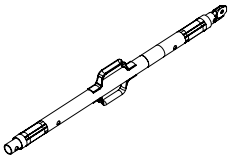
# RS and RSS
## Push-Pull Props

Instructions for Assembly and Use – Standard configuration – Version 2.1

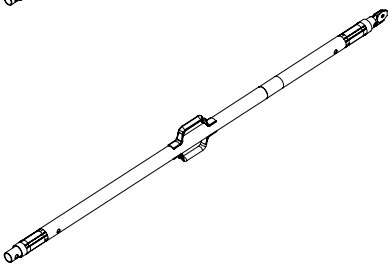
# Contents

## Push-Pull Props RS main components

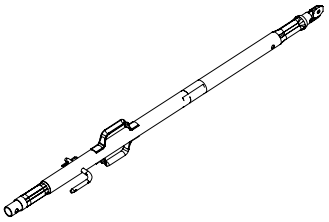
**RS 210**
L = 1.30 – 2.10 m



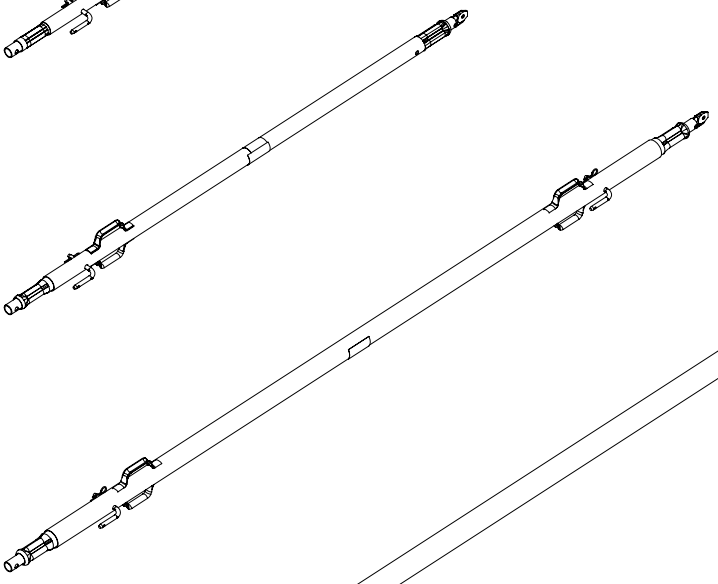
**RS 260**
L = 2.30 – 2.60 m



**RS 300**
L = 1.90 – 3.00 m



**RS 450**
L = 2.80 – 4.50 m



**RS 650**
L = 4.30 – 6.50 m



**RS 1000**
L = 6.40 – 10.00 m

**RS 1400**
L = 6.40 – 14.00 m

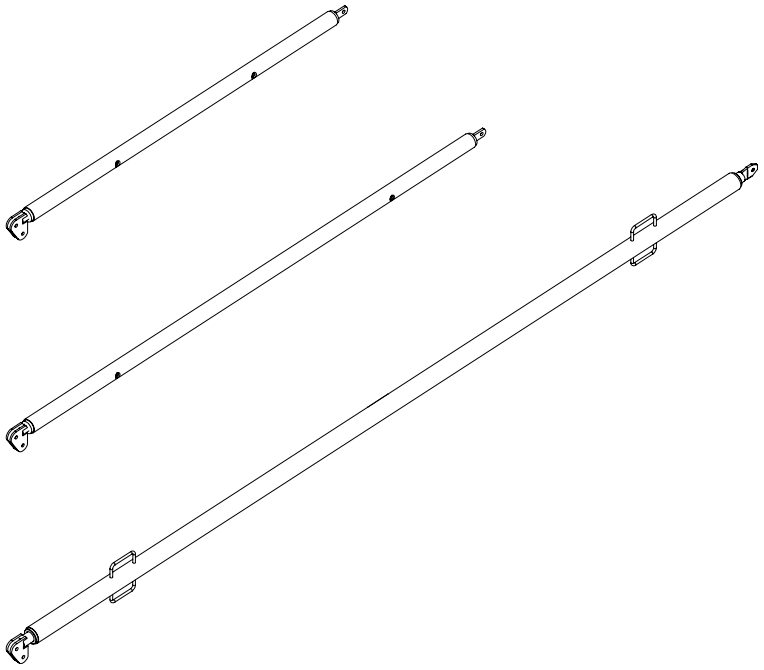
# Overview

## Push-Pull Props RSS main components

**RSS I**
L = 2.05 – 2.94 m

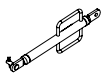
**RSS II**
L = 2.91 – 3.80 m

**RSS III**
L = 4.60 – 6.00 m

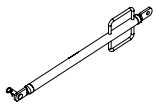


## Kickers AV main components

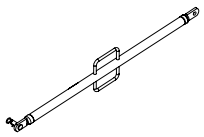
**AV 82**
L = 0.50 – 0.82 m



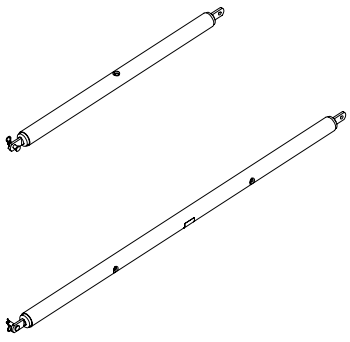
**AV 111**
L = 0.79 – 1.11 m



**AV 140**
L = 1.08 – 1.40 m



**AV 210**
L = 1.26 – 2.10 m



**AV RSS III**
L = 2.03 – 2.92 m

## Key

**Pictogram | Definition**


Danger/Warning/Caution


Note


To be complied with


Load-bearing point


Visual inspection


Tip


Incorrect use


Safety helmet


Safety shoes


Safety gloves


Safety goggles


Personal protective equipment to prevent falling from a height (PPE)


Observe additional documentation

**Arrows**

→ Arrow representing an action

⇨ Arrow representing a reaction of an action*

→ Arrow representing forces

* If not identical to the action arrow.

**Safety instruction categories**
The safety instructions alert site personnel to the risks involved and provide information on how to avoid these risks. Safety instructions can be found at the beginning of the section or before instructions for action and are highlighted as follows:

### Danger
This sign indicates an extremely hazardous situation that could result in death or serious, irreversible injury if the safety instructions are not followed.

### Warning
This sign indicates a hazardous situation that could result in death or serious irreversible injury if the safety instructions are not followed.

### Caution
This sign indicates a hazardous situation that could result in minor or moderate injury if the safety instructions are not followed.

### Note
This sign indicates situations in which failure to observe the information can result in material damage.

**Format of the safety instructions**

### Signal word
Type and source of hazard!
Consequences of non-compliance.
⇒ Preventative measures.

**Dimensions**
Dimensions are usually given in cm. Other measurement units, 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**.

**Notes on illustrations**
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 valid for all component sizes contained in the standard configuration.

To facilitate understanding, illustrations are sometimes incomplete. The safety equipment that is not shown in these detailed descriptions must nevertheless be available.

**Terminology**
Components are not always named in full so that they are easier to read.

## Target groups

**Contractors**
These Instructions for Assembly and Use are designed for contractors who either
- assemble, modify and dismantle PERI systems, or
- use them, e.g. for concreting, or
- allow them to be used for other operations, e.g. carpentry or electrical work.

**Safety and Health Protection 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 protection 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**
- is appointed by the contractor,
- must be on site for all system operations,
- prepares and updates the plan for assembly, modification and dismantling,
- prepares and updates the plan for use of the system by the user,
- supervises the assembly, modification and dismantling work (supervisor).

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

**Qualified personnel**
PERI systems may only be assembled, modified or dismantled by personnel who are suitably qualified to do so. Qualified personnel must have completed a course of training** in the work to be performed, covering the following points at least:
- Explanation of the plan for the assembly, modification or dismantling of the system in an understandable form and language.
- Description of the measures for safely assembling, modifying or dismantling the system.
- Naming of the preventive measures to be taken to avoid the risk of persons and objects falling.
- Designation of the safety precautions in the event of changing weather conditions that could adversely affect the safety of the system, as well as the personnel concerned.
- Details regarding permissible loads.
- Description of all other risks and dangers associated with assembly, modification or dismantling operations.

- **Ensure that the respective current version of relevant national guidelines and regulations are complied with!**
- **If no country-specific regulations are available, PERI recommends that you proceed according to German guidelines and regulations.**

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

** Instructions are given by the contractor themselves or a competent person selected by them.

## Product description

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

These Instructions for Assembly and Use are based on the approval, type test and static calculation.

Push-pull props:
- support formwork systems, scaffolding systems and prefabricated concrete elements vertically, and thus prevent them from falling over.
- transfer tension and compression forces.
- transfer wind loads.

Quick connector head:
- With the Quick Connector Head RS-2 and Adaptor Quick Connector RS, Push-Pull Props RS can be fixed to prefabricated concrete elements. The Adaptor Quick Connector RS tightly connects the Quick Connector Head RS-2 and push-pull prop.
- Always fit at least two Quick Connector Heads RS-2 with corresponding Push-Pull Props RS for each prefabricated element.
- Fix suitable fixing material, e.g. screw-on sleeves, bolts or permissible pigtail anchors, to horizontal prefabricated elements. The position and quantity of fixing material are calculated according to project specifications.
- Do not use the quick connector head with Push-Pull Props RSS.

Quick connector connecting parts:
- to the prefabricated element: Quick Connector Head RS-2.
- to the push-pull prop: Adaptor Quick Connector RS.

These Instructions for Assembly and Use describe the standard configuration of the Push-Pull Props RS and the alternative Push-Pull Props RSS with Kickers AV.
For the Push-Pull Prop RS system, these are also fitted as kicker braces.
For the Push-Pull Prop RSS system, the Kickers AV are fitted as kickers.

**Features**
- Safe and fast handling.
- Extensible – rough adjustment of the push-pull props in 10 cm increments. Exception: RS 1400 extensible in 20 cm increments.
- Fine adjustments – by means of the thread on the Outer Tube of the push-pull prop.
- Very long service life due to the hard-wearing corrosion prevention.
- Low maintenance costs.
- Push-Pull Props RS can also be used as kicker braces.

**Standard configuration**
- RS 210 L = 1.30 – 2.10 m
- RS 260 L = 2.30 – 2.60 m
- RS 300 L = 1.90 – 3.00 m
- RS 450 L = 2.80 – 4.50 m
- RS 650 L = 4.30 – 6.50 m
- RS 1000 L = 6.40 – 10.00 m
- RS 1400 L = 6.40 – 14.00 m

**Alternative push-pull props**
- RSS I L = 2.05 – 2.94 m
- RSS II L = 2.91 – 3.80 m
- RSS III L = 4.60 – 6.00 m

**Kickers AV**
- AV 82, AV 111, AV 140
- AV 210
- AV RSS III

## Cleaning and maintenance instructions

In order to maintain the value and operational readiness of the formwork materials over the long term, clean the panels after each use.

Some repair work may also be inevitable due to the tough working conditions.

The contractor must ensure that the personal protective equipment required for cleaning, maintenance and repair work such as
- Safety helmet,
- Safety shoes,
- Safety gloves,
- Safety goggles,

is available and used as intended.

The following instructions should help to keep cleaning and maintenance costs as low as possible.

Cleaning tools must be adapted to the respective surfaces of the components so that they are not damaged.

Spray the formwork on both sides with concrete release agent before each use; this makes the formwork easier and faster to clean. Spray the concrete release agent very thinly and evenly!

Do not spray work platforms and access routes with concrete release agent. Slip hazard.

Spray the rear side of the formwork with water immediately after concreting; this avoids any time-consuming and costly cleaning operations.

When used continuously, spray the formlining elements with concrete release agent immediately after deshuttering; then clean by means of a scraper, brush or rubber lip scraper. Important: do not clean formlining made of plywood with high-pressure equipment. This could result in the formlining being damaged.

Fix recesses and built-in parts with double-head nails; as a result, the nails can easily be removed later, and damage to the formlining is largely avoided.

Close all unused tie holes with plugs; this eliminates any subsequent cleaning or repair work.
Tie holes accidentally blocked with concrete are cleared by means of a steel pin from the formlining side.

When placing bundles of reinforcement bars or other heavy objects on horizontally supported formwork elements, suitable support, e.g. squared timbers, is to be used: this prevents impressions and damage to the formlining to a large extent.

Internal concrete vibrators should be fitted with rubber caps if possible; as a result, any damage to the formlining is reduced if the internal vibrator is accidentally inserted between the reinforcement and formlining.

Never clean powder-coated components, e.g. elements and accessories, with steel brushes or hard metal scrapers; this preserves the powder coating. Use spacers for reinforcements with large or flat supports; this largely avoids indentations in the formlining under load.

Mechanical components, e.g. spindles or gear mechanisms, must be cleaned of dirt or concrete residue before and after use, and then greased with a suitable lubricant.

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

Do not clean components suspended on crane lifting gear.

## Additional technical documentation

- User information for pallets and stacking devices
- Technical Data Sheet for Tie Bolt PERI 14/20 x 130
- Approval Z-8.311-964
- Type tests:
  - Push-Pull Prop RS 1000
  - Push-Pull Prop RS 1400
  - PERI Kickers AV and PERI Push-Pull Props RSS

## Instructions for Use

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.

Only PERI original components may be used. The use of other products and spare parts is not allowed and represents a misapplication with associated safety risks.

Changes to PERI components are not permitted.

The system described in these Instructions for Assembly and Use may contain patent-protected components.

Additional wind attack surfaces due to icing are not taken into account. Snow and ice loads are not taken into account.

## Foreseeable misuse

Using Push-Pull Prop RS as a Heavy-Duty Spindle SLS.

Deviating from the installation procedure described in the Instructions for Assembly and Use.

Exceeding permissible load-bearing capacities and load limits.

Spindle lengths set unevenly.

Overtightening spindle locking.

Formwork units and prefabricated parts are not adequately secured to prevent tipping during and after assembly or have an insufficient number of push-pull props.

## Cross-system

**Safety instructions apply to all service life phases of the system.**

**General information**
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. The Instructions for Assembly and Use are not a substitute for a risk assessment!

Observe and comply with the safety instructions and permissible loads.

For the application and inspection of PERI products, observe the current laws and regulations in force in the respective countries.

Materials and working areas are to be inspected before each use and assembly for:
- damage,
- stability and
- functional integrity.

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

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

When on slab formwork, scaffolds and working platforms:
- do not jump,
- do not run,
- do not drop anything from or onto it.

Components provided by the contractor must comply with the characteristics stipulated in these Instructions for Assembly and Use and all applicable laws and standards. Unless otherwise indicated, the following applies in particular:
- Squared timber components: Strength class C24 for solid wood according to DIN EN 338:2016-07.
- Scaffolding tubes: Galvanised steel tubes with minimum dimension Ø 48.3 x 3.2 mm according to DIN EN 12811-1:2004-03 4.2.1.2.
- Scaffolding tube couplings: according to DIN EN 74-1:2022-09 and DIN EN 74-2:2022-09.

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

Appropriate measures for working and operational safety, as well as stability, are defined on the basis of this risk assessment.

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

Nails and wood screws must not protrude. Only allow other connecting components to protrude to the extent that is necessary.
If necessary, mark protruding components or fit them with protective material.
Secure all bolts with cotter pins and all screws with nuts

Before and after extraordinary events that may have damaging effects on the safety of the system, the contractor must immediately
- produce another risk assessment, the results of which must be used to implement suitable measures to ensure the stability of the system,
- arrange for an extraordinary inspection to be carried out by a competent person qualified to do so. The aim of this inspection is to detect and repair damage in good time in order to ensure safe use of the system.

Exceptional events could be:
- accidents, fire, explosions, collisions,
- long periods of non-use,
- natural events, e.g. heavy rainfall, heavy snowfall, significant icing, storms or earthquakes.

Suitable measures could be:
- removing nets/tarpaulin,
- clearing snow and ice,
- reducing live loads,
- securing loose materials.

**Assembly, modification and dismantling work**
PERI systems may only be assembled, modified or dismantled under the supervision of a person qualified to do so and by technically suitable employees. The qualified personnel 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 guarantee safe assembly, modification and dismantling of the climbing unit.

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

is available and used as intended.

For work at a higher level, use an approved ladder or platform system, or an assembly scaffold.

If personal protective equipment against falling from a height (PPE) is required or specified in local regulations, the contractor must determine appropriate attachment points on the basis of the risk assessment.
The PPE to be used to prevent falling 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. cordon off and clearly mark danger zones.
- guarantee stability during all stages of construction, in particular during assembly, modification and dismantling operations.
- ensure and demonstrate that all loads that occur are safely transferred.

**Use**
Every contractor who uses or allows the PERI systems to be used, is responsible for ensuring that the equipment is in good condition.

If the 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 then be coordinated.

When systems are used in publicly accessible areas,
- measures to prevent unauthorised use, e.g. enclosure of access areas, must be taken.
- measures to prevent injuries caused by bumping against protruding components, e.g. assembly of protective components, must be taken.

Always keep the contact surfaces of the system free of dirt, objects, snow and ice.
Close off the system in extreme weather conditions.

## System-specific

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

Always secure all bolts with cotter pins.

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

During deshuttering, do not tear off the formwork units with the crane.

When storing heavy items on the formwork, the load-bearing capacity must be taken into consideration.

**Anchoring**
Anchoring / base plates are only to be used if the anchorage has sufficient concrete strength.

**Exceptional events**
For unfavourable structure geometries or larger wind speeds, additional securing measures are to be implemented, e.g.:
- ballast,
- bracing,
- dismantling the formwork etc.

# Component overview

| Pos. no. | Component name | Art. no. |
|---|---|---|
| **1** | Push-Pull Prop RS 210 | 117466 |
| **2** | Push-Pull Prop RS 260 | 118238 |
| **3** | Push-Pull Prop RS 300 | 117467 |
| **4** | Push-Pull Prop RS 450 | 117468 |
| **5** | Push-Pull Prop RS 650 | 117469 |
| **6** | Push-Pull Prop RS 1000 | 028990 |
| **7** | Push-Pull Prop RS 1400 | 103800 |
| **8** | Base Plate-3 f. RS 210-1400 | 126666 |
| **9** | Base Plate-2 f.RS 1000/1400 | 102018 |
| **10** | Base Plate-2 f. RS 210-1400* | 417343 |
| **11** | Quick Connector Head RS-2 | 127190 |
| **12** | Adaptor Quick Connector RS | 117726 |
| **13** | Push-Pull Props RSS I* | 328010 |
| **14** | Push-Pull Props RSS II* | 328020 |
| **15** | Push-Pull Props RSS III* | 328030 |
| **16** | Base Plate-2 for RSS* | 406000 |
| **17** | Kickers AV 82 | 057087 |
| **18** | Kickers AV 111 | 057088 |
| **19** | Kickers AV 140 | 028110 |
| **20** | Kickers AV 210* | 408135 |
| **21** | Kicker AV RSS III cpl* | 328120 |
| **22** | Pin Ø16x42mm ga | 027170 |
| **23** | Pin Ø16x65/86mm ga | 018050 |
| **24** | Pin Ø20x140mm ga | 105400 |
| **25** | Cotter Pin 4/1 ga | 018060 |
| **26** | Anchor Bolt SW24 Ø14/20x130mm | 124777 |

* Available as a rental article

# Tightening torques

Unless otherwise indicated, PERI recommends the following guide values for screw connections as "hand-tightened" tightening torques $M_{A,hand\text{-}tightened}$.
These guide values are based on DIN EN 15048-1:2016-09 with minimum Safety Factor 3 against breakage.

| **Quality class** | **Quality 4.6** | | **Quality 8.8 and 10.9** |
|---|---|---|---|
| **Lubrication** | **Lightly oiled** | **MoS2** | **Undefined** |
| Screw M8 | 8 Nm | 6.6 Nm | 8 Nm |
| Screw M10 | 16 Nm | 13.0 Nm | 16 Nm |
| Screw M12 | 30 Nm | 23.0 Nm | 30 Nm |
| Screw M16 | 65 Nm | 54.0 Nm | 65 Nm |
| Screw M20 | 100 Nm | | 100 Nm |
| Screw M24 | 150 Nm | | 150 Nm |
| Screw M30 | 260 Nm | | 260 Nm |
| Screw M36 | 350 Nm | | 350 Nm |

Tightening torques have been determined for the following components:

| | |
|---|---|
| Scaffolding tube coupling | 50 Nm |

# A1 Storage and transportation

**General information**

- Store and transport components in such a way that no unintentional change in their position is possible. Detach load-lifting accessories and lifting gear from the lowered components only if they are in a stable position and no unintentional change is possible.
- Do not drop the components.
- Only ever use approved and inspected means of transportation from PERI including lashing, lifting gear and slings.
- Only ever attach the means of transport to the intended attachment points with a positive fit using suitable lifting gear and slings.

**During the relocation procedure**

- Ensure that components are picked up and set down in such a way that unintentional falling over, falling apart, sliding, falling down or rolling is avoided.
- Always use ropes to guide components or assemblies that are susceptible to wind when moving them with a crane.
- No one is allowed to remain under the suspended load.
- The access areas on the construction site must be free of obstacles and tripping hazards, and must also be slip-resistant.
- For transportation, the substrate must have sufficient load-bearing capacity.
- Use original PERI storage and transport systems, e.g. crate pallets, pallets or stacking devices.

## Pallets

Pallets are one possibility for storing and transporting push-pull props. (Fig. A1.01)

- Use lifting gear combi or 4-sling lifting gear.
  On each pallet, attach a hook to one load-bearing point (**1.1**).
  → Four load-bearing points per pallet. (Fig. A1.01)
- Refer to the user information for pallets and stacking devices.

The pallets are available in two different sizes:

**Pallets**

| | | |
|---|---|---|
| **1a** | RP-2 80 x 120 | 103434 |
| **1b** | RP-2 80 x 150 | 103429 |

Pallets (**1a/1b**) can be lifted using the longitudinal as well as the front sides. (Fig. A1.01)

**Perm. load-bearing capacity of the pallets**

- RP-2 80 x 120: 1.5 t
- RP-2 80 x 150: 1.5 t

**Crane sling angle ≤ 15°**
4-sling lifting gear length L = 3.0 m.

Push-Pull Props RS of the same type and size can also be placed one above the other between squared timbers and secured by means of steel bands.

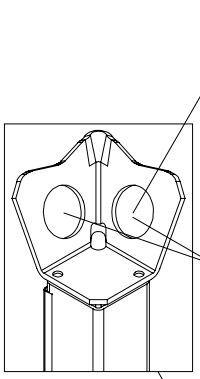


Fig. A1.01a

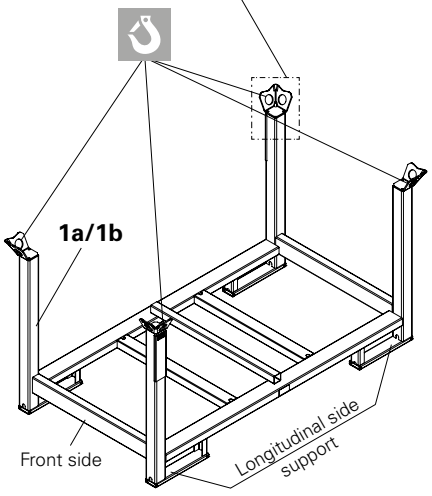


Fig. A1.01

## Push-Pull Props RS

In the following table, Push-Pull Props RS with the respective load carrier and the number of Push-Pull Props RS per load carrier are defined taking into account the permissible load-bearing capacity of the pallets.

| Push-pull prop | Article no. | Load carrier | max. pieces / pallet<br>= width x height | Work aids |
|---|---|---|---|---|
| **RS 210** | 117466 | RP-2 80 x 120 | 55 = 11 x 5 | Squared timber, steel band |
| **RS 260** | 118238 | RP-2 80 x 150 | 55 = 11 x 5 | Squared timber, steel band<br>Layers stacked offset |
| **RS 300** | 117467 | RP-2 80 x 150 | 50 = 10 x 5 | Squared timber, steel band |
| **RS 450** | 117468 | RP-2 80 x 150 | 45 = 9 x 5 | Squared timber, steel band<br>Layers stacked offset<br>(Fig. A1.02) |
| **RS 650** | 117469 | RP-2 80 x 150 | 24 = 6 x 4 | Squared timber, steel band |
| **RS 1000** | 028990 | RP-2 80 x 150 | 12 = 6 x 2 | 3x squared timber per layer,<br>(fit 1x centre and 2x outside of the pallet),<br>Steel band |
| **RS 1400** | 103800 | RP-2 80 x 150 | 5 = 5 x 1 | 3x squared timbers per layer<br>(fit 1x centre and 2x outside of the pallet),<br>Steel band<br>(Fig. A1.03 + Fig. A1.03a) |

**RS 450**
Stacked Push-Pull Props RS in one pallet. (Fig. A1.02)

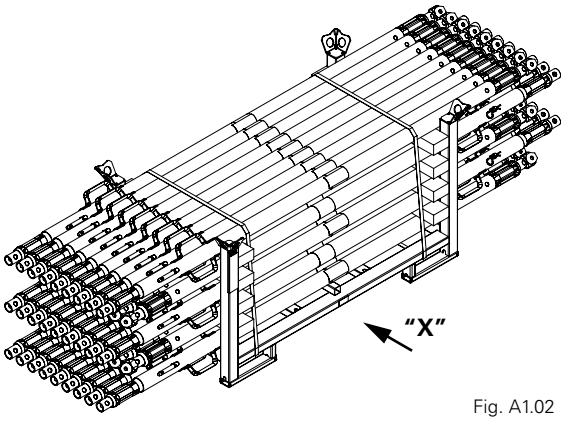



Fig. A1.02

Attention: with the Push-Pull Props RS 450, the projection of the push-pull props is uneven due to the handle. As a result, the centre of gravity of the load is not in the middle. Therefore, ensure that the levels are stacked in an offset arrangement. (Fig. A1.02a)

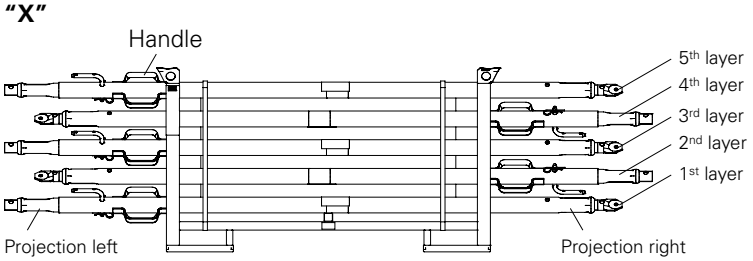



Fig. A1.02a

# A1 Storage and transportation

**RS 1400**
Stacked Push-Pull Props RS in one pallet. (Fig. A1.03 + Fig. A1.03a)

For moving a single Push-Pull Prop RS, see Section "A3 Push-Pull Props RS 1400" on page 25.

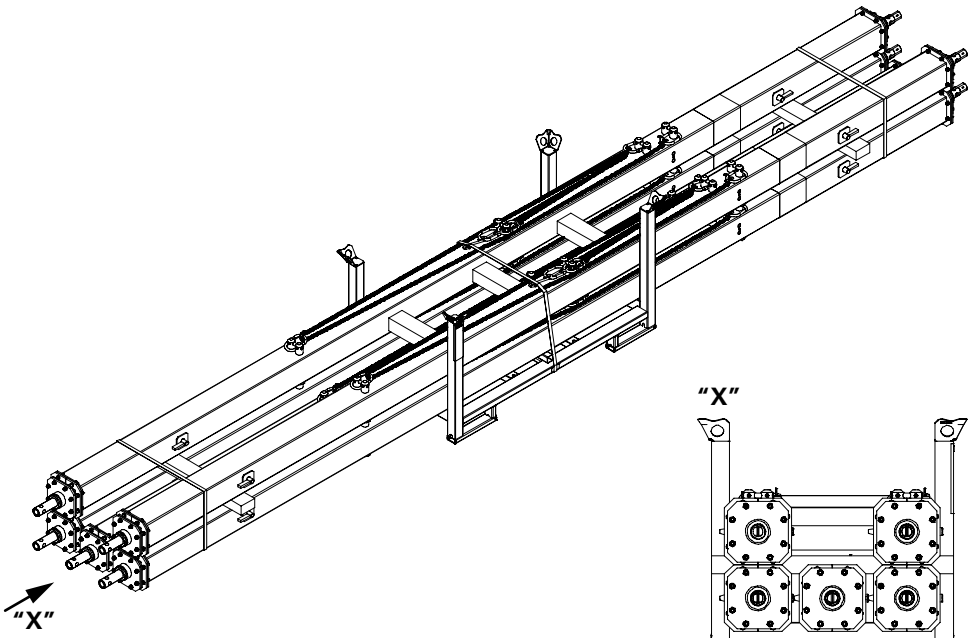



Fig. A1.03




Fig. A1.03a

## Push-Pull Props RSS

| Push-pull prop | Article no. | Load carrier | max. no. of items/pallet<br>= width x height | Work aids |
|---|---|---|---|---|
| **RSS I** | 328010* | RP-2 80 x 150 | 54 = 9 x 6 | Place squared timbers between every layer and secure with steel bands. |
| **RSS II** | 328020* | RP-2 80 x 150 | 54 = 9 x 6 | |
| **RSS III** | 328030* | RP-2 80 x 150 | 38 = 8 x 4 + 6<br>(Fig. A1.04) | |

* Rental article

**RSS III**
Stacked Push-Pull Props RSS in one pallet. (Fig. A1.04)

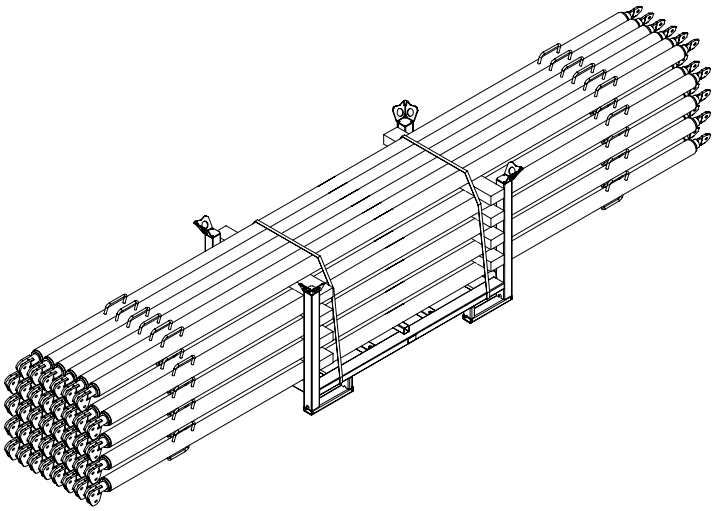


Fig. A1.04

## Kickers AV

| Kicker brace | Article number | Load carrier | max. no. of items/pallet<br>= width x height | Work aids |
|---|---|---|---|---|
| **AV 82** | 057087 | Crate Pallet K | 200 | |
| **AV 111** | 057088 | Crate Pallet K | 200 | |
| **AV 140** | 028110 | Crate Pallet K | 144 – stacked | Cover plate, steel band |
| **AV 210** | 408135* | RP-2 80 x 120 | 54 = 9 x 6 | Place squared timbers between every layer and secure with steel bands |
| **AV RSS III** | 328120* | RP-2 80 x 150 | 54 = 9 x 6 | |

* Rental article

## General information

### Danger

- If the anti-rotation device is missing, the Push-Pull Prop RS can be extended too far, thereby losing its propping capability and leading to a system collapse!
  This can lead to serious injury or death.
  ⇒ Make sure that the splint/dowel pin in the Inner Tube is fitted all the way into the cantilever (**A**). Check this every time before use.
  ⇒ Use a suitable light source for this, e.g. torch
  (Fig. A2.01 + Fig. A2.02)
- If the anti-rotation device is damaged, the Push-Pull Prop RS can be extended too far, thereby losing its propping capability and leading to a system collapse!
  This can lead to serious injury or death.
  ⇒ If you come up against resistance, do not forcefully overtwist the Push-Pull Prop RS.
  ⇒ Observe the maximum extension length of the Push-Pull Props RS.

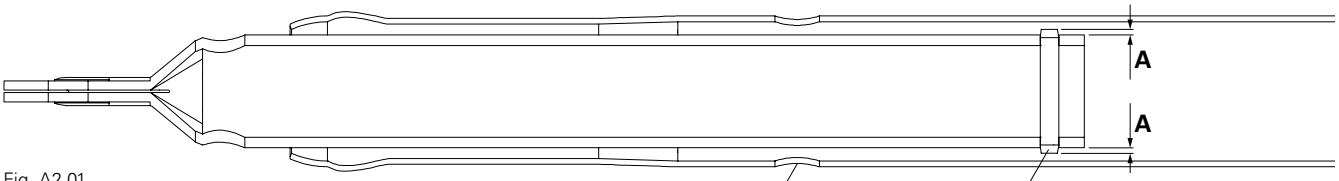



Fig. A2.01

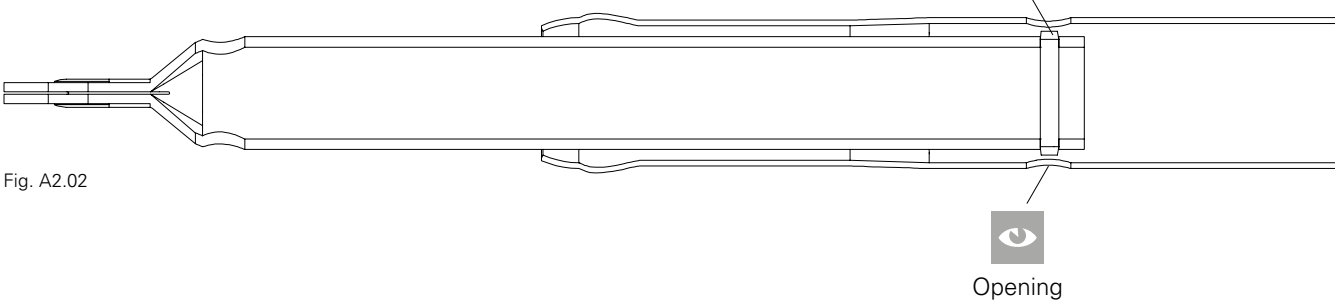



Fig. A2.02

If you sense resistance when unscrewing the Push-Pull Prop RS, do not forcefully unscrew the push-pull prop with a lever or hammer.
(Fig. A2.03 + Fig. A2.04)
Establish the cause of resistance.
The following examples may be the cause of resistance:

- The Push-Pull Prop RS is damaged, replace the Push-Pull Prop RS.
- The Push-Pull Prop RS is at its extension limit, use a longer Push-Pull Prop RS.
- The Base Plate is too far away from the formwork requiring support, move the Base Plate.
- The formwork requiring support is stuck.

Each Push-Pull Prop RS should be extended evenly in length at the top/bottom to prevent unconscious over-tightening. No side may be extended further than the other side. The splint/dowel pin in the Inner Tube acts as an anti-rotation device.

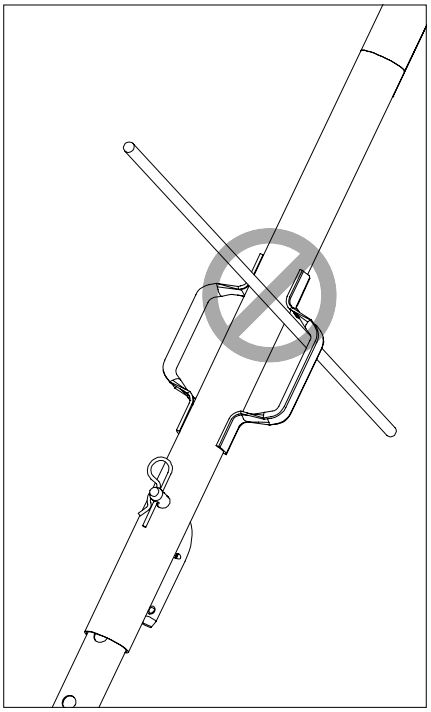


Fig. A2.03

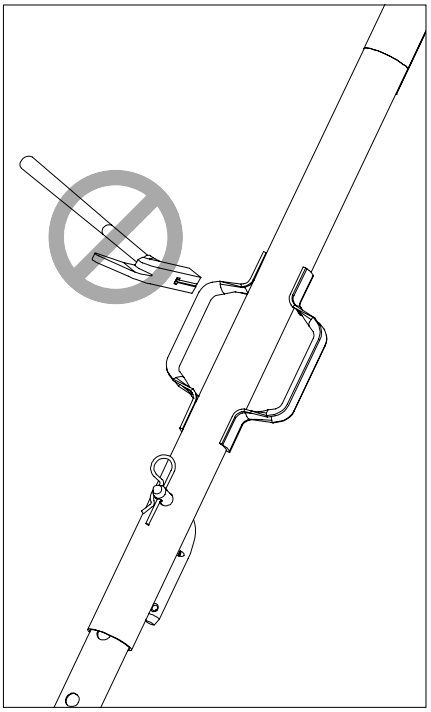


Fig. A2.04

# A2 Push-Pull Props RS 210 – RS 1000

The size and number of Push-Pull Props RS depends on the forces to be transferred, and must be determined in a product-specific manner.
For load-bearing capacities, see Section "B1 Load-bearing capacities" on page 42.

- Rough adjustment of the length
  - Rough adjustments on Push-Pull Props RS 210 and RS 260 are not possible.
  - Rough adjustments on Push-Pull Props RS 300 and RS 450 are possible on one side.
  - Rough adjustments on Push-Pull Props RS 650 and RS 1000 are possible on both sides.
  - Adjustments should be made as symmetrically as possible.
- Fine adjustment of the length
  - All Push-Pull Props RS can be adjusted with the spindle handle on the Outer Tube; in the process, the threaded spindles move simultaneously at the top and bottom.

**Adjusting the length**

Hole spacing for the adjustment: 10 cm increments.

1. Rough adjustment at bottom
   - Remove cotter pins (**1**) and bolts (**2**).
   - Pull out the Inner Tube until the required length is reached. Ensure that the holes are congruent.
   - Secure the tubes with bolts and cotter pins.
2. Rough adjustment at top, lengthwise symmetrical to the bottom.
3. Turn the Push-Pull Prop RS with the spindle handle.
   → Fine adjustment on both sides by means of the thread – top and bottom, simultaneously.

- Screw out the thread of the fine adjustment approx. 50 % which means fine adjustment can take place in both directions.
- The Push-Pull Prop RSS can be used instead of the Push-Pull Prop RS.

## RS 210 and RS 260

- No rough adjustment.
- Fine adjustment by means of the thread using the spindle handle – on both sides.

| Push-pull prop | Article no. | Rough adjustment | | Fine adjustment | | |
|---|---|---|---|---|---|---|
| | | Adjustment travel [mm] | Length L1 [m] | Adjustment travel [mm] | min. L [m] Fig. A2.05a | max. L [m] Fig. A2.05b |
| **RS 210** | 117466 | – | – | 800 = 2x400 | **1.3** | **2.1** |
| **RS 260** | 118238 | – | – | 300 = 2x150 | **2.3** | **2.6** |

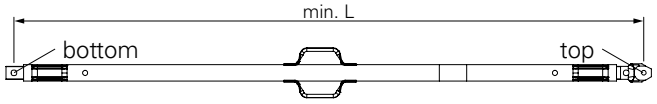



Fig. A2.05a

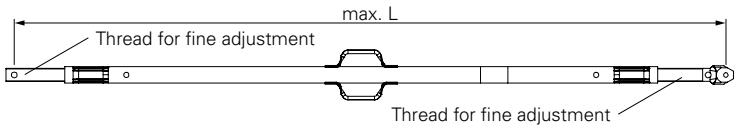



Fig. A2.05b

## RS 300 and RS 450

- Rough adjustment on one side using bolt and cotter pin on the Outer and Inner Tubes – at the bottom.
- Fine adjustment by means of the thread using the spindle handle – on both sides.

| Push-pull prop | Article no. | Rough adjustment | | Fine adjustment | | |
|---|---|---|---|---|---|---|
| | | Adjustment travel [mm] | Length L1 [m] Fig. A2.06b | Adjustment travel [mm] | min. L [m] Fig. A2.06a | max. L [m] Fig. A2.06c |
| **RS 300** | 117467 | 800 = 8x100 | 2.7 | 300 = 2x150 | **1.9** | **3.0** |
| **RS 450** | 117468 | 1400 = 14x100 | 4.2 | 300 = 2x150 | **2.8** | **4.5** |

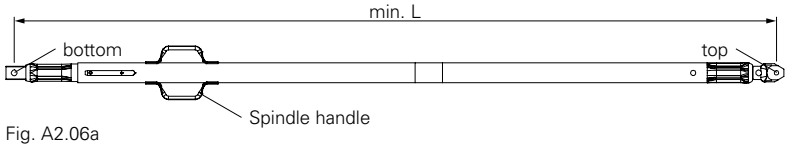



Fig. A2.06a

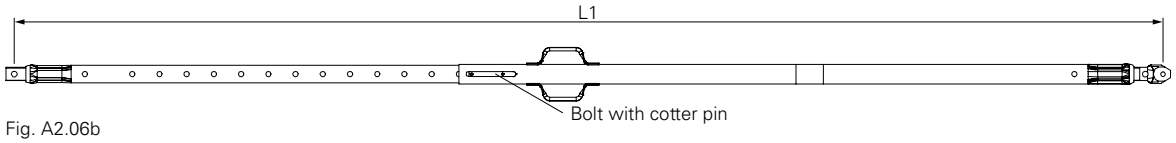



Fig. A2.06b

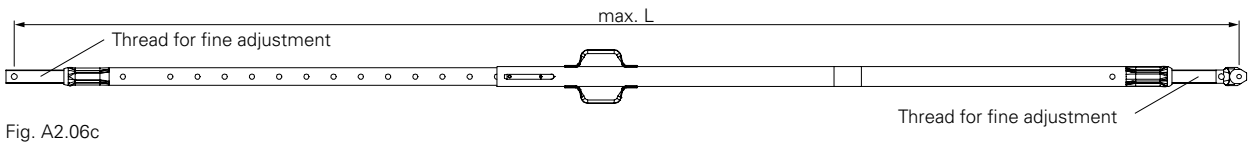



Fig. A2.06c

## RS 650 and RS 1000

**Warning**

Heavy moving components!
During assembly, there is a risk of hands being crushed.

⇒ Adjust the length of the Push-Pull Prop RS only in a horizontal position.
⇒ When extending or retracting the inner tubes, only hold the thread spindles, not the Inner Tubes.
⇒ Never put a finger in a hole for holding purposes.
⇒ The RS 1000 should only be moved by crane.
⇒ Inclined Push-Pull Props RS can be picked up either with asymmetrical 2-sling lifting gear (crane hooks on the spindle handles) or two round slings, tied to the Outer Tube (through the spindle handle pairs). This allows the push-pull prop to be attached and detached from the crane hook from the ground. Avoid collisions with locking pins.

- Rough adjustment on the Outer and Inner Tubes using bolts and cotter pins.
  Possible on both sides – top and bottom.
- Fine adjustment by means of the thread using the spindle handle – on both sides.
- Use round slings pursuant to EN 1492-2.

PERI recommends the use of a round sling if there is no safe access to the upper spindle handle. This allows the crane lifting gear to be unhooked from the round sling from the ground after assembly.

| Push-pull prop | Article no. | Rough adjustment | | Fine adjustment | | |
|---|---|---|---|---|---|---|
| | | Adjustment travel [mm] | Length L1 [m] Fig. A2.07b | Adjustment travel [mm] | min. L [m] Fig. A2.07a | max. L [m] Fig. A2.07c |
| **RS 650** | 117469 | 2000 = 2x10x100 | 6.3 | 200 = 2x100 | **4.3** | **6.5** |
| **RS 1000** | 028990 | 3400 = 2x10x170 | 9.8 | 200 = 2x100 | **6.4** | **10.0** |

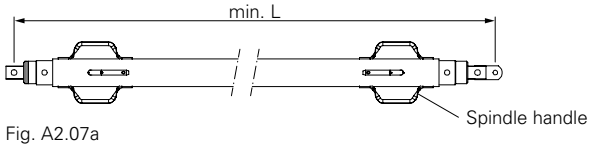


Fig. A2.07a

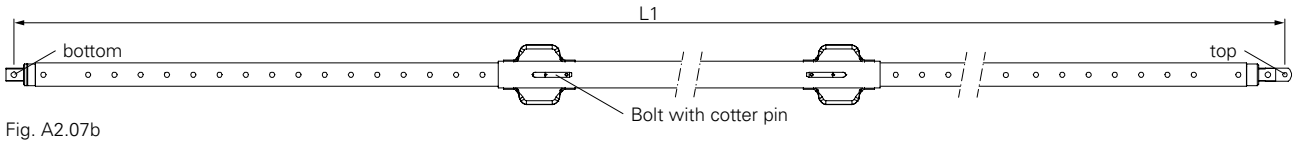


Fig. A2.07b

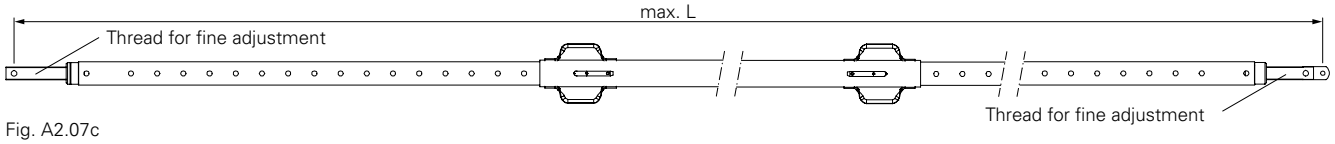


Fig. A2.07c

## General information

**Warning**

Loose components may tip over!
Toppling can result in serious injury or even death.
⇒ Use personal protective equipment.
⇒ Secure all bolts using cotter pins.

- Fix the loose end of the chain with the hook (**7.5**). As a result, the end of the chain is prevented from getting caught when the Push-Pull Prop RS 1400
  – is unloaded.
  – is moved on the construction site.
  – is attached to the formwork unit.
- Never attach the hook (**7.5**) to a crane hook.
- To reposition the Push-Pull Prop RS 1400, attach ring 1 (**7.1**) to the crane hook.
- When transporting in a horizontal position, secure both crane hooks using the red rings only (**7.2 + 7.3**).

**Push-Pull Prop RS 1400**

| | | |
|---|---|---|
| **7** | Push-Pull Prop RS 1400 | 103800 |
| **7.1** | Ring 1 – black, loose, with hook (**10.5**) | |
| **7.2** | Ring 2 – red, fixed | |
| **7.3** | Ring 3 – red, fixed | |
| **7.4** | Ring 4 – black, fixed | |
| **7.5** | Hook – attached to Ring 1 | |
| **7.6** | Spigot – 2x | |
| **7.7** | Bolt Ø 16 x 42 | |
| **7.8** | Cotter Pin 4/1 ga | |
| **7.9** | Chain | |

**Top view**

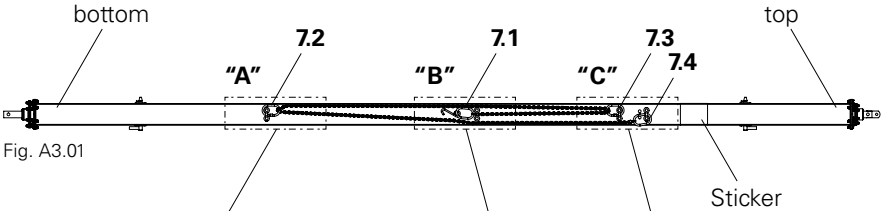



Fig. A3.01

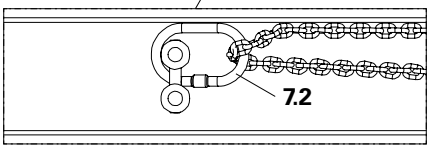



Fig. A3.01a

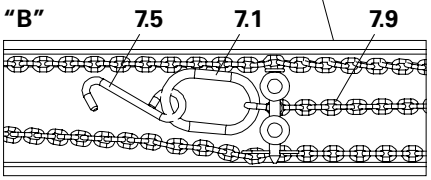



Fig. A3.01b

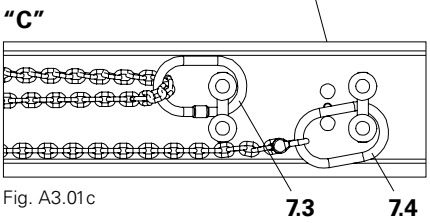



Fig. A3.01c

Is the chain (**7.9**) attached in the manner shown in the illustrations Fig. A3.01 – Fig. A3.01c?
If the chain is not accurately inserted as shown in the illustrations, release the chain and re-attach to the Push-Pull Prop RS 1400.

## Moving the push-pull prop

**Warning**

Heavy load on the crane!
The Push-Pull Prop RS 1400 can rip off or slip and fall, causing serious injury or even death.

⇒ Crane sling angle on the 2-sling lifting gear ≤ 30°.
⇒ Do not use textile slings, e.g. round slings, for moving operations.

- Ensure that Push-Pull Props RS 1400 are only moved individually and in a horizontal position on the rings (**7.2 + 7.3**).
- Following the moving operation, the chain is then secured again.

**Preparation**

1. Remove cotter pins and bolts.
   → Ring 1 (**7.1**) is released.
2. Loosen the chain.
3. Firmly clamp the hook (**7.5**) in the chain.
4. Re-attach bolts and cotter pins.

**Moving**

1. Attach one crane hook of 2-sling lifting gear to Ring 2 (**7.2**).
2. The other crane hook is attached to Ring 3 (**7.3**).
3. Lift the Push-Pull Prop RS 1400 with a crane.

(Fig. A3.02)

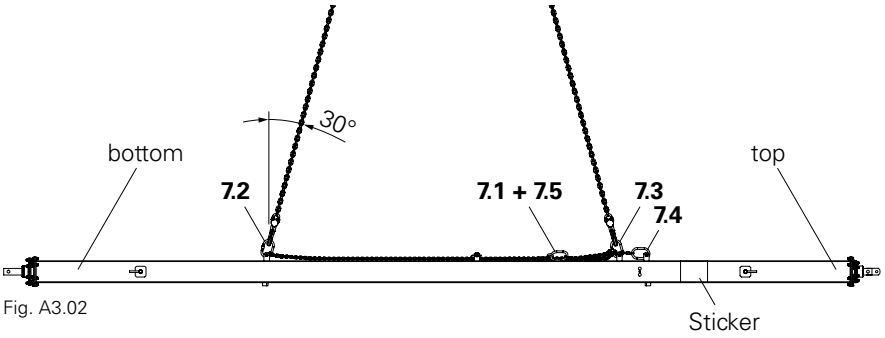



Fig. A3.02

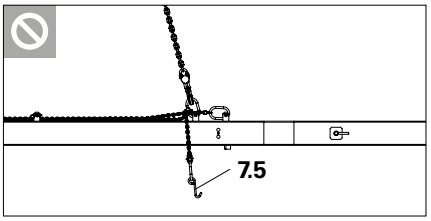



Fig. A3.02a

The hook (**7.5**) must **not** hang down. (Fig. A3.02a)
During the moving process, firmly clamp the hook to the chain of the push-pull prop.

## Adjusting the length

**Warning**

Heavy moving components!
During assembly, there is a risk of hands being crushed.

⇒ Adjust the length of the Push-Pull Prop RS 1400 only in a horizontal position.
⇒ When extending or retracting the inner tubes, only hold the thread spindles, not the Inner Tubes.
⇒ Never put a finger in a hole for holding purposes.

- The length of the Push-Pull Prop RS 1400 to be adjusted is to be calculated according to project specifications.
- Ensure even distribution when adjusting the length of the inner tubes at the top and bottom (rough adjustment).
- Unscrew the threaded spindle at the bottom (**7.14**) by only a few turns so that the Push-Pull Prop RS 1400 can be attached to the Base Plate.

**Push-Pull Prop RS 1400**

| | | |
|---|---|---|
| **7** | Push-Pull Prop RS 1400 | 103800 |
| **7.10** | Outer Tube | |
| **7.11** | Upper Inner Tube | |
| **7.12** | Lower Inner Tube | |
| **7.13** | Upper threaded spindle | |
| **7.14** | Lower threaded spindle | |

Screw out the threaded spindles (**7.13 + 7.14**) approx. 50 % which means fine adjustment can take place in both directions.

| Push-pull prop | Article no. | Rough adjustment | | Fine adjustment | | |
|---|---|---|---|---|---|---|
| | | Adjustment travel [mm] | Length L1 [m] Fig. A3.03b | Adjustment travel [mm] | min. L [m] Fig. A3.03a | max. L [m] Fig. A3.03c |
| **RS 1400** | 103800 | 6800 = 2x17x200 | 13.2 | 800 = 2x400 | **6.4** | **14.0** |

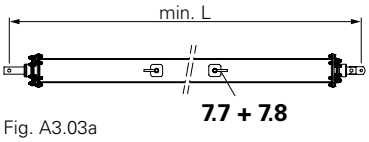


Fig. A3.03a

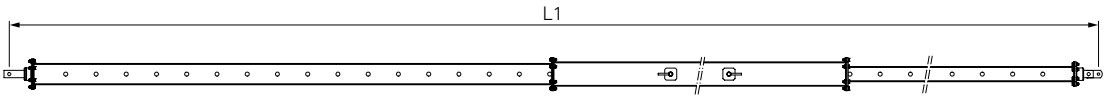


Fig. A3.03b

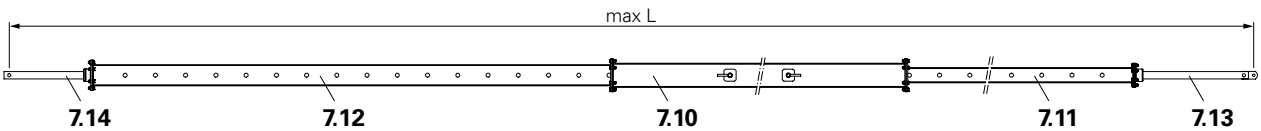


Fig. A3.03c

**Rough adjustment on one side**

Hole spacing for the adjustment:
20 cm increments.

**Rough adjustment**

1. Remove cotter pins (**7.8**) and bolts (**7.7**).
2. Pull out the Inner Tube (**7.11**) until the required length is achieved.
3. Insert bolts (**7.7**) through the congruent holes of the Inner and Outer Tubes (**7.10**).
4. Secure the bolt (**7.7**) with a cotter pin (**7.8**).
   → The length has been adjusted and the Inner and Outer Tubes are secured against moving.

(Fig. A3.03c + Fig. A3.04)

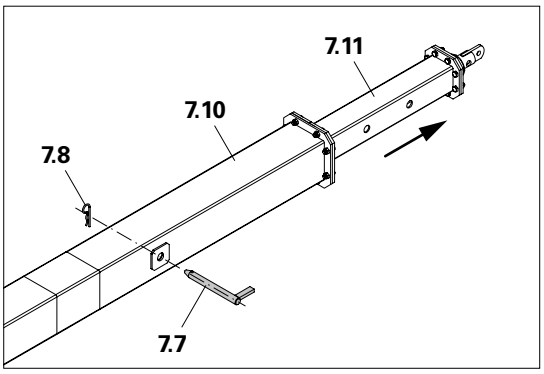



Fig. A3.04

**Fine adjustment**

**Do not fine-tune the Push-Pull Prop RS 1400 until it has been attached to the formwork and Base Plate.**

**Fine adjustment**

1. Turn the push-pull prop on the Outer Tube.
   → Fine adjustment on both sides using the threaded spindles – top and bottom simultaneously.

## Releasing the chain

**Releasing**

1. Remove cotter pins (**7.8**) and bolts (**7.7**) from the spigot (**7.6**). (Fig. A3.05a)
2. Lift out the chain (**7.9**) with ring 1 (**7.1**) and hook (**7.5**).
3. Fix the bolts (**7.7**) and cotter pins (**7.8**) in place again.
4. Insert ring 1 (**7.1**) with hook (**7.5**) through ring 3 (**7.3**) and pull through. (Fig. A3.05b)
5. Pull chain (**7.9**) completely tight.
6. Insert ring 1 (**7.1**) with hook (**7.5**) through ring 2 (**7.2**) and pull through.
7. Pull chain (**7.9**) completely tight.
   → The chain (**7.9**) is released and hangs loosely in ring 4 (**7.4**) on the Push-Pull Prop RS 1400 (**7**). (Fig. A3.06)

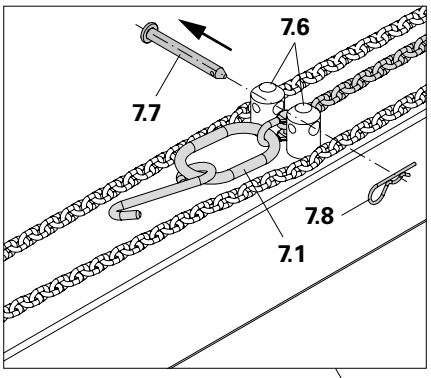



Fig. A3.05a

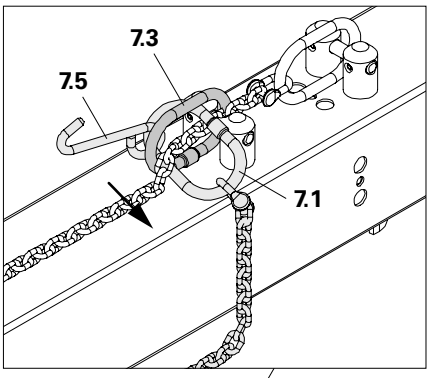



Fig. A3.05b

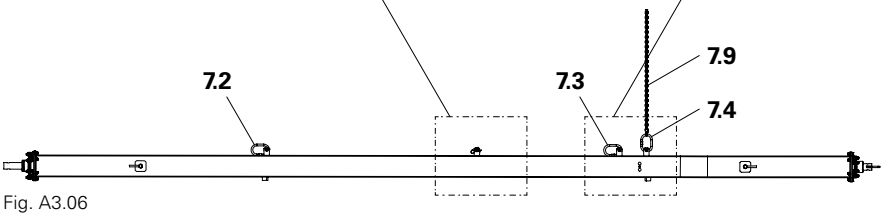



Fig. A3.06

## Erecting the push-pull prop

**Perm. load-bearing capacity of the chain: 10 kN.**

**Erection**

1. Release the chain (**7.9**).
2. Attach ring 1 (**7.1**) to the crane hook.
3. Attach the Base Plate to the lower end of the Push-Pull Prop RS 1400, see Section "A5 Base Plates" on page 34.
4. Attach Push-Pull Prop RS 1400 to the crane lifting gear and guide to the formwork unit. (Fig. A3.07)
   One person must hold the Push-Pull Prop RS 1400 at the bottom to prevent it from slipping away.
5. Attach the upper part of the Push-Pull Prop RS 1400 to the formwork unit using the brace connector of the respective system, see Section "A6 Brace connectors" on page 36.
6. Fit the base plate to the ground using, for example, an Anchor Bolt PERI 14/20 x 130.
7. Turn the Push-Pull Prop RS 1400 on the Outer Tube until the formwork unit is in the specified position, e.g. perpendicular.
   → The threaded spindles turn simultaneously.

After assembly, wrap the chain around the Push-Pull Prop RS 1400 and hook it in at the bottom. This keeps it out of the way. (Fig. A3.08)

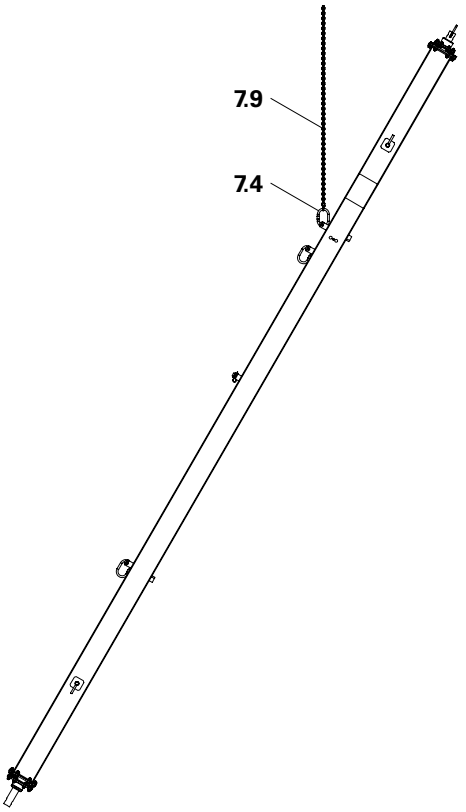



Fig. A3.07

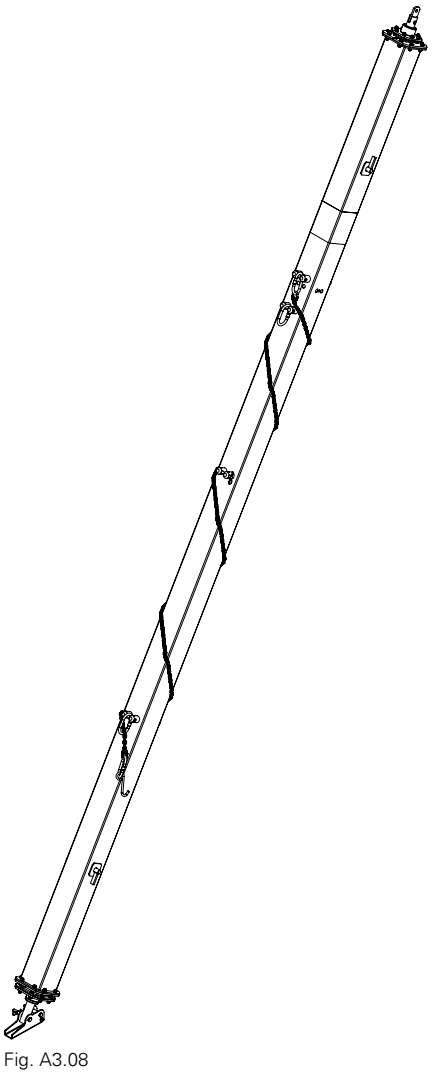


Fig. A3.08

## Transport position

**Fastening the chain**

1. Remove bolts (**7.7**) and cotter pins (**7.8**).
2. Insert hook (**7.5**) and ring 1 (**7.1**) through ring 2 (**7.2**) and pull through. (Fig. A3.01a)
3. Pull chain (**7.9**) completely tight.
4. Insert hook (**7.5**) and ring 1 (**7.1**) through ring 3 (**7.3**) and pull through. (Fig. A3.09)
5. Pull chain (**7.9**) completely tight.
6. Place chain (**7.9**) between the two spigots (**7.6**).
   → Ring 1 (**7.1**) is positioned in front of both spigots (**7.6**). (Fig. A3.10)
7. Insert bolts (**7.7**) through the holes of both spigots (**7.6**). (Fig. A3.10)
   → The chain (**7.9**) is positioned beneath the bolts.
8. Insert the cotter pin (**7.8**) through the hole in the bolt (**7.7**). (Fig. A3.10)
   → Chain (**7.9**) is tensioned.

(Fig. A3.12)

Is the chain (**7.9**) positioned between the two spigots (**7.6**)? (Fig. A3.10)

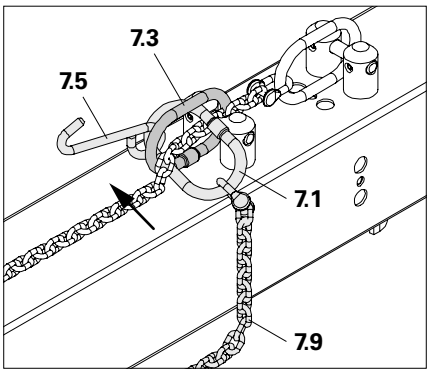



Fig. A3.09

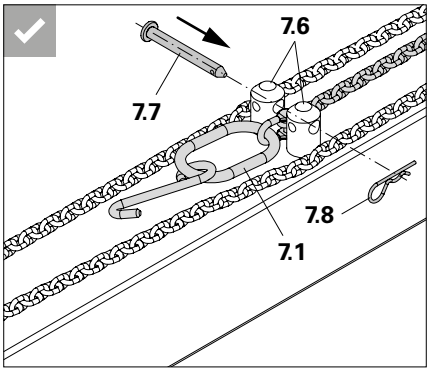



Fig. A3.10

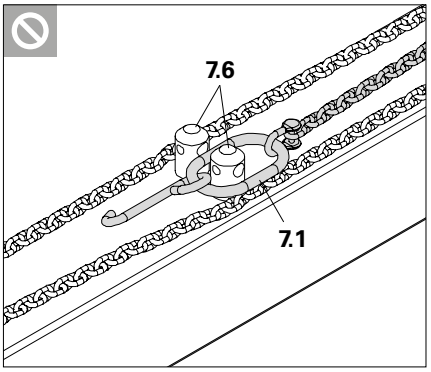



Fig. A3.11

Do **not** position ring 1 (**7.1**) between the two spigots (**7.6**). (Fig. A3.11)

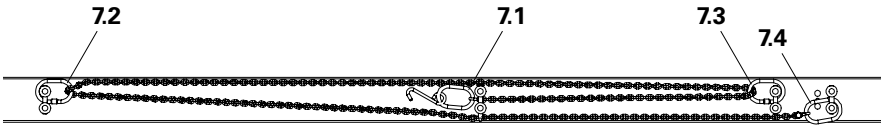



Fig. A3.12

## RSS Push-Pull Props

| Push-pull prop | Article no. | Fine adjustment | | |
|---|---|---|---|---|
| | | Adjustment travel [mm] | min. L [m] Fig. A4.01a | max. L [m] Fig. A4.01b |
| **RSS I** | 328010* | 890 = 2x445 | **2.05** | **2.94** |
| **RSS II** | 328020* | 890 = 2x445 | **2.91** | **3.80** |
| **RSS III** | 328030* | 1400 = 2x700 | **4.60** | **6.00** |

* Rental article

**Adjusting the length**

- Screw out the threaded spindles symmetrically at the top and bottom until the required length is reached.
- Turn the installed push-pull prop with the spindle handle.
  → The threaded spindles turn simultaneously.

The Push-Pull Prop RS can also be used instead of the Push-Pull Prop RSS.

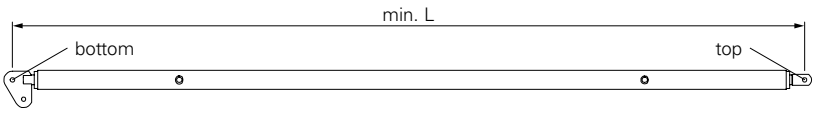



Fig. A4.01a

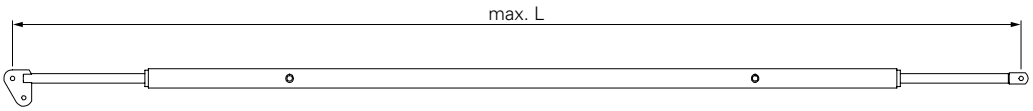



Fig. A4.01b

## Kickers AV

| Push-pull prop | Article no. | Fine adjustment | | |
|---|---|---|---|---|
| | | Adjustment travel [mm] | min. L [m] Fig. A4.02a | max. L [m] Fig. A4.02b |
| **AV 82** | 057087 | 320 = 2x160 | **0.50** | **0.82** |
| **AV 111** | 057088 | 320 = 2x160 | **0.79** | **1.11** |
| **AV 140** | 028110 | 320 = 2x160 | **1.08** | **1.40** |
| **AV 210** | 328135* | 820 = 2x410 | **1.28** | **2.10** |
| **AV RSS III** | 328120* | 890 = 2x445 | **2.03** | **2.92** |

* Rental article

**Adjusting the length**
Screw out the threaded spindles symmetrically at the top and bottom until the required length is reached.
→ The threaded spindles turn simultaneously.

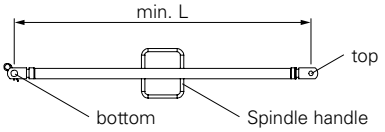



Fig. A4.02a

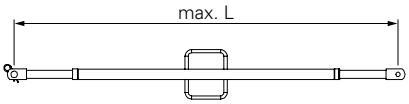



Fig. A4.02b

- **Take into consideration data sheet for the tie bolt.**
- **Secure the formwork against tipping until the base plate is anchored to the ground.**

- Base plates are specific to the push-pull props used. There are two variants:
  - Base Plate-3 f. RS 210-1400 (**8**) for Push-Pull Props RS 210, RS 260, RS 300, RS 450, RS 650, RS 1000 and RS 1400.
  - Base Plate-2 for RSS (**16**) for Push-Pull Props RSS I, RSS II and RSS III
- Before the Push-Pull Prop RS / RSS or the Kicker AV are attached to the Base Plate, roughly adjust the length and unscrew the threaded spindles (fine adjustment) using only a few turns.

Instead of the Base Plate-3 f. RS 210-1400 (article no. 126666), the following Base Plates can also be used:
- Base Plate-2 f.RS 1000/1400 (article no. 102018)
- Base Plate-2 f. RS 210-1400 (article no. 417343*)

* Rental article

## Base Plate RS

### Components

**8** Base Plate-3 f. RS 210-1400
**26** Anchor Bolt SW24 Ø14/20x130mm

### Assembly

1. Attach the lower part of the Push-Pull Prop RS – shown here as a kicker brace – to the Base Plate-3 f. RS 210-1400 (**8**) with bolt (**8.1b**) and cotter pin (**8.2b**).
2. Attach the lower part of the second push-pull prop – shown here as a push-pull prop – to the Base Plate-3 f. RS 210-1400 (**8**) with bolt (**8.1a**) and cotter pin (**8.2a**).
3. Fix the brace connector to the formwork, see Instructions for Assembly and Use of the system.
4. Attach the push-pull prop to the brace connector, see Section "A6 Brace connectors" on page 36.
5. Mount the Base Plate on a flat and sufficiently load-bearing substrate, e.g. using Anchor Bolt SW24 Ø14/20x130mm (**26**).

(Fig. A5.01)

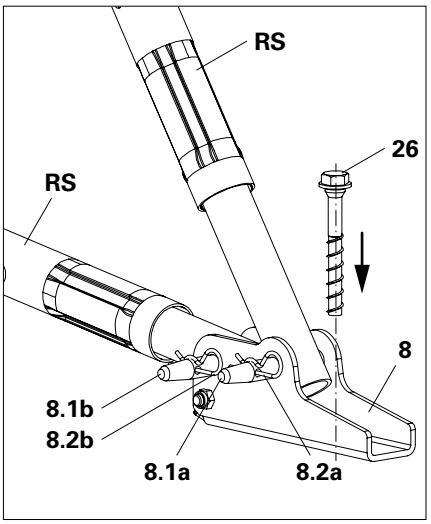


Fig. A5.01

## Base Plate RSS

### Components

**16** Base Plate-2 for RSS*
**22** Pin Ø16x42mm ga
**25** Cotter Pin 4/1 ga
**26** Anchor Bolt SW24 Ø14/20x130mm

* Rental article

### Assembly

1. Fix the connection lugs of the Push-Pull Prop RSS to the Base Plate-2 for RSS (**16**) using bolts (**16.1**) and cotter pins (**16.2**).
2. Fix the connection of the kicker brace to the rear hole of the connection lug using the Pin Ø16x42mm ga (**22**) and Cotter Pin 4/1 ga (**25**).
3. Mount the Base Plate-2 for RSS on a flat and sufficiently load-bearing substrate, e.g. using Anchor Bolt SW24 Ø14/20x130mm (**26**).

(Fig. A5.02)

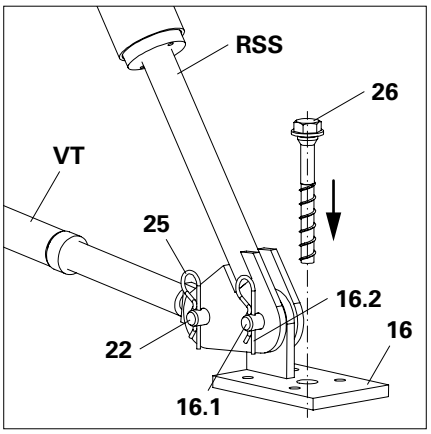



Fig. A5.02

# A6 Brace connectors

The brace connector shown is simply an example. The components, positions and installation steps used must be taken from the applicable Instructions for Assembly and Use for the system.

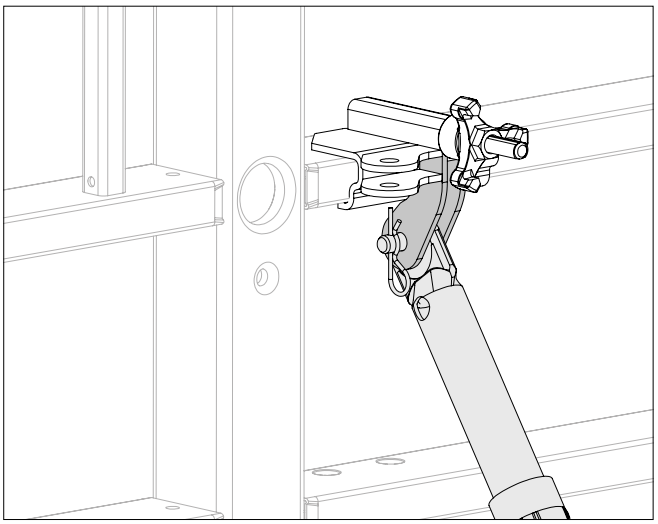


Fig. A6.01

## Quick Connector Head RS-2

**Danger**

Risk of heavy unsecured components toppling over!
Heavy components may topple over and cause serious injuries or even death.

⇒ Only ever fit the Quick Connector Head RS-2 onto prefabricated concrete elements.
⇒ Do not use Quick Connector Head RS-2 for wall or column formwork.
⇒ Always fit at least two Quick Connector Heads RS-2 with corresponding Push-Pull Props RS for each prefabricated element.
⇒ The finished part must be adequately secured against tipping using, for example, a crane, until it is propped with Push-Pull Props.
⇒ Only ever use Quick Connector Head RS-2 with Push-Pull Props RS 210, RS 260, RS 300 and RS 450. In the case of long Push-Pull Props (RS 650, RS 1000 and RS 1400), suspension is not possible due to the dead weight or for handling reasons.
⇒ Do not use with Push-Pull Props RSS.
⇒ Only use Quick Connector Head RS-2 in an angle range of 20° to 60°, see Section "B3 Prefabricated concrete element loads" on page 50.

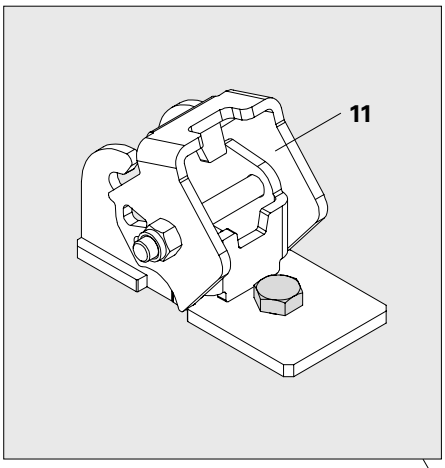



Fig. A7.01a

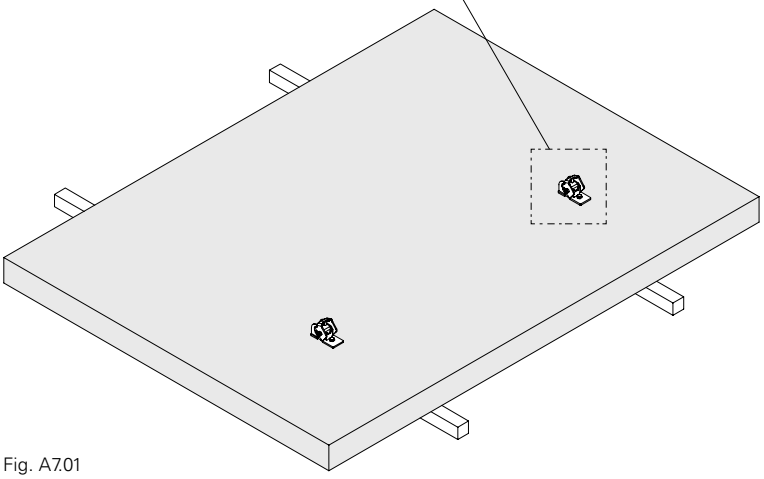


Fig. A7.01

The position and number of fixing material for the quick connector head are determined according to the respective project.

**Components**

| | | |
|---|---|---|
| **11** | Quick Connector Head RS-2 | 127190 |

Fix Quick Connector Head RS-2 (**11**) with suitable fixing material, e.g. screw-on sleeves and bolts or permissible pigtail anchors, preferably to horizontal prefabricated concrete elements. (Fig. A7.01 + Fig. A7.01a)

Have at least 2 Quick Connector Heads RS-2 (**11**) been fitted?

## Push-Pull Prop Adaptor RS

The adaptor (**12**) tightly connects (friction-locked) the Quick Connector Head RS-2 and push-pull prop.

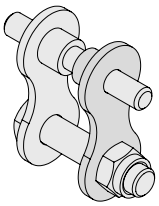


Fig. A7.02

**Component**

| | | |
|---|---|---|
| **12** | Adaptor<br>Quick Connector RS | 117726 |

**Assembly**

1. Take the Adaptor Quick Connector RS apart (**12**). (Fig. A7.02 + Fig. A7.03a)
2. Insert bolts (**12.1**) and threaded bolts (**12.2**) through the holes on the connection lug of the Push-Pull Prop (**RS**).
3. Push the counterpart (**12.3**) over the bolt (**12.1**) and threaded bolt (**12.2**).
4. Fit a nut (**12.4**) onto the threaded bolt (**12.2**). (Fig. A7.03a)
   → The Adaptor Quick Connector RS is installed (**12**). (Fig. A7.03b)

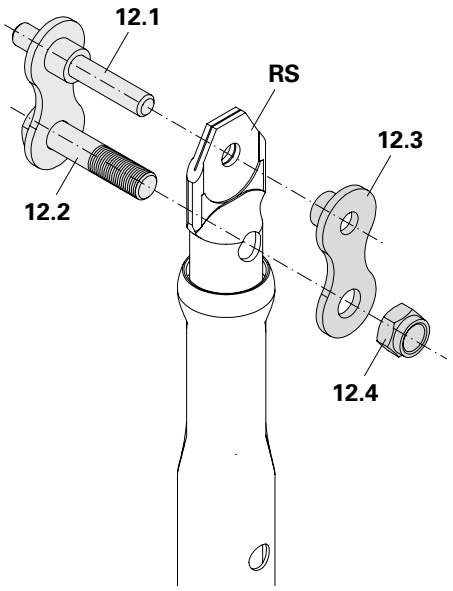



Fig. A7.03a

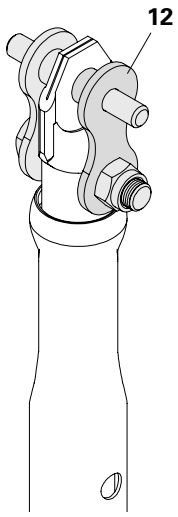



Fig. A7.03b

## Attaching the Push-Pull Prop RS

1. Press the securing flap (**11.1**) backwards with the bolt (**12.1**) against the guide edges (**11.2**).
   → The quick connector is open. (Fig. A7.04a)
2. Move the push-pull prop downwards with the bolt (**12.1**) on the guide edge (**11.2**).
   → The bolts (**12.1**) fall into the notches of the hook plates (**11.3**) and the securing flap (**11.1**) swivels downwards. (Fig. A7.04a + Fig. A7.04b)
   → The small tip (**11.4**) of the securing flap rests on the pin. As a result, the connection is secured. (Fig. A7.04c)

Is the securing flap closed, i.e. is the small tip (**11.4**) of the securing flap resting on the pins of the adaptor on both sides? (Fig. A7.04c)

To fix the Base Plate in place, see Section "A5 Base Plates" on page 34.

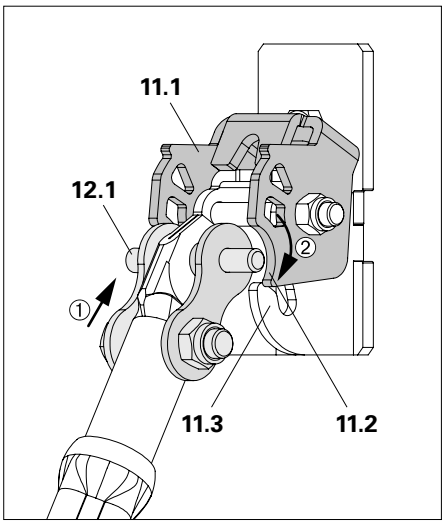


Fig. A7.04a

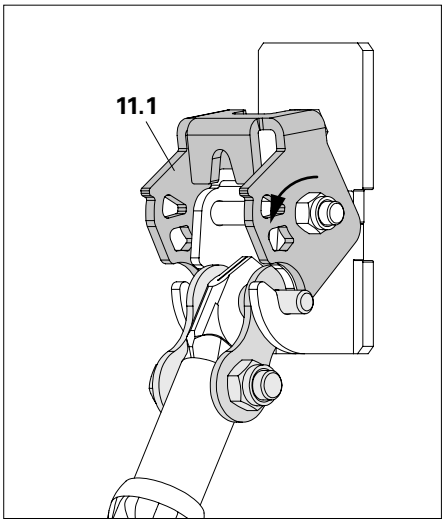


Fig. A7.04b

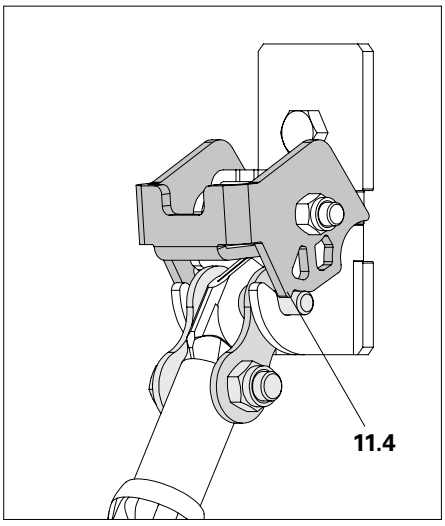


Fig. A7.04c

### Prefabricated concrete walls

The wall shown is simply an example. The number and positions of the Quick Connectors RS-2 with Push-Pull Props RS must be verified on a project-specific basis.

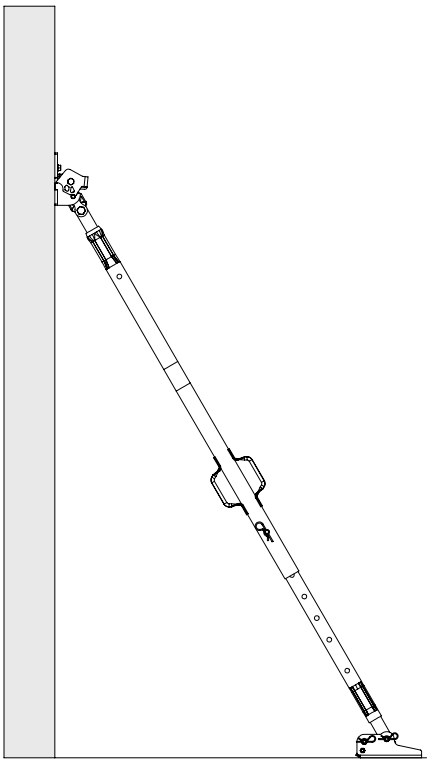


Fig. A7.05

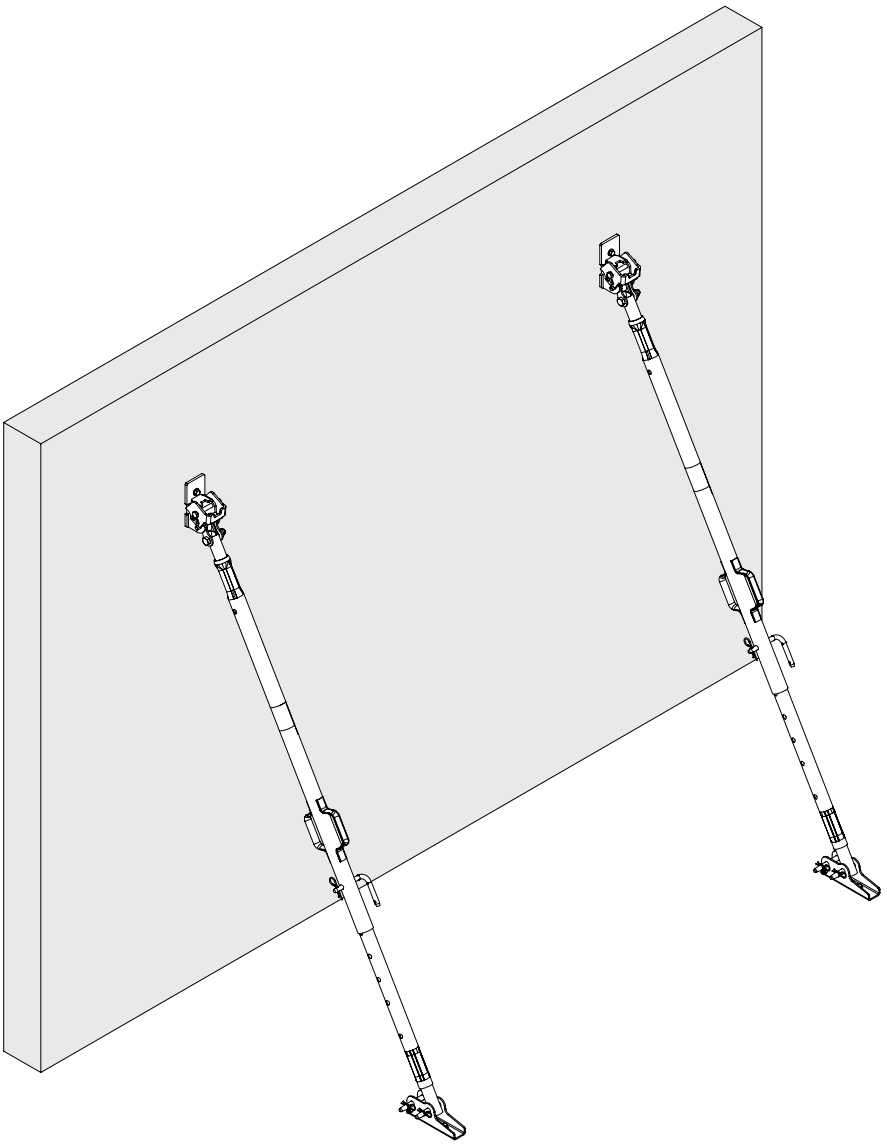


Fig. A7.05a

## Prefabricated concrete columns

The column shown is simply an example. The number and positions of the Quick Connectors RS-2 with Push-Pull Props RS must be verified on a project-specific basis.

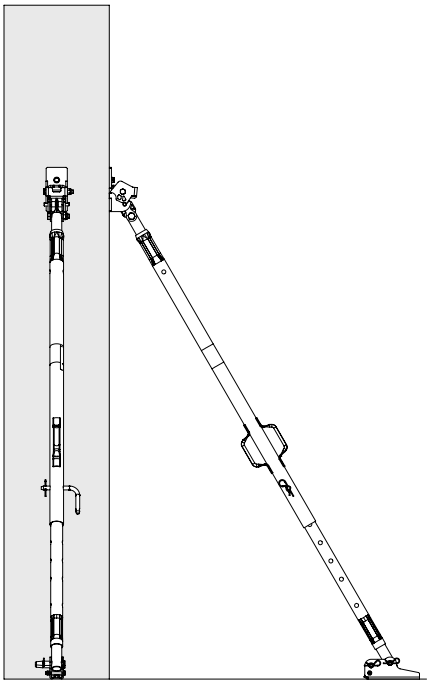


Fig. A7.06

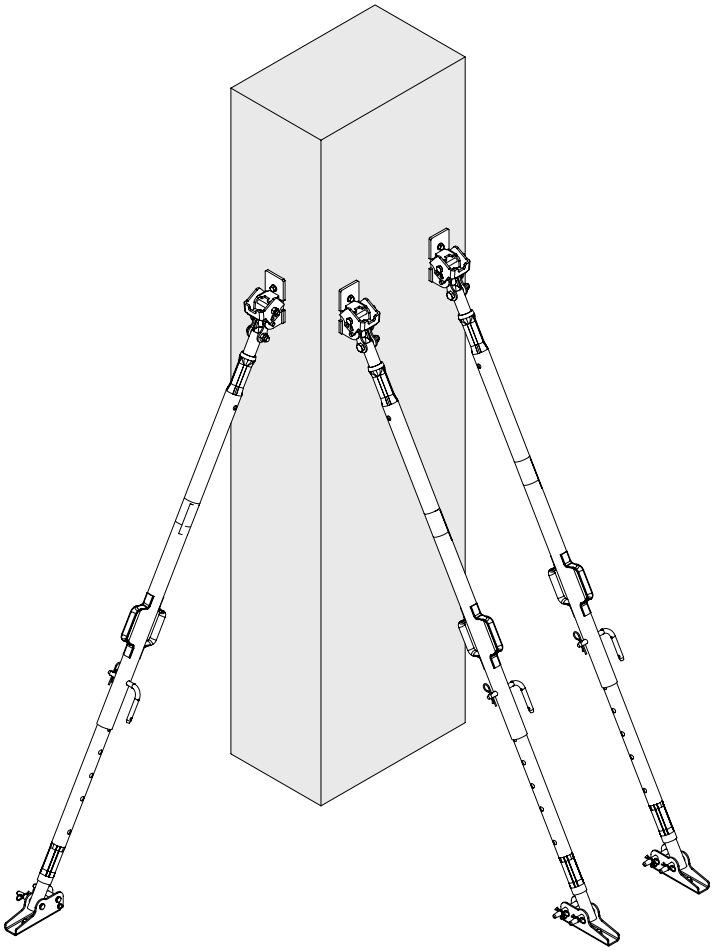


Fig. A7.06a

## Disassembly

- The push-pull prop must be secured and free of any load.
- The dismantling sequence is carried out according to project specifications.

**Dismantling**

1. Press the securing flap (**11.1**) upwards, e.g. with a pole. (Fig. A7.07)
2. Detach the Adaptor Quick Connector RS (**12**). (Fig. A7.08)

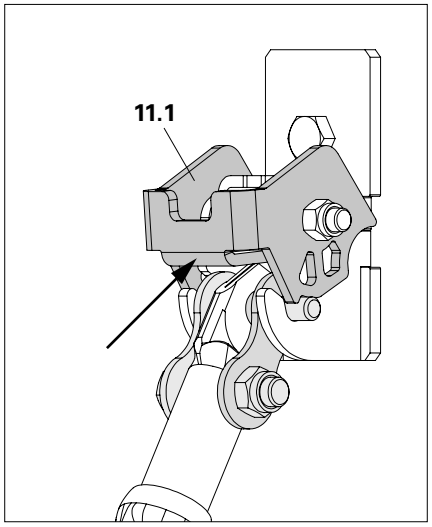



Fig. A7.07

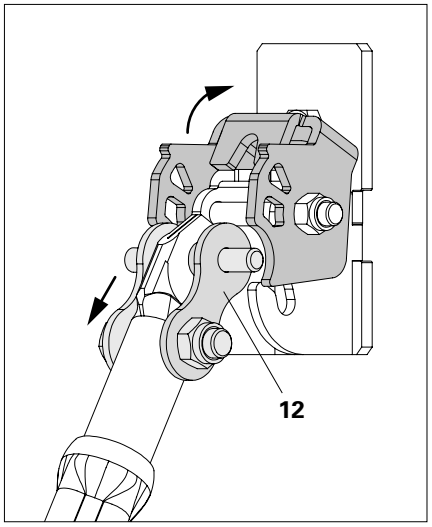



Fig. A7.08

## RS Push-Pull Props

- The load-bearing capacity information refers to use with symmetrical extensions.
- The connection points are to be pin jointed and made structurally adequate by calculations in each individual case.

| **Push-Pull Prop RS 210** | L = 1.30 – 2.10 m | |
|---|---|---|
| Extension length L [m] | 1.30 – 2.00 | 2.10 |
| Perm. compressive force F [kN] | 25.0 | 23.6 |
| Perm. tension force F [kN] | 25.0 | |

| **Push-Pull Prop RS 260** | L = 2.30 – 2.60 m | |
|---|---|---|
| Extension length L [m] | 2.30 | 2.60 |
| Perm. compressive force F [kN] | 25.0 | 22.1 |
| Perm. tension force F [kN] | 25.0 | |

| **Push-Pull Prop RS 300** | L = 1.90 – 3.00 m | | |
|---|---|---|---|
| Extension length L [m] | 1.90 – 2.30 | 2.50 | 3.00 |
| Perm. compressive force F [kN] | 25.0 | 21.6 | 14.2 |
| Perm. tension force F [kN] | 25.0 | | |

| **Push-Pull Prop RS 450** | L = 2.80 – 4.50 m | | |
|---|---|---|---|
| Extension length L [m] | 2.80 – 3.60 | 4.00 | 4.50 |
| Perm. compressive force F [kN] | 25.0 | 17.2 | 11.8 |
| Perm. tension force F [kN] | 25.0 | | |

| **Push-Pull Prop RS 650** | L = 4.30 – 6.50 m | | | | |
|---|---|---|---|---|---|
| Extension length L [m] | 4.30 – 4.90 | 5.00 | 5.50 | 6.00 | 6.50 |
| Perm. compressive force F [kN] | 25.0 | 24.4 | 18.5 | 15.9 | 13.2 |
| Perm. tension force F [kN] | 25.0 | | | | |

| **Push-Pull Prop RS 1000** | L = 6.40 – 10.00 m | | | | |
|---|---|---|---|---|---|
| Extension length L [m] | 6.40 – 6.64 | 7.64 | 8.44 | 9.24 | 10.00 |
| Perm. compressive force F [kN] | 34.2 | 25.9 | 20.3 | 16.0 | 12.8 |
| Perm. tension force F [kN] | 29.0 | | | | |

| **Push-Pull Prop RS 1400** | L = 6.40 – 14.00 m | | | |
|---|---|---|---|---|
| Extension length L [m] | 6.40 – 10.46 | 12.00 | 13.00 | 14.00 |
| Perm. compressive force F [kN] | 28.8 | 26.8 | 22.2 | 18.1 |
| Perm. tension force F [kN] | 27.7 | | | |

**Static system for Push-Pull Props RS**

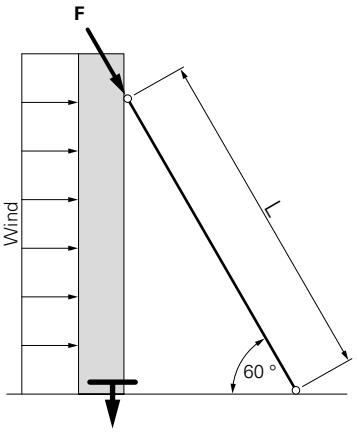



Fig. B1.01

## RSS Push-Pull Props and Kickers AV

- The load-bearing capacity information refers to use with symmetrical extensions.
- The connection points are to be pin jointed and made structurally adequate by calculations in each individual case.

| **Push-Pull Prop RSS I** | L = 2.05 – 2.94 m | | | |
|---|---|---|---|---|
| Extension length L [m] | 2.03 | 2.30 | 2.60 | 2.94 |
| Perm. compressive force F [kN] | 34.2 | 33.2 | 22.7 | 14.2 |
| Perm. tension force F [kN] | 26.3 | | | |

| **Push-Pull Prop RSS II** | L = 2.91 – 3.80 m | | | |
|---|---|---|---|---|
| Extension length L [m] | 2.91 | 3.21 | 3.50 | 3.80 |
| Perm. compressive force F [kN] | 31.7 | 26.4 | 17.1 | 11.6 |
| Perm. tension force F [kN] | 26.3 | | | |

| **Push-Pull Prop RSS III** | L = 4.60 – 6.00 m | | | | |
|---|---|---|---|---|---|
| Extension length L [m] | 4.60 | 4.95 | 5.30 | 5.65 | 6.00 |
| Perm. compressive force F [kN] | 27.8 | 22.8 | 18.6 | 14.7 | 11.1 |
| Perm. tension force F [kN] | 20.0 | | | | |

**Static system for Push-Pull Props RSS**

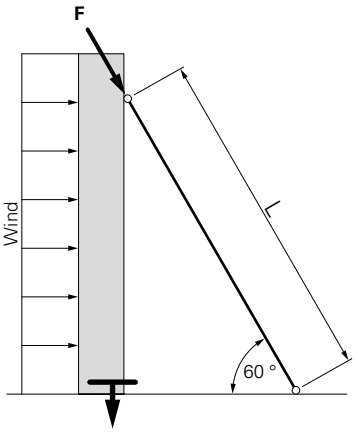



Fig. B1.02

| **Kickers AV 82 / 111 / 140** | L = 0.50 – 0.82 m | | | L = 0.79 – 1.11 m | | | L = 1.08 – 1.40 m | | |
|---|---|---|---|---|---|---|---|---|---|
| Extension length L [m] | 0.50 | 0.66 | 0.82 | 0.79 | 0.95 | 1.11 | 1.08 | 1.24 | 1.40 |
| Perm. compressive force F [kN] | 34.1 | 28.9 | 23.2 | 30.9 | 24.9 | 19.7 | 25.7 | 20.0 | 15.7 |
| Perm. tension force F [kN] | 26.3 | | | 26.3 | | | 26.3 | | |

| **Kickers AV 210** | L = 1.28 – 2.10 m | | | |
|---|---|---|---|---|
| Extension length L [m] | 1.28 | 1.69 | 1.90 | 2.10 |
| Perm. compressive force F [kN] | 34.2 | 34.2 | 25.5 | 19.0 |
| Perm. tension force F [kN] | 26.3 | | | |

| **Kickers AV for RSS III** | L = 2.03 – 2.92 m | | | |
|---|---|---|---|---|
| Extension length L [m] | 2.03 | 2.30 | 2.60 | 2.94 |
| Perm. compressive force F [kN] | 34.2 | 33.2 | 22.7 | 14.2 |
| Perm. tension force F [kN] | 26.3 | | | |

**Static system for Kickers AV**

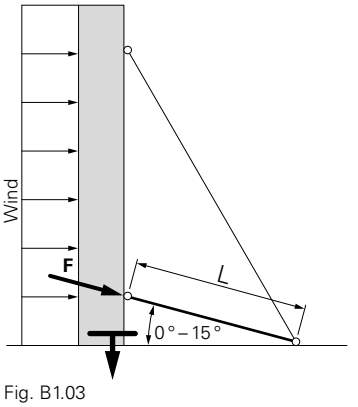



Fig. B1.03

## Push-Pull Props RS on the Base Plate

Use with Push-Pull Props RS.

**Base Plate-3 f. RS 210-1400**
Article no. 126666
(Fig. B2.01 + Fig. B2.01a)

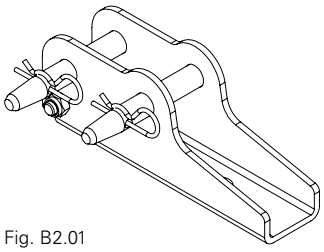


Fig. B2.01

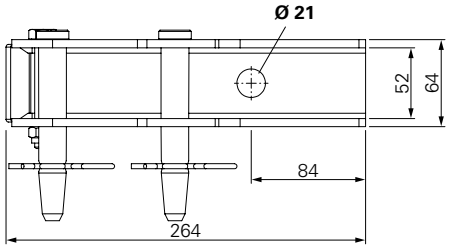



Fig. B2.01a

**Load case 1**

$35° \le \alpha_1 \le 75°$
$0° \le \alpha_2 \le 25°$

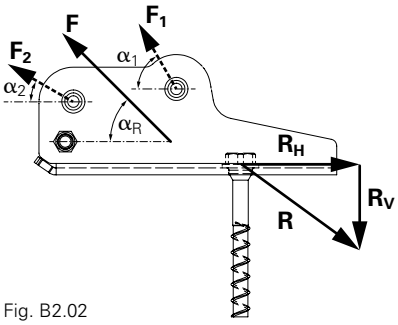



Fig. B2.02

F = Resulting force from $F_1$ and $F_2$
$F_1$ = push-pull prop load
$F_2$ = kicker brace load
$\alpha$ = angle between F and concrete surface [°]
$\alpha_1$ = angle between $F_1$ and concrete surface [°]
$\alpha_2$ = angle between $F_2$ and concrete surface [°]
R = Resulting dowel load
$R_V$ = vertical component of the dowel load
$R_H$ = horizontal component of the dowel load

$$F = \sqrt{F_1^2 + F_2^2 + 2 \times F_1 \times F_2 \times \cos(\alpha_1 - \alpha_2)}$$

$$\alpha = \frac{F_1 \times \alpha_1 + F_2 \times \alpha_2}{F_1 + F_2}$$

Table only applies if $F_1$ and $F_2$ are simultaneously compressive or tension forces.

| Load case 1* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Tension | | | | Compression | | | |
| $\alpha_R$ [°] | perm. tension force F [kN] | R [kN] | $R_V$ [kN] | $R_H$ [kN] | perm. compression F [kN] | R [kN] | $R_V$ [kN] | $R_H$ [kN] |
| **30** | 38.1 | 40.0 | 22.7 | 32.9 | 18.4 | 16.4 | 3.9 | 15.9 |
| **35** | 36.1 | 39.7 | 26.4 | 29.6 | 23.2 | 19.0 | 0.0 | 19.0 |
| **40** | 34.1 | 39.4 | 29.5 | 26.1 | 30.3 | 23.2 | 0.0 | 23.2 |
| **45** | 30.5 | 37.1 | 30.3 | 21.5 | 35.4 | 25.0 | 0.0 | 25.0 |
| **50** | 27.6 | 35.6 | 30.9 | 17.7 | 38.7 | 24.9 | 0.0 | 24.9 |
| **55** | 25.3 | 34.5 | 31.3 | 14.5 | 41.1 | 23.6 | 0.0 | 23.6 |
| **60** | 23.4 | 33.7 | 31.6 | 11.7 | 43.0 | 21.5 | 0.0 | 21.5 |
| **65** | 21.9 | 33.1 | 31.8 | 9.3 | 44.6 | 18.9 | 0.0 | 18.9 |
| **70** | 20.5 | 32.6 | 31.8 | 7.0 | 46.2 | 15.8 | 0.0 | 15.8 |
| **75** | 19.5 | 32.0 | 31.6 | 5.0 | 47.8 | 12.4 | 0.0 | 12.4 |

Minimum concrete strength $f_{ck}$ = 12 N/mm² or $f_{ck,cube}$ = 15 N/mm²

* Static values relate solely to Base Plate-3. The screw connection must be verified separately.

**Load case 2**

$0° \leq \alpha \leq 90°$

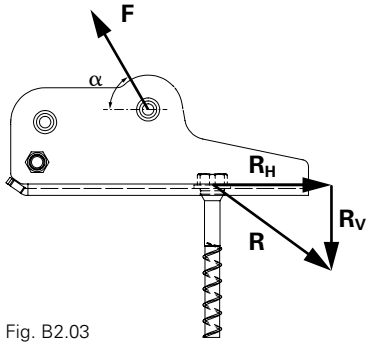



Fig. B2.03

F = Resulting force from $F_1$ and $F_2$
α = angle between F and concrete surface [°]
R = Resulting dowel load
$R_V$ = vertical component of the dowel load
$R_H$ = horizontal component of the dowel load

| Load case 2* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Tension | | | | Compression | | | |
| α [°] | perm. tension force F [kN] | R [kN] | $R_V$ [kN] | $R_H$ [kN] | perm. compression F [kN] | R [kN] | $R_V$ [kN] | $R_H$ [kN] |
| **0** | 31.7 | 38.8 | 22.4 | 31.7 | 9.1 | 15.9 | 13.1 | 9.1 |
| **5** | 32.1 | 39.2 | 22.8 | 31.9 | 9.7 | 15.6 | 12.2 | 9.7 |
| **10** | 32.4 | 39.5 | 23.3 | 31.9 | 10.6 | 15.3 | 11.2 | 10.4 |
| **15** | 32.7 | 39.6 | 23.8 | 31.6 | 11.7 | 15.1 | 10.0 | 11.3 |
| **20** | 33.1 | 39.6 | 24.5 | 31.1 | 13.2 | 15.1 | 8.5 | 12.4 |
| **25** | 33.6 | 39.6 | 25.3 | 30.5 | 15.3 | 15.4 | 6.6 | 13.9 |
| **30** | 34.3 | 39.6 | 26.3 | 29.7 | 18.4 | 16.4 | 3.9 | 15.9 |
| **35** | 35.1 | 39.7 | 27.3 | 28.8 | 23.2 | 19.0 | 0.0 | 19.0 |
| **40** | 36.2 | 39.8 | 28.5 | 27.7 | 30.3 | 23.2 | 0.0 | 23.2 |
| **45** | 37.3 | 39.7 | 29.6 | 26.4 | 35.4 | 25.0 | 0.0 | 25.0 |
| **50** | 37.6 | 38.6 | 30.1 | 24.2 | 38.7 | 24.9 | 0.0 | 24.9 |
| **55** | 35.9 | 37.2 | 30.4 | 21.3 | 41.1 | 23.6 | 0.0 | 23.6 |
| **60** | 31.1 | 35.3 | 31.6 | 15.5 | 43.0 | 21.5 | 0.0 | 21.5 |
| **65** | 26.9 | 34.2 | 32.3 | 11.4 | 44.6 | 18.9 | 0.0 | 18.9 |
| **70** | 23.1 | 33.4 | 32.5 | 7.9 | 46.2 | 15.8 | 0.0 | 15.8 |
| **75** | 19.5 | 32.1 | 31.7 | 5.0 | 47.8 | 12.4 | 0.0 | 12.4 |
| **80** | 16.1 | 29.1 | 28.9 | 2.8 | 46.2 | 8.0 | 0.0 | 8.0 |
| **85** | 13.8 | 26.8 | 26.8 | 1.2 | 43.1 | 3.8 | 0.0 | 3.8 |
| **90** | 12.1 | 25.2 | 25.2 | 0.0 | 40.4 | 0.0 | 0.0 | 0.0 |

Minimum concrete strength $f_{ck}$ = 12 N/mm² or $f_{ck,cube}$ = 15 N/mm²

* Static values relate solely to Base Plate-3. The screw connection must be verified separately.

**Load case 3**

$0° \leq \alpha \leq 35°$

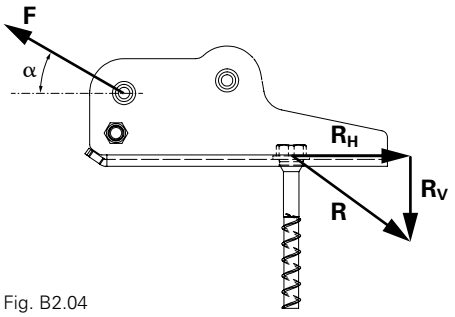



Fig. B2.04

F = Resulting force from $F_1$ and $F_2$
α = angle between F and concrete surface [°]
R = Resulting dowel load
$R_V$ = vertical component of the dowel load
$R_H$ = horizontal component of the dowel load

| Load case 3* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Tension | | | | Compression | | | |
| α [°] | perm. tension force F [kN] | R [kN] | $R_V$ [kN] | $R_H$ [kN] | perm. compression F [kN] | R [kN] | $R_V$ [kN] | $R_H$ [kN] |
| 0 | 34.7 | 39.9 | 19.7 | 34.7 | 10.6 | 16.8 | 13.1 | 10.6 |
| 5 | 36.7 | 40.9 | 18.3 | 36.6 | 13.3 | 17.8 | 11.9 | 13.3 |
| 10 | 38.3 | 41.5 | 17.3 | 37.7 | 18.0 | 20.3 | 9.9 | 17.7 |
| 15 | 39.7 | 41.8 | 16.8 | 38.3 | 28.6 | 28.2 | 5.6 | 27.6 |
| 20 | 40.9 | 41.9 | 16.7 | 38.5 | 54.7 | 51.4 | 0.0 | 51.4 |
| 25 | 40.3 | 41.1 | 18.9 | 36.5 | 54.7 | 49.5 | 0.0 | 49.5 |
| 30 | 33.5 | 39.1 | 26.2 | 29.1 | | | | |
| 35 | 21.7 | 31.0 | 25.5 | 17.7 | | | | |
| 40 | 15.1 | 25.6 | 22.8 | 11.6 | | | | |

Minimum concrete strength $f_{ck}$ = 12 N/mm² or $f_{ck,cube}$ = 15 N/mm²

* Static values relate solely to Base Plate-3. The screw connection must be verified separately.

**Base Plate-2 f. RS 210-1400**
Article no. 417343
(Fig. B2.05)

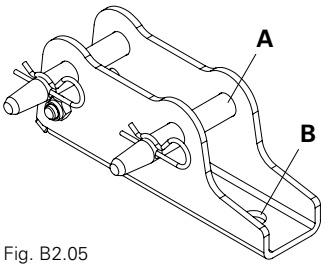



Fig. B2.05

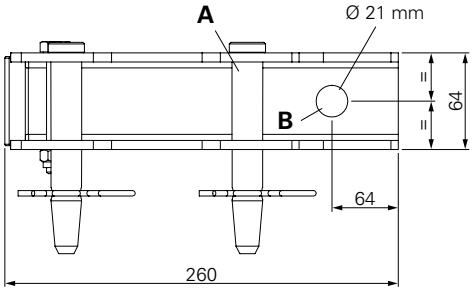



Fig. B2.05a

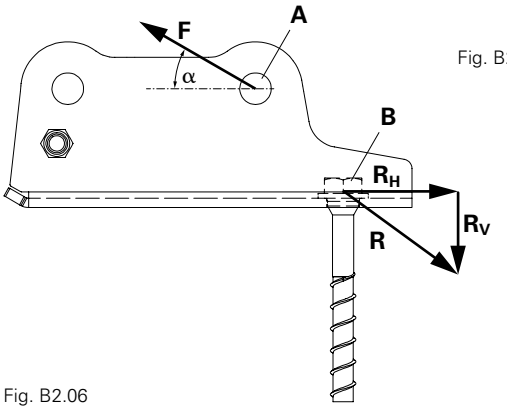



Fig. B2.06

F = prop load

Fit the push-pull prop and the tie bolt in the positions shown (**A**) and (**B**).
(Fig. B2.05 – Fig. B2.06)

**The following proof must also be provided:**

1. The push-pull prop must be capable of bearing the respective prop load with the extension length available.
2. The tie bolt must be capable of bearing the specified dowel force.

If the load at hand F is lower than the value in the table, then the resulting dowel force can be reduced linearly.

| | Tension | | | | Compression | | | |
|---|---|---|---|---|---|---|---|---|
| α [°] | perm. tension force F [kN] | R [kN] | $R_V$ [kN] | $R_H$ [kN] | perm. compression F [kN] | R [kN] | $R_V$ [kN] | $R_H$ [kN] |
| **0** | 36.00 | 40.48 | 18.50 | 36.00 | 2.30 | 7.18 | 6.80 | -2.30 |
| **10** | 34.80 | 40.11 | 20.80 | 34.30 | 2.70 | 6.85 | 6.30 | -2.70 |
| **20** | 34.60 | 40.05 | 23.40 | 32.50 | 3.40 | 6.45 | 5.60 | -3.20 |
| **30** | 35.20 | 40.13 | 26.20 | 30.40 | 4.70 | 6.01 | 4.40 | -4.10 |
| **40** | 36.80 | 40.74 | 29.40 | 28.20 | 8.00 | 6.26 | 1.40 | -6.10 |
| **50** | 39.60 | 41.86 | 33.20 | 25.50 | 18.20 | 11.70 | 0.00 | -11.70 |
| **60** | 16.90 | 23.74 | 22.20 | 8.40 | 25.10 | 12.50 | 0.00 | -12.50 |
| **70** | 6.60 | 13.60 | 13.40 | 2.30 | 29.80 | 10.20 | 0.00 | -10.20 |
| **80** | 4.20 | 11.22 | 11.20 | 0.70 | 34.10 | 5.90 | 0.00 | -5.90 |
| **90** | 3.20 | 10.20 | 10.20 | 0.00 | 38.80 | 0.00 | 0.00 | 0.00 |
| **100** | 2.60 | 9.51 | 9.50 | -0.40 | 44.70 | 7.80 | 0.00 | 7.80 |
| **110** | 2.20 | 9.04 | 9.00 | -0.80 | 46.70 | 16.00 | 0.00 | 16.00 |
| **120** | 2.00 | 8.76 | 8.70 | -1.00 | 45.30 | 22.60 | 0.00 | 22.60 |
| **130** | 1.90 | 8.49 | 8.40 | -1.20 | 42.70 | 28.07 | 6.10 | 27.40 |
| **140** | 1.90 | 8.22 | 8.10 | -1.40 | 41.50 | 34.13 | 12.40 | 31.80 |
| **150** | 1.90 | 7.96 | 7.80 | -1.60 | 41.70 | 40.96 | 18.20 | 36.70 |
| **160** | 2.00 | 7.71 | 7.50 | -1.80 | 40.30 | 41.06 | 15.80 | 37.90 |
| **170** | 2.10 | 7.50 | 7.20 | -2.10 | 37.80 | 40.74 | 16.60 | 37.20 |
| **180** | 2.30 | 7.18 | 6.80 | -2.30 | 36.00 | 40.48 | 18.50 | 36.00 |

**Base Plate-2 f.RS 1000/1400**
Article no. 102018
(Fig. B2.07)

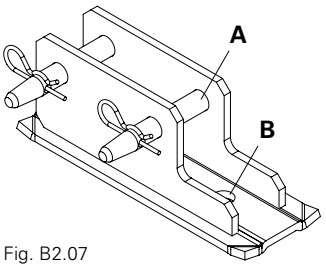



Fig. B2.07

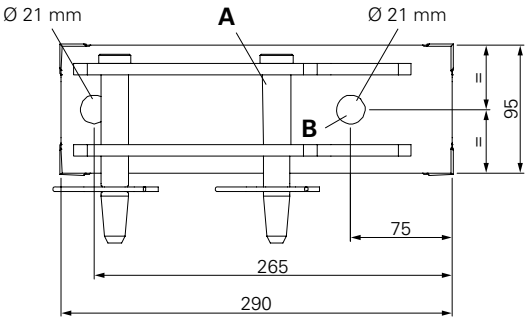



Fig. B2.07a

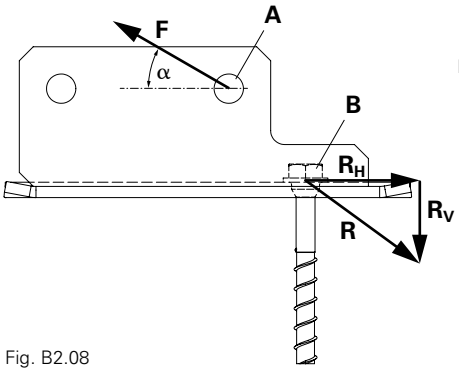



Fig. B2.08

F = prop load

Fit the push-pull prop and the tie bolt in the positions shown (**A**) and (**B**). (Fig. B2.07 – Fig. B2.08)

**The following proof must also be provided:**

1. The push-pull prop must be capable of bearing the respective prop load with the extension length available.
2. The tie bolt must be capable of bearing the specified dowel force.

If the load at hand F is lower than the value in the table, then the resulting dowel force can be reduced linearly.

| | Tension | | | | Compression | | | |
|---|---|---|---|---|---|---|---|---|
| α [°] | perm. tension force F [kN] | R [kN] | $R_V$ [kN] | $R_H$ [kN] | perm. compression F [kN] | R [kN] | $R_V$ [kN] | $R_H$ [kN] |
| **0** | 52.8 | 58.0 | 22.9 | 53.3 | 10.6 | 18.8 | 15.5 | 10.6 |
| **10** | 44.4 | 49.9 | 24.1 | 43.7 | 12.3 | 18.1 | 13.4 | 12.1 |
| **20** | 38.9 | 44.3 | 25.0 | 36.6 | 14.1 | 16.4 | 9.7 | 13.3 |
| **30** | 35.2 | 39.7 | 25.4 | 30.5 | 16.7 | 15.1 | 4.2 | 14.4 |
| **40** | 33.2 | 36.2 | 25.8 | 25.4 | 33.7 | 25.8 | 0.0 | 25.8 |
| **50** | 32.2 | 33.3 | 26.1 | 20.7 | 52.8 | 34.2 | 0.0 | 34.2 |
| **60** | 37.5 | 42.8 | 38.5 | 18.7 | 52.8 | 26.6 | 0.0 | 26.6 |
| **70** | 27.3 | 39.5 | 38.4 | 9.3 | 52.8 | 18.2 | 0.0 | 18.2 |
| **80** | 19.6 | 34.3 | 34.1 | 3.4 | 52.8 | 9.2 | 0.0 | 9.2 |
| **90** | 15.1 | 30.6 | 30.6 | 0.0 | 52.8 | 0.0 | 0.0 | 0.0 |
| **100** | 12.3 | 27.7 | 27.6 | 2.1 | 52.8 | 9.2 | 0.0 | 9.2 |
| **110** | 10.6 | 25.7 | 25.5 | 3.6 | 52.8 | 18.2 | 0.0 | 18.2 |
| **120** | 9.6 | 24.3 | 23.8 | 4.8 | 52.8 | 26.6 | 0.0 | 26.6 |
| **130** | 9.0 | 23.2 | 22.4 | 5.8 | 52.8 | 34.2 | 0.0 | 34.2 |
| **140** | 8.7 | 22.2 | 21.1 | 6.7 | 52.8 | 40.4 | 0.0 | 40.4 |
| **150** | 8.7 | 21.3 | 19.9 | 7.6 | 52.8 | 45.7 | 1.2 | 45.7 |
| **160** | 9.0 | 20.4 | 18.6 | 8.5 | 52.8 | 50.8 | 8.8 | 50.1 |
| **170** | 9.6 | 19.6 | 17.2 | 9.4 | 52.8 | 54.9 | 16.1 | 52.5 |
| **180** | 10.6 | 18.8 | 15.5 | 10.6 | 52.8 | 58.0 | 22.9 | 53.3 |

**Base Plate-2 for RSS**
Article no. 406000
(Fig. B2.09)

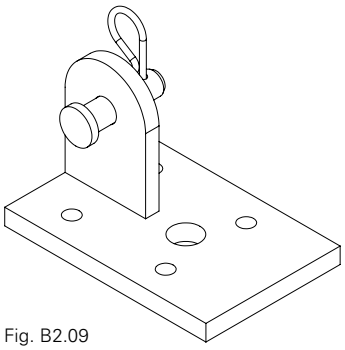


Fig. B2.09

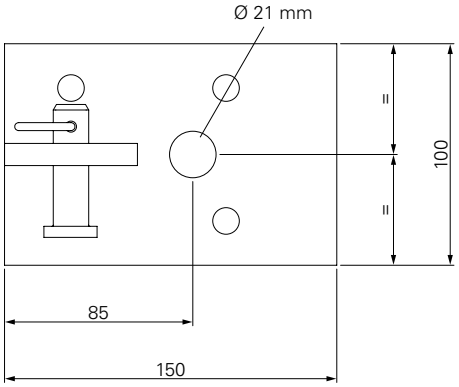



Fig. B2.09a

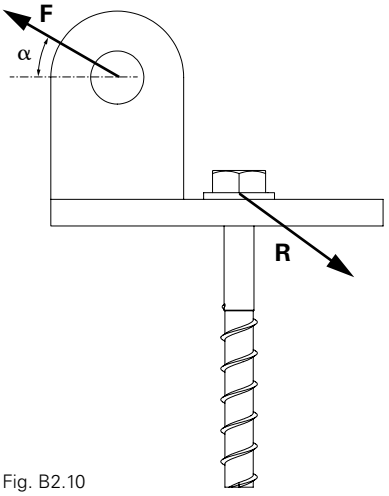



Fig. B2.10

F = Resulting force from push-pull prop and kicker brace load.

**The following proof must also be provided:**

1. The push-pull prop must be capable of bearing the respective prop load with the extension length available.
2. The tie bolt must be capable of bearing the specified dowel force.

If the load at hand F is lower than the value in the table, then the resulting dowel force can be reduced linearly.

| | Tension | | Compression | |
|---|---|---|---|---|
| α [°] | perm. tension force F [kN] | R [kN] | perm. compression F [kN] | R [kN] |
| **0** | 14.4 | 18.1 | 10.0 | 14.4 |
| **10** | 14.6 | 18.6 | 12.1 | 14.5 |
| **20** | 14.8 | 18.5 | 14.8 | 14.6 |
| **30** | 15.6 | 18.5 | 15.5 | 13.4 |
| **40** | 16.9 | 18.5 | 16.8 | 12.9 |
| **50** | 19.1 | 19.8 | 19.1 | 12.3 |
| **60** | 22.6 | 28.3 | 22.7 | 11.4 |
| **70** | 20.4 | 30.2 | 29.2 | 10.0 |
| **80** | 14.3 | 24.4 | 34.4 | 6.0 |
| **90** | 11.3 | 21.5 | 34.4 | 0.0 |
| **100** | 9.6 | 19.7 | 34.4 | 6.0 |
| **110** | 8.5 | 18.5 | 29.2 | 10.0 |
| **120** | 7.9 | 17.6 | 22.7 | 11.6 |
| **130** | 7.6 | 16.8 | 19.1 | 13.1 |
| **140** | 7.5 | 16.1 | 16.9 | 14.4 |
| **150** | 7.7 | 15.6 | 15.5 | 15.6 |
| **160** | 8.1 | 15.1 | 14.8 | 16.6 |
| **170** | 8.8 | 14.7 | 14.6 | 17.6 |
| **180** | 10.0 | 14.4 | 14.4 | 18.1 |

## Quick Connector Head RS-2

Article no. 127190 (Fig. B3.03)

| Maximum accommodated load $F_{perm}$ [kN]<br>Minimum concrete strength 15 N/mm² – prefabricated element thickness ≥ 5 cm | | | | | | |
|---|---|---|---|---|---|---|
| **ß** | **20 °** | **30°** | **40 °** | **45 °** | **50 °** | **60 °** |
| **$F_{perm}$** | 13.0 | 14.7 | 16.9 | 15.6 | 11.9 | 8.2 |

| Loads to be transferred into the prefabricated element | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ß** | **20 °** | | **30°** | | **40 °** | | **45 °** | | **50 °** | | **60 °** | |
| Actual push-pull prop load [kN] | **FSZ [kN]** | **FSQ [kN]** | **FSZ [kN]** | **FSQ [kN]** | **FSZ [kN]** | **FSQ [kN]** | **FSZ [kN]** | **FSQ [kN]** | **FSZ [kN]** | **FSQ [kN]** | **FSZ [kN]** | **FSQ [kN]** |
| 1.0 | 0.59 | 0.94 | 0.51 | 0.87 | 1.19 | 0.77 | 1.53 | 0.70 | 1.88 | 0.64 | 2.51 | 0.50 |
| 2.0 | 1.18 | 1.88 | 1.03 | 1.73 | 2.38 | 1.53 | 3.07 | 1.41 | 3.75 | 1.29 | 5.01 | 1.00 |
| 4.0 | 2.35 | 3.76 | 2.06 | 3.46 | 4.76 | 3.06 | 6.13 | 2.82 | 7.50 | 2.57 | 10.02 | 2.00 |
| 6.0 | 3.53 | 5.64 | 3.08 | 5.20 | 7.13 | 4.60 | 9.20 | 4.23 | 11.26 | 3.86 | 15.04 | 3.00 |
| 8.0 | 4.70 | 7.52 | 4.11 | 6.93 | 9.51 | 6.13 | 12.26 | 5.64 | 15.01 | 5.14 | 20.05 | 4.00 |
| 10.0 | 5.88 | 9.40 | 5.14 | 8.66 | 11.89 | 7.66 | 15.33 | 7.05 | 18.76 | 6.43 | 25.06 | 5.00 |
| 12.0 | 7.06 | 11.28 | 6.17 | 10.39 | 14.27 | 9.19 | 18.39 | 8.45 | 22.51 | 7.72 | 30.07 | 6.00 |
| 14.0 | 8.23 | 13.16 | 7.20 | 12.12 | 16.65 | 10.72 | 21.46 | 9.86 | 26.26 | 9.00 | 35.08 | 7.00 |
| 16.0 | 9.41 | 15.04 | 8.22 | 13.86 | 19.02 | 12.26 | 24.52 | 11.27 | 30.02 | 10.29 | 40.10 | 8.00 |

FSZ = bolt tensile force FSQ = bolt shear force

Verifying the transfer of these forces into the prefabricated element takes place on the construction site.

## Base Plate-3 f. RS 210-1400

Article no. 126666 (Fig. B3.01 + Fig. B3.03)

| Maximum accommodated load from the push-pull prop [kN] | | | | | | |
|---|---|---|---|---|---|---|
| **ß** | **20 °** | **30°** | **40 °** | **45 °** | **50 °** | **60 °** |
| F [kN] | 22.5 | 24.9 | 28.7 | 31.4 | 30.3 | 18.4 |

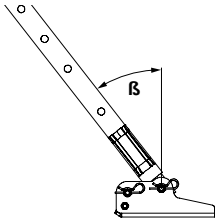



Fig. B3.01

## Base Plate-2 f. RS 210-1400

Article no. 417343 (Fig. B3.02 + Fig. B3.03)

| Maximum accommodated load from the push-pull prop [kN] | | | | | | |
|---|---|---|---|---|---|---|
| **ß** | **20 °** | **30°** | **40 °** | **45 °** | **50 °** | **60 °** |
| F [kN] | 6.6 | 16.9 | 18.2 | 13.1 | 8.0 | 4.7 |

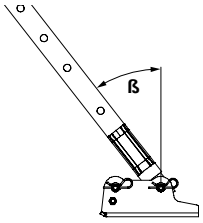



Fig. B3.02

## Push-Pull Props RS

(Fig. B3.03)

| Maximum accommodated load – push-pull props – tension/compression | | | | |
|---|---|---|---|---|
| **RS 210** | Extension length L [m] | 1.30 – 2.00 | 2.10 | – |
| | perm. FD [kN] | 25.0 | 23.6 | – |
| **RS 260** | Extension length L [m] | 2.30 | 2.60 | – |
| | perm. FD [kN] | 25.0 | 22.1 | – |
| **RS 300** | Extension length L [m] | 1.90 – 2.30 | 2.50 | 3.00 |
| | perm. FD [kN] | 25.0 | 21.6 | 14.2 |
| **RS 450** | Extension length L [m] | 2.80 – 3.60 | 4.00 | 4.50 |
| | perm. FD [kN] | 25.0 | 17.2 | – |

**Permitted area of application**
**Quick connector head: ß = 20° – 60°**

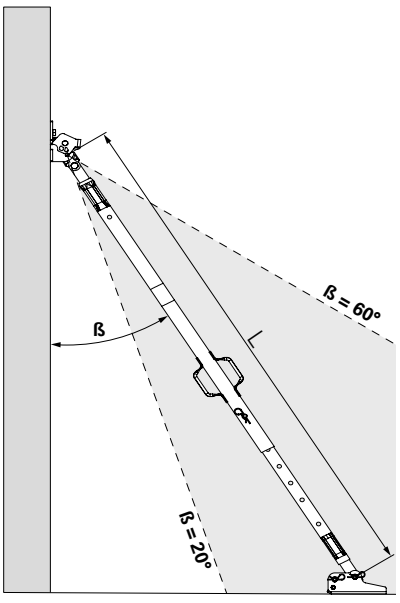


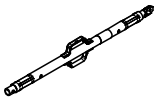

Fig. B3.03

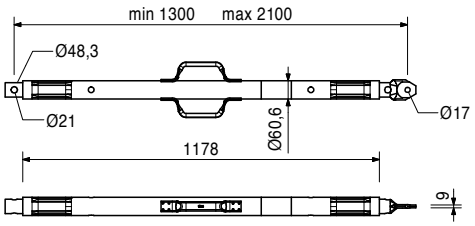
| Art no. | Weight [kg] | |
|---|---|---|
| 117466 | 10.600 | **Push-Pull Prop RS 210 ga** |

Extension length L = 1.30 – 2.10 m.
For aligning PERI Formwork Systems and precast concrete elements.

**Notes**

Permissible load see PERI Design Tables.



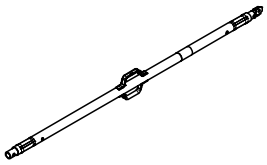


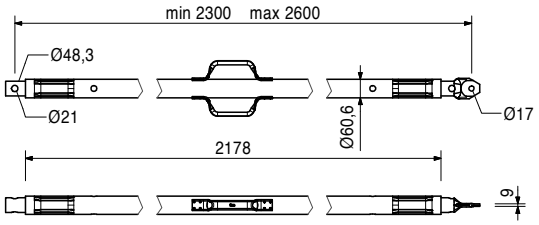

| Art no. | Weight [kg] | |
|---|---|---|
| 118238 | 12.100 | **Push-Pull Prop RS 260 ga** |

Extension length L = 2.30 – 2.60 m.
For aligning PERI Formwork Systems and precast concrete elements.

**Notes**

Permissible load see PERI Design Tables.



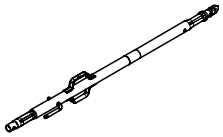


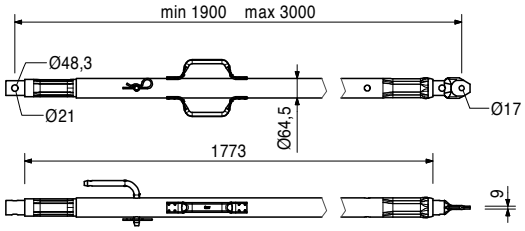

| Art no. | Weight [kg] | |
|---|---|---|
| 117467 | 15.500 | **Push-Pull Prop RS 300 ga** |

Extension length L = 1.90 – 3.00 m.
For aligning PERI Formwork Systems and precast concrete elements.

**Notes**

Permissible load see PERI Design Tables.



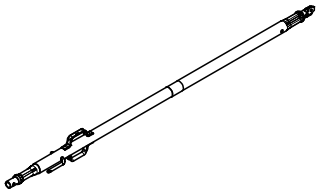


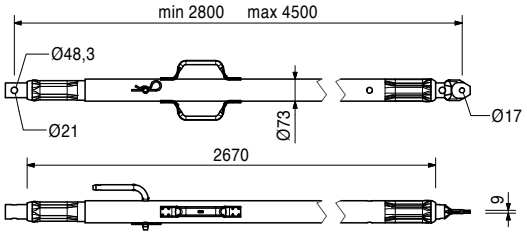
| Art no. | Weight [kg] | |
|---|---|---|
| 117468 | 23.000 | **Push-Pull Prop RS 450 ga** |

Extension length L = 2.80 – 4.50 m.
For aligning PERI Formwork Systems and precast concrete elements.

**Notes**

Permissible load see PERI Design Tables.



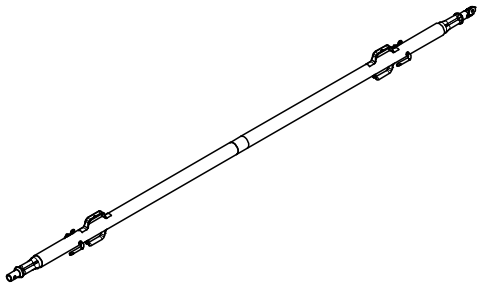


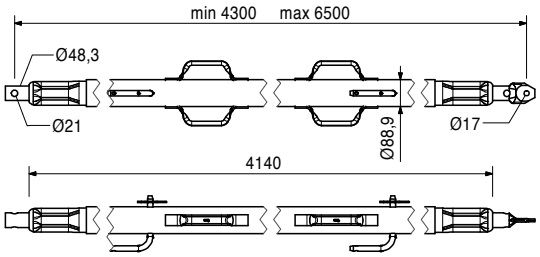

| Art no. | Weight [kg] | |
|---|---|---|
| 117469 | 39.900 | **Push-Pull Prop RS 650 ga** |

Extension length L = 4.30 – 6.50 m.
For aligning PERI Formwork Systems.

**Notes**

Permissible load see PERI Design Tables.



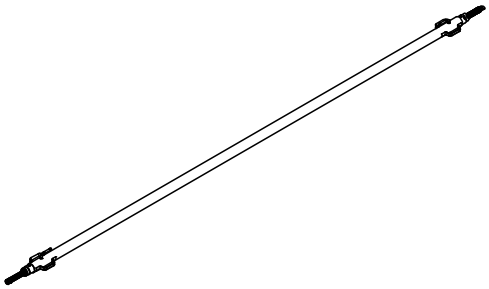


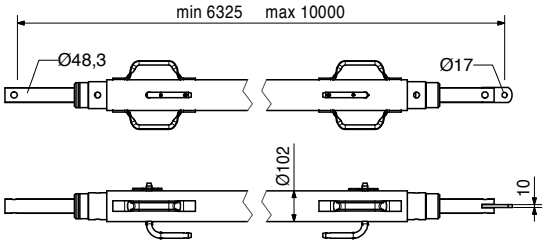

| Art no. | Weight [kg] | |
|---|---|---|
| 028990 | 115.000 | **Push-Pull Prop RS 1000 ga** |

Extension length L = 6.40 – 10.00 m.
For aligning PERI Formwork Systems.

**Notes**

Permissible load see PERI Design Tables.



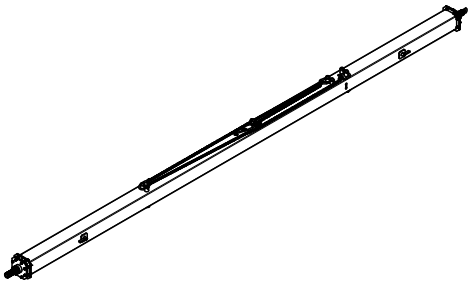


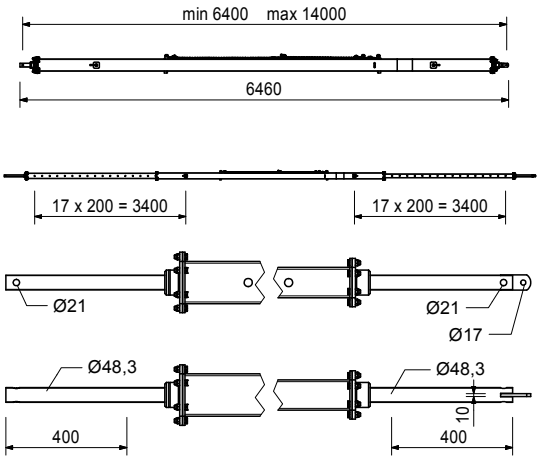
| Art no. | Weight [kg] | |
|---|---|---|
| 103800 | 271.000 | **Push-Pull Prop RS 1400 ga** |

Extension length L = 6.40 – 14.00 m.
For aligning PERI Formwork Systems.

**Notes**

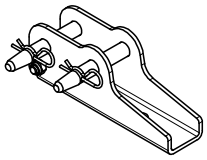
Permissible load see PERI Design Tables.
Chain can be operated from bottom.

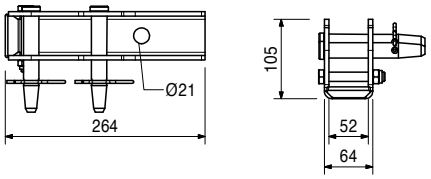





| Art no. | Weight [kg] | |
|---|---|---|
| 126666 | 3.040 | **Base Plate-3 f. RS 210-1400** |

For assembly of Push-Pull Props RS 210, 260, 300, 450, 650, 1000 and 1400.






**Accessory (not included)**

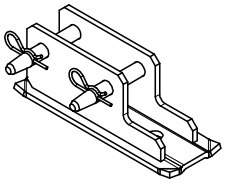
124777 Anchor Bolt SW24 Ø14/20x130mm

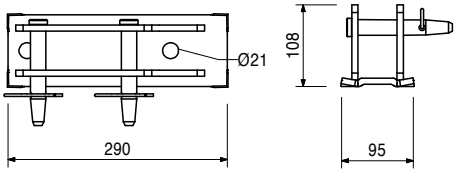
**Consists of**

113063 Screw ISO4014-M12x080-8.8-ga 1 pc
113064 Hex-Nut ISO7040-M12-8-ga 1 pc
105400 Pin Ø20x140mm ga 2 pc
018060 Cotter Pin 4/1 ga 2 pc

| Art no. | Weight [kg] | |
|---|---|---|
| 102018 | 4.880 | **Base Plate-2 f.RS 1000/1400 ga** |

For assembly of Push-Pull Props RS 210, 260, 300, 450, 650, 1000, 1400 and Heavy Duty Spindles.



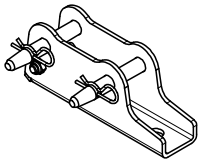


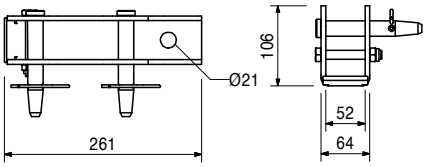

**Consists of**

105400 Pin Ø20x140mm ga 2 pc
018060 Cotter Pin 4/1 ga 2 pc

| Art no. | Weight [kg] | |
|---|---|---|
| 417343 | 3.250 | **Base Plate-2 f. RS 210-1400** |

For assembling the RS 210, RS 260, RS 300, RS 450, RS 650, RS 1000 and RS 1400 Push-pull props.






**Accessory (not included)**

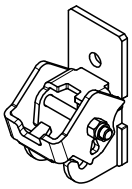
124777 Anchor Bolt SW24 Ø14/20x130mm

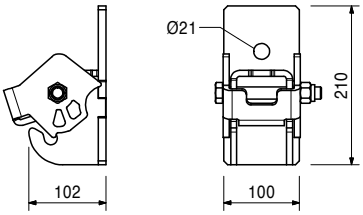
**Consists of**

105400 Pin Ø20x140mm ga 1 pc
018060 Cotter Pin 4/1 ga 1 pc

| Art no. | Weight [kg] | |
|---|---|---|
| 127190 | 4.200 | **Quick Connector Head RS-2** |

For aligning precast concrete elements.



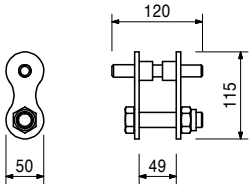



**Consists of**

105402 Screw ISO4014-M16x120-8.8-ga 1 pc
070890 Hex-Nut ISO7040-M16-8-ga 1 pc

| Art no. | Weight [kg] | |
|---|---|---|
| 117726 | 1.050 | **Adaptor Quick Connector RS** |

For aligning precast concrete elements.

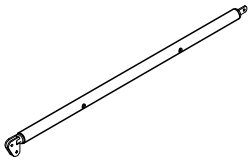


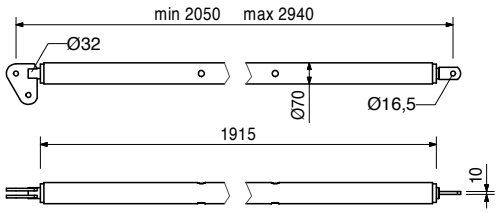
| Art no. | Weight [kg] | |
|---|---|---|
| 328010 | 17.900 | **Push-Pull Prop RSS I** |

Extension length l = 2.05 - 2.94 m.
For aligning PERI Formwork System.

**Notes**

Permissible load see PERI Design Tables.






**Accessory (not included)**

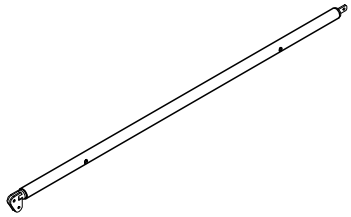
413397 Spindle Handle RSS/AV

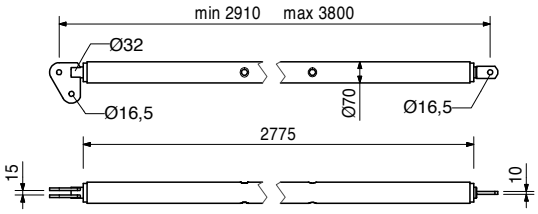
| Art no. | Weight [kg] | |
|---|---|---|
| 328020 | 22.000 | **Push-Pull Prop RSS II** |

Extension length l = 2.91 - 3.80 m.
For aligning PERI Formwork Systems.

**Notes**

Permissible load see PERI Design Tables.






**Accessory (not included)**

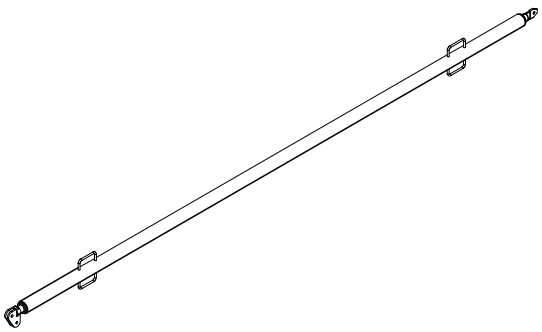
413397 Spindle Handle RSS/AV

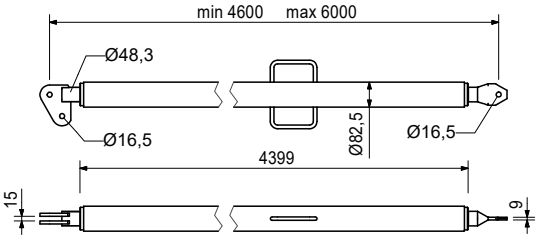
| Art no. | Weight [kg] | |
|---|---|---|
| 328030 | 38.400 | **Push-Pull Prop RSS III** |

Extension length l = 4.60 - 6.00 m.
For aligning PERI Formwork Systems.

**Notes**

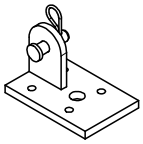
Permissible load see PERI Design Tables.

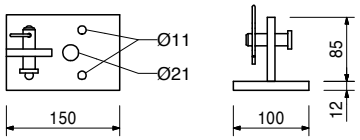




| Art no. | Weight [kg] | | |
|---|---|---|---|
| 406000 | 1.820 | **Base Plate-2 for RSS ga** | |

For assembling RSS Push-pull Props.






**Accessory (not included)**

124777 Anchor Bolt SW24 Ø14/20x130mm

**Consists of**

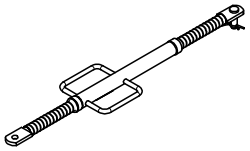
027170 Pin Ø16x42mm ga 1 pc
018060 Cotter Pin 4/1 ga 1 pc

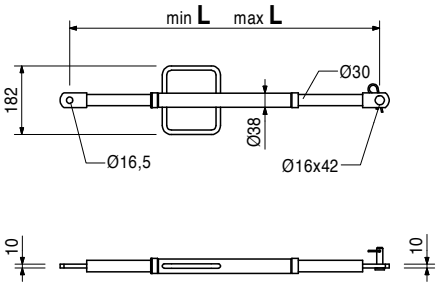
| Art no. | Weight [kg] | | min. L [mm] | max. L [mm] |
|---|---|---|---|---|
| | | **Kickers AV** | | |
| 057087 | 3.510 | **Kicker AV 82** | 500 | 820 |
| 057088 | 4.200 | **Kicker AV 111** | 790 | 1110 |

For aligning PERI Formwork Systems.

**Notes**

Permissible load see PERI Design Tables.






**Consists of**

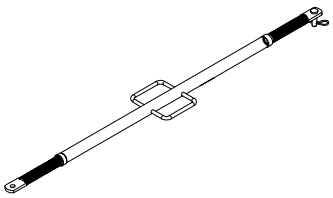
027170 Pin Ø16x42mm ga 1 pc
018060 Cotter Pin 4/1 ga 1 pc

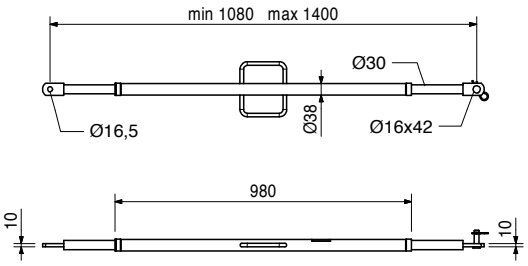
| Art no. | Weight [kg] | | D [mm] | L [mm] | min. L [mm] | max. L [mm] |
|---|---|---|---|---|---|---|
| 028110 | 4.850 | **Kicker AV 140** | 2000 | 250 | 1080 | 1400 |

Extension length L = 1.08 - 1.40 m.
For aligning PERI Formwork Systems.

**Notes**

Permissible load see PERI Design Tables.






**Consists of**

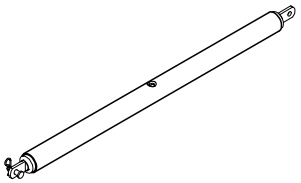
027170 Pin Ø16x42mm ga 1 pc
018060 Cotter Pin 4/1 ga 1 pc

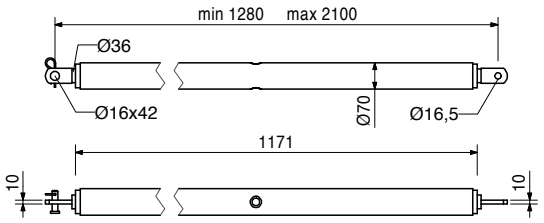
| Art no. | Weight [kg] | |
|---|---|---|
| 408135 | 12.900 | **Kicker AV 210** |

Extension length l = 1.28 - 2.10 m.
For aligning PERI Formwork Systems.

**Notes**

Permissible load see PERI Design Tables.






**Accessory (not included)**

413397 Spindle Handle RSS/AV

**Consists of**

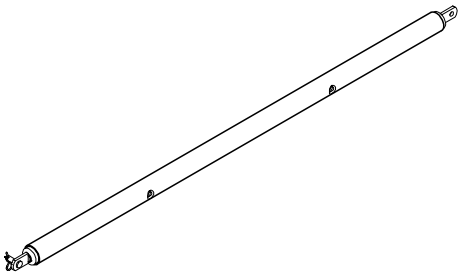
027170 Pin Ø16x42mm ga 1 pc
018060 Cotter Pin 4/1 ga 1 pc

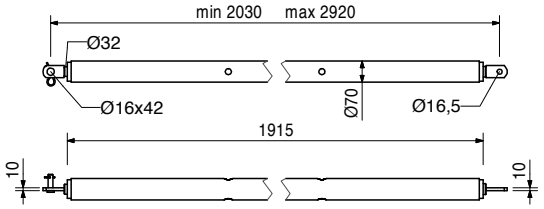
| Art no. | Weight [kg] | |
|---|---|---|
| 328120 | 17.000 | **Kicker AV RSS III cpl** |

Extension length l = 2.03 - 2.92 m.
For aligning PERI Formwork Systems.

**Notes**

Permissible loas see PERI Design Tables.






**Accessory (not included)**

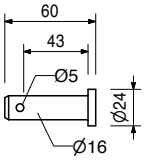
413397 Spindle Handle RSS/AV

**Consists of**

027170 Pin Ø16x42mm ga 1 pc
018060 Cotter Pin 4/1 ga 1 pc

| Art no. | Weight [kg] | |
|---|---|---|
| 027170 | 0.102 | **Pin Ø16x42mm ga** |

For different connections.

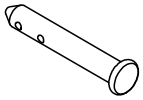


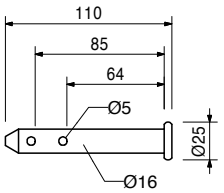

**Accessory (not included)**

018060 Cotter Pin 4/1 ga

| Art no. | Weight [kg] | |
|---|---|---|
| 018050 | 0.171 | **Pin Ø16x65/86mm ga** |

For different connections.



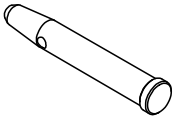


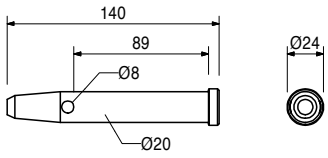

**Accessory (not included)**

018060 Cotter Pin 4/1 ga

| Art no. | Weight [kg] | |
|---|---|---|
| 105400 | 0.330 | **Pin Ø20x140mm ga** |

For different connections.

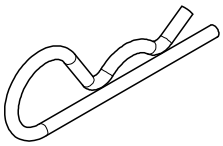





**Accessory (not included)**

018060 Cotter Pin 4/1 ga

| Art no. | Weight [kg] | |
|---|---|---|
| 018060 | 0.014 | **Cotter Pin 4/1 ga** |

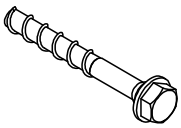


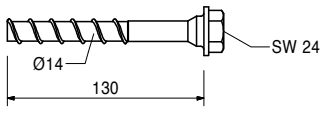

| Art no. | Weight [kg] | |
|---|---|---|
| 124777 | 0.210 | **Anchor Bolt SW24 Ø14/20x130mm** |

For temporary attachment to reinforced concrete components.

**Notes**

Take the PERI Data Sheet into consideration!
Hole Ø 14 mm.





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