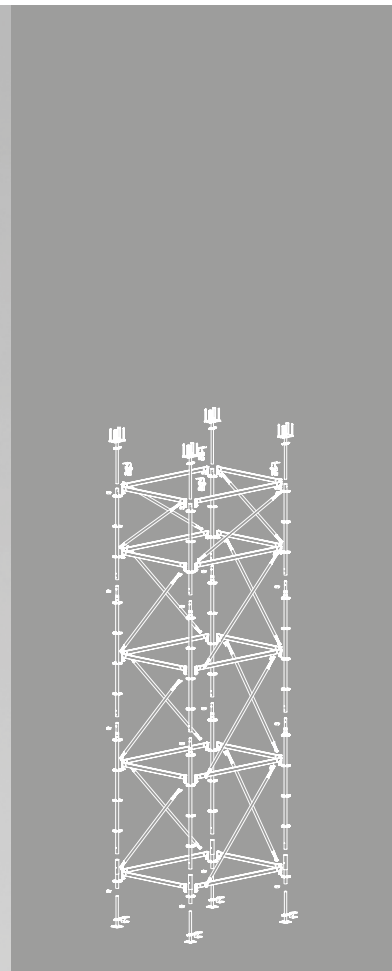
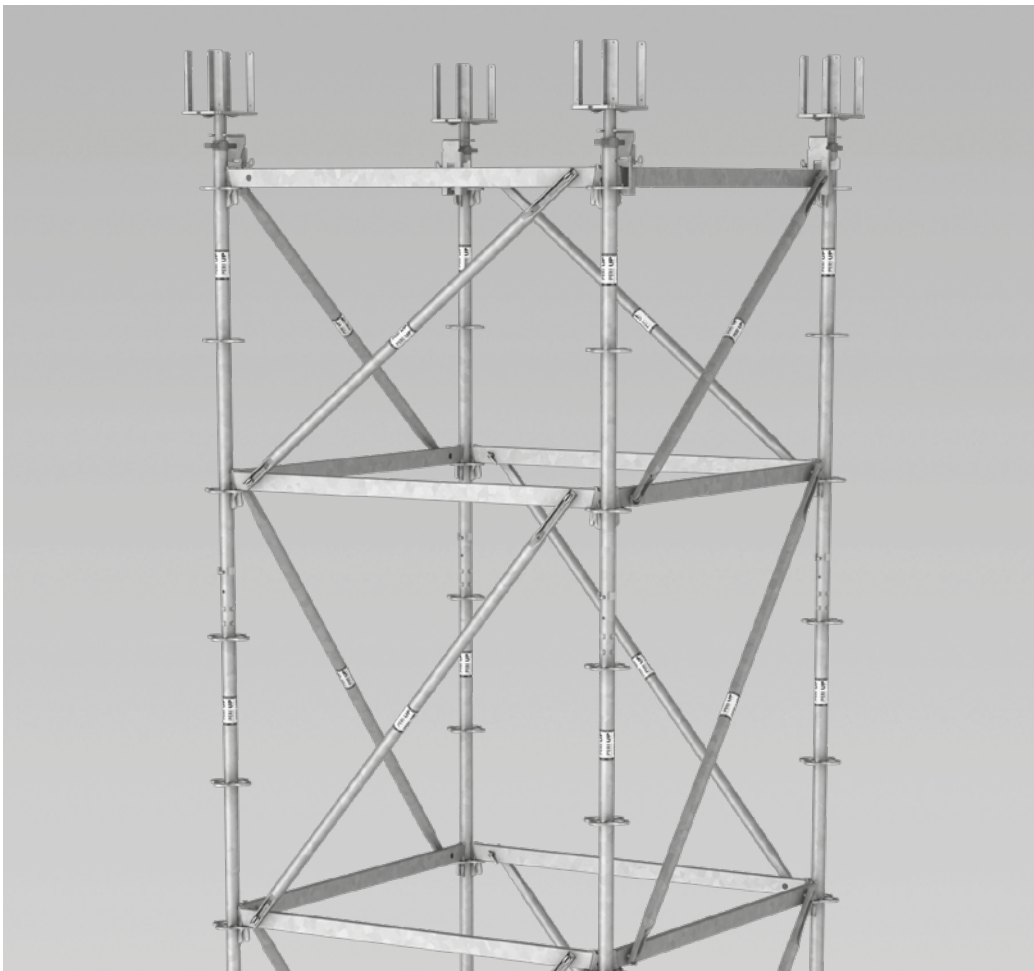


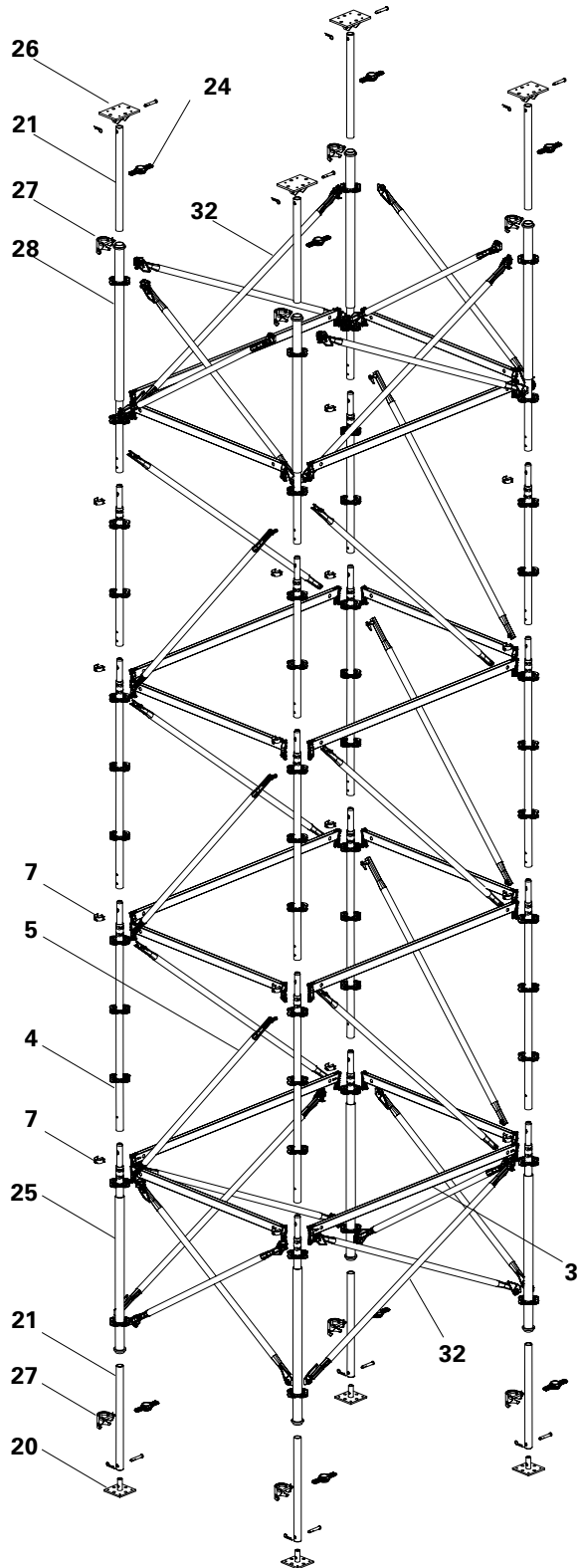
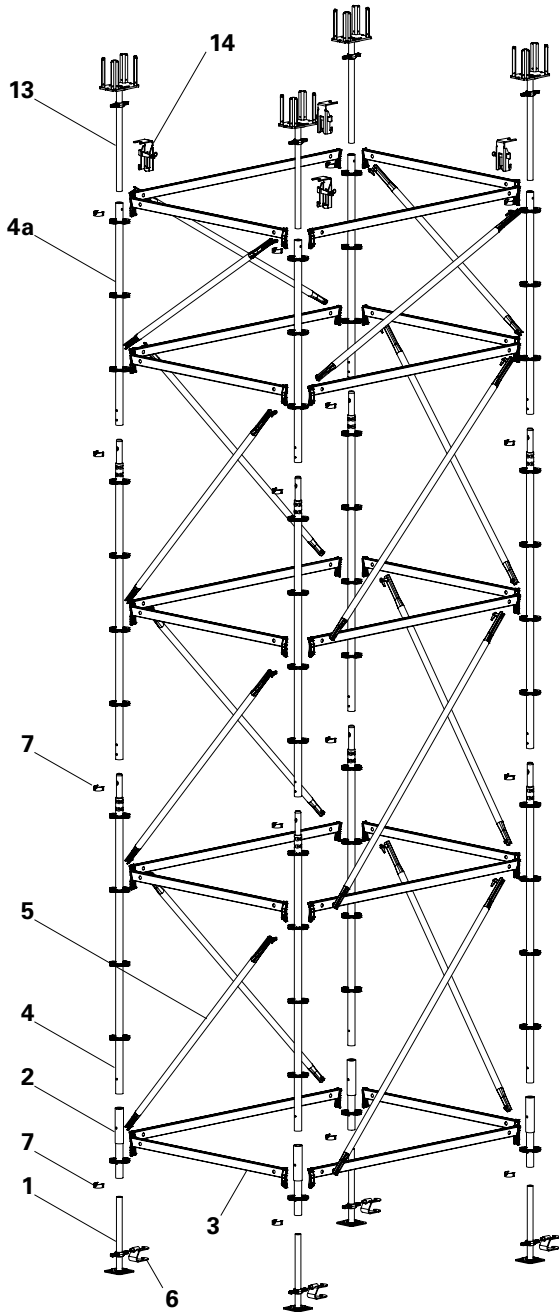
PERI UP Flex Shoring Tower

Instructions for Assembly and Use – Standard Configuration – Issue 03/2021
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 |

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Supplemental pages PERI UP Flex 2nd generation I-VIII

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 2.00×1.50 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 1.50×1.50 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 $\varnothing 48.3 \times 3.2$ 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



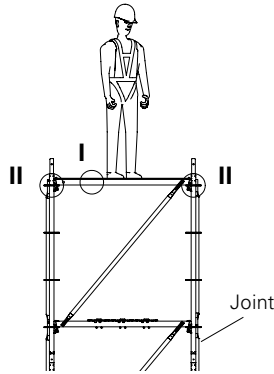
Each specified attachment point is intended for securing one person only!

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

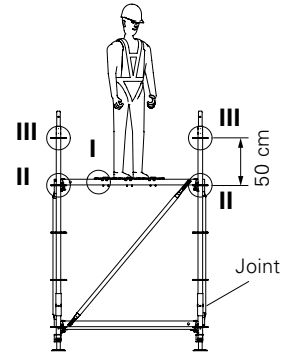
- The shoring underneath the final assembly level is complete.
- This means, all ledgers and diagonal bracing have been installed and the decking is in place as the topmost assembly level.
- The joints of the topmost standards must lie underneath the last assembly level.



Attachment points

The standard ends in the last assembly level:

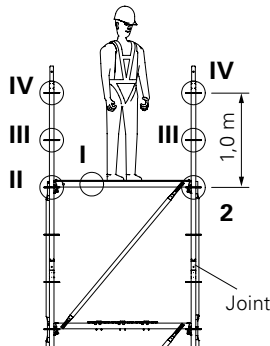
- each ledger is in the assembly level (I)
- each rosette in the assembly level (II)



Attachment points

The standard ends 50 cm above the last assembly level:

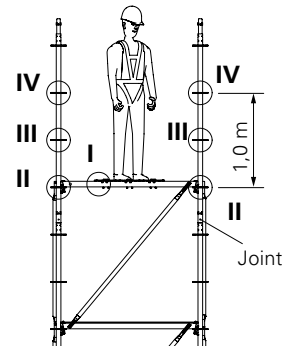
- each ledger is in the assembly level (I)
- each rosette up to max. 50 cm above the last assembly level (II, III)



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)

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.

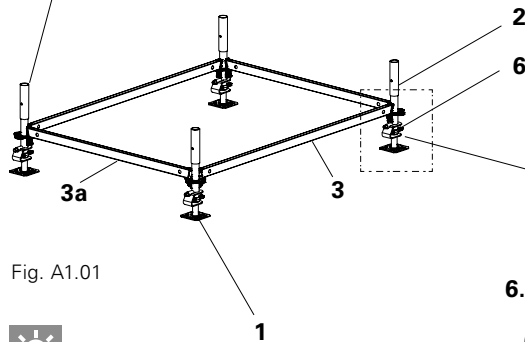
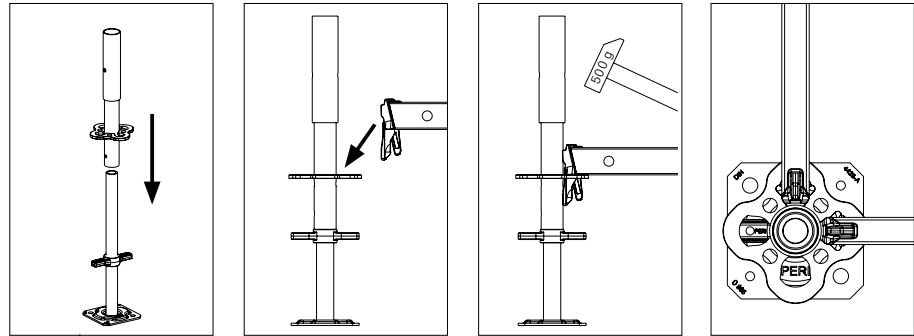


Fig. A1.01



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

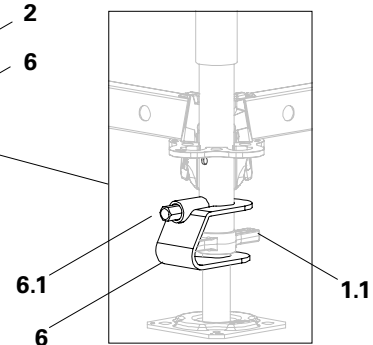


Fig. A1.01a

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.

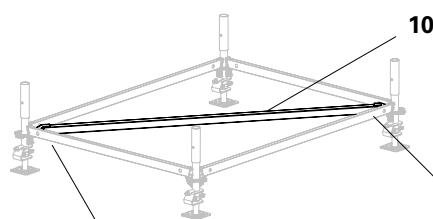
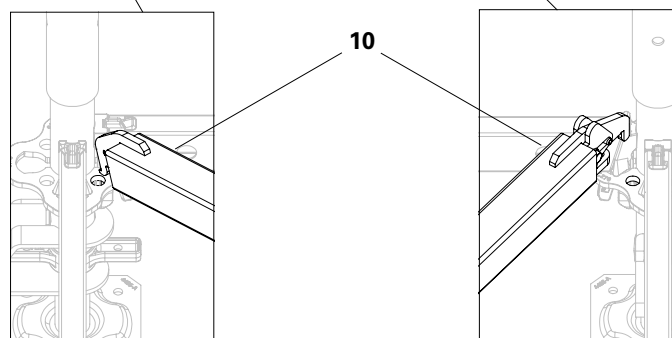


Fig. A1.02



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.

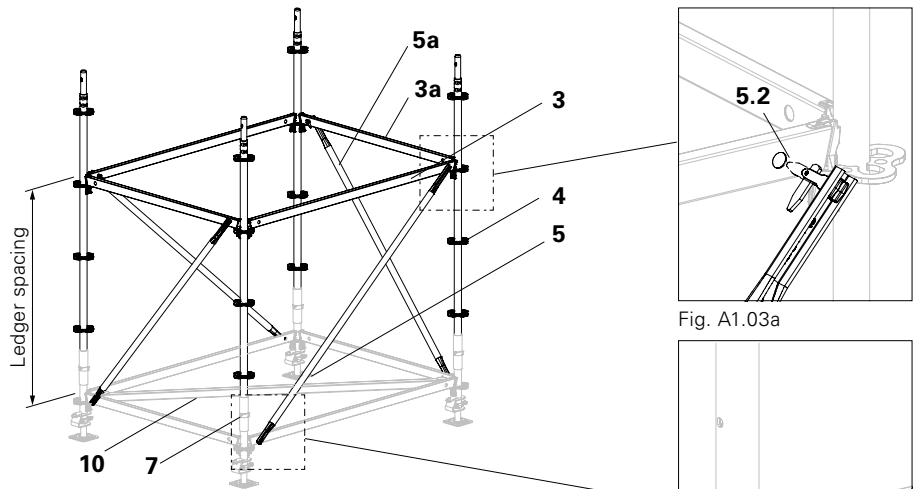


Fig. A1.03



- 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.

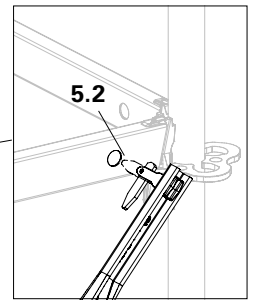


Fig. A1.03a

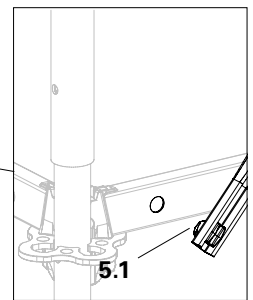


Fig. A1.03b

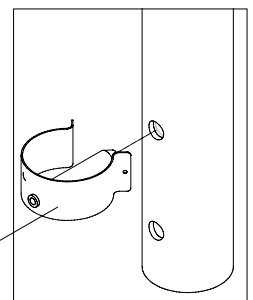


Fig. A1.03c

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)

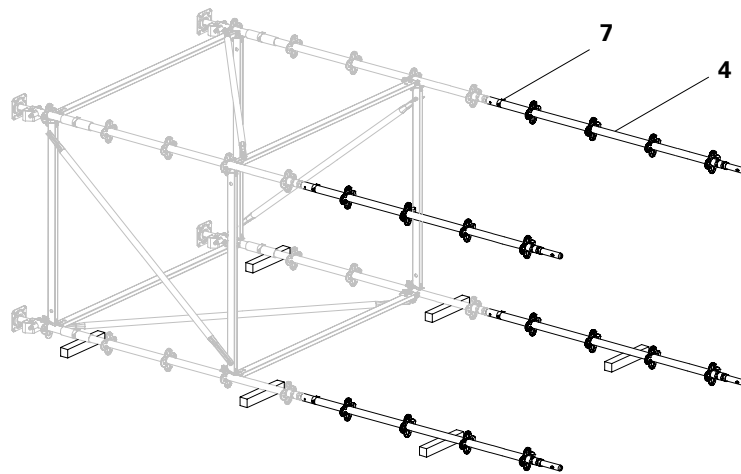


Fig. A1.04

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 remaining 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.

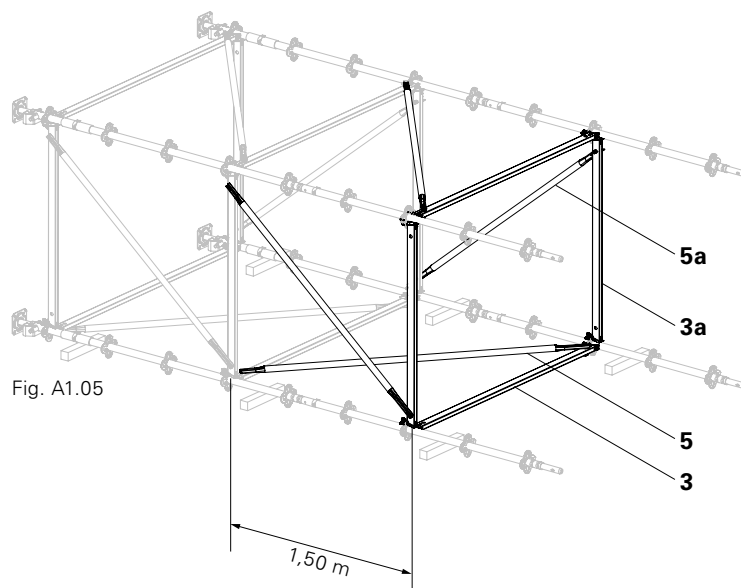


Fig. A1.05

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.

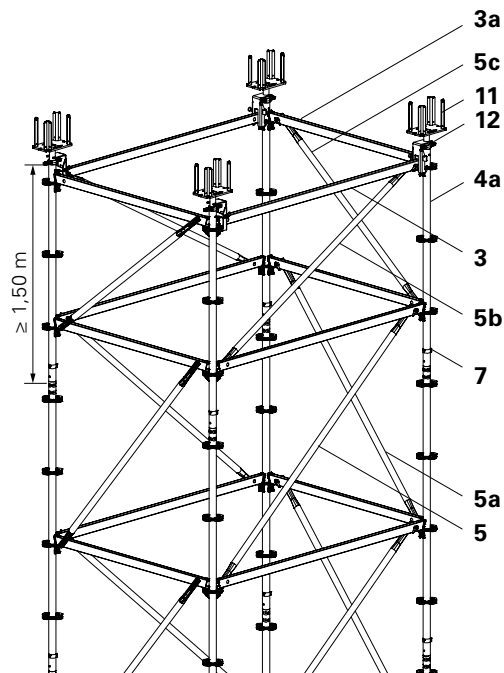


Fig. A1.06

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)

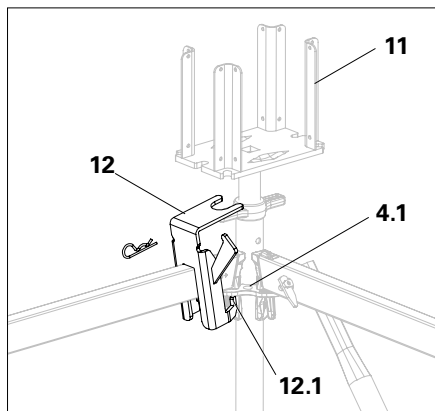


Fig. A1.06a

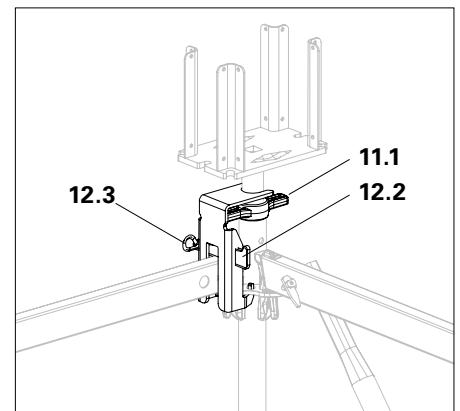
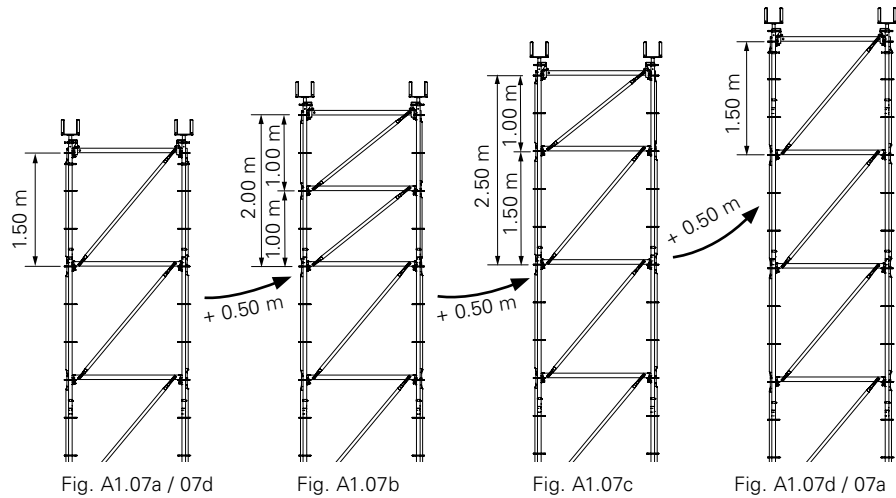


Fig. A1.06b

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)



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.**

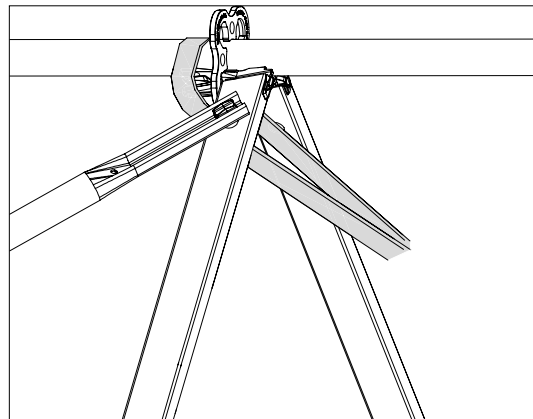


Fig. A1.08a

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)

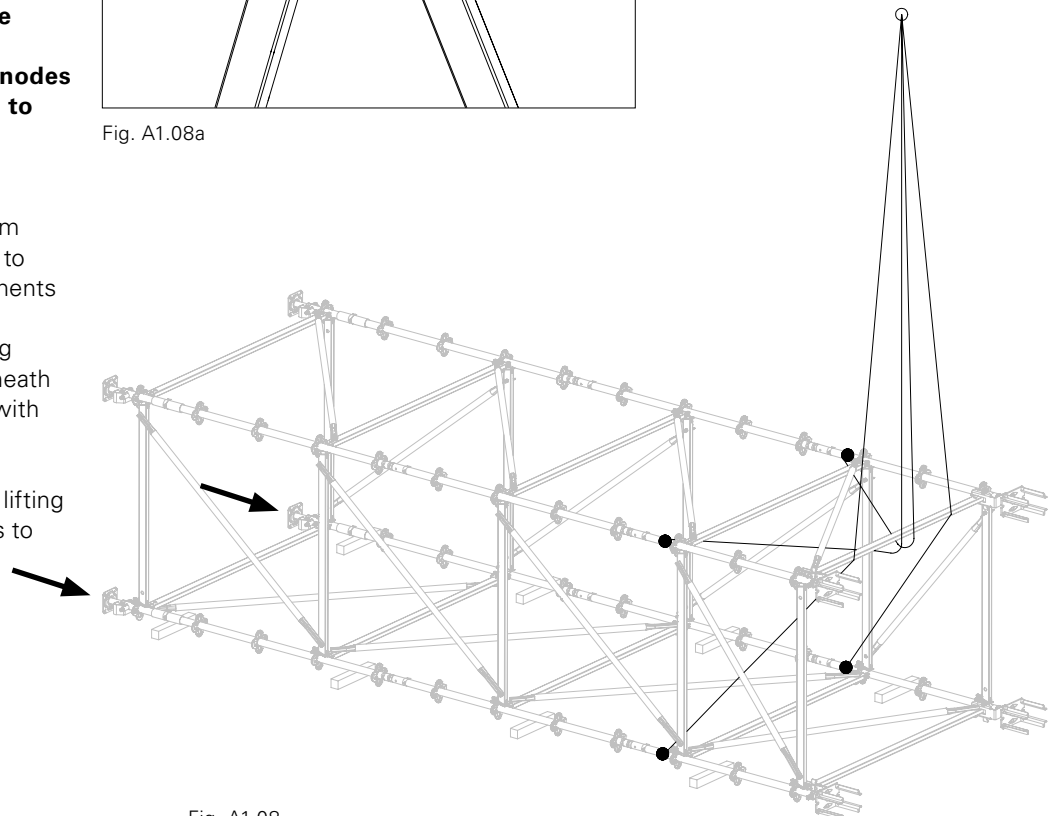


Fig. A1.08

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.

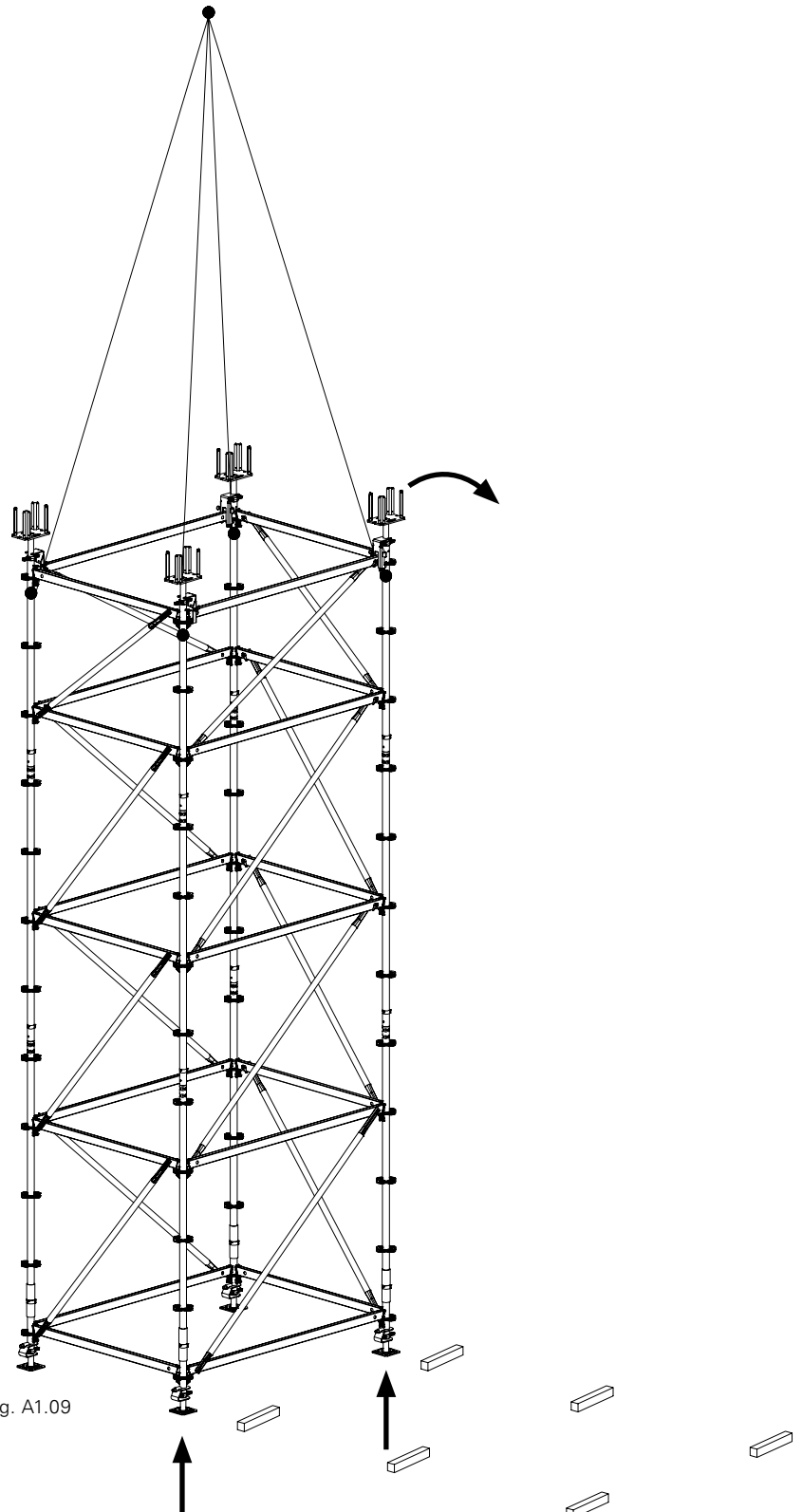


Fig. A1.09

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.

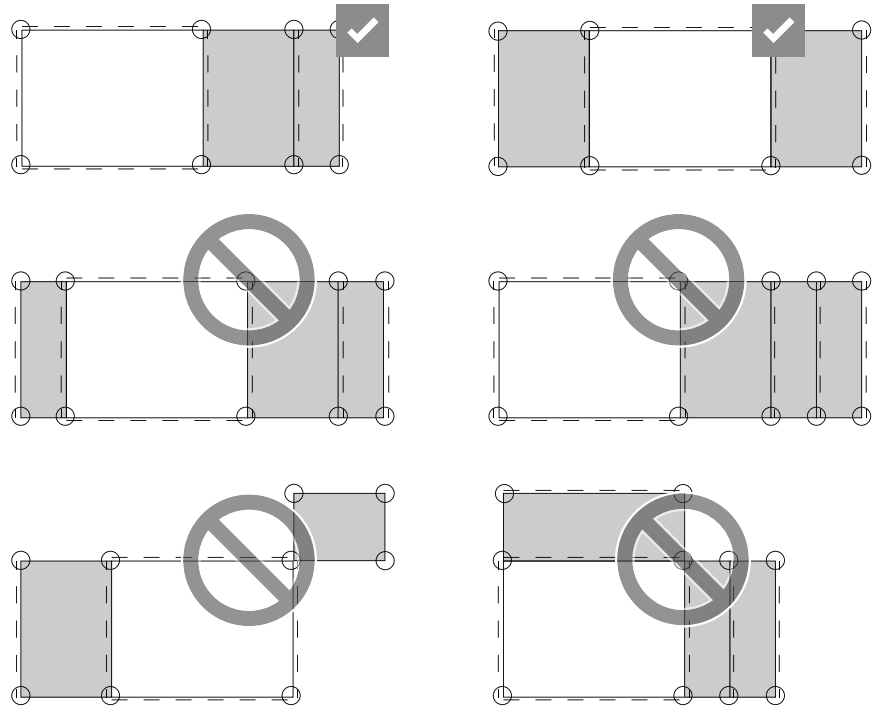


Fig. A2.01

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)

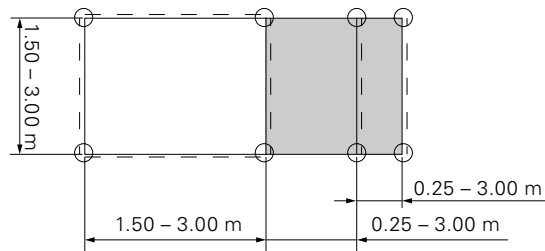


Fig. A2.01a

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)

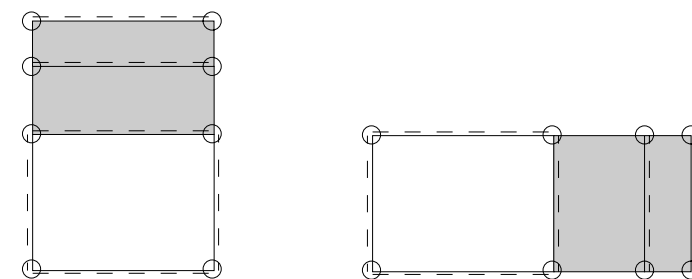


Fig. A2.01b

Key:
 - - - - - Diagonal bracing

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)

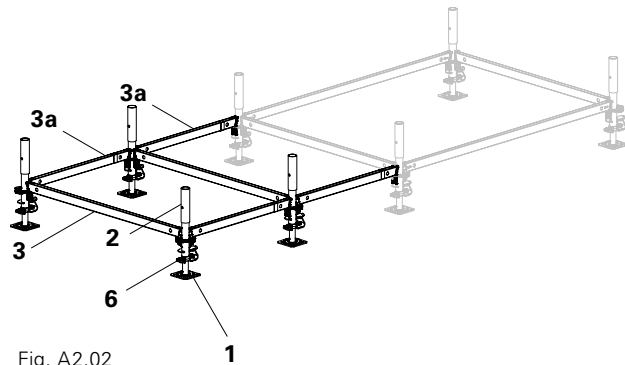


Fig. A2.02

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)

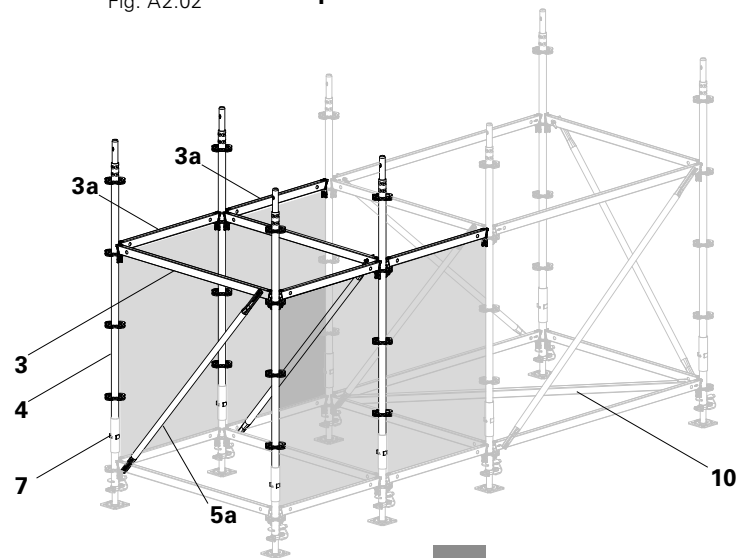


Fig. A2.03



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)

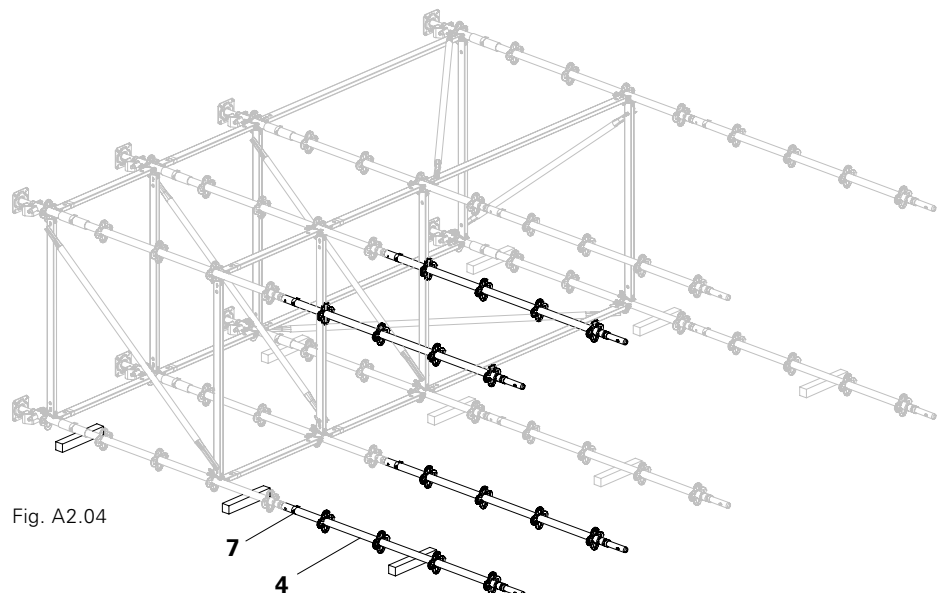


Fig. A2.04

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)

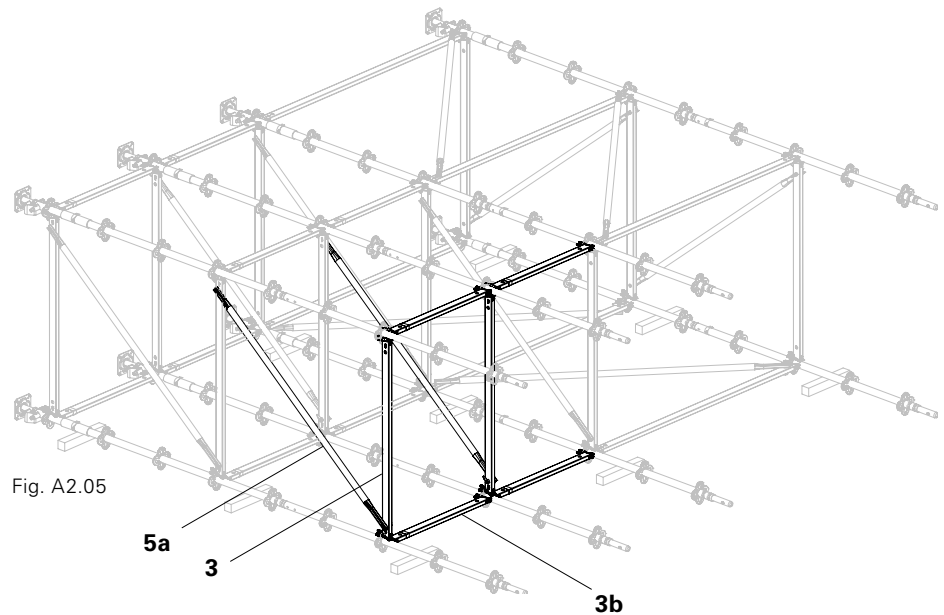


Fig. A2.05

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.

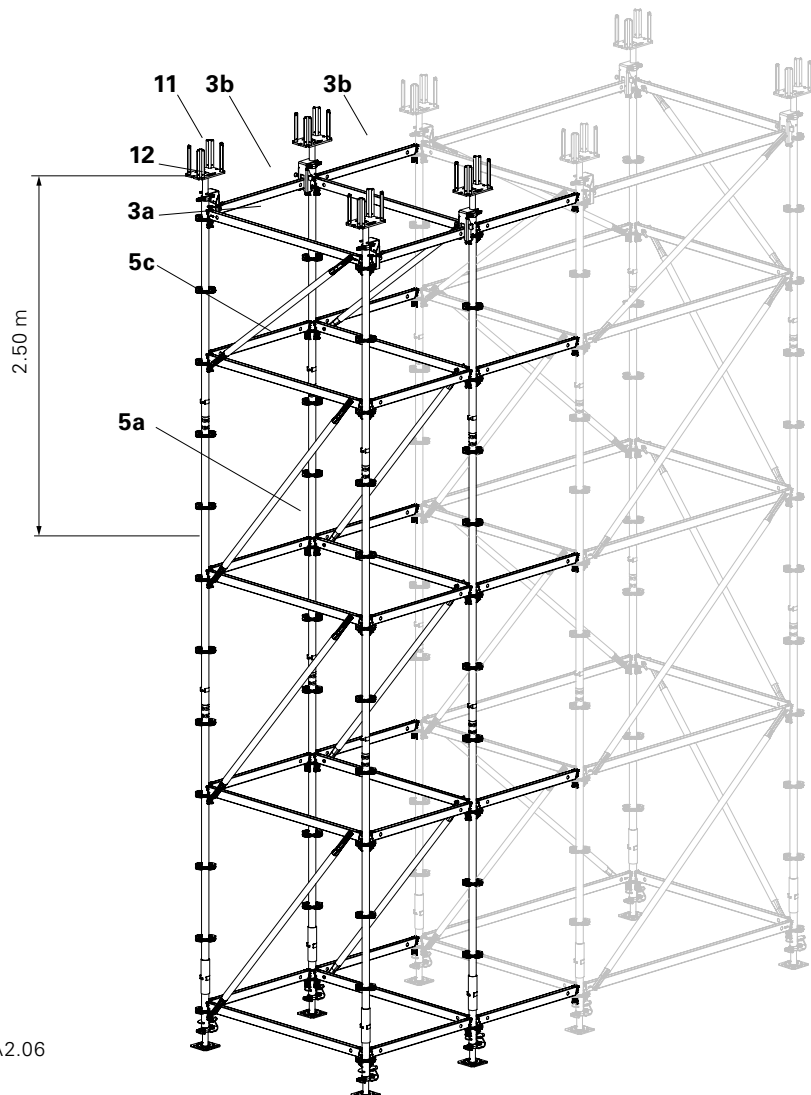


Fig. A2.06

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.

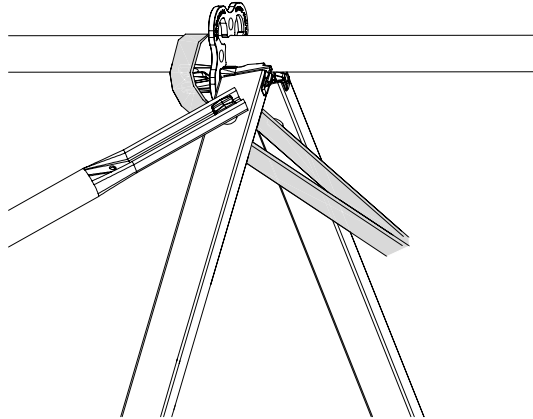


Fig. A2.08a

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. A2.08 + A2.08a)

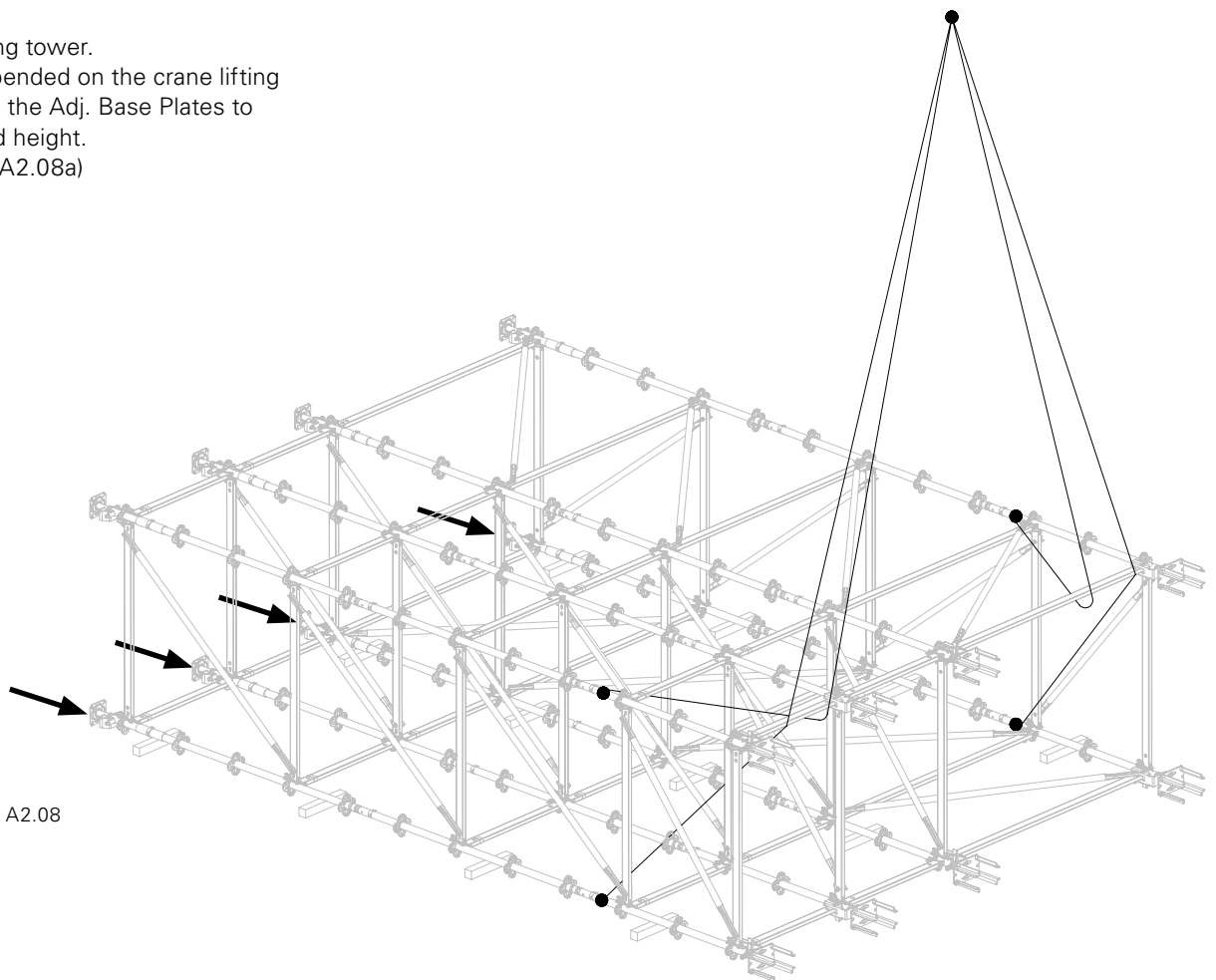


Fig. A2.08

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)

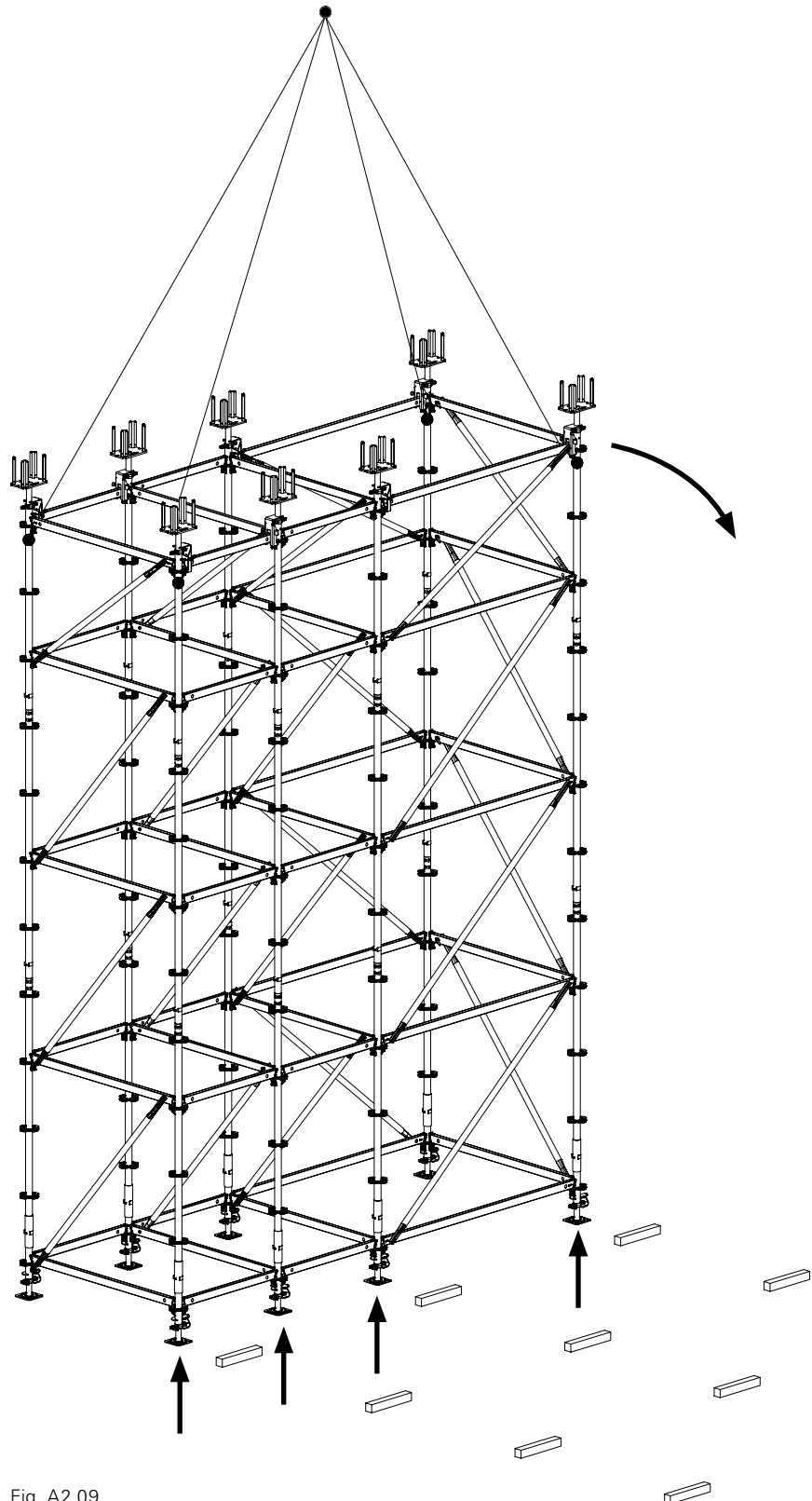


Fig. A2.09

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

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 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)

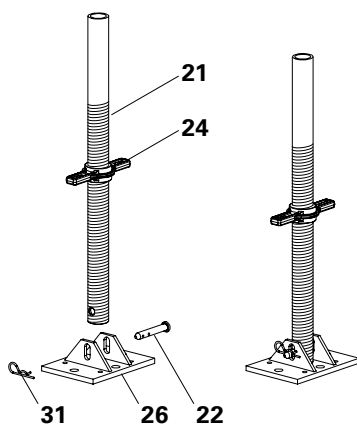


Fig. A3.01

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)

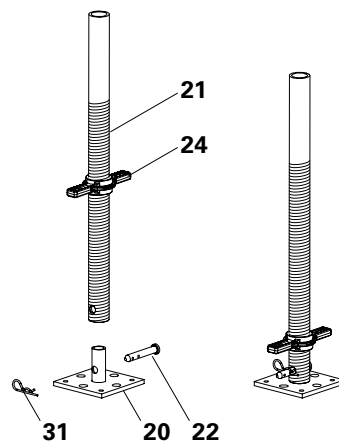


Fig. A3.02

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

- Place the Top Standards (28) with smaller diameters on timbers and attach Ledgers (3). Securely fix the wedges. (Fig. A3.03)
- 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)

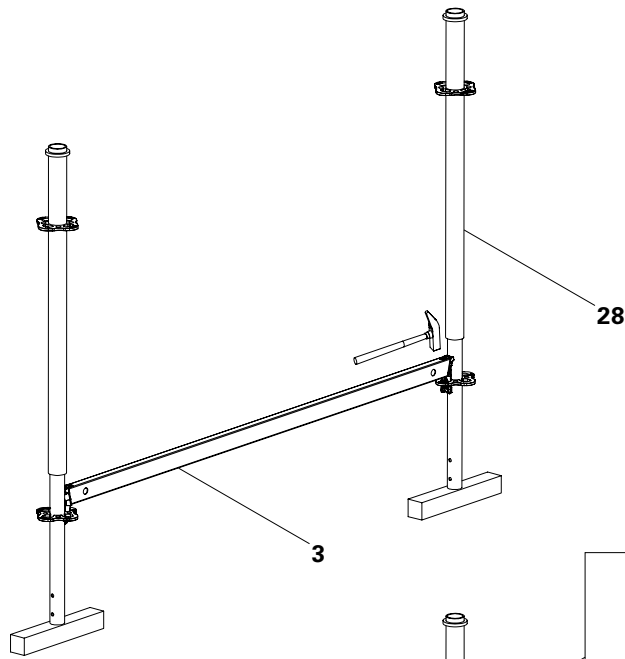


Fig. A3.03

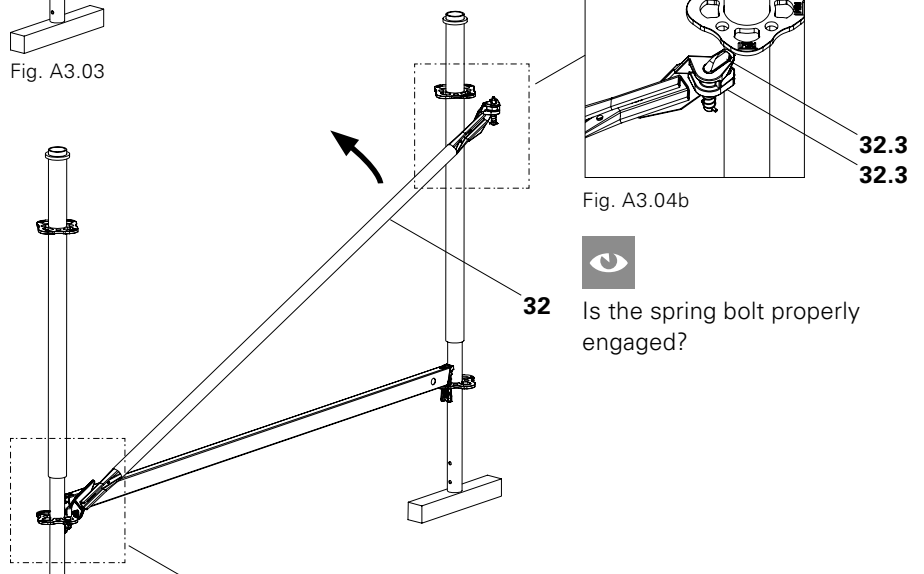


Fig. A3.04b

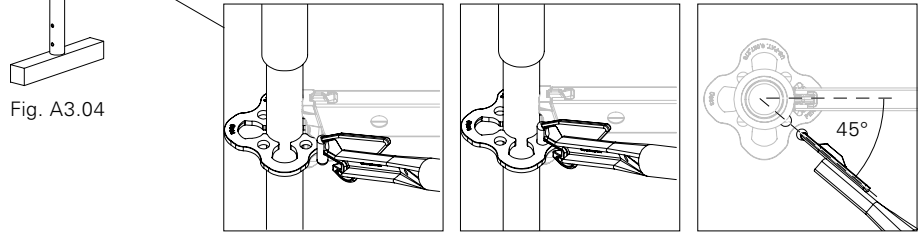


Fig. A3.04a



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

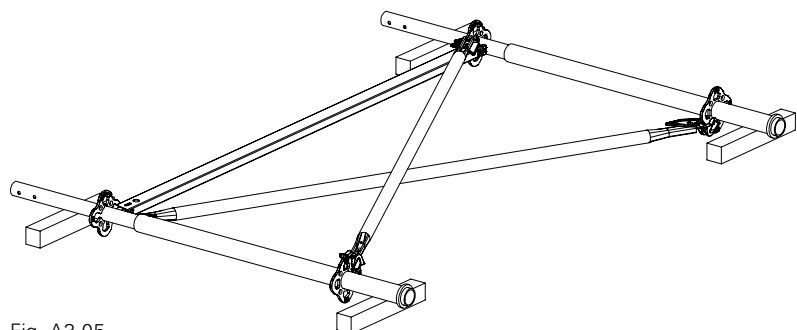


Fig. A3.05

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)

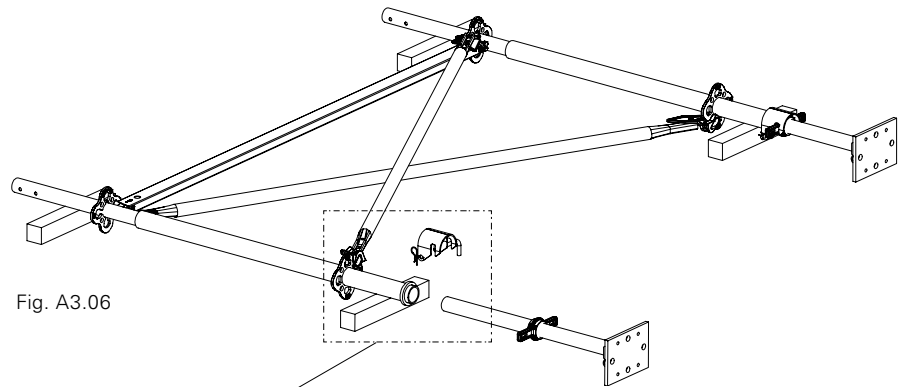


Fig. A3.06

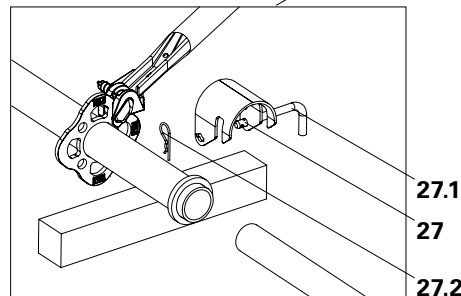


Fig. A3.06a

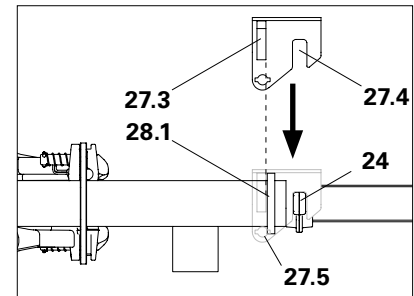


Fig. A3.06b



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

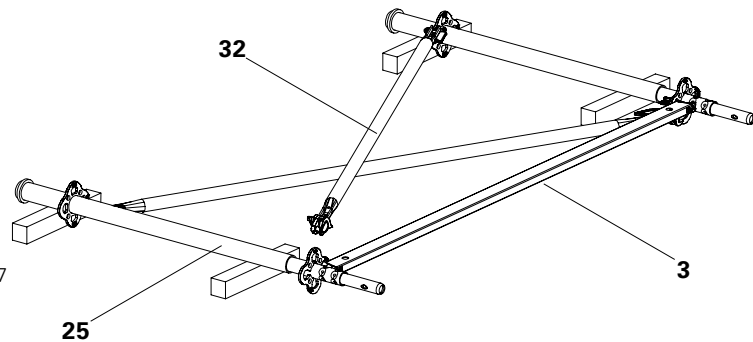


Fig. A3.07

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.

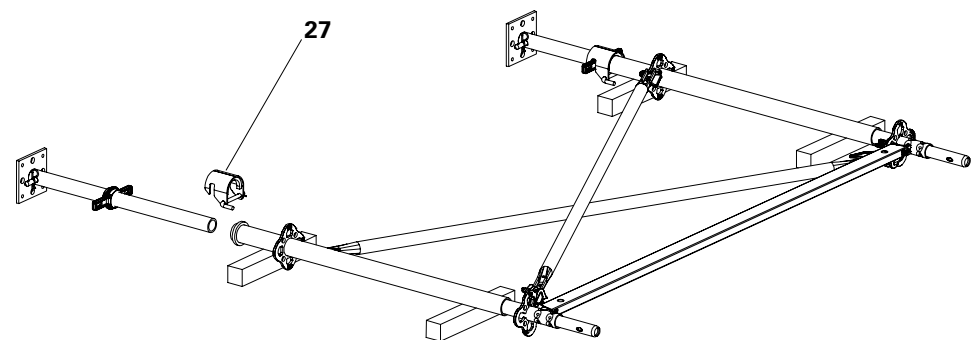


Fig. A3.07a

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.

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)

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.

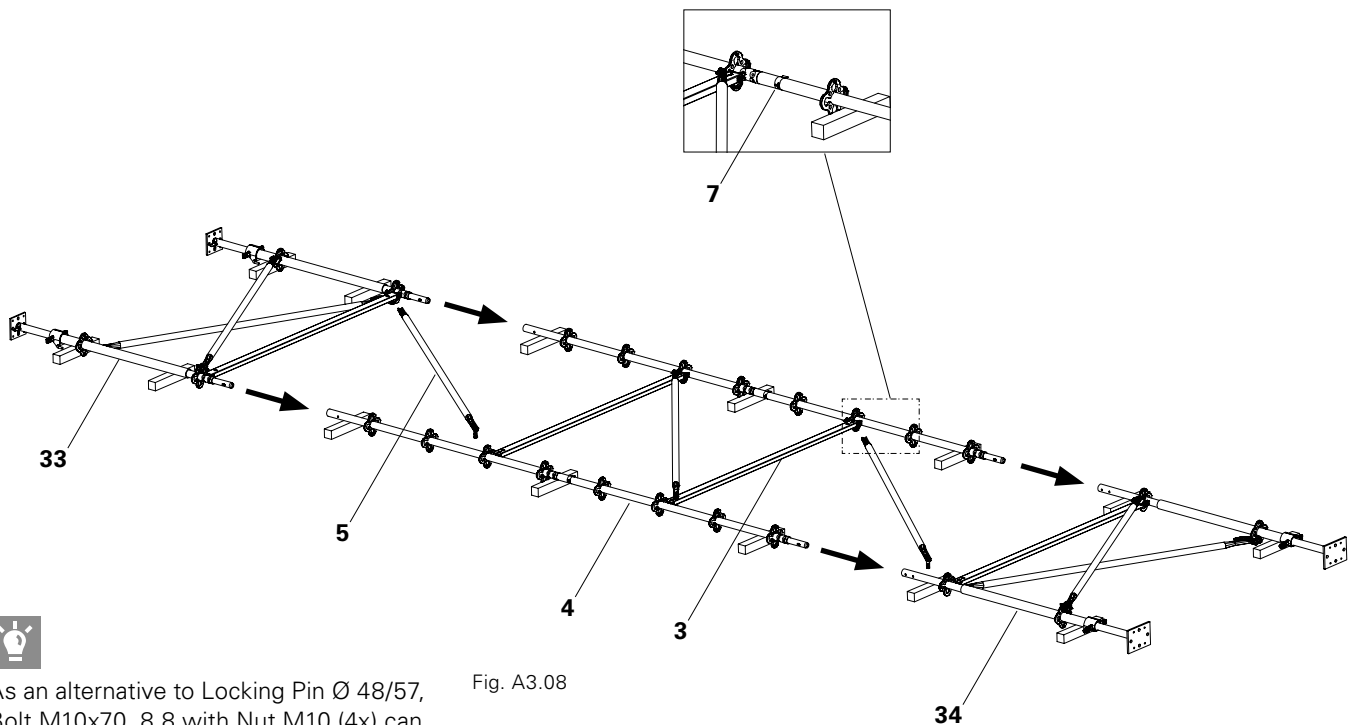


Fig. A3.08



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)

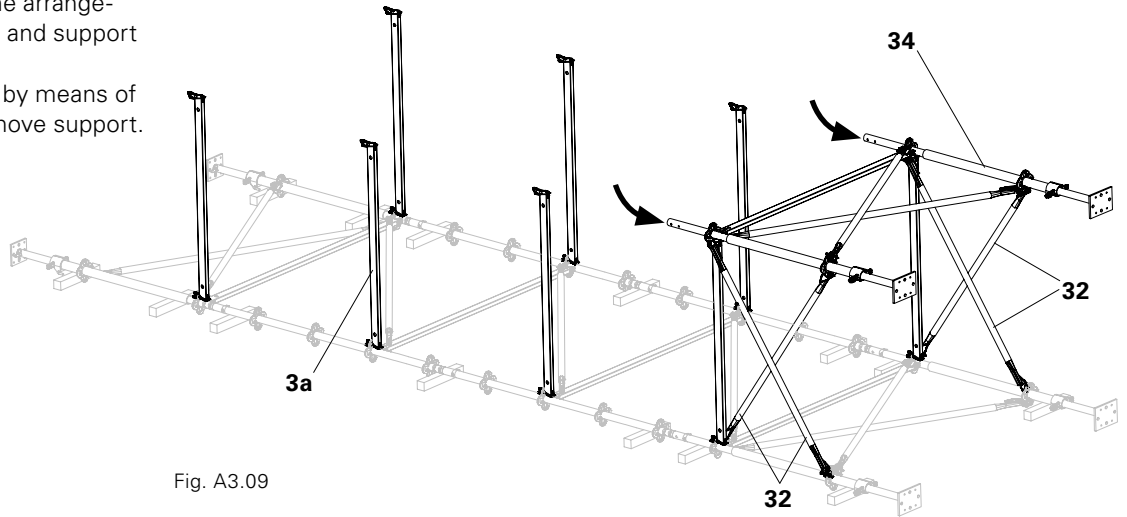


Fig. A3.09

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)

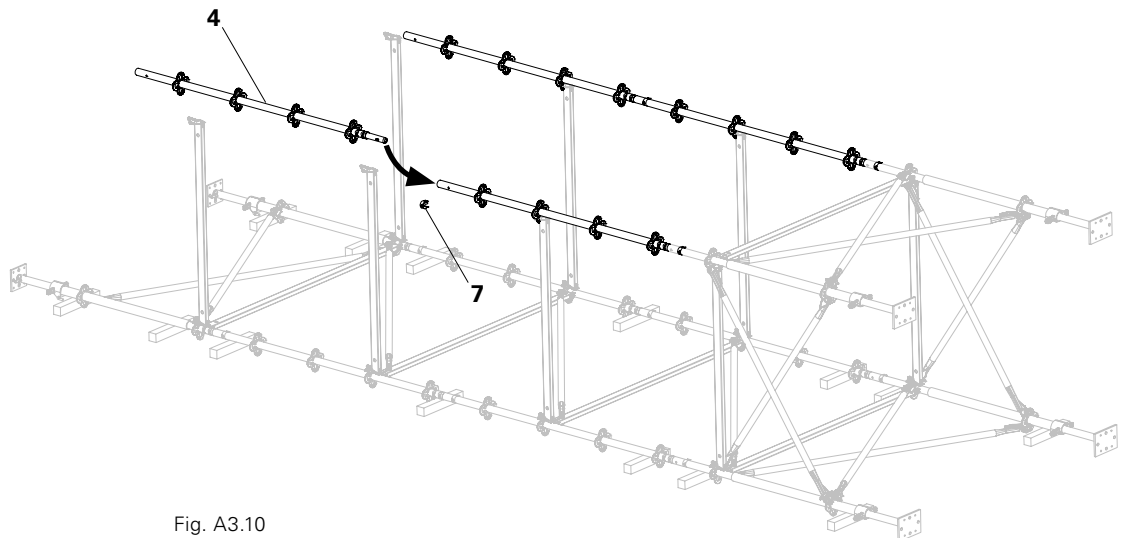


Fig. A3.10

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)

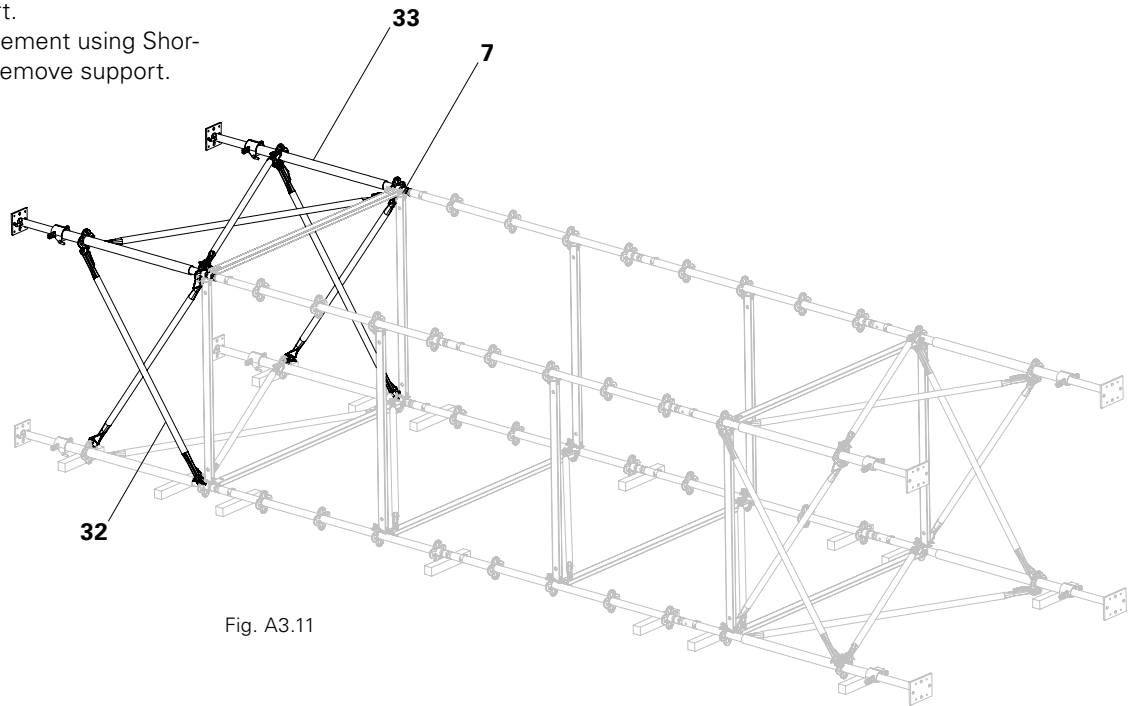


Fig. A3.11

11. Brace Standards by means of Ledgers (3) and Ledger Braces (5, 5a).
 12. Securely fix the wedges of all Ledgers.
- (Fig. A3.12)

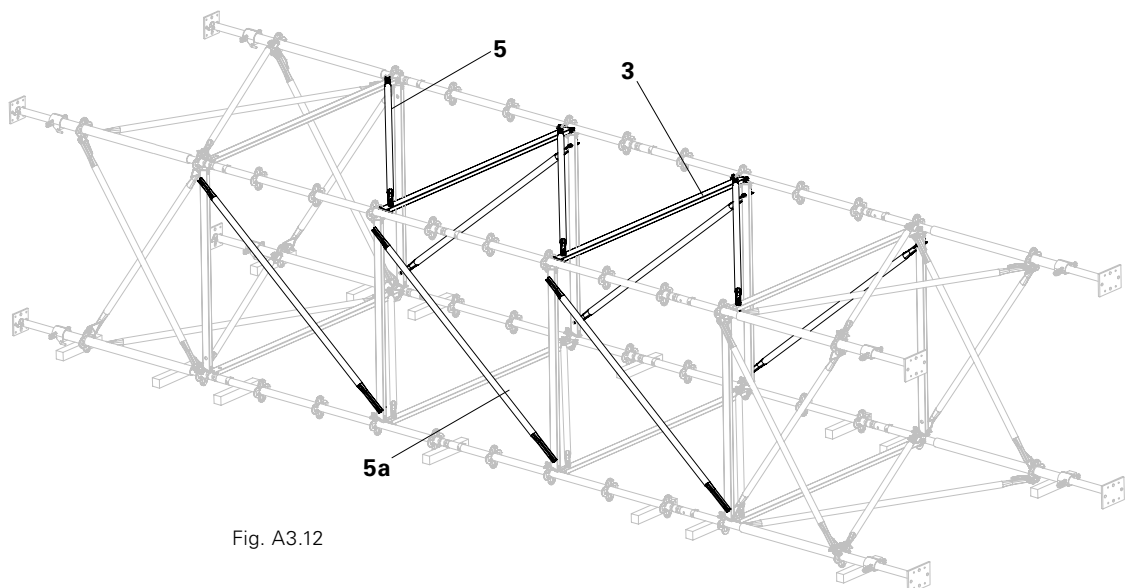


Fig. A3.12

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.**

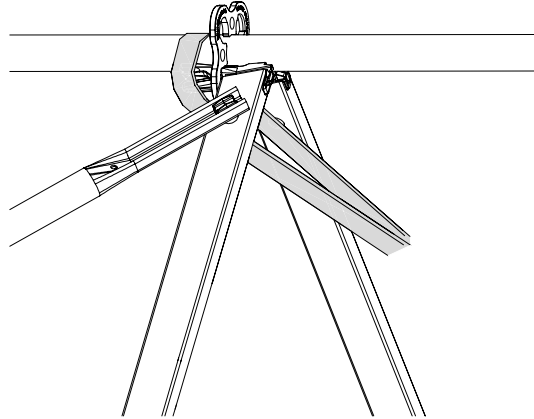


Fig. A3.13

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)

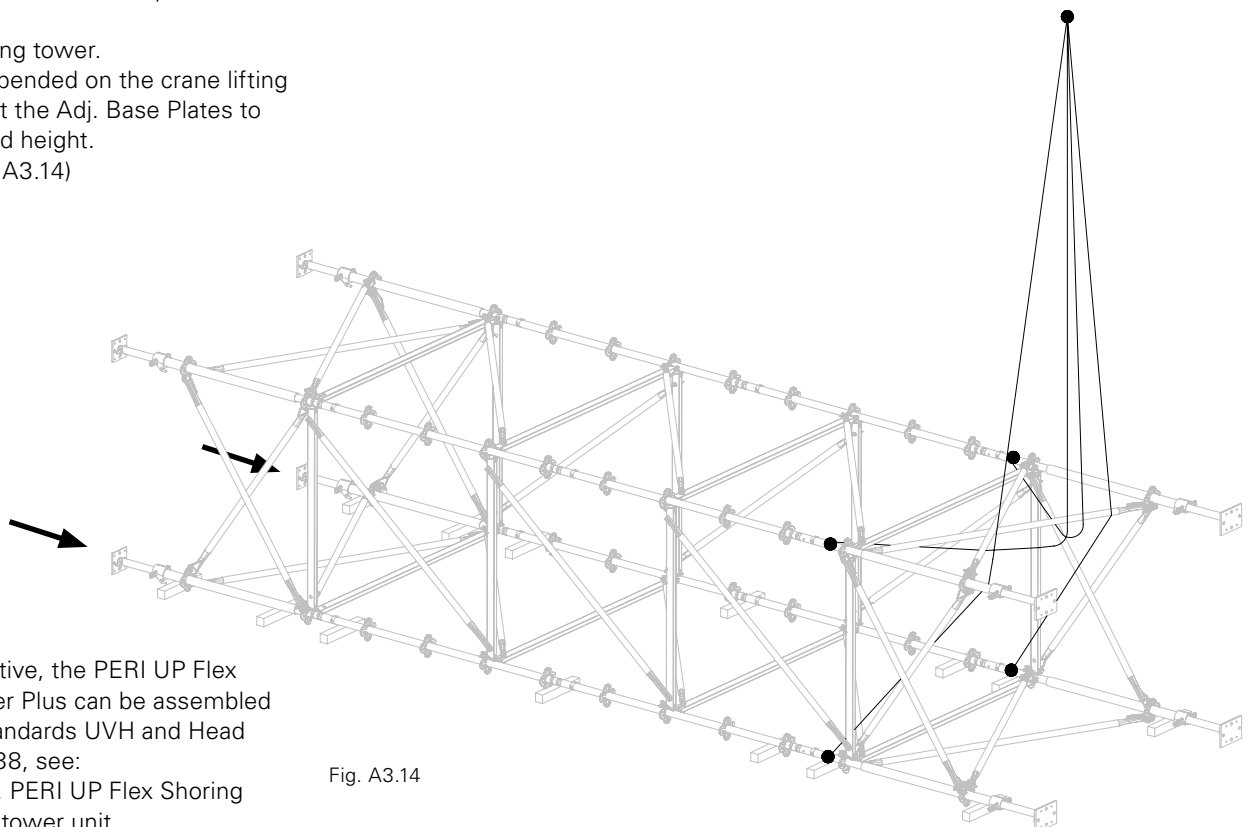


Fig. A3.14

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)

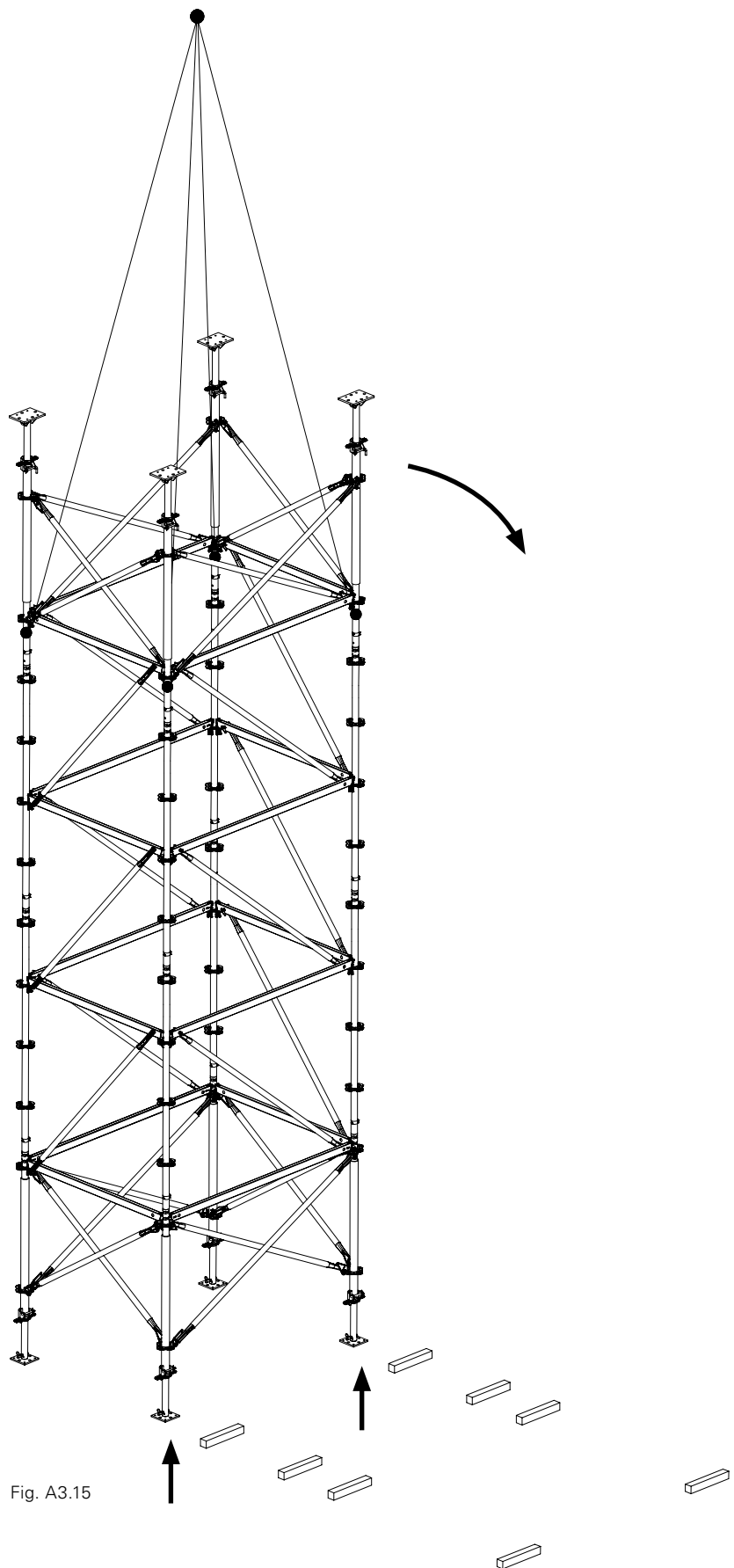


Fig. A3.15

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)

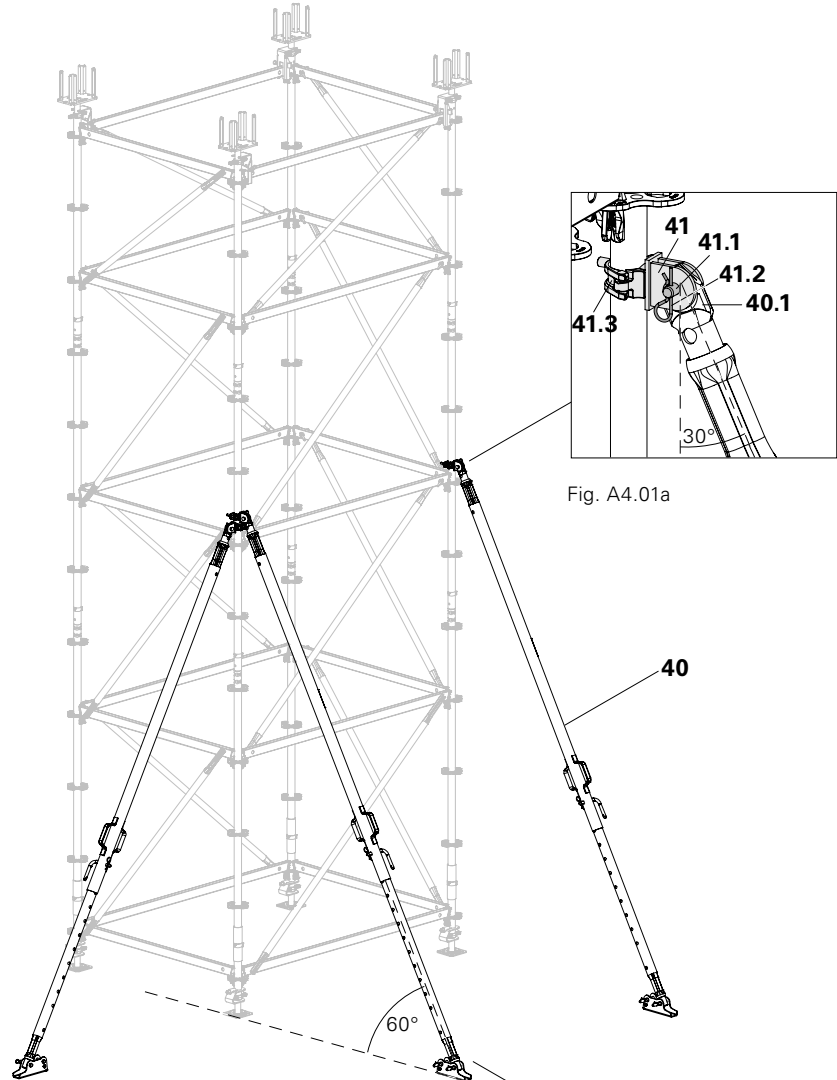


Fig. A4.01

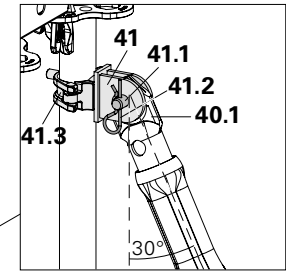


Fig. A4.01a

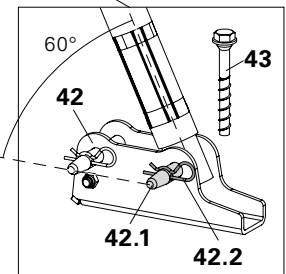


Fig. A4.01b

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.

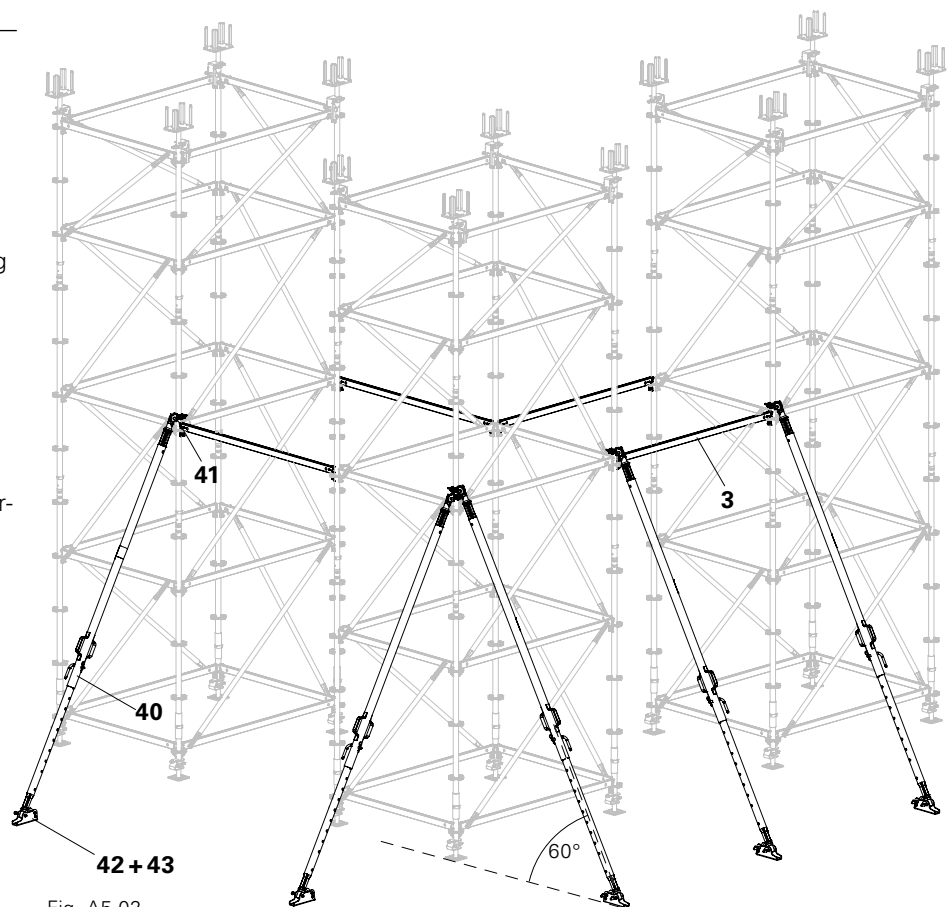
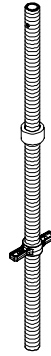


Fig. A5.02

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.

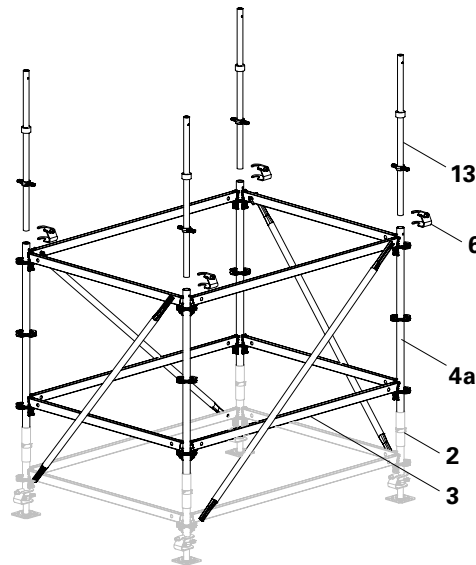


Fig. B1.01

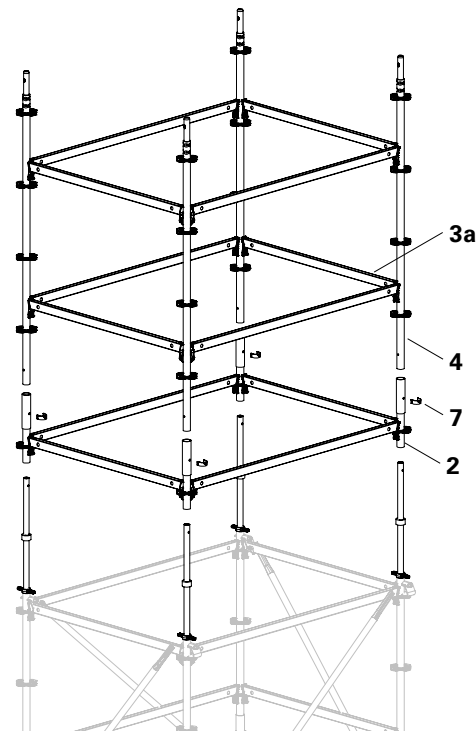


Fig. B1.01a

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

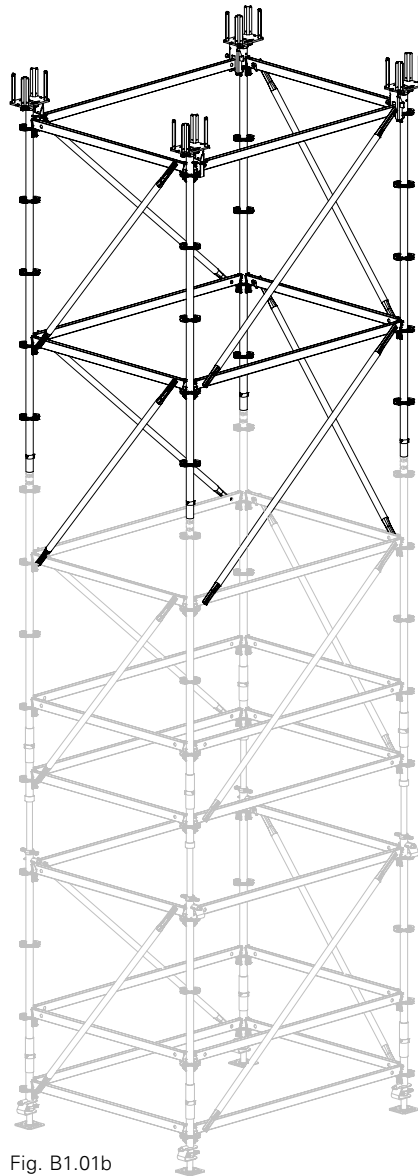


Fig. B1.01b

Additional Frames with Section Spindles

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

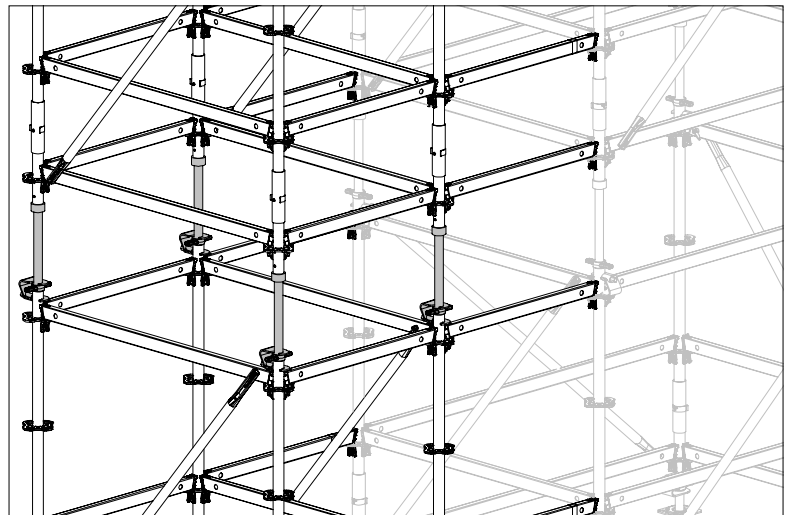


Fig. B1.02

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

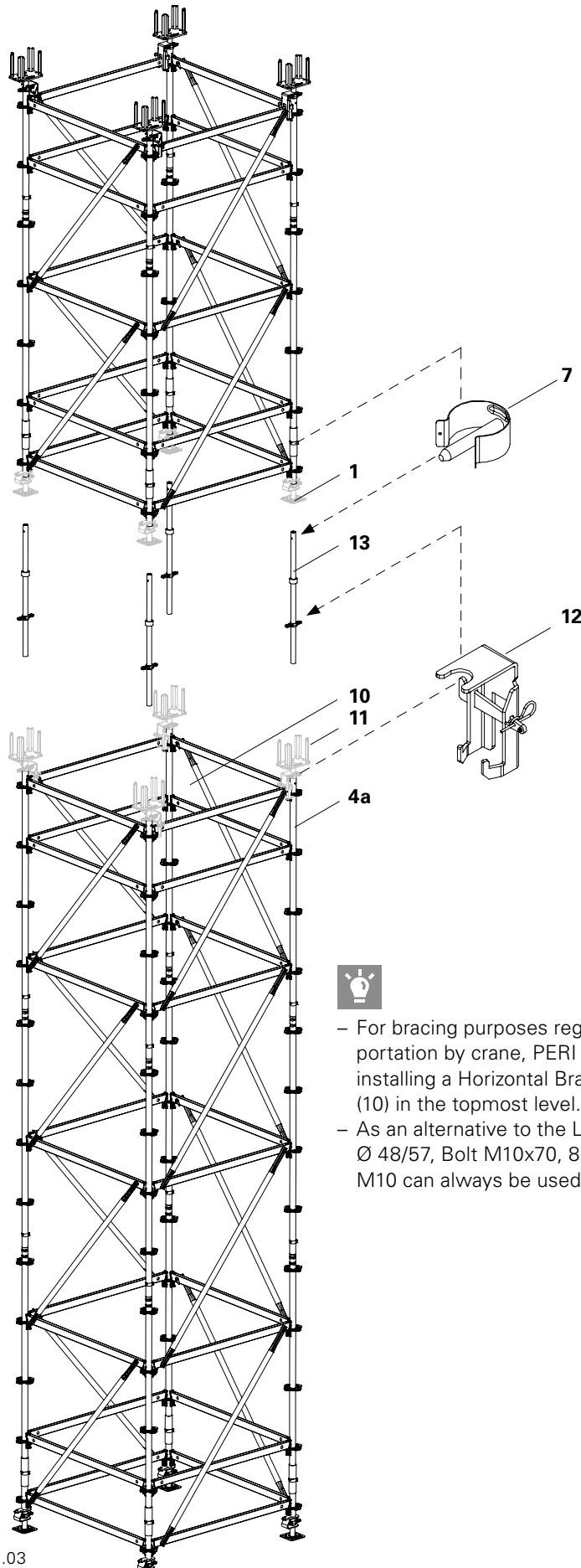
Assembly

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.



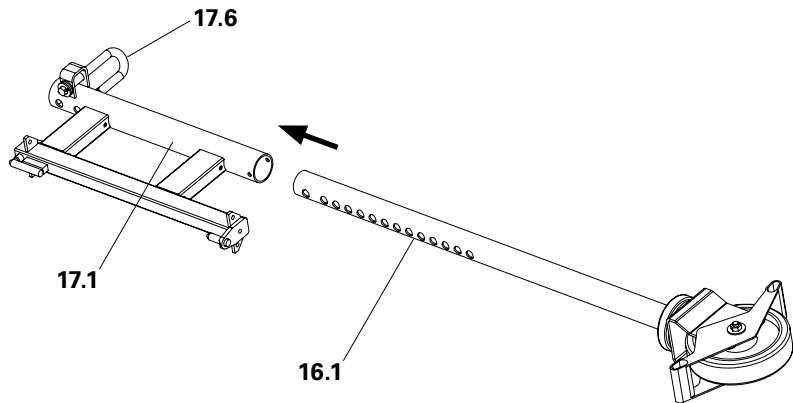
- For bracing purposes regarding transportation by crane, PERI recommends installing a Horizontal Brace UBH Flex (10) in the topmost level.
- As an alternative to the Locking Pin $\varnothing 48/57$, Bolt M10x70, 8.8 with Nut M10 can always be used.

Fig. B1.03

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)

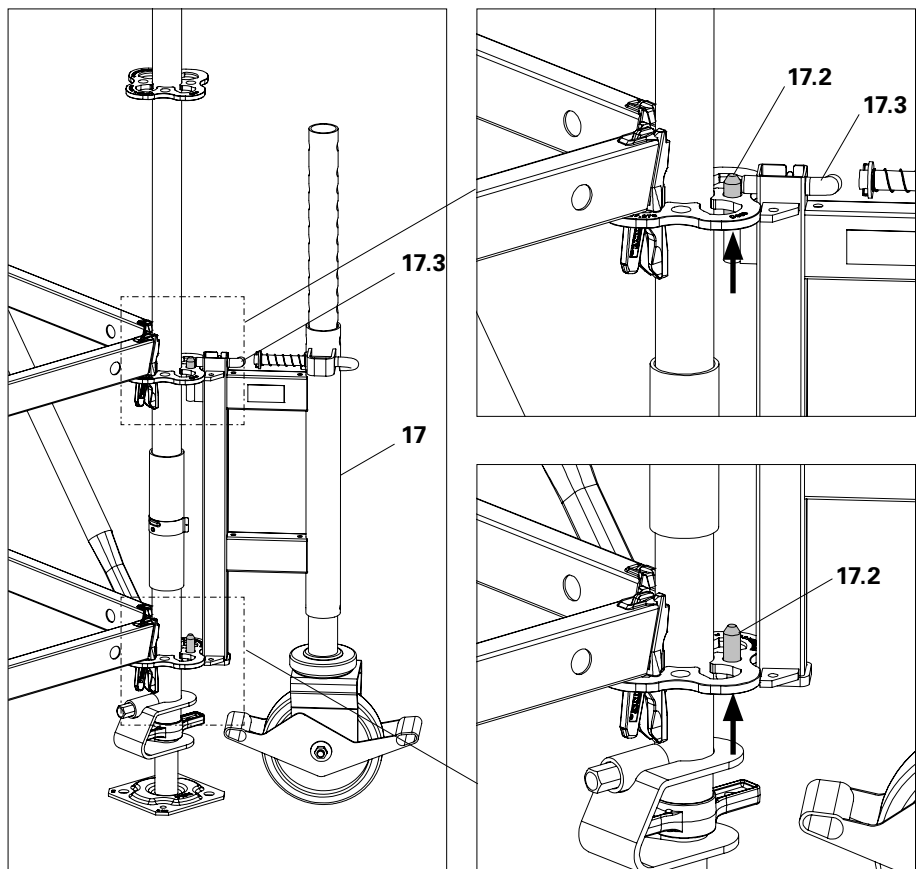


Fig. B1.04

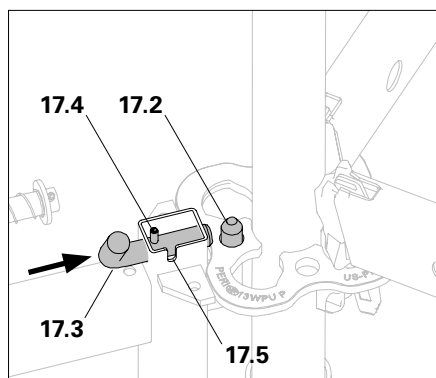


Fig. B1.04a

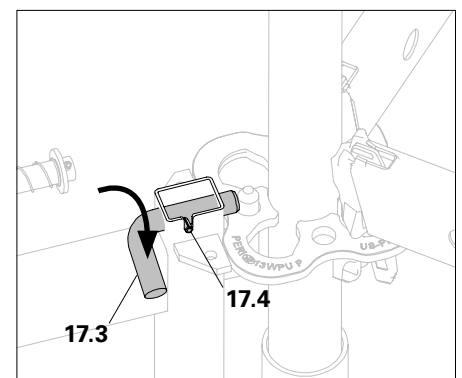


Fig. B1.04b

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, 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.



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.

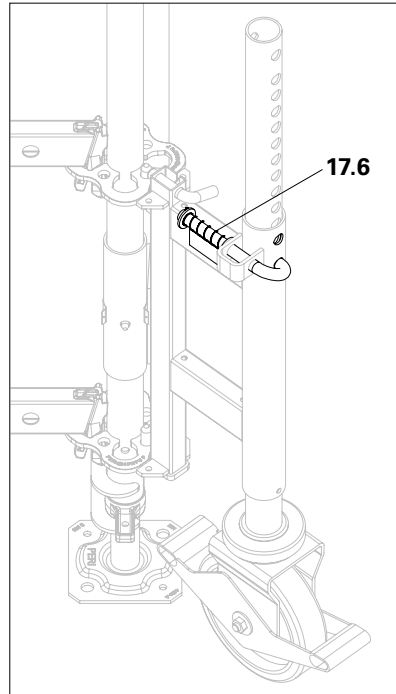


Fig. B1.04c

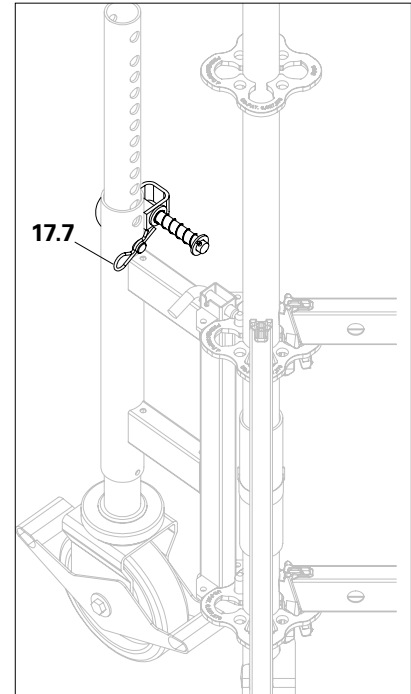


Fig. B1.04d

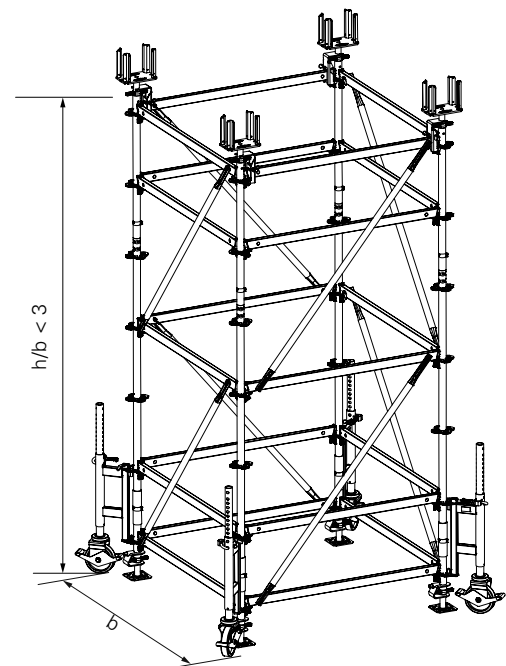


Fig. B1.04e

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)

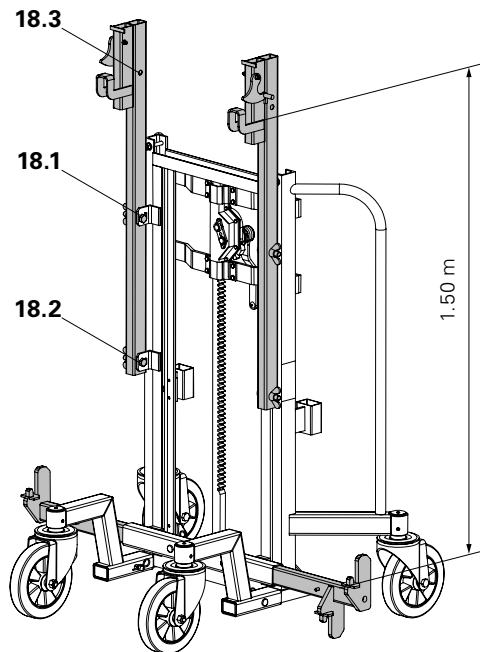


Fig. B1.05

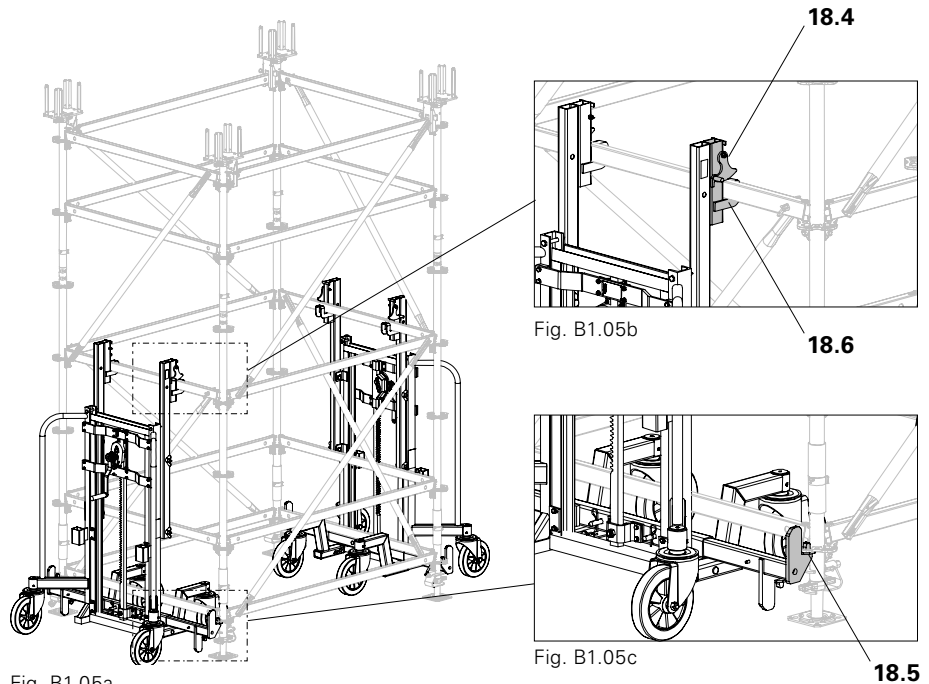


Fig. B1.05a

Fig. B1.05c



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.

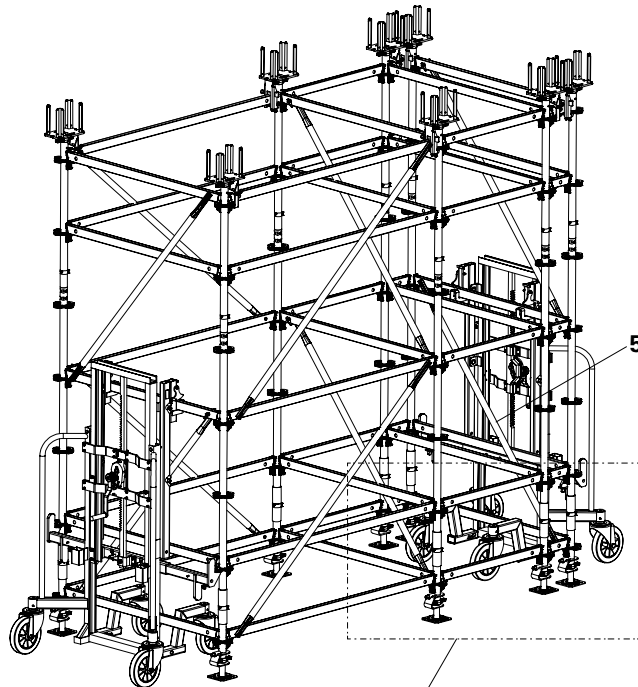


Fig. B1.06

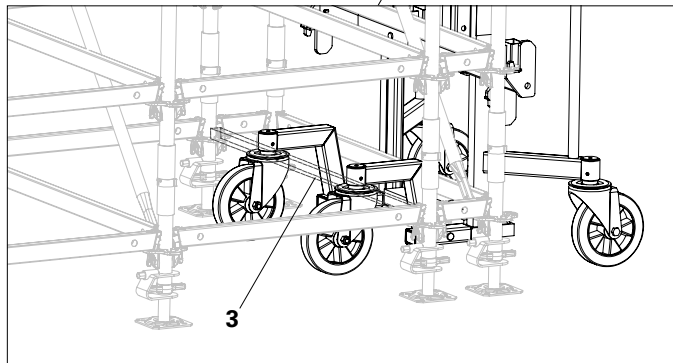


Fig. B1.07

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.

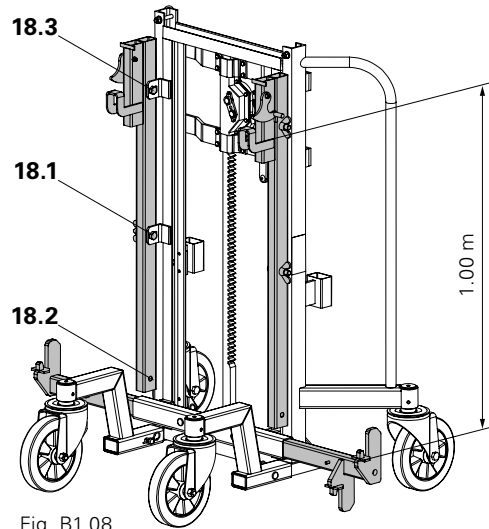


Fig. B1.08

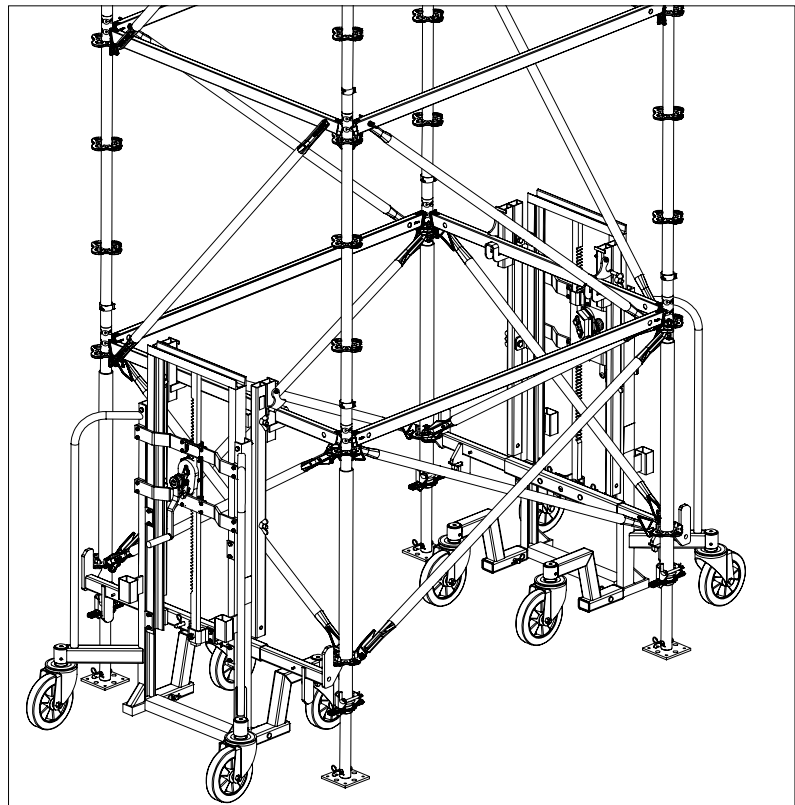


Fig. B1.08a

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 $\varnothing 21 \times 120$
- 56 Cotter Pin 6/1
- 57 Swivel Coupling DK 38/48
- 58 Swivel Coupling DK 48/48

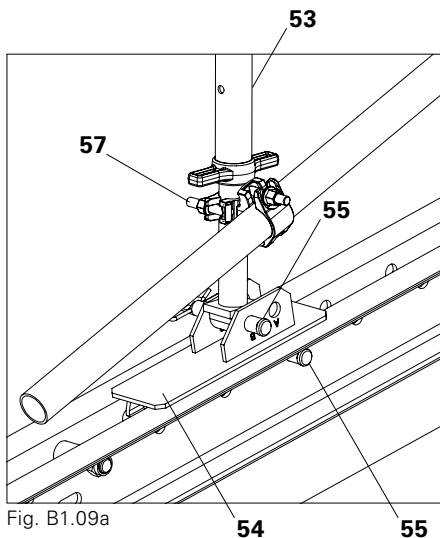


Fig. B1.09a

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)

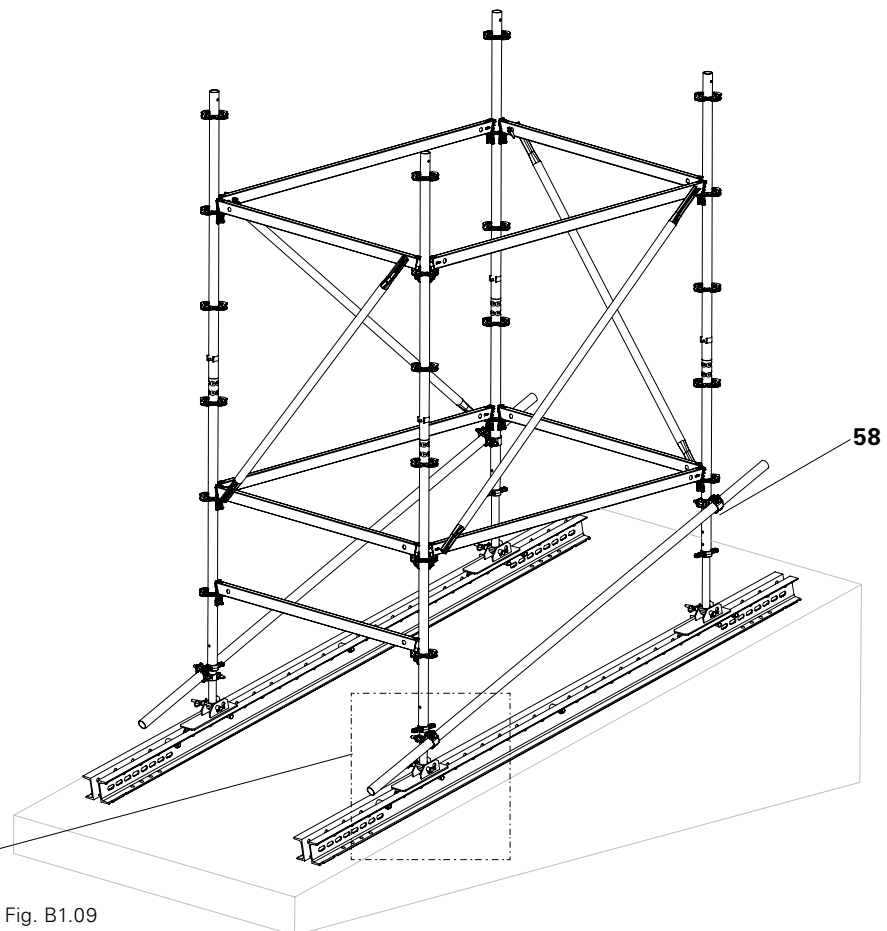


Fig. B1.09

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)

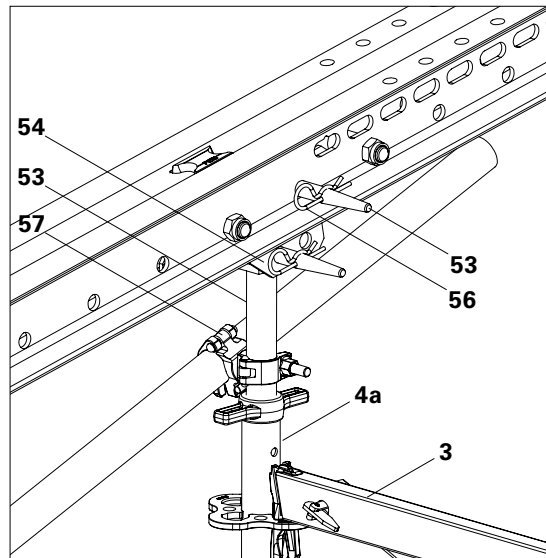


Fig. B1.10a

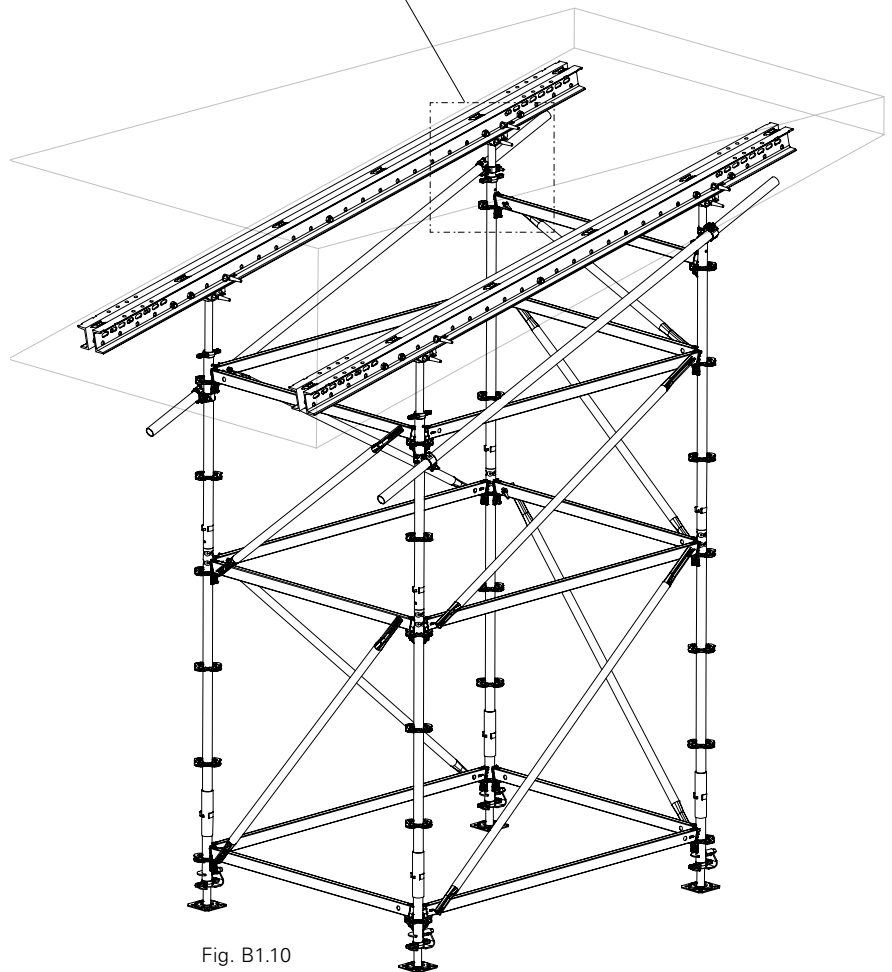


Fig. B1.10



- **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.

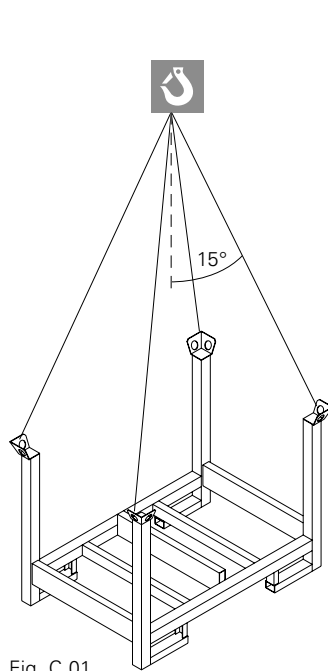


Fig. C.01

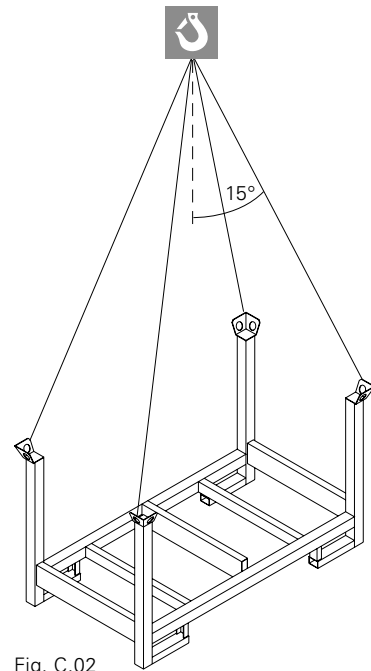


Fig. C.02

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 $\leq 15^\circ$ from the vertical.
Stacking height: 4 pallets on top of each other.

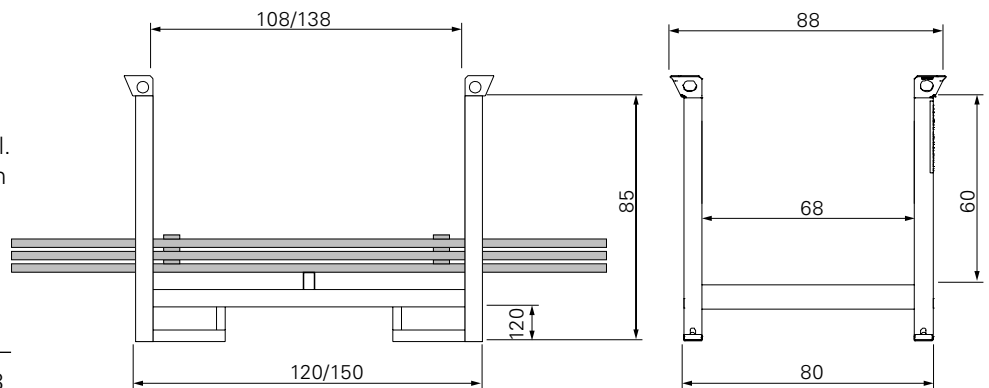


Fig. C.02a

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)

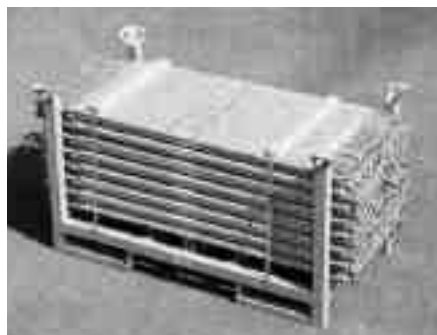


Fig. C.03

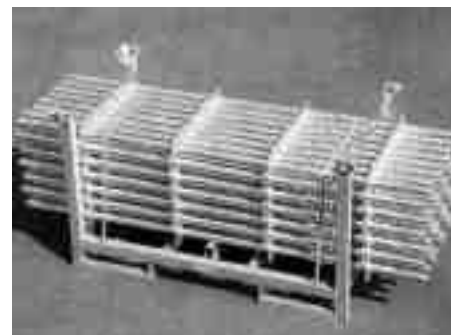


Fig. C.04



- 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 $\leq 15^\circ$.

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.

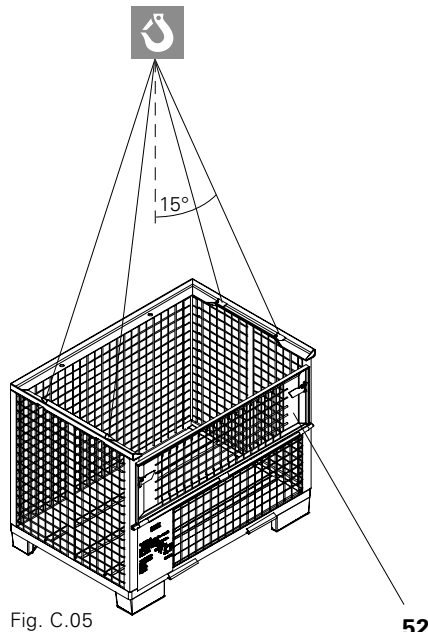


Fig. C.05

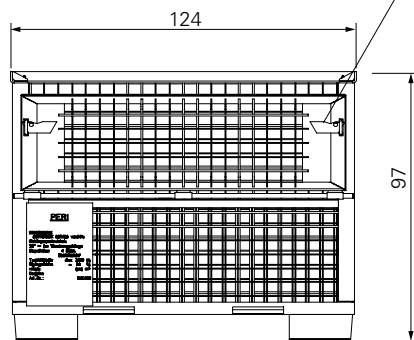


Fig. C.05a

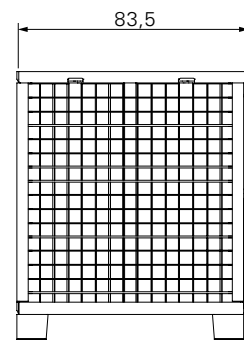


Fig. C.06

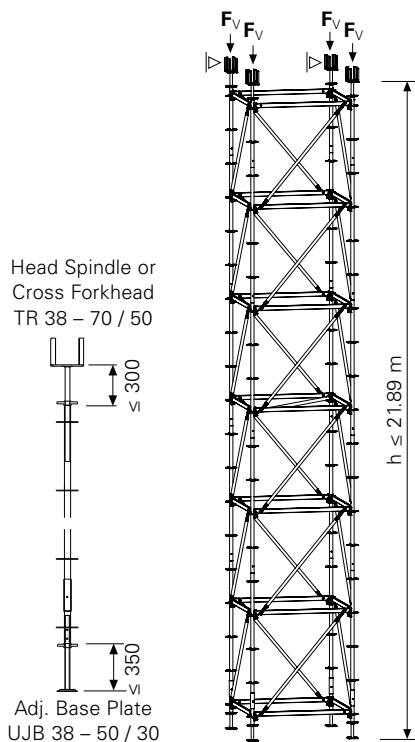
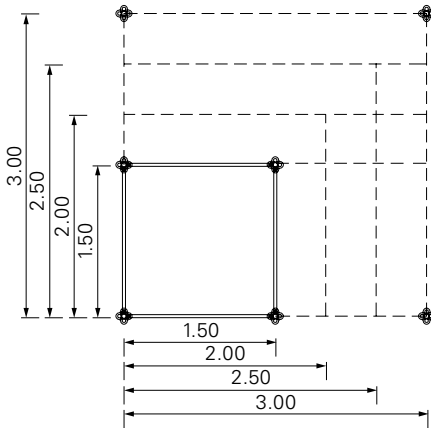
PERI UP Rosett Shoring Tower

Restrained at the top, $h \leq 21.89$ 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
- $h \leq 21.89$ m

Ground plan



Perm. leg load

h [m]	F _V [kN]									
	Ground plan [m]									
	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								
8.33 - 8.89	33.9	33.1	32.4	31.6	33.7	33.1	32.4	33.8	33.2	34.0
8.83 - 9.39	33.6	32.8	32.0	31.2	33.4	32.7	32.0	33.3	32.8	33.5
9.33 - 9.89	33.2	32.4	31.6	30.7	33.0	32.2	31.5	32.9	32.3	33.1
9.83 - 10.39	32.9	32.0	31.1	30.3	32.6	31.8	31.0	32.5	31.8	32.6
10.33 - 10.89	32.6	31.7	30.7	29.8	32.2	31.4	30.6	32.1	31.3	32.1
10.83 - 11.39	32.3	31.3	30.3	29.3	31.9	31.0	30.1	31.6	30.9	31.6
11.33 - 11.89	32.0	30.9	29.9	28.9	31.5	30.6	29.6	31.2	30.4	31.1
11.83 - 12.39	31.6	30.6	29.5	28.4	31.1	30.1	29.2	30.8	29.9	30.7
12.33 - 12.89	31.3	30.2	29.1	28.0	30.7	29.7	28.7	30.4	29.4	30.2
12.83 - 13.39	31.0	29.8	28.7	27.5	30.4	29.3	28.2	29.9	29.0	29.7
13.33 - 13.89	30.7	29.5	28.3	27.0	30.0	28.9	27.8	29.5	28.5	29.2
13.83 - 14.39	30.4	29.1	27.8	26.6	29.6	28.5	27.3	29.1	28.0	28.7
14.33 - 14.89	30.0	28.7	27.4	26.1	29.2	28.0	26.8	28.7	27.5	28.3
14.83 - 15.39	29.7	28.4	27.0	25.7	28.9	27.6	26.4	28.2	27.1	27.8
15.33 - 15.89	29.4	28.0	26.6	25.2	28.5	27.2	25.9	27.8	26.6	27.3
15.83 - 16.39	29.2	For this area, please refer to Appendices T1 + T2 of the type test.								
16.33 - 16.89	28.9									
16.83 - 17.39	28.7									
17.33 - 17.89	28.4									
17.83 - 18.39	28.2									
18.33 - 18.89	27.9									
18.83 - 19.39	27.7									
19.33 - 19.89	27.4									
19.83 - 20.39	27.2									
20.33 - 20.89	27.0									
20.83 - 21.39	26.7									
21.33 - 21.89	26.5									

F _V [kN]
all ground plans
38.0
37.9
37.8
37.7
37.6
37.5
37.4
37.3
37.2
37.1
37.0
36.9
36.8
36.7
36.6
36.5
36.5
36.4
36.4
36.4
36.3
36.3
36.3
36.2
36.2
36.2
36.1
36.1

without wind, q = 0

PERI UP Rosett Shoring Tower

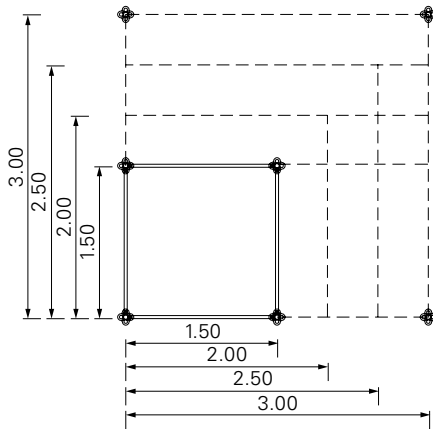
Restrained at the top, $h \leq 21.89$ m, with additional ledger



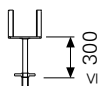
Application conditions

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

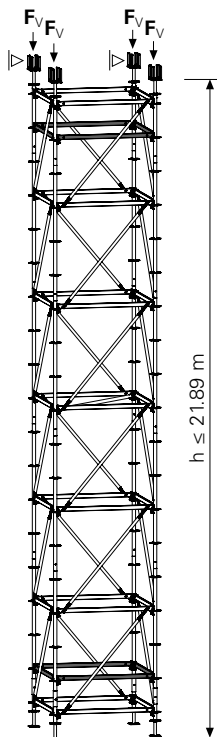
Ground plan



Head Spindle or
Cross Forkhead
TR 38 – 70 / 50



Adj. Base Plate
UJB 38 – 50 / 30



Perm. leg load

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

F_V [kN]
all ground plans
41.6
41.5
41.4
41.3
41.2
41.1
41.0
40.9
40.8
40.7
40.6
40.5
40.4
40.3
40.2
40.1
40.1
40.1
40.1
40.0
40.0
40.0
40.0
40.0
39.9
39.9
39.9
39.8
39.8

without wind, q = 0

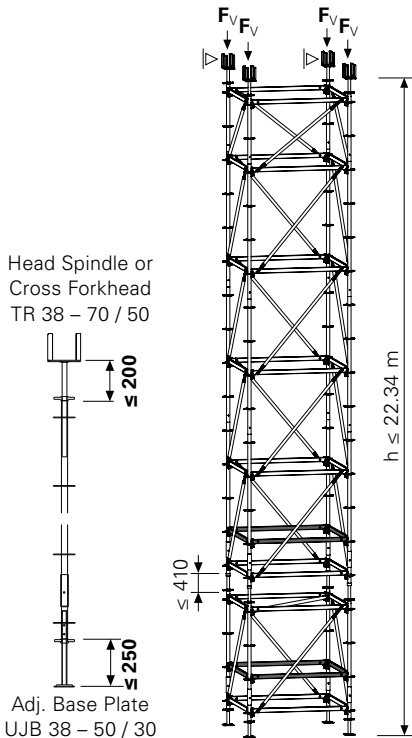
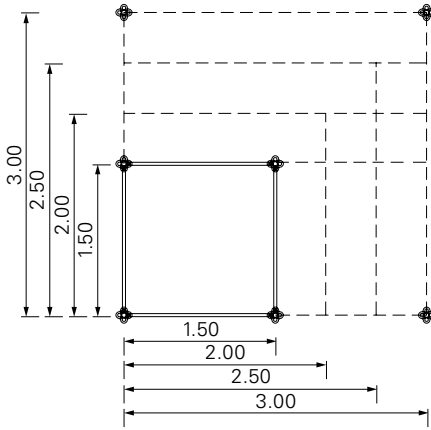
PERI UP Rosett Shoring Tower

Restrained at the top, $h \leq 22.34$ 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
- $h \leq 22.34$ m

Ground plan



Perm. leg load

h [m]	F _V [kN]										
	Ground plan [m]										
	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	2.64 - 8.34	44.9									
Dynamic pressure [kN/m ²] q = 0.8	8.14 - 8.84	43.4	43.5								
	8.64 - 9.34	43.2	42.7	42.1	41.6	42.6	42.0	41.5	41.9	41.3	41.3
	9.14 - 9.84	43.0	42.4	41.9	41.3	42.4	41.7	41.2	41.7	41.1	41.0
	9.64 - 10.34	42.8	42.2	41.6	41.0	42.1	41.5	40.9	41.4	40.8	40.7
	10.14 - 10.84	42.6	42.0	41.3	40.7	41.9	41.2	40.6	41.2	40.5	40.5
	10.64 - 11.34	42.3	41.7	41.1	40.4	41.7	41.0	40.3	40.9	40.3	40.2
	11.14 - 11.84	42.1	41.5	40.8	40.1	41.5	40.7	40.0	40.7	40.0	40.0
	11.64 - 12.34	41.9	41.3	40.5	39.8	41.2	40.5	39.7	40.4	39.7	39.7
	12.14 - 12.84	41.7	41.0	40.3	39.5	41.0	40.2	39.4	40.2	39.5	39.4
	12.64 - 13.34	41.5	40.8	40.0	39.2	40.8	40.0	39.2	39.9	39.2	39.2
	13.14 - 13.84	41.3	40.6	39.7	38.9	40.6	39.7	38.9	39.7	38.9	38.9
	13.64 - 14.34	41.1	40.3	39.5	38.6	40.3	39.5	38.6	39.4	38.7	38.7
	14.14 - 14.84	40.9	40.1	39.2	38.3	40.1	39.2	38.3	39.2	38.4	38.4
	14.64 - 15.34	40.7	39.8	38.9	38.0	39.8	38.9	38.0	38.9	38.1	38.1
	15.14 - 15.84	40.4	39.5	38.6	37.7	39.6	38.6	37.7	38.6	37.8	37.8
	15.64 - 16.34	40.2	39.3	38.3	37.4	39.3	38.3	37.4	38.3	37.5	37.5
	16.14 - 16.84	39.9	39.0	38.0	37.1	39.0	38.0	37.1	38.0	37.2	37.2
	16.64 - 17.34	39.7	38.7	37.8	36.7	38.8	37.8	36.7	37.8	36.8	36.8
	17.14 - 17.84	39.4	38.4	37.5	36.4	38.5	37.5	36.4	37.5	36.5	36.5
	17.64 - 18.34	39.2	38.2	37.2	36.1	38.2	37.2	36.1	37.2	36.2	36.2
	18.14 - 18.84	38.9	37.9	36.9	35.8	38.0	36.9	35.8	36.9	35.9	35.9
18.64 - 19.34	38.7	37.6	36.6	35.5	37.7	36.6	35.5	36.6	35.6	35.6	
19.14 - 19.84	38.5	37.4	36.3	35.2	37.4	36.3	35.2	36.3	35.3	35.3	
19.64 - 20.34	38.2	37.1	36.0	34.8	37.2	36.0	34.9	36.0	35.0	35.0	
20.14 - 20.84	38.0	36.9	35.7	34.5	36.9	35.8	34.6	35.8	34.7	34.7	
20.64 - 21.34	37.8	36.6	35.4	34.2	36.6	35.5	34.2	35.5	34.3	34.3	
21.14 - 21.84	37.5	36.4	35.1	33.8	36.4	35.2	33.9	35.2	34.0	34.0	
21.64 - 22.34	37.3	36.1	34.8	33.5	36.1	34.9	33.6	34.9	33.7	33.7	

F _V [kN]
all ground plans
46.3
46.3
46.3
46.3
46.3
46.3
46.3
46.3
46.3
46.3
46.3
46.3
46.3
46.3
46.3
46.3
46.3
46.3
46.3
46.3
46.3
46.3
46.2
46.2
46.2
46.1
46.0
46.0
46.0
45.9
45.8
45.8
45.7
45.6
45.5
45.4
45.3
45.2
45.1

without wind, q = 0

PERI UP Rosett Shoring Tower

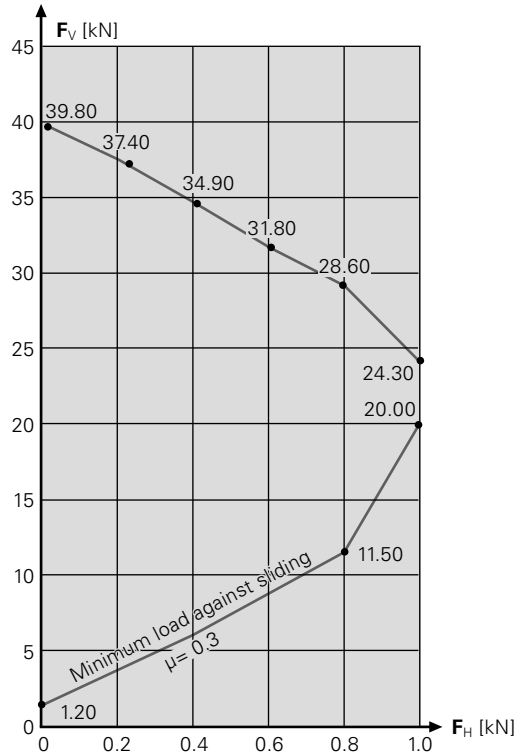
Free standing, 1.5 m x 1.5 m, h ≤ 8.39 m, with additional ledger



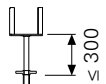
Application conditions

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

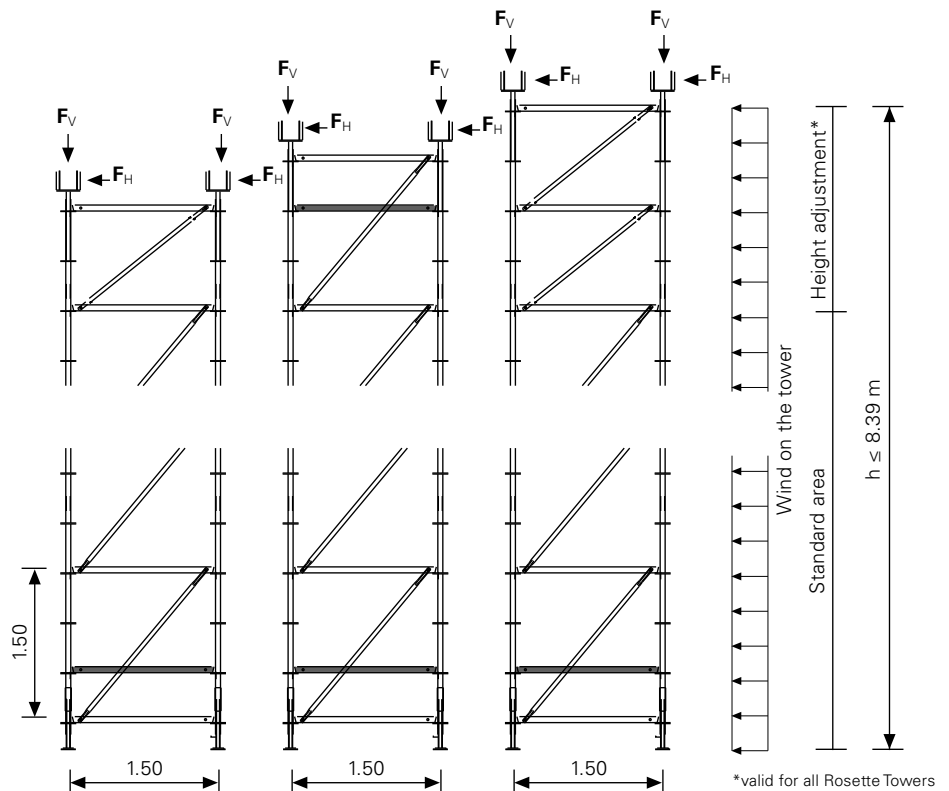
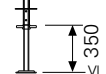
Perm. leg load



Cross Forkhead
TR 38 - 70 / 50



Adj. Base Plate
UJB 38 - 50 / 30



PERI UP Flex Shoring Tower

Instructions for Assembly and Use – Standard Configuration

PERI UP Flex Shoring Tower Plus

Permissible loads with TR 48 / TR 48



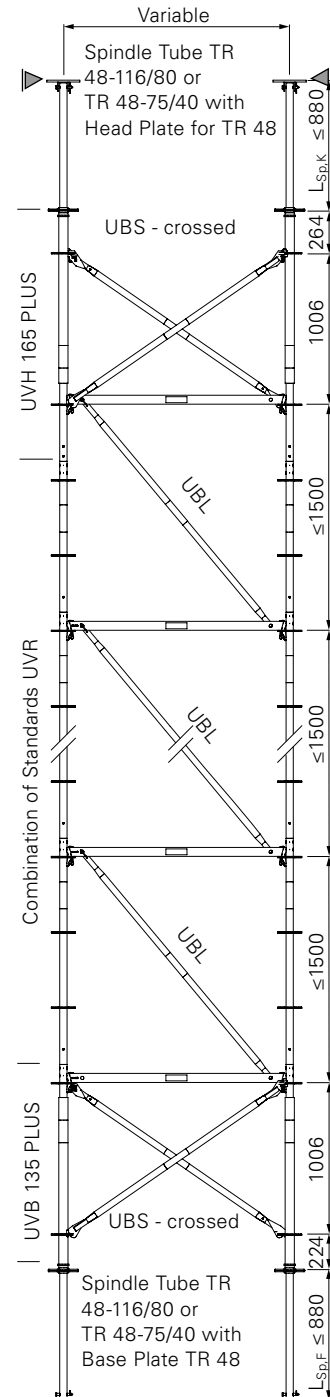
Load-bearing capacity per leg for shoring towers with Spindles TR 48 with a maximum supporting height of up to 16.26 m (restrained at the top).

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/m ²)	with wind (0.5 kN/m ²)
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/m ²)	with wind (0.5 kN/m ²)
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



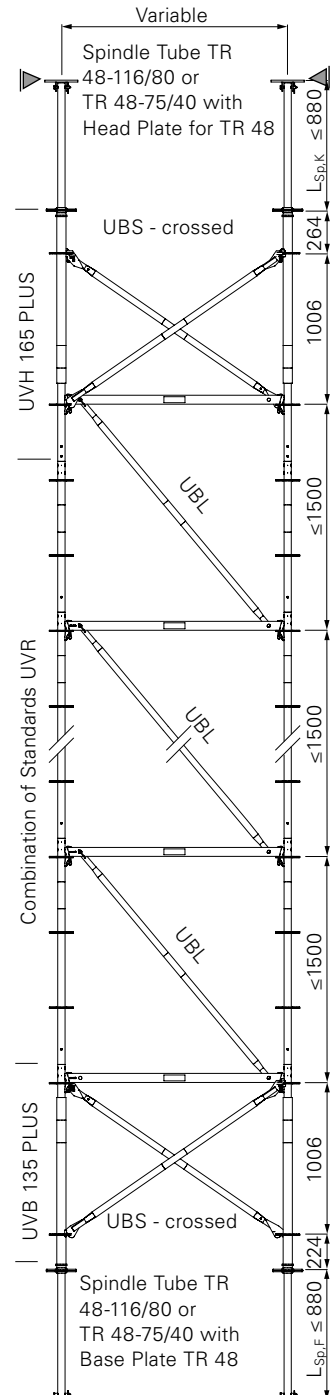
Load-bearing capacity per leg for shoring towers with Spindles TR 48 with a maximum supporting height of up to 16.26 m (restrained at the top).

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/m ²)	with wind (0.5 kN/m ²)
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/m ²)	with wind (0.5 kN/m ²)
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

Instructions for Assembly and Use – Standard Configuration

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 L _{Sp,F}	Head L _{Sp,K}	without wind (0.0 kN/m ²)	with wind (0.5 kN/m ²)
15,58	88	20	42,47	28,76
11,08	88	20	46,02	39,19
8,08	88	20	46,35	41,95

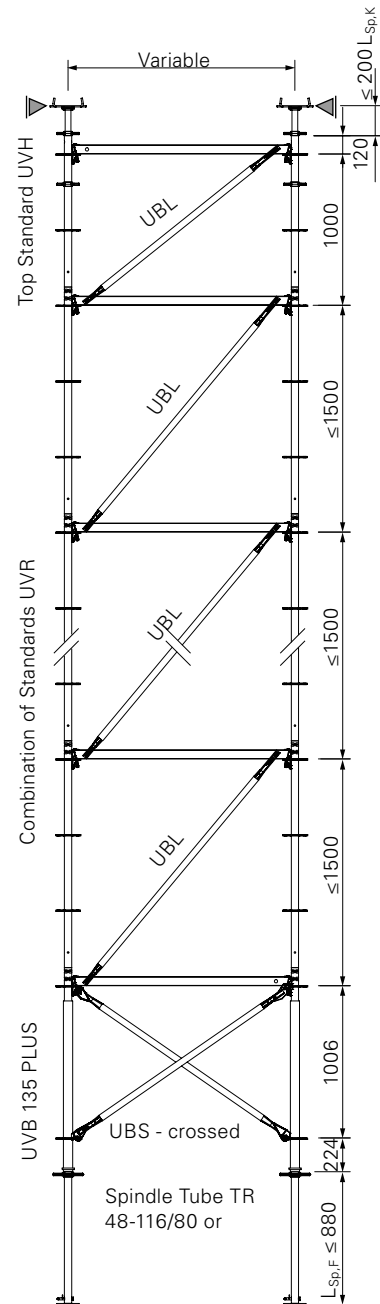
Height of tower [m]	Spindle extensions [cm]		Permissible loads [kN / leg]	
	Base L _{Sp,F}	Head L _{Sp,K}	without wind (0.0 kN/m ²)	with wind (0.5 kN/m ²)
15,58	88	20	42,47	26,60
11,08	88	20	46,02	37,98
8,08	88	20	46,35	41,46

Ground plan 150 x 250 cm

Height of tower [m]	Spindle extensions [cm]		Permissible loads [kN / leg]	
	Base L _{Sp,F}	Head L _{Sp,K}	without wind (0.0 kN/m ²)	with wind (0.5 kN/m ²)
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 L _{Sp,F}	Head L _{Sp,K}	without wind (0.0 kN/m ²)	with wind (0.5 kN/m ²)
15,58	88	20	37,60	23,72
11,08	88	20	41,27	32,83
8,08	88	20	44,90	39,40

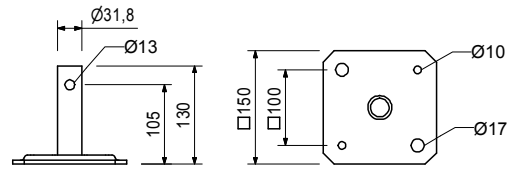
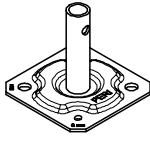


The values given also apply to lower system heights.
Length of the standards, ledgers and diagonals in accordance with geometrical requirements.

The standard joints must be at the same height of the ledgers.

Item no.	Weight kg
100244	1.200

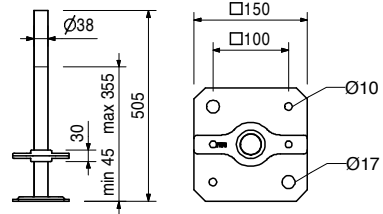
Base Plate UJP
Without height adjustment.



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

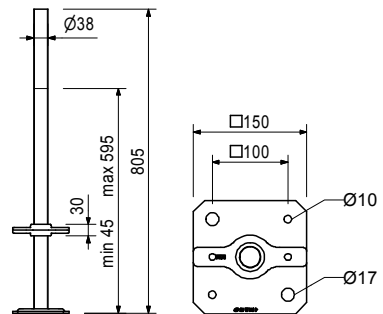
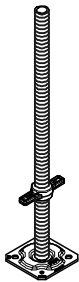
Note
With captive red Quick Jack Nut.



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

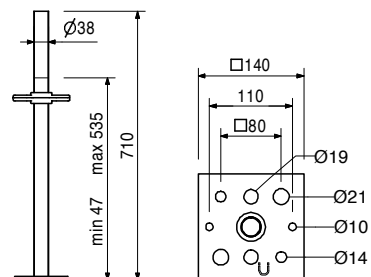
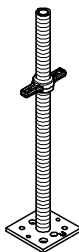
Note
With captive yellow Quick Jack Nut.



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

Note
With captive silver Quick Jack Nut.



PERI UP Flex Shoring Tower



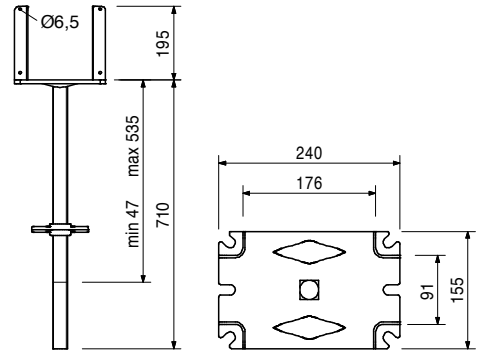
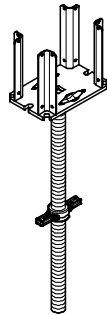
Item no.	Weight kg
019950	7.770

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
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Tension Strap 16-25, galv.

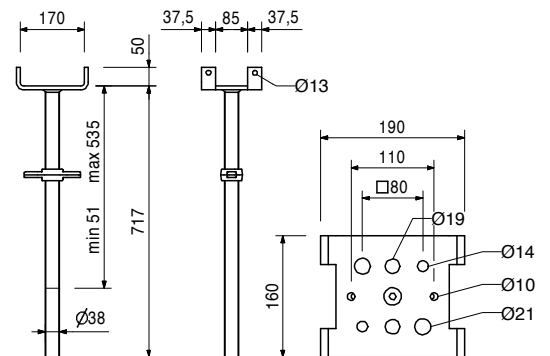
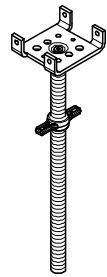
319790	6.460
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Head Spindle TR 38-70/50, galv.

Maximum inclination of the head plate on all sides 4.4°.

Note

With captive Quick Jack Nut.



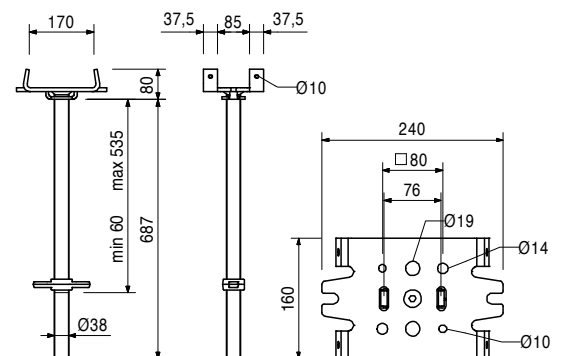
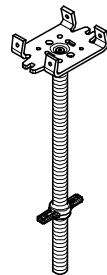
116081	7.040
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Head Spindle-2 TR 38-70/50

Maximum inclination of the head plate on all sides 4.4°.

Note

With locking device and captive Quick Jack Nut.



Accessories

028590	0.568
018300	0.564

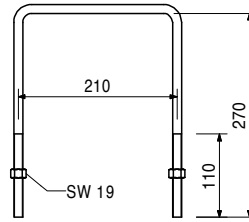
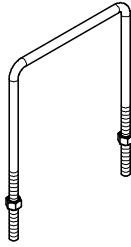
Tension Strap 16-25, galv.

Cross Strap, galv.

Item no.	Weight kg
028590	0.568

Tension Strap 16-25, galv.

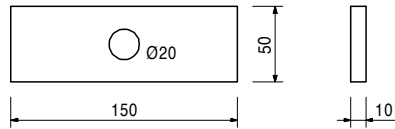
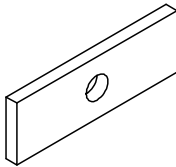
For mounting 2 GT 24 or VT 20 Girders on the Cross Forkhead and Head Spindle TR 38 and on the Crosshead 20/24 or 20/24S.



018300	0.564
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Cross Strap, galv.

For fixing Steel Walers SRZ and SRU on the Head Spindle TR 38.



018350	0.310
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Accessories

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

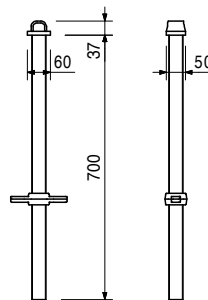
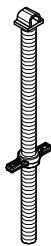
109630	4.240
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Spindle Head SRU

For connecting the Steel Walers SRU and SRZ to the shoring.

Note

With captive Quick Jack Nut.



104031	0.462
018060	0.030

Accessories

Fitting Pin Ø 21 x 120

Cotter Pin 4/1, galv.

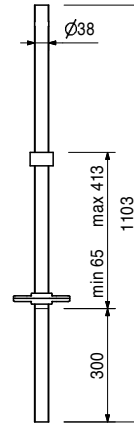
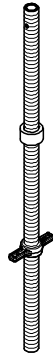
Item no.	Weight kg
111072	6.300

Section Spindle UJK 38-110/41

For erection of shoring with tower units.

Note

With captive Quick Jack Nut.



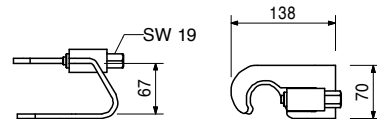
100863	1.020
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Spindle Locking UJS

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
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Head Spindle Locking UJH

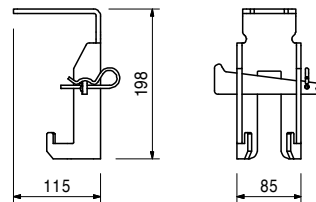
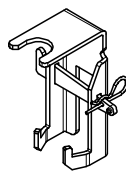
Connects Head Spindle and Section Spindle with Ledger UH when moving.

Complete with

1 pc. 018060 Cotter Pin 4/1, galv.

Technical Data

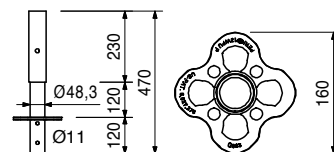
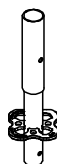
Permissible load 2.1 kN.



100014	2.470
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Base Standard UVB 24

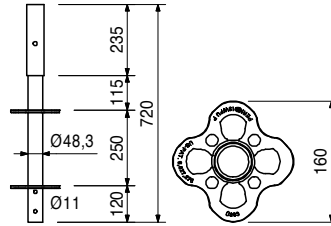
For assembly directly on the base spindle.



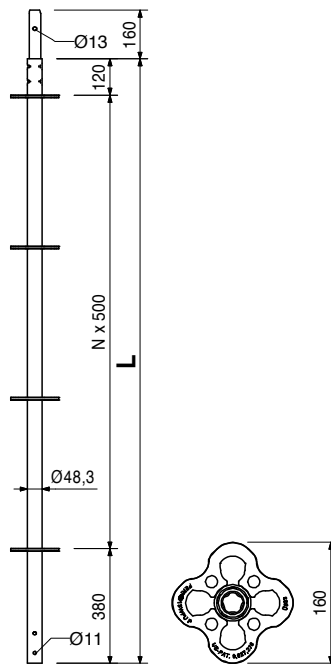
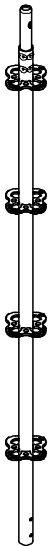
Item no.	Weight kg
117194	3.980

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



PERI UP Flex Shoring Tower

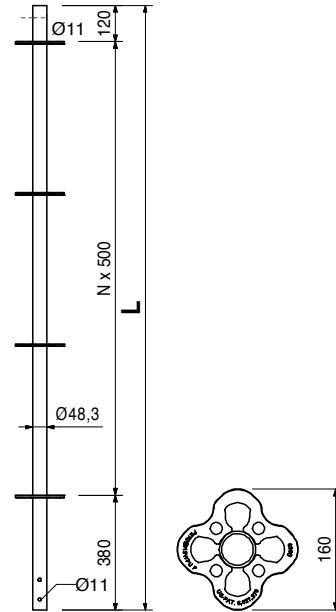


Item no.	Weight kg
100000	4.610
100003	6.920
100005	9.240
100007	11.500

Top Standards UVH
Top Standard UVH 100
Top Standard UVH 150
Top Standard UVH 200
Top Standard UVH 250

L
1000
1500
2000
2500

Without spigot for supporting head spindles.

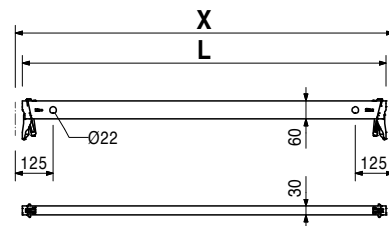
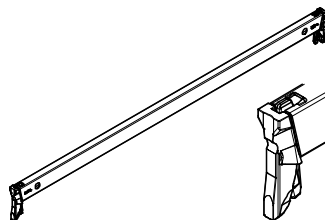


Item no.	Weight kg	Ledgers UH Plus
114613	1.420	Ledger UH 25 Plus
114595	2.070	Ledger UH 50 Plus
114629	2.730	Ledger UH 75 Plus
114632	4.460	Ledger UH 100 Plus
114638	5.430	Ledger UH 125 Plus
114641	4.710	Ledger UH 150 Plus
117032	5.380	Ledger UH 175 Plus
114645	6.040	Ledger UH 200 Plus
116356	6.700	Ledger UH 225 Plus
114648	7.360	Ledger UH 250 Plus
114651	8.680	Ledger UH 300 Plus

L	X	Sticker
204	250	
454	500	
704	750	White
954	1000	White
1204	1250	
1454	1500	
1704	1750	
1954	2000	
2204	2250	
2454	2500	
2954	3000	

Note

Longitudinally-stamped and with coloured label for easier identification.

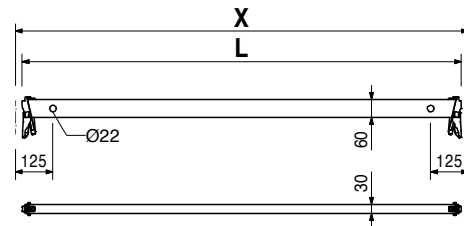
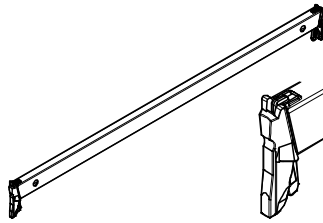


Item no.	Weight kg		L	X	Sticker
		Ledgers UH			
404780	1.390	Ledger UH 25	204	250	
404779	2.040	Ledger UH 50	454	500	
400017	2.710	Ledger UH 75	704	750	White
401159	3.370	Ledger UH 100	954	1000	White
410347	4.020	Ledger UH 125	1204	1250	
400021	4.690	Ledger UH 150	1454	1500	
400023	6.020	Ledger UH 200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

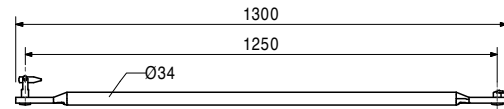
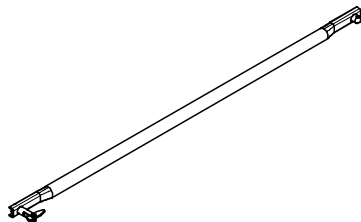
Note

Longitudinally-stamped and with coloured label for easier identification.

Ledgers UH can be replaced by Ledgers UH Plus.



019940	2.270	Diagonal Strut ST 100, galv. Diagonals for Stacking Tower ST 100. Number required depends on the static system.
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Item no.	Weight kg		L	X	Y	Sticker
		Ledger Braces UBL				
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.

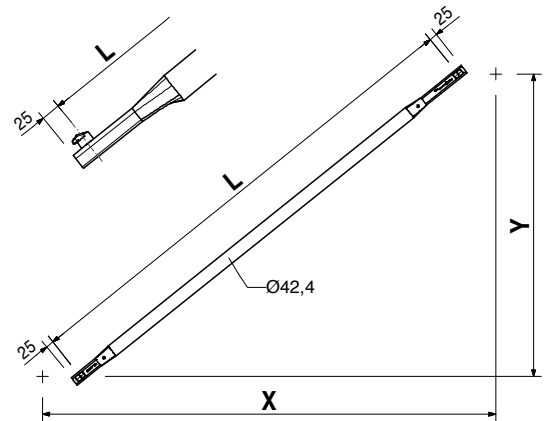
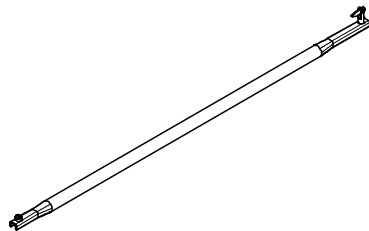
UBL 150/250 identical to UBL 300/50,

UBL 225/150 identical to UBL 175/200,

UBL 250/50 identical to UBL 200/150.

UBL 75/200 identical to UBL 225/50.

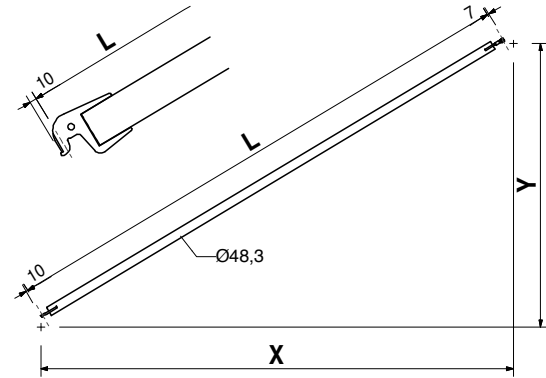
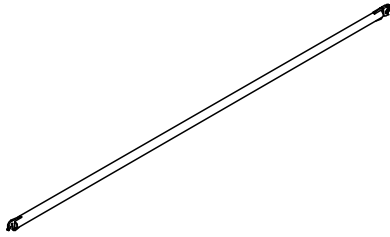
UBL 100/100 identical to Diagonal Strut ST 100 (Item no. 019940).



PERI UP Flex Shoring Tower

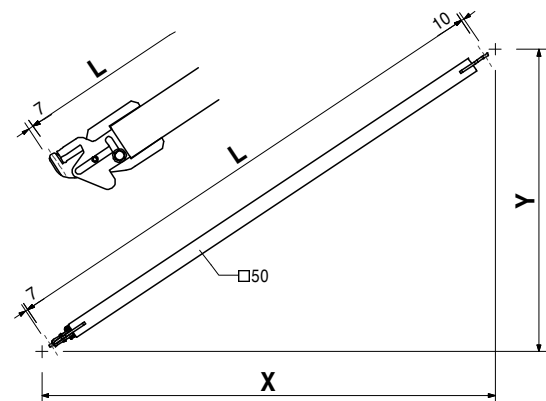
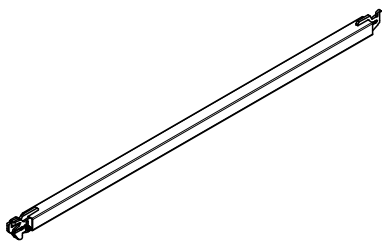


Item no.	Weight kg		L	X	Y
		Horizontal Braces UBH			
400042	7.350	Horizontal Brace UBH 150/150	2042	1500	1500
407815	8.700	Horizontal Brace UBH 200/150	2422	2000	1500
400047	9.870	Horizontal Brace UBH 200/200	2749	2000	2000
406931	10.200	Horizontal Brace UBH 250/150	2838	2500	1500
404356	11.300	Horizontal 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.



PERI UP Flex Shoring Tower

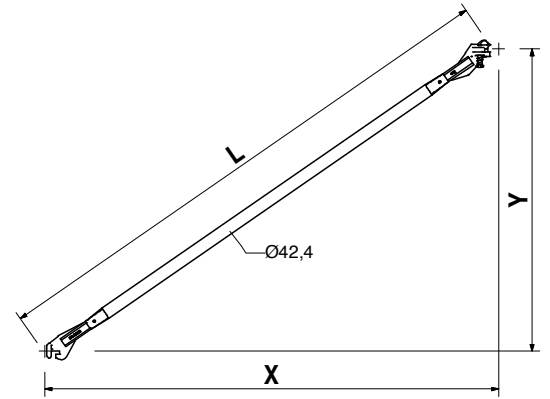
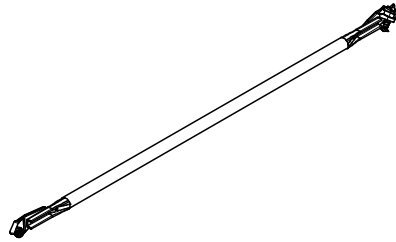


Item no. Weight kg

Item no.	Weight kg	Shoring Braces UBS
128936	4.250	Shoring Brace UBS 100/100
129354	5.300	Shoring Brace UBS 100/150
107801	5.260	Shoring Brace UBS 150/100
107810	6.050	Shoring Brace UBS 150/150
115504	6.360	Shoring Brace UBS 200/100
115291	7.050	Shoring Brace UBS 200/150
123592	7.630	Shoring Brace UBS 250/100
123588	8.090	Shoring Brace UBS 250/150
123584	8.820	Shoring Brace UBS 300/100
123580	9.360	Shoring Brace UBS 300/150

Standard diagonal for shoring frames.

L	X	Y
1413	1000	1000
1771	1000	1500
1792	1500	1000
2122	1500	1500
2219	2000	1000
2492	2000	1500
2672	2500	1000
2902	2500	1500
3139	3000	1000
3337	3000	1500



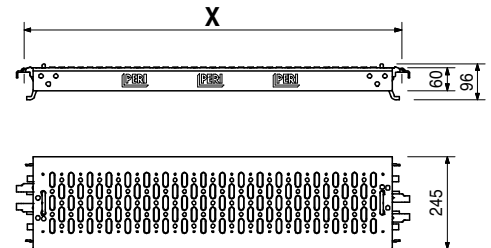
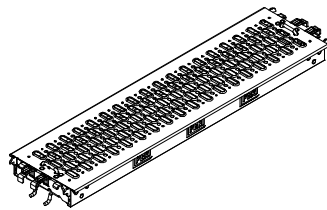
Item no.	Weight kg	Industrial Decks Steel UDI 25
404029	4.090	Industrial Deck UDI 25 x 50
405925	5.520	Industrial Deck UDI 25 x 75
406092	6.950	Industrial Deck UDI 25 x 100
406880	8.380	Industrial Deck UDI 25 x 125
407002	9.790	Industrial Deck UDI 25 x 150
408380	12.700	Industrial Deck UDI 25 x 200
408540	15.500	Industrial Deck UDI 25 x 250
408689	18.400	Industrial Deck UDI 25 x 300

Mounted on Ledgers UH.

X	perm. p [kN/m ²]	max. p [kN/m ²]
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.



PERI UP Flex Shoring Tower



Item no. Weight kg

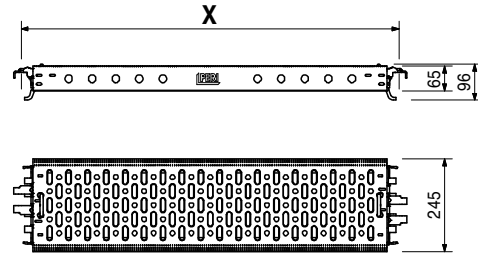
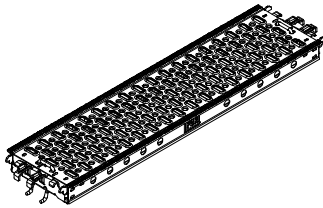
Item no.	Weight kg	Steel Decks UDG
124124	3.880	Steel Deck UDG 25 x 50
124121	5.260	Steel Deck UDG 25 x 75
124118	6.630	Steel Deck UDG 25 x 100
124115	8.010	Steel Deck UDG 25 x 125
124112	9.410	Steel Deck UDG 25 x 150
124109	12.200	Steel Deck UDG 25 x 200
123771	14.900	Steel Deck UDG 25 x 250
124915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

Mounted on Ledgers UH.

X	perm. p [kN/m ²]	max. p [kN/m ²]
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

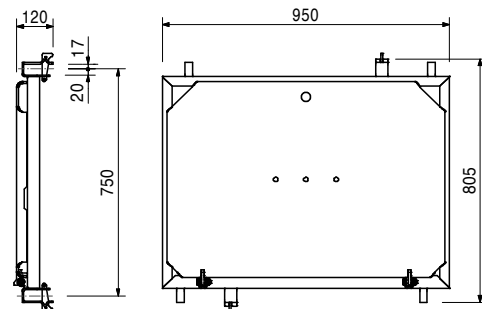
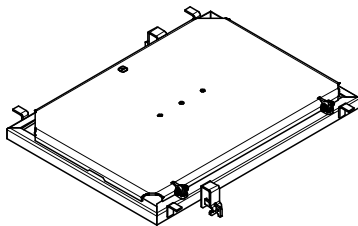
Note

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

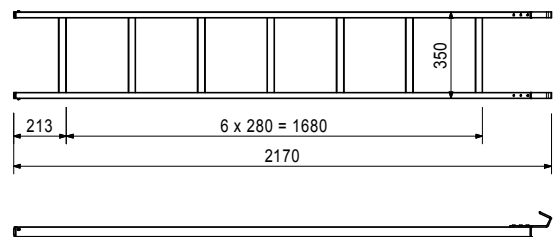
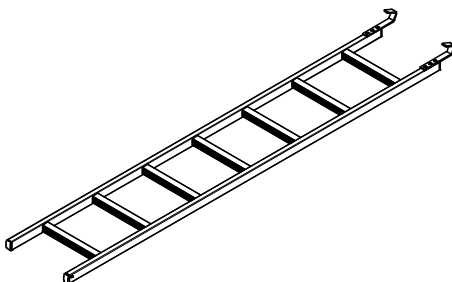
109879 3.820

Ladder UAF 200, Alu

109879 3.820

Ladder UAF 200, Alu

For mounting to Hatch UAF.



PERI UP Flex Shoring Tower

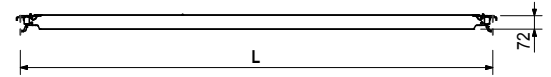
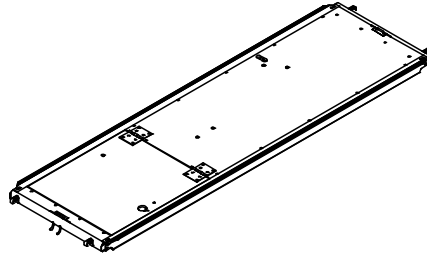


Item no.	Weight kg
126393	15.600
126392	19.600
126314	23.500

Access Decks UAL-3
Access Deck UAL-3, 75 x 150/3
Access Deck UAL-3, 75 x 200/3
Access Deck UAL-3, 75 x 250/3

L
 1500
 2000
 2500

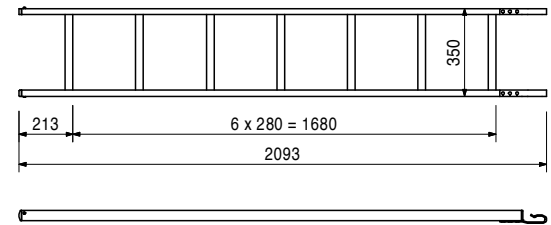
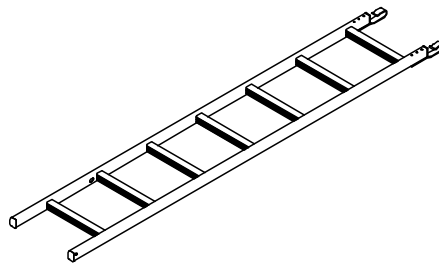
Technical Data
 Load Class 3, 2.0 kN/m².



Accessories

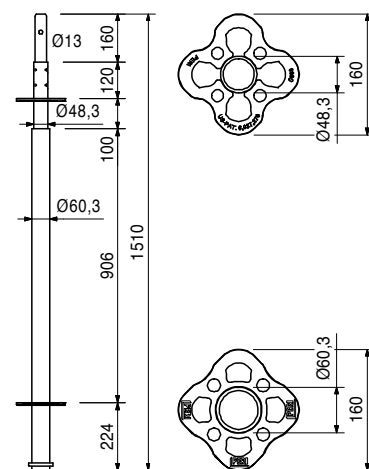
126318 3.750 **Ladder Flex UEL with hook**

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 $\varnothing 48$ mm on a standard with $\varnothing 60$ mm.

Note
 For horizontal bracing by Shoring Braces UBS (crossed)



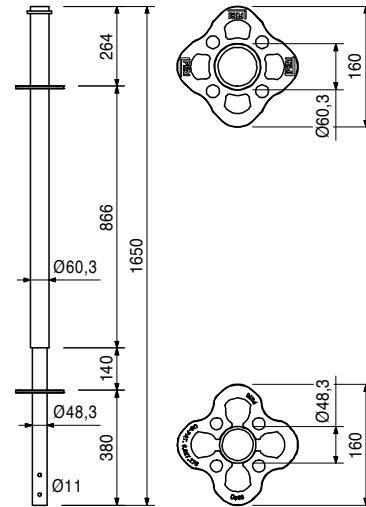
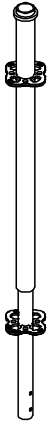
Item no.	Weight kg
117197	10.400

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 $\varnothing 48$ mm on a standard with $\varnothing 60$ mm.

Note

For horizontal bracing by Shoring Braces UBS (crossed)



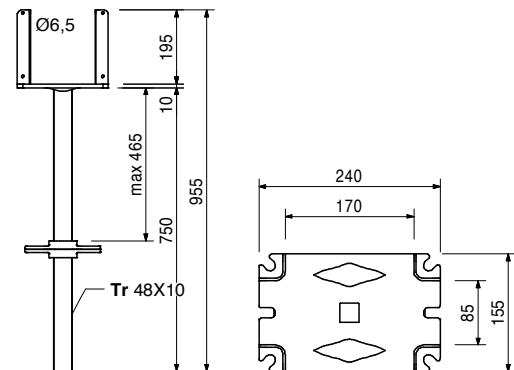
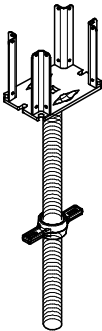
018630	9.500
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Cross Head Spindle TR 48-75/47, galv.

Head spindle for PD 8 Slab Table and Flex Plus Shoring.

Complete with

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



028590	0.568
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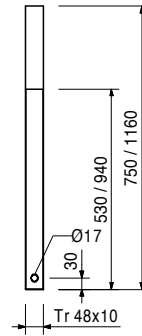
Accessories

Tension Strap 16-25, galv.

Item no. Weight kg

018120	4.400
018030	6.820

Spindle Tubes TR 48, galv.
Spindle Tube TR 48-75/40, galv.
Spindle Tube TR 48-116/80, galv.
 For use as head and base spindle for the PD 8 Systems and Flex Plus Shoring.



Accessories

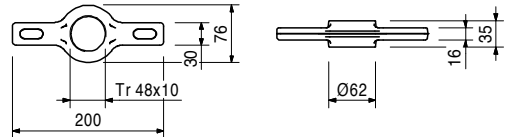
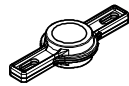
127604	1.270
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Quick Jack Nut TR 48-2, galv.

318270	0.800
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Quick Jack Nut TR 48, galv.

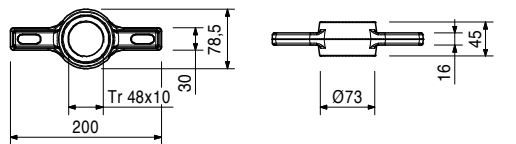
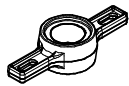
For spindles Ø 48 mm.



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

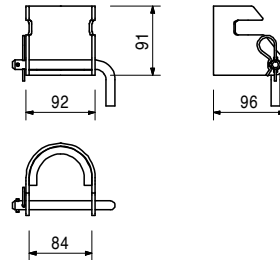
For spindles Ø 48 mm; with additional groove.



117743	0.798
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Handle Lock UJS Plus

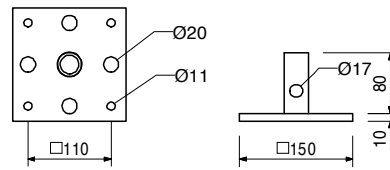
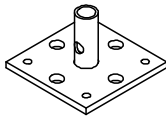
Secures Head- and Base Spindles Ø 48 mm in the Standard Plus during moving.



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
018060	0.030

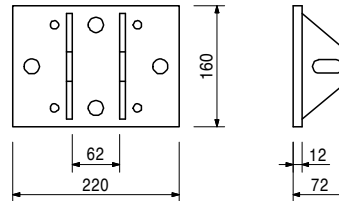
Pin Ø 16 x 65/86, galv.
Cotter Pin 4/1, galv.

018040	3.770
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Head Plate for Spindle Tube TR 48

Note

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



Accessories

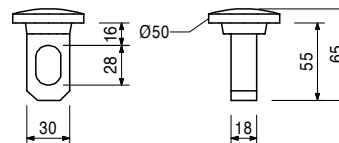
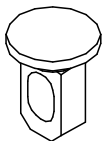
018050	0.171
018060	0.030
019660	0.288

Pin Ø 16 x 65/86, galv.
Cotter Pin 4/1, galv.
Cap Piece, galv.

019660	0.288
--------	-------

Cap Piece, galv.

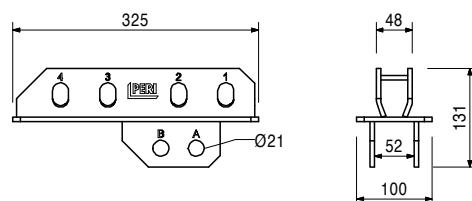
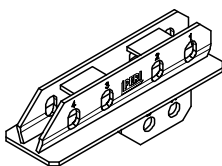
For centric load application. Allows 2.1% inclination of the head plate.



107160	3.960
--------	-------

Connector MP-SRU

As compensation element between the Prop Head MP/SRU and inclined positioned Steel Waler SRU.



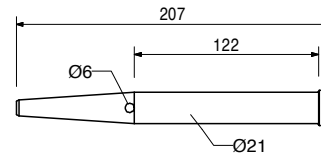
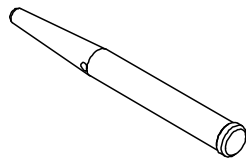
Accessories

104031	0.462
018060	0.030

Fitting Pin Ø 21 x 120
Cotter Pin 4/1, galv.

Item no.	Weight kg
104031	0.462

Fitting Pin Ø 21 x 120
For different connections.

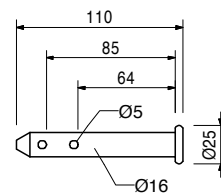
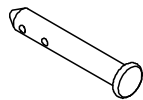


018060	0.030
--------	-------

Accessories
Cotter Pin 4/1, galv.

018050	0.171
--------	-------

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



018060	0.030
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Accessories
Cotter Pin 4/1, galv.

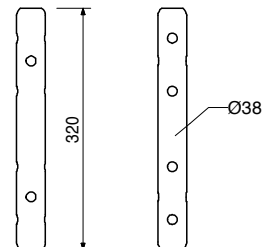
018060	0.030
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Cotter Pin 4/1, galv.



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.



111053	0.059
100719	0.060

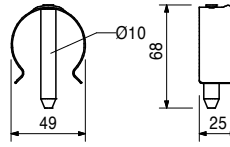
Accessories
Locking Pin Ø 48/57
Bolt ISO 4014 M10 x 70-8.8 MU

Item no.	Weight kg	
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111053 0.059

Locking Pin Ø 48/57

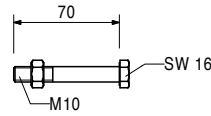
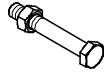
As tension-proof connection of standards with a diameter of 48 up to 57 mm.



100719 0.060

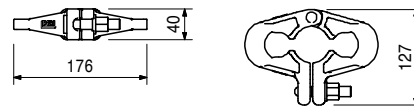
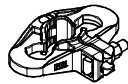
Bolt ISO 4014 M10 x 70-8.8 MU

As tension-proof connection of standards for suspended scaffolds or lattice girders.



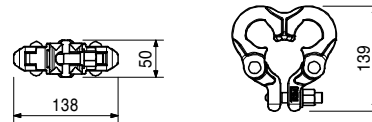
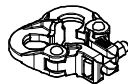
116306 1.700

Rosett Coupler UEV 180°



126453 1.630

Rosett Coupler UEV 90°



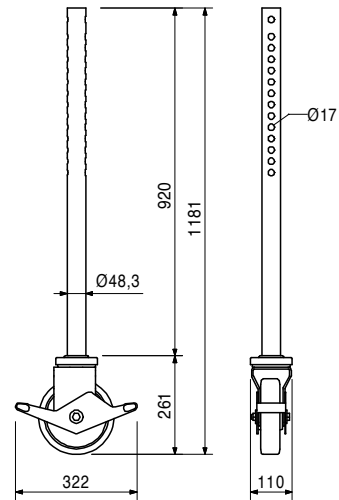
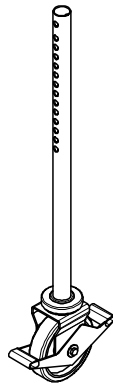
Item no.	Weight kg
116176	15.000

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

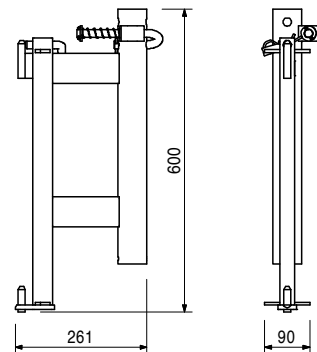
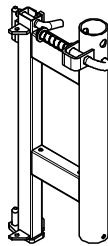
116193	5.150
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Connection Transportation Wheel UER

116193	5.150
--------	-------

Connection Transportation Wheel UER

Mounted on Standards UVR. Allows moving of complete frameworks.



Accessories

116176	15.000
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Transportation Wheel UEW

PERI UP Flex Shoring Tower



Item no.	Weight kg
019200	162.000

Trolley with Winch

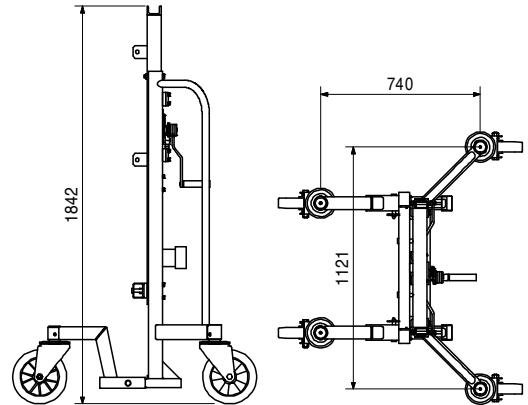
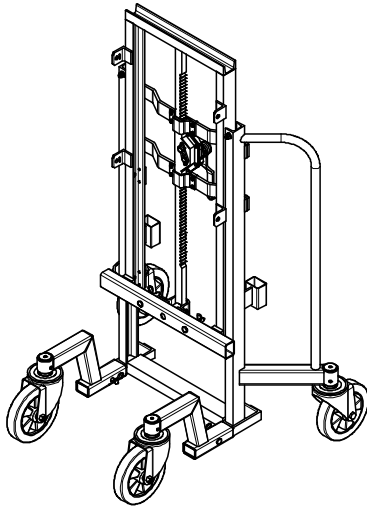
For moving towers and tables with MULTIPROP, Flex, Flex Plus and PD 8 with appropriate support for the system.

Note

Follow Instructions for Use!

Technical Data

Permissible load-bearing capacity 1.0 t.



Accessories

118114	14.200
118115	11.000
130501	27.600

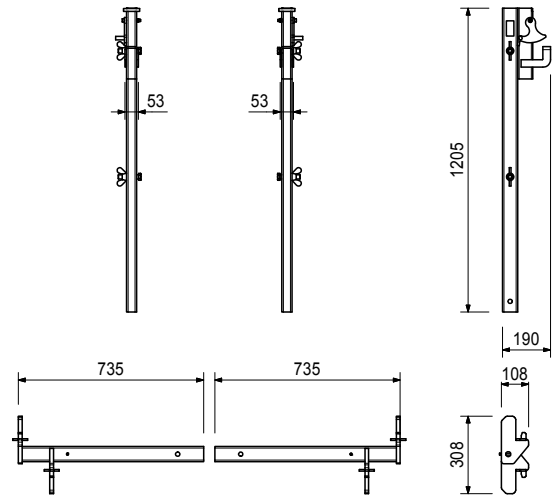
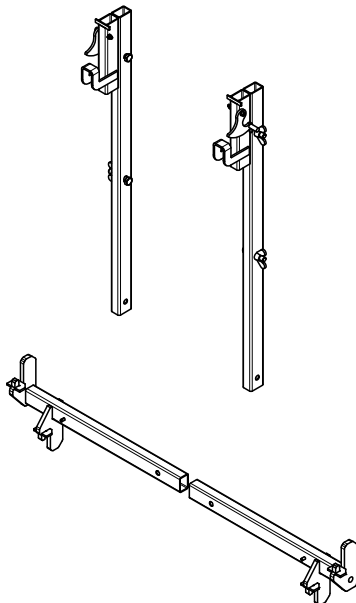
Connector MP – Trolley

Connector PD 8 – Trolley

Connector PERI UP – Trolley

130501	27.600
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Connector PERI UP – Trolley



Comparison of components

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

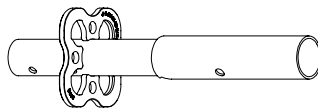
The following comparison tables describe the features of the 1st and 2nd generation.



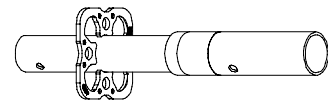
1st and 2nd generation components can be combined.

- The previous components are no longer available as new components.
- The optimised components are available under a new article number.
- There may be a difference between the load-bearing capacity of the individual components in the previous version and the new version.

Base Standard UVB 24 / 49

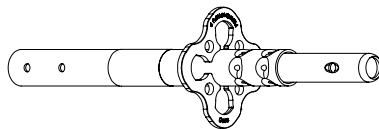


Base Standard UVB 25 / 50

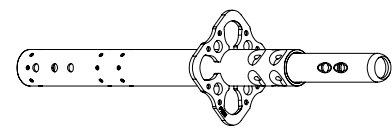


Tube	RO 48.3 mm x 3.6 mm	RO 48.3 mm x 3.6 mm
Rosette	160 mm x 130 mm x 8 mm	152 mm x 120 mm x 6 mm
System height	24 / 49 cm	25 / 50 cm
Combinability	Geometrically and statically combinable in the system.	

Standard UVR

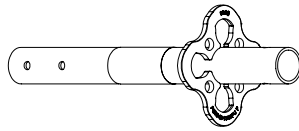


Standard UVR-2

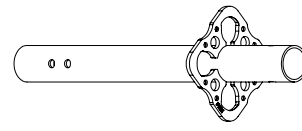


Tube	RO 48.3 mm x 3.2 mm	RO 48.3 mm x 2.7 mm , embossed points on the bottom standard.
Tube-pin connection	2 rows, with 5 pinch points each	2 rows, with 4 pinch points each
Rosette	160 mm x 130 mm x 8 mm	152 mm x 120 mm x 6 mm
Hole for suspended scaffold (see "PERI UP components")	1 hole perm. F up to 20 kN when fixed 1x	2 holes perm. F up to 15 kN when fixed 1x perm. F up to 31 kN when fixed 2x
Marking	none	striped band at the top and bottom
Combinability	Geometrically and statically* combinable in the system. * The standard configurations in the Instructions for Assembly and Use only apply in conjunction with Horizontal Ledgers UH Plus / UH-2 and UHV Plus / UHV-2. * The load tables shown in the Instructions for Assembly and Use for the Heavy-Duty Prop HD and Shoring Tower Plus systems do not apply to use of the Standard UVR-2. Check the statics beforehand!	

Top Standard UVH

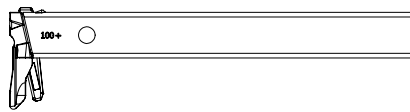


Top Standard UVH-2

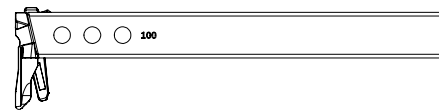


Tube	RO 48.3 mm x 3.2 mm	RO 48.3 mm x 3.2 mm
Rosette	160 mm x 130 mm x 8 mm	152 mm x 120 mm x 6 mm
Hole for suspended scaffold (see "PERI UP components")	1 hole perm. F up to 20 kN when fixed 1x	2 holes perm. F up to 15 kN when fixed 1x perm. F up to 31 kN when fixed 2x
Combinability	Geometrically and statically combinable in the system.	

Horizontal Ledger UH Plus

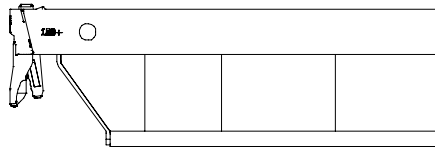


Horizontal Ledger UH-2

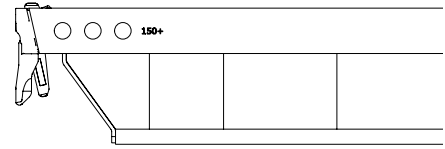


UBL assembly points	2 x 1, for assembly of a Ledger Brace UBL	2 x 3, for assembly of up to three Ledger Braces UBL When installing only one ledger brace preferably use the middle assembly point. Ledger Braces UBL can be mounted at very flat installation angles using the middle assembly point only. Check the geometry beforehand!
Combinability	Geometrically and statically combinable in the system.	

Horizontal Ledger UHV Plus

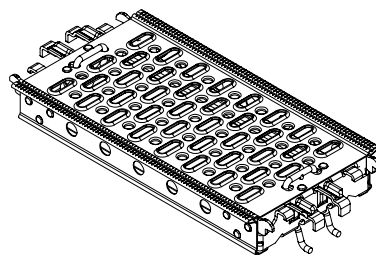


Horizontal Ledger UHV-2

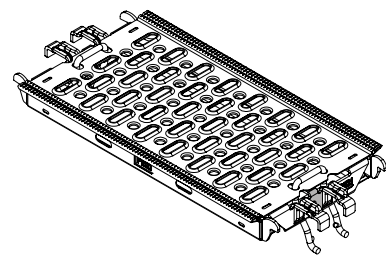


UBL assembly points	2 x 1, for assembly of a Ledger Brace UBL	2 x 3, for assembly of up to three Ledger Braces UBL When installing only one ledger brace preferably use the middle assembly point. Ledger Braces UBL can be mounted at very flat installation angles using the middle assembly point only. Check the geometry beforehand!
Combinability	Geometrically and statically combinable in the system.	

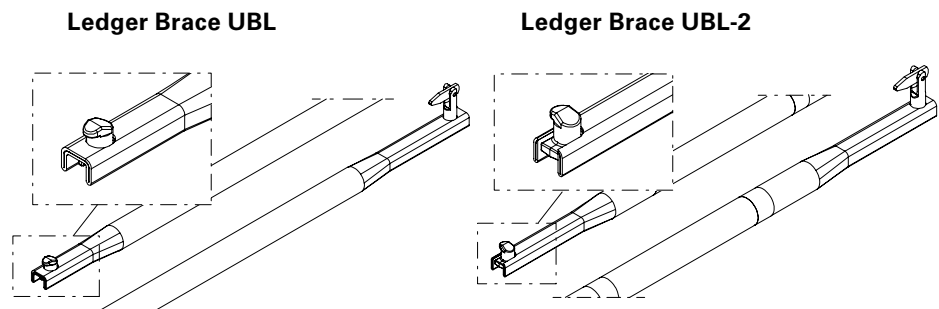
Steel Deck UDG



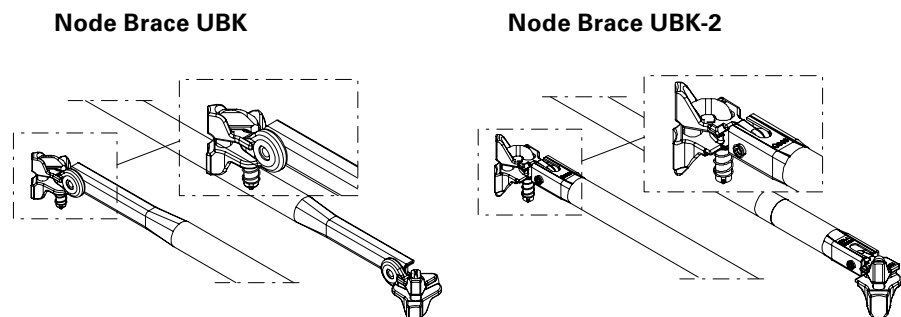
Steel Deck UDG-2



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	coloured clip on the front side
Combinability	Geometrically and statically combinable in the system.	



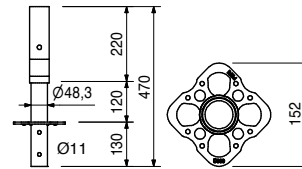
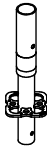
UBL Mounting Lug	points in the longitudinal direction	points in the transverse direction
Combinability	Geometrically and statically combinable in the system.	
Marking	none	Band at the top and bottom
Handling	Tilt in to install.	Swivel in to install (less lateral space required for installation).



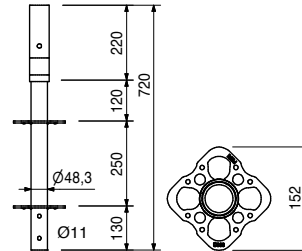
Head piece connected to the diagonal tube	riveted to crimped tube	bolted to cast shaped component
Combinability	Geometrically and statically combinable in the system.	
Marking	none	Band at the top and bottom
Features	Galvanised heads	Yellow-coated heads

Article no. Weight kg

133499 2.270 **Base Standard UVB 25**

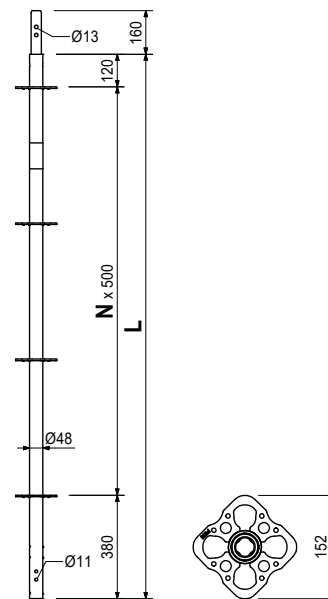
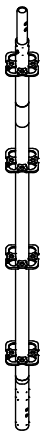


135187 3.590 **Base Standard UVB 50**

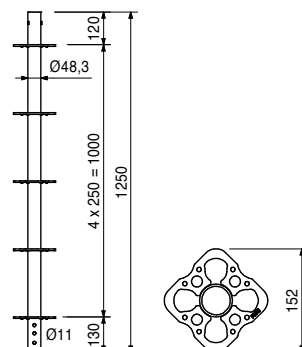
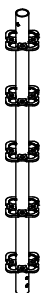


132219	2.480	Standard UVR-2
132224	4.340	Standard UVR-2 50
132229	6.180	Standard UVR-2 100
132234	8.030	Standard UVR-2 150
132239	11.700	Standard UVR-2 200
		Standard UVR-2 300

L
500
1,000
1,500
2,000
3,000



132196 6.060 **Top Standard UVH-2 125**
Without pin for supporting head spindles. Reduces necessary spindle extensions with 25 cm rosette spacing.



Article no. Weight kg

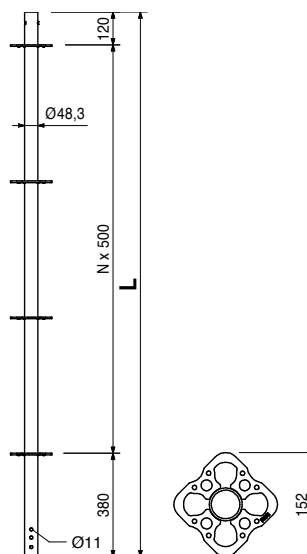
132123	2.090
132194	4.210
132198	6.310
132200	8.420
100002	10.500

Top Standards UVH-2
Top Standard UVH-2 50
Top Standard UVH-2 100
Top Standard UVH-2 150
Top Standard UVH-2 200
Top Standard UVH-2 250

Without pin for supporting head spindles.



L
500
1,000
1,500
2,000
2,500



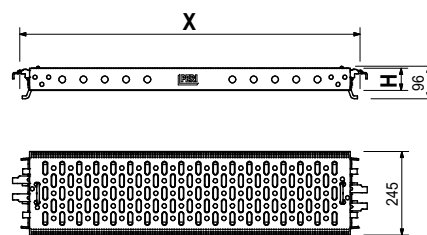
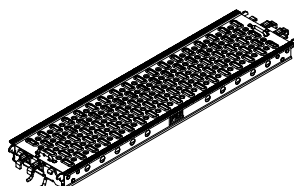
132479	3.340
132483	4.100
132488	4.470
132492	5.590
132502	6.730
132505	7.870
132508	10.500
132511	12.900
132515	15.800

Steel Decks UDG-2 25
Steel Deck UDG-2 25X 50
Steel Deck UDG-2 25X 67
Steel Deck UDG-2 25X 75
Steel Deck UDG-2 25X100
Steel Deck UDG-2 25X125
Steel Deck UDG-2 25X150
Steel Deck UDG-2 25X200
Steel Deck UDG-2 25X250
Steel Deck UDG-2 25X300

X	perm. p [kN/m ²]	H
500	6.0	45
670	6.0	45
750	6.0	45
1,000	6.0	45
1,250	6.0	45
1,500	6.0	45
2,000	6.0	60
2,500	4.5	60
3,000	3.0	70

Note

Values correspond with EN 12811-1

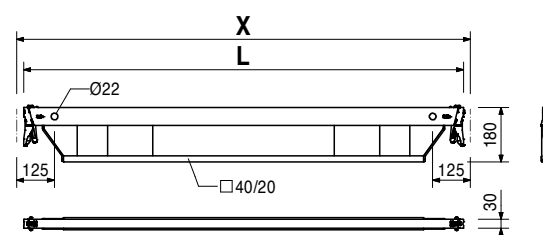
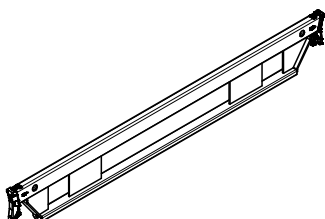


137020	9.410
137025	12.700
137030	15.200
137035	18.500

Horizontal Ledger UHV-2
Horizontal Ledger UHV-2 150
Horizontal Ledger UHV-2 200
Horizontal Ledger UHV-2 250
Horizontal Ledger UHV-2 300

For high loads, e.g. in the case of material storage.

L	X
1,454	1,500
1,954	2,000
2,454	2,500
2,954	3,000



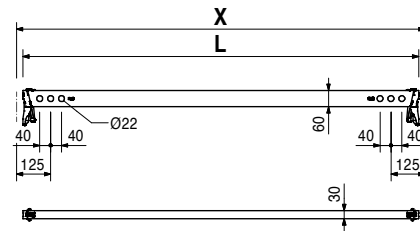
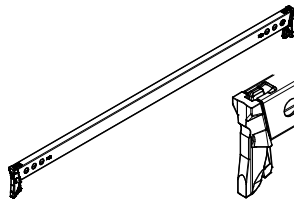
Article no. Weight kg

Article no.	Weight kg	Horizontal Ledger UH-2
131995	1.40	Horizontal Ledger UH-2 25
133900	1.50	Horizontal Ledger UH-2 33
131998	2.03	Horizontal Ledger UH-2 50
133903	2.48	Horizontal Ledger UH-2 67
132213	2.69	Horizontal Ledger UH-2 75
132004	3.79	Horizontal Ledger UH-2 100
132007	4.58	Horizontal Ledger UH-2 125
132010	4.68	Horizontal Ledger UH-2 150
132013	5.34	Horizontal Ledger UH-2 175
132016	6.00	Horizontal Ledger UH-2 200
132019	6.66	Horizontal Ledger UH-2 225
132025	7.32	Horizontal Ledger UH-2 250
132022	8.65	Horizontal Ledger UH-2 300

L	X
204	250
284	330
454	500
624	670
704	750
954	1,000
1,204	1,250
1,454	1,500
1,704	1,750
1,954	2,000
2,204	2,250
2,454	2,500
2,954	3,000

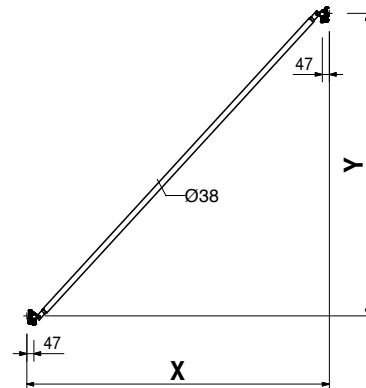
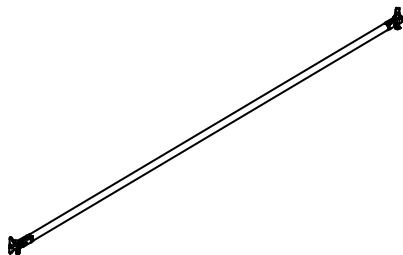
Note

With length marking for easier identification.



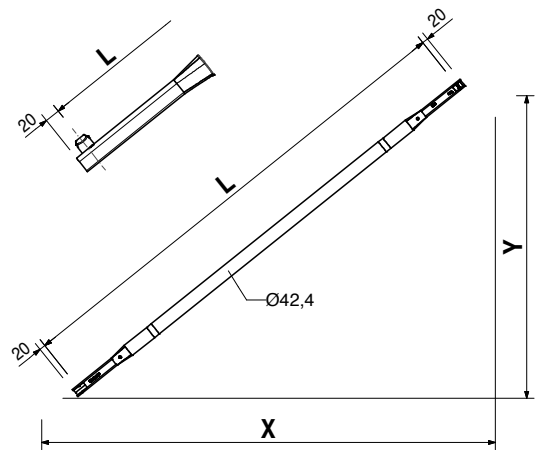
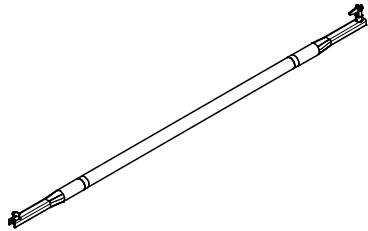
Article no.	Weight kg	Node Brace UBK-2
133418	4.96	Node Brace UBK-2 75/200
133421	5.11	Node Brace UBK-2 100/200
133424	3.88	Node Brace UBK-2 125/100
133427	5.30	Node Brace UBK-2 125/200
133430	4.22	Node Brace UBK-2 150/100
133433	4.82	Node Brace UBK-2 150/150
133436	5.53	Node Brace UBK-2 150/200
133439	4.97	Node Brace UBK-2 200/100
133442	5.47	Node Brace UBK-2 200/150
133445	6.08	Node Brace UBK-2 200/200
133448	5.77	Node Brace UBK-2 250/100
133451	6.19	Node Brace UBK-2 250/150
133454	6.72	Node Brace UBK-2 250/200
133457	6.60	Node Brace UBK-2 300/100
133460	6.96	Node Brace UBK-2 300/150
133463	7.42	Node Brace UBK-2 300/200

L	X	Y
2,190	750	2,000
2,285	1,000	2,000
1,625	1,250	1,000
2,401	1,250	2,000
1,821	1,500	1,000
2,152	1,500	1,500
2,539	1,500	2,000
2,246	2,000	1,000
2,521	2,000	1,500
2,860	2,000	2,000
2,696	2,500	1,000
2,930	2,500	1,500
3,226	2,500	2,000
3,131	3,000	1,000
3,356	3,000	1,500
3,625	3,000	2,000



Article no. Weight kg

Article no.	Weight kg		L	X	Y
		Ledger Braces UBL-2			
132771	2.12	Ledger Brace UBL-2 100/ 50	901	1,000	500
132773	2.81	Ledger Brace UBL-2 100/100	1,250	1,000	1,000
132775	3.66	Ledger Brace UBL-2 100/150	1,677	1,000	1,500
132777	4.58	Ledger Brace UBL-2 100/200	2,136	1,000	2,000
132779	3.01	Ledger Brace UBL-2 150/ 50	1,347	1,500	500
132781	3.51	Ledger Brace UBL-2 150/100	1,601	1,500	1,000
132783	4.21	Ledger Brace UBL-2 150/150	1,953	1,500	1,500
132785	5.02	Ledger Brace UBL-2 150/200	2,358	1,500	2,000
132787	5.31	Ledger Brace UBL-2 175/200	2,500	1,750	2,000
132789	3.95	Ledger Brace UBL-2 200/ 50	1,820	2,000	500
132791	4.34	Ledger Brace UBL-2 200/100	2,016	2,000	1,000
132793	4.92	Ledger Brace UBL-2 200/150	2,305	2,000	1,500
132795	5.62	Ledger Brace UBL-2 200/200	2,658	2,000	2,000
132797	4.43	Ledger Brace UBL-2 225/ 50	2,062	2,250	500
132808	4.78	Ledger Brace UBL-2 225/100	2,236	2,250	1,000
132810	5.96	Ledger Brace UBL-2 225/200	2,829	2,250	2,000
132812	5.23	Ledger Brace UBL-2 250/100	2,462	2,500	1,000
132814	5.71	Ledger Brace UBL-2 250/150	2,705	2,500	1,500
132816	6.32	Ledger Brace UBL-2 250/200	3,010	2,500	2,000
132827	5.90	Ledger Brace UBL-2 300/ 50	2,795	3,000	500
132829	6.16	Ledger Brace UBL-2 300/100	2,926	3,000	1,000
132831	6.57	Ledger Brace UBL-2 300/150	3,133	3,000	1,500
132833	7.10	Ledger Brace UBL-2 300/200	3,400	3,000	2,000



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