly point only. Check the geometry beforehand!
Compatibility	Can be mixed based on geometric and static compatibility	

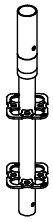
PERI UP Flex Core Components

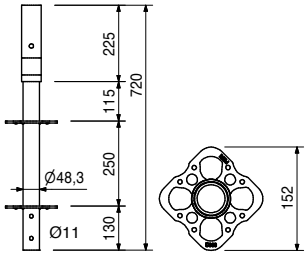
Art. no.	Weight kg		
133499	2.270	**Base Standard UVB 25**	



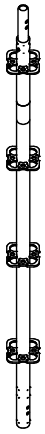


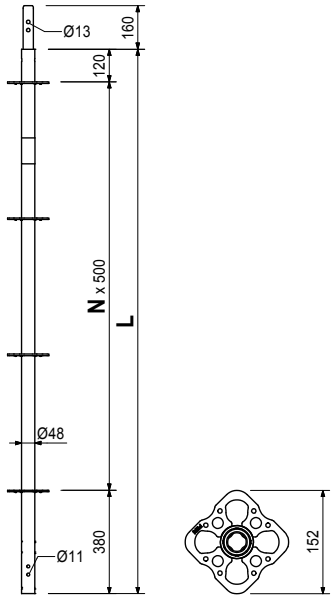
135187	3.590	**Base Standard UVB 50**	





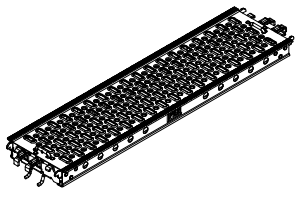
		Standards UVR-2	**L**
132219	2.480	**Standard UVR-2 50**	500
132224	4.340	**Standard UVR-2 100**	1000
132229	6.180	**Standard UVR-2 150**	1500
132234	8.030	**Standard UVR-2 200**	2000
132239	11.700	**Standard UVR-2 300**	3000

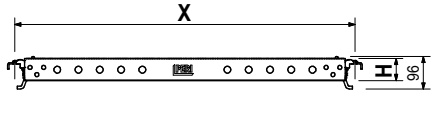


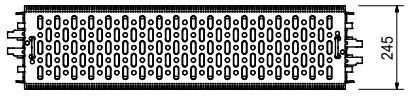


		Steel Decks UDG-2 25	**X**	**perm. p [kN/m²]**	**H**
132479	3.330	**Steel Deck UDG-2 25 x 50**	500	6.0	45
132488	4.460	**Steel Deck UDG-2 25 x 75**	750	6.0	45
132492	5.580	**Steel Deck UDG-2 25 x 100**	1000	6.0	45
132502	6.720	**Steel Deck UDG-2 25 x 125**	1250	6.0	45
132505	7.860	**Steel Deck UDG-2 25 x 150**	1500	6.0	45
132508	10.500	**Steel Deck UDG-2 25 x 200**	2000	6.0	60
132511	12.900	**Steel Deck UDG-2 25 x 250**	2500	3.0 / 4.5*	60
132515	15.800	**Steel Deck UDG-2 25 x 300**	3000	3.0	70

Note
Values correspond with EN 12811-1





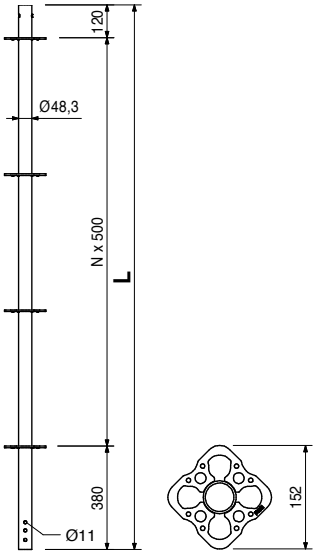


* Current Load Class 4,
with extension of approval in 2020 Load Class 5.

PERI UP Flex Core Components

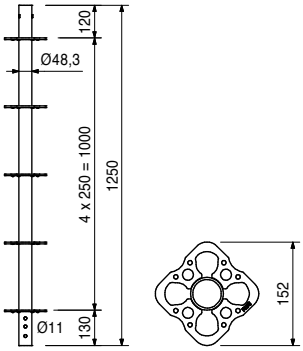
Art. no.	Weight kg		
		Top Standards UVH (2nd generation)	**L**
101309	2.090	**Top Standard UVH 50**	500
100000	4.210	**Top Standard UVH 100**	1000
100003	6.310	**Top Standard UVH 150**	1500
100005	8.420	**Top Standard UVH 200**	2000
100007	10.500	**Top Standard UVH 250**	2500

Without spigot for supporting head spindles.



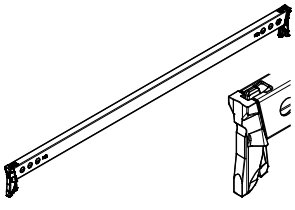
117195	6.060	**Top Standard 125 (2nd generation)**

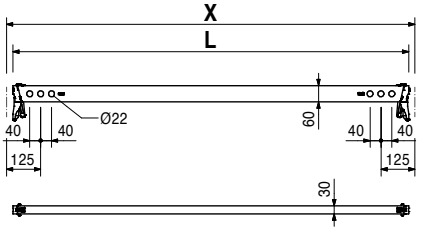
Without spigot for supporting head spindles.
Reduces necessary spindle adjustments with 25 cm rosette spacing.



		Horizontal Ledgers UH Plus (2nd generation)	**L**	**X**
114613	1.410	**Horizontal Ledger UH 25 Plus**	204	250
114595	2.030	**Horizontal Ledger UH 50 Plus**	454	500
114629	2.690	**Horizontal Ledger UH 75 Plus**	704	750
114632	3.740	**Horizontal Ledger UH 100 Plus**	954	1000
114638	4.510	**Horizontal Ledger UH 125 Plus**	1204	1250
114641	4.680	**Horizontal Ledger UH 150 Plus**	1454	1500
117032	5.340	**Horizontal Ledger UH 175 Plus**	1704	1750
114645	6.000	**Horizontal Ledger UH 200 Plus**	1954	2000
116356	6.660	**Horizontal Ledger UH 225 Plus**	2204	2250
114648	7.320	**Horizontal Ledger UH 250 Plus**	2454	2500
114651	8.650	**Horizontal Ledger UH 300 Plus**	2954	3000

Note
With length marking for easier identification.





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