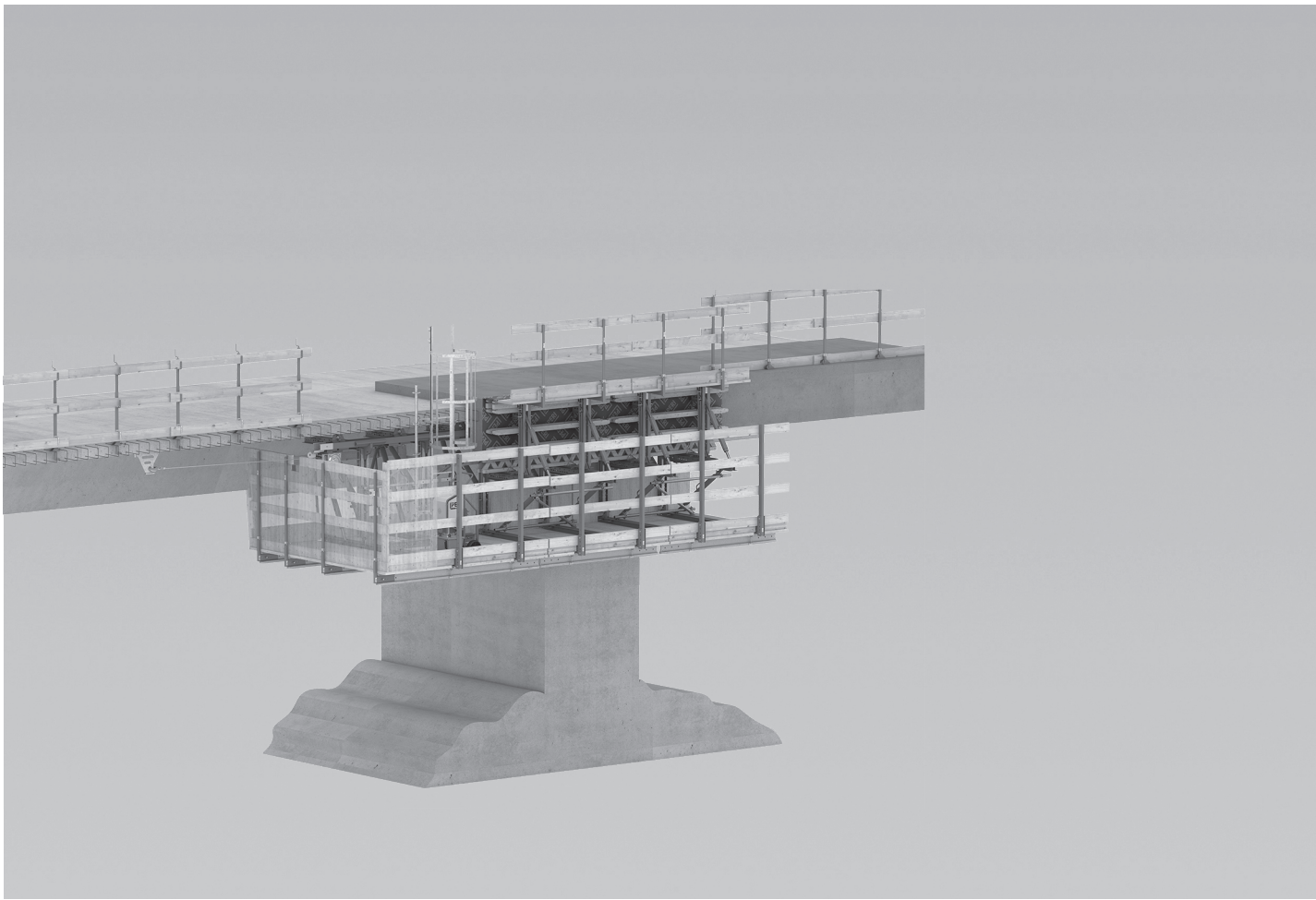
VGB
Pulling Unit

Assembly Instructions – Version 2.1



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Main components

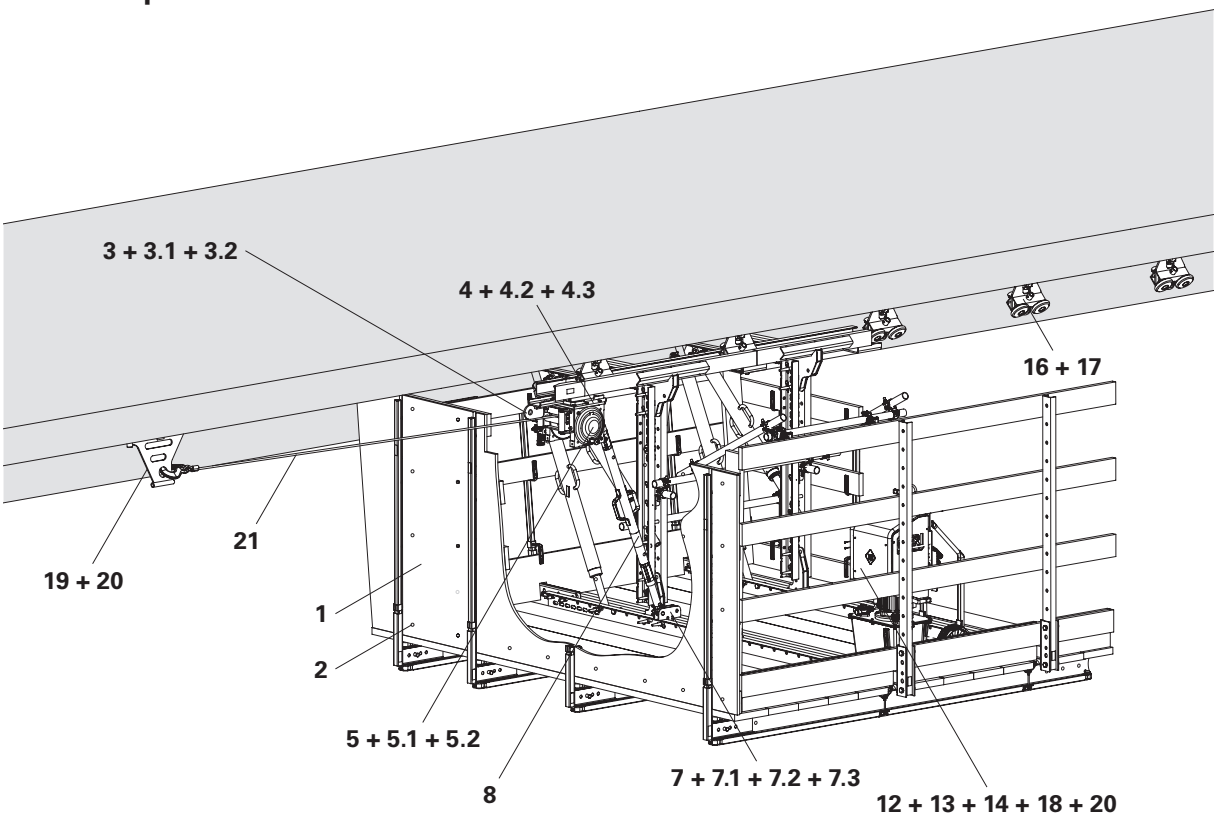


Fig. 01

Component overview

Pos. no.	Component name	Article no.
1	Formwork panels, e.g. 3-S panel 21 mm	acc. to material
2	TSS-Torx 6 x 40	024540
3	Railslide VARIOKIT 25-2	131430
3.1	Bolt ISO 4017 M20 x 60-8.8	–
3.2	Nut ISO 7040 M20-8	–
4	Adaptor Plate-2 VGB H60	140282
4.2	Filler pin Ø 16 x 65/86	–
4.3	Cotter Pin 4/1 ga	–
5	Hydr. traction cable winch H60	131361
5.1	Bolt ISO 4017 M12 x 45	–
5.2	Bolt ISO 4017 M12 x 35-8.8	–
7	Spindle Cross Connector SRU	131420
7.1	Fitting Pin Ø21x120 mm	–
7.2	Cotter Pin 4/1 ga	–
7.3	Filler pin Ø 16 x 65/86	–

Pos. no.	Component name	Article no.
8	Push-Pull Prop RS 210	117466
12	Hydr.Pump RCS 4x190/380-460 V	109766
13	Hydr.Hose 853-2SN-DN08-FF 2 m	129036
14	Adaptor Cable RCS	110280
15	Bolt ISO 4014 M24 x 150-8.8	104540
16	Suspension Head VARI-OKIT M24	114534
17	Roller Unit VARIOKIT	114535
18	Hydr. Accum. Piece RCS	112421
19	Tension Shoe-2 VBG	131707
20	Hydraulic Twin Hose RCS 10 m	110069
21	Traction Ca-ble 12 mm, x 20 m, H60	131364

Tab. 01

Overview

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.

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

PERI products have been designed to be used exclusively in industrial and commercial sectors by suitably trained personnel only.

The VGB Pulling Unit is used for moving the platforms and formwork of the VGB Cantilevered Parapet Track from one concreting section to the next using roller units.

Roller-guided platform unit that is pulled using a pulling unit.

The constructional systems presented in these Assembly Instructions are shown in the form of examples with only one component size. They are valid for all component sizes contained in the standard configuration.

Functionality
With the help of a hydraulic cable winch, which is driven by a hydraulic pump, the VGB Cantilevered Parapet Track is pulled forwards. The VGB Cantilevered Parapet Track is guided on roller units.

These Assembly Instructions describe:
- The hydraulic traction cable winch installation process.
- The hydraulic pump connection process.
- The process of pulling the unit to the next concreting section.

Not part of these Assembly Instructions:
- Transport and pre-assembly on the construction site.
- Installation on site (bridge pier).
- Assembly of the rafters and formwork.
- Return journey to the bridge pier or bridge bearing.
- Dismantling of the formwork and rafters.
- Dismantling and removal.
- Other configurations that do not involve the hydraulic traction cable winch and hydraulic pump. The VGB Pulling Unit can also be installed in a different configuration. For this purpose, separate project-specific planning must be carried out.

Load case: Storm
- Secure the platform.
- Accessing the platform is not permitted.

Technical data

Hydraulic traction cable winch H60
- Overall dimensions L x W x H: 738 x 260 x 260 mm
- Weight: 81 kg
- Net tension force: 60 kN/43 kN (depending on cable layers)
- Oil flow:* 12 l/min
- Pressure: 20 MPa
- Steel cable:* Ø12 mm, length 20 m

* Values are specifically adapted to PERI.

Hydraulic pump
- Power supply 400 V/50 Hz (**3 phases**) Flow rate 6 l/min
- Power supply 460 V/60 Hz (**3 phases**) Flow rate 7 l/min
- Sound emissions 64 dB at a distance of 1 m

Tension shoe
The Tension Shoe-2 VGB can be loaded with up to 60 kN.

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.

Only ever use approved and calculated components.

Operation with damaged or incomplete load-carrying equipment is not permissible.

The system described in these instructions may contain patent-protected components.



- The description of the assembly and operation of the assemblies and components in these instructions is intended as an example.
- For use on the construction site, a project-specific assembly plan is required.
- The project-related assembly plan from PERI is binding for assembly operations

RFID transponder

Individual components are equipped with an RFID transponder. RFID transponders combine hardware with additional software to create a smart product.
Depending on the component and digital solution, you can:

- Call up technical documents.
- View maintenance plans.
- Track information on transport and logistics.



For more information, see “RFID LATAG Assembly Set User Information”.

Disposal

Carry out disposal in accordance with the relevant national regulations.

Observe the safety data sheets of the auxiliary and operating materials.

Additional technical documentation

- Assembly instructions:
  - Hydraulic pump
  - Hydraulic traction cable winch
- Instructions for Assembly and Use:
  - VGB Cantilevered Parapet Track
- Project-specific planning and calculations

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.

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:
- 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 via safe access routes.

The contractor must ensure that the following points are observed:
- If necessary, secure single components and assemblies to prevent them from falling, e.g. using ropes.
- Cordon off and signpost danger zones.
- Ensure stability during all construction stages.
- 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

Detailed project-specific planning is required each time a VGB Cantilevered Parapet Track is assembled.

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

Check the inspection stickers before using the cantilevered parapet track.

When pulling the cantilevered parapet track with the hydraulic traction cable winch, only the operator is allowed to remain on the leading platform in order to control the system.

During the pulling procedure, leading edges can be created. Suitable project-specific safety measures to prevent falling are to be implemented.

The following is not permitted:
- Overloading the pulling unit
- Overloading the suspension point
- Site personnel are not allowed to remain in the area of the hydraulic traction cable winch during the moving procedure.

Anchoring
Anchoring takes place by means of PERI Anchor Sleeves M24 which have been set in the bridge superstructure on which the Roller Unit VARIOKIT is fixed via the Suspension Head VARIOKIT M24.

Only PERI anchoring components are permitted as anchoring.

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

The anchoring on the cantilevered parapet track can only be released or fixed on the instructions of the person in charge.

Hydraulics and electrics
For safe and professional handling of the hydraulic system components, observe the documentation of the respective manufacturer.

Wear safety glasses and oil-resistant gloves when handling the hydraulic fluid. Avoid any contact with the hydraulic fluid.
Bind and dispose of any hydraulic fluid that has leaked in an environmentally-friendly manner.

All work on electrical installations must be carried out by a qualified electrician only.

When installing hydraulic and electric lines, ensure that these are not damaged in any way. Replace damaged lines immediately or, if possible, have them repaired professionally.

Storage and transportation

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.

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

During the moving 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.
- 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.

Standard procedure

The contractor is responsible for
- correct installation,
- adherence to the intended use,
- any additional reinforcement that may be required,
- providing proof that all loads are transferred into the ground.

Preconditions
- The platform units of the VGB Cantilevered Parapet Track consist of launching and finishing platforms as well as the control units which have already been pre-assembled or mounted.
- For assembly, see Instructions for Assembly and Use for the VGB Cantilevered Parapet Track.

Assembly
Assemble the pulling unit in line with the following steps.

1. Fit the protection panel, see Page 15.
2. Fit Railslide VARIOKIT 25-2 (**3**) and Adaptor Plate-2 VGB H60 (**4**), see Page 16.
3. Screw the hydr. traction cable winch H60 (**5**) to Adaptor Plate-2 VGB H60 (**4**), see Page 17.
4. Fit Spindle Cross Connector SRU (**7**), see Page 18.
5. Fit Push-Pull Prop RS 210 (**8**), see Page 19.
6. Attach Pulling Cable Ø12 mm 20 m H60 (**21**) to hydr. traction cable winch H60 (**5**), see Page 20.
7. Fit Tension Shoe-2 VGB (**19**), see Page 21.
8. Fit Suspension Head VARIOKIT M24 (**16**), see Page 22.
9. Fit Roller Unit VARIOKIT (**17**), see Page 23.

Commissioning

10. For commissioning, see Page 24 onwards.
    - For hydraulic pump and cable winch, see Page 25.
    - For connecting to the power supply, see Page 26.
    - For switching on the hydraulic pump, see Page 27.
    - For operating the hydraulic pump, see Page 28.
    - For venting the system, see Page 29.

Moving procedure

11. First moving procedure, as of Page 31.
    - Step 1
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    - Step 2
      Removing the roller unit from the finishing platform, see Page 32.
    - Step 3
      Pulling with the hydr. traction cable winch, see Page 33.
    - Step 4
      Installing the roller unit in the leading platform, see Page 33.
12. Further moving procedures, as of Page 34.
    - Step 1
      Preparing the pulling unit, see Page 35.
    - Step 2
      Removing the roller unit from the finishing platform, see Page 35.
    - Step 3
      Pulling with the hydr. traction cable winch, see Page 36.
    - Step 4
      Installing the roller unit in the leading platform, see Page 37.

Protection panel

The protection panel prevents injuries if the traction cable breaks.

- Determine the formwork panel material, size and screws for each respective project.
- Take into consideration the recess (**1.1**) in the protection panel for the cable. (Fig. 02)

Components

1	3-S panel 21 mm	*
2	TSS-Torx 6 x 40	*

* Number of pieces determined on a project-specific basis

Fitting the protection panel
Protection panel supplied by the contractor on the three external sides of the leading and finishing platforms, e.g. consisting of 3-S panels 21 mm (**1**) with screws, e.g. TSS-Torx 6 x 40 (**2**). (Fig. 02)

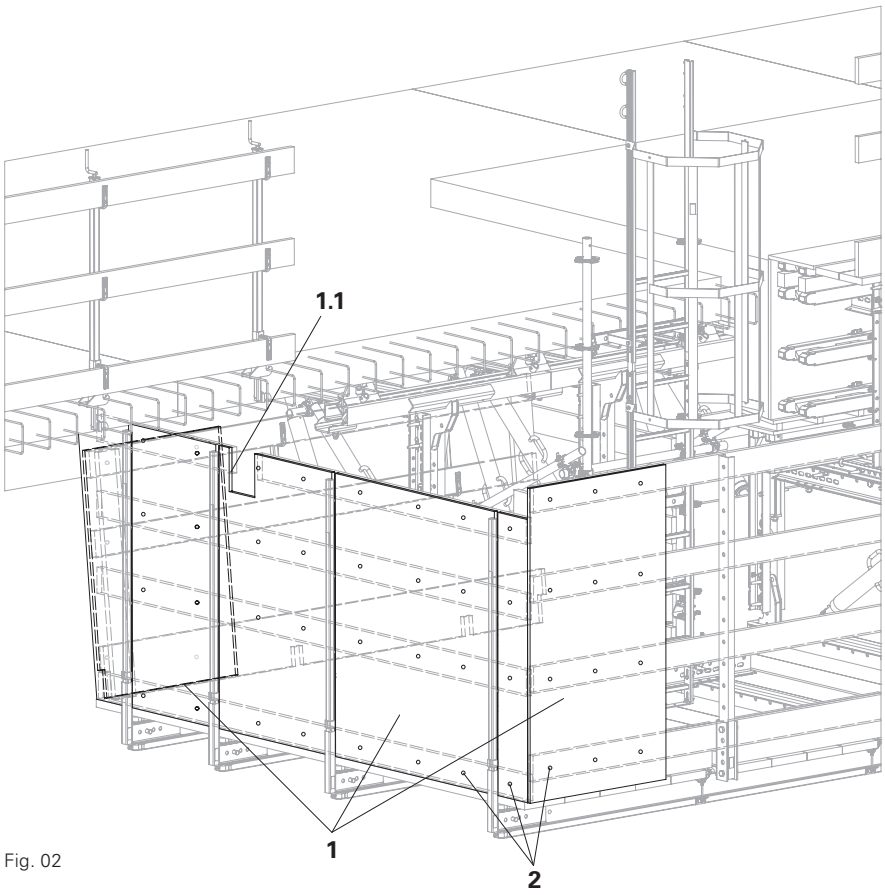


Fig. 02

- PERI recommends mounting the protection panel on the ground during assembly of the leading or finishing platform.
- For assembling the leading and finishing platforms: see Instructions for Assembly and Use for the VGB Cantilevered Parapet Track.

Railslide and adaptor plate

The railslide
- is used for threading the rollers.
- has already been mounted and must be released.

The hydraulic cable winch is mounted on the adaptor plate in the next step. (Fig. 03)

Components

A	Coupling element on the rail	
3	Railslide VARIOKIT 25-2	1x
3.1	Bolt ISO 4017 M20 x 60-8.8	1x
3.2	Nut ISO 7040 M20-8	1x
4	Adaptor Plate-2 VGB H60	1x

Preparation

Undo the bolt ISO 4017 M20 x 60-8.8 (**3.1**) and the nut ISO 7040 M20-8 (**3.2**) on the railslide (**3**).

Assembly

1. Insert bolt ISO 4017 M20 x 60-8.8 (**3.1**) into the hole of the coupling element (**A**).
2. Hold the Railslide VARIOKIT 25-2 (**3**) beneath the coupling element.
3. Insert bolt ISO 4017 M20 x 60-8.8 (**3.1**) into the hole of the Railslide VARIOKIT 25-2 (**3**).
4. Slide the Adaptor Plate-2 VGB H60 (**4**) to the centre hole via the bolt ISO 4017 M20 x 60-8.8 (**3.1**).
5. Screw the nut ISO 7040 M20-8 (**3.2**) onto bolt ISO 4017 M20 x 60-8.8 (**3.1**).

(Fig. 03a)

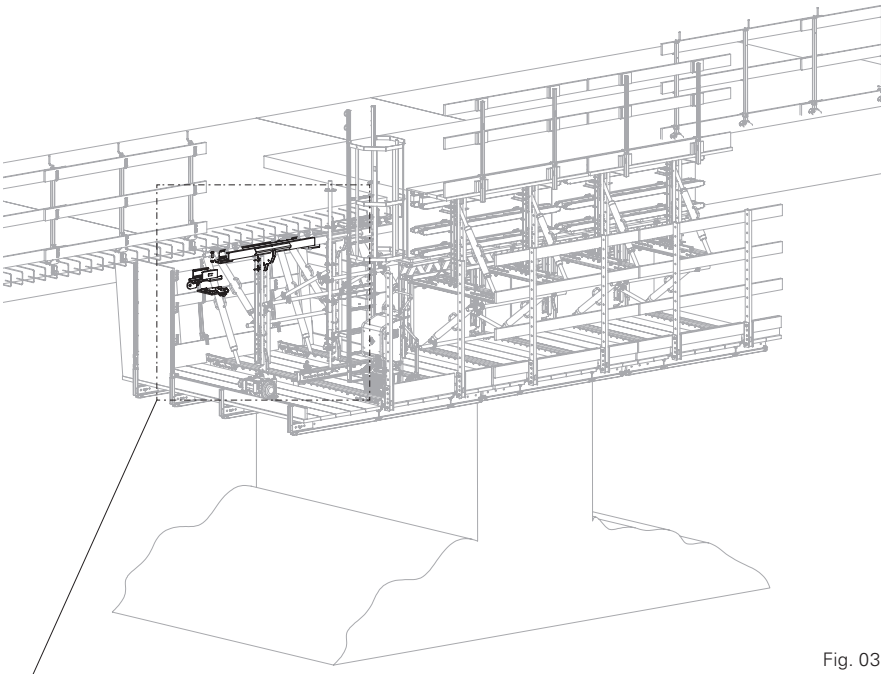


Fig. 03

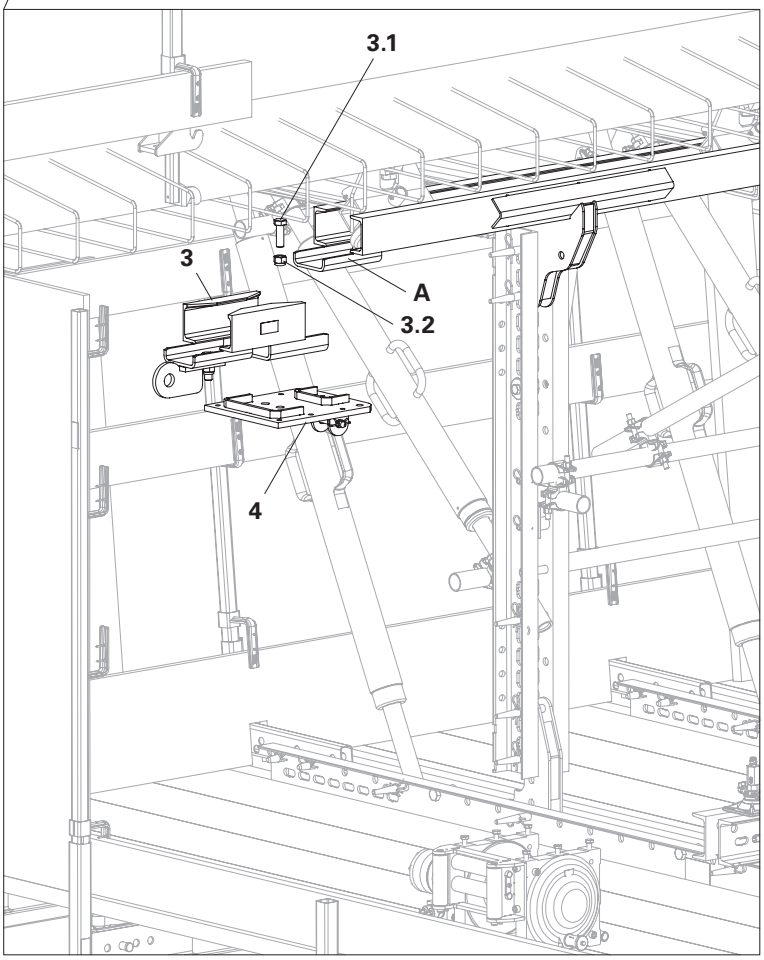


Fig. 03a

Hydraulic traction cable winch

Warning

The Hydr. Traction Cable Winch H60 (**5**) weighs 81 kg.
Risk of injury!
⇒ Use auxiliary means when lifting and mounting, e.g. a crane
or
⇒ Have three people fit the Hydr. Traction Cable Winch H60 (**5**). Two people hold the Hydr. Traction Cable Winch H60 (**5**) beneath the Adaptor Plate-2 VGB H60 (**5**) and the third person fits the bolts.

- Observe the Instructions for Use for the Hydr. Traction Cable Winch H60 (**5**).
- Oil or grease the bolt 4017 M12 x 45 (**5.1**) and bolt ISO 4017 M12 x 35-8.8 (**5.2**).
- Secure the oiled bolts with tightening torque 124 Nm.

Components

5	Hydr. Traction Cable Winch H60	1x
5.1	Bolt ISO 4017 M12 x 45	5x
5.2	Bolt ISO 4017 M12 x 35-8.8	1x

Fixing the hydr. traction cable winch

1. Hold Hydr. Traction Cable Winch H60 (**5**) beneath Adaptor Plate-2 VGB H60 (**4**).
2. Fit the Hydr. Traction Cable Winch H60 (**5**) onto Adaptor Plate-2 VGB H60 (**4**) with 5x bolt ISO 4017 M12 x 45 (**5.1**).
3. Insert bolt ISO 4017 M12 x 35-8.8 (**5.2**) into the centre hole of Adaptor Plate-2 VGB H60 (**4**).

(Fig. 04 + 04a + 04b)

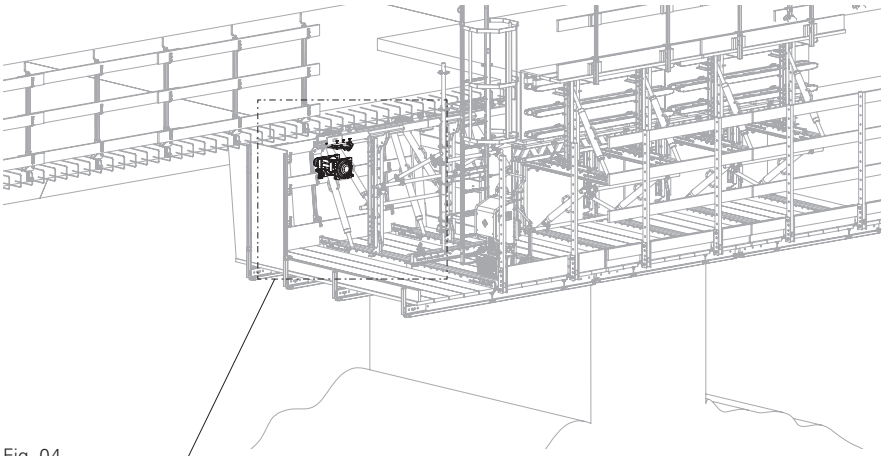


Fig. 04

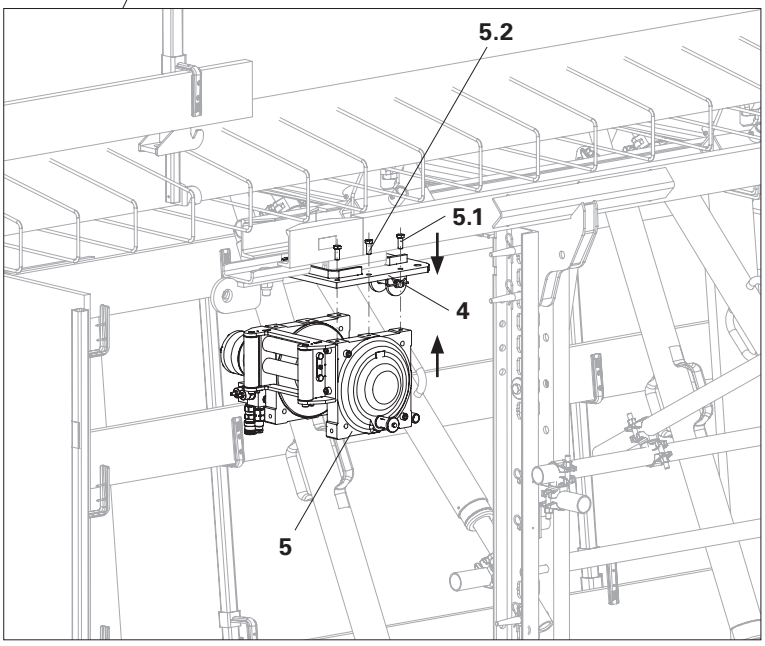


Fig. 04a

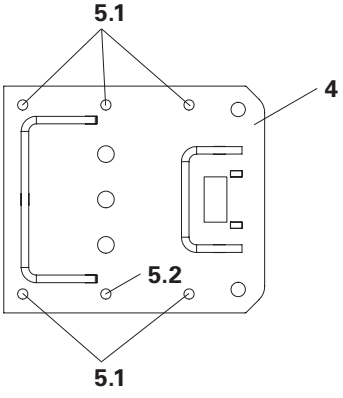


Fig. 04b

Spindle cross connector

The Spindle Cross Connector SRU
- is mounted on the horizontal external Steel Waler Universal SRU U120 (**B**) in the hole next to the corner connector. (Fig. 05a)
- accommodates the push-pull prop below.

(Fig. 05)

The hole to be used in the SRU Waler is determined on a project-specific basis.

Component

7	Spindle Cross Connector SRU	1x
7.1	Fitting Pin Ø21x120 mm	1x
7.2	Cotter Pin 4/1 ga	1x

Preparation

Remove Cotter Pin 4/1 ga (**7.2**) and Fitting Pin Ø21x120 mm (**7.1**) from Spindle Cross Connector SRU (**7**).

Assembly

1. Insert the Spindle Cross Connector SRU (**7**) into the horizontal Steel Waler Universal SRU U120 (**B**). Ensure that the holes are congruent.
2. Insert spindle cross connector with Fitting Pin Ø21x120 mm (**7.1**) through the congruent holes.
3. Insert Cotter Pin 4/1 ga (**7.2**) into the hole of the Fitting Pin Ø21x120 mm (**7.1**).
   → Secured connection.

(Fig. 05)

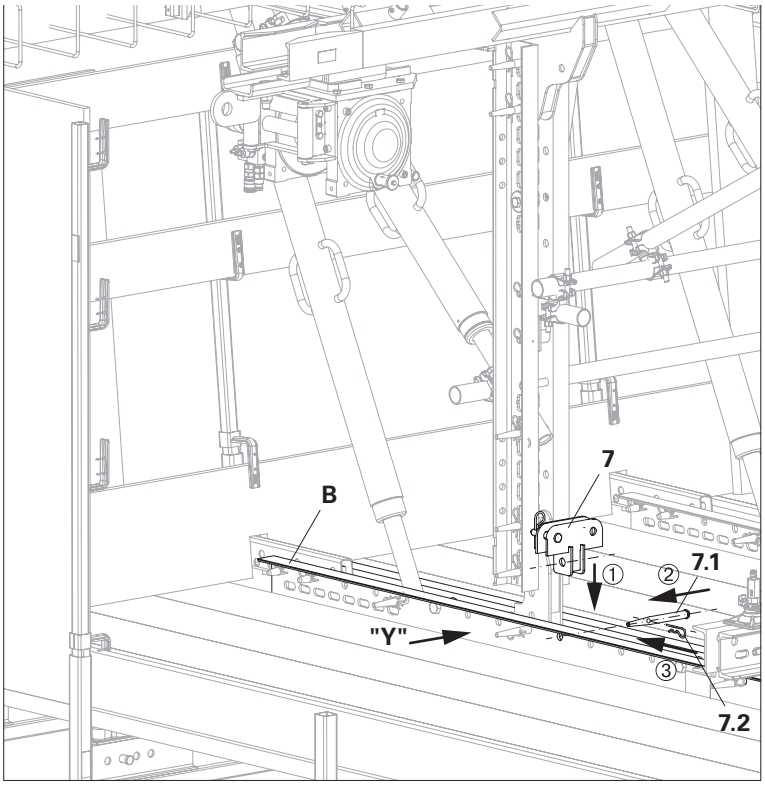


Fig. 05

View "Y"

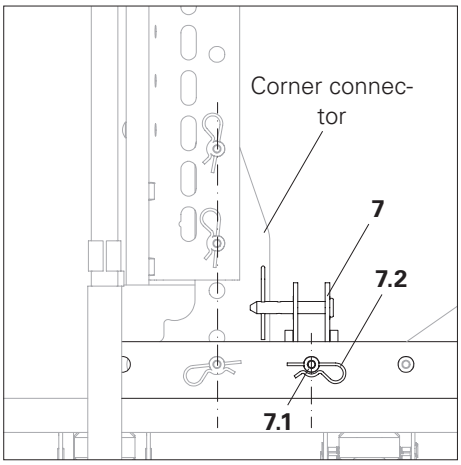


Fig. 05a

Push-pull prop

Using the push-pull prop, the railslide can be adjusted by approx. ±10 mm in height to compensate for a height offset of the roller units.

Follow Instructions for Assembly and Use for RS and RSS Push-Pull Props.

Components

8	Push-Pull Prop RS 210*	1x
4.2	Bolt Ø 16 x 65/86	1x
4.3	Cotter Pin 4/1 ga	1x
7.2	Cotter Pin 4/1 ga	1x
7.3	Bolt Ø 16 x 65/86	1x

* Determine the size on a project-specific basis

Preparation

1. Remove cotter pin (**4.3**) and bolt Ø 16 x 65/86 (**4.2**) from the lug (**4.1**) of the Adaptor Plate-2 VGB H60 (**4**).
2. Remove cotter pin (**7.4**) and bolt Ø 16 x 65/86 (**7.3**) from Spindle Cross Connector SRU.

Assembly

1. Attach Push-Pull Prop RS 210 (**8**) to the lug (**4.1**) of Adaptor Plate-2 VGB H60 (**4**) with bolt Ø 16 x 65/86 (**4.2**) and Cotter Pin 4/1 ga (**4.3**). (Fig. 06a)
2. Attach Push-Pull Prop RS 210 (**8**) to the Spindle Cross Connector SRU with bolt Ø 16 x 65/86 (**7.3**) and Cotter Pin 4/1 ga (**7.2**) (Fig. 06).

View "X"

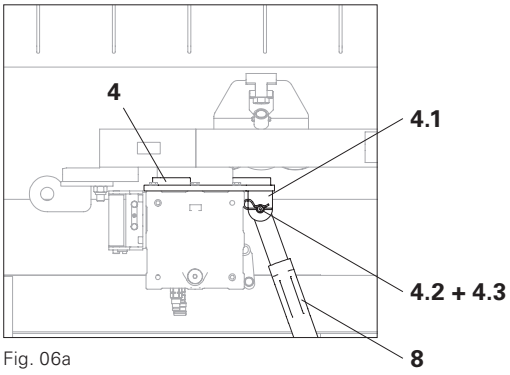


Fig. 06a

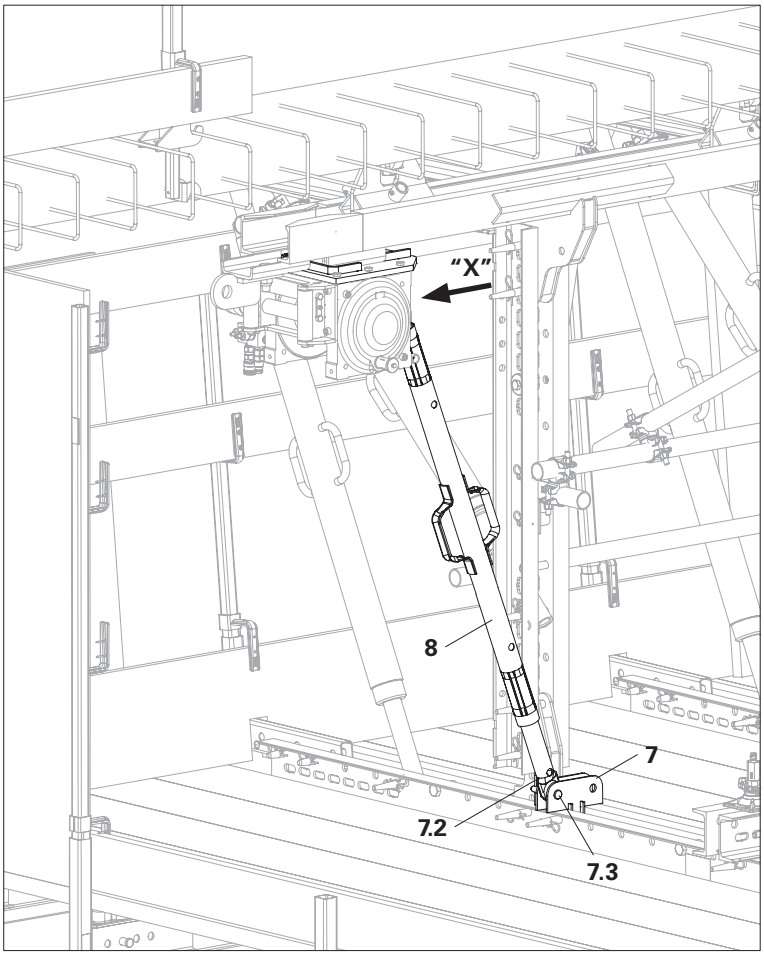


Fig. 06

Traction cable

Fitting the traction cable

- Before fitting the traction cable Ø 12 mm x 20 m, H60 (**21**), make sure that the roller bridge (winch window) is installed at the top and that the traction cable is also wound at the top.
- Observe the Instructions for Use for the Hydr. Traction Cable Winch H60 (**5**).

Component

21	Traction cable Ø 12 mm x 20 m, H60	1x

Winding the traction cable on

Attach the traction cable Ø 12 mm x 20 m, H60 (**21**) to Hydr. Traction Cable Winch H60 (**5**). For step-by-step instructions, see the Instructions for Use for the Hydr. Traction Cable Winch H60 (**5**).

Unwinding the traction cable

1. Operate the Hydr. Pump RCS 4x190/380-460V (**12**).
   → The load on the traction cable Ø 12 mm x 20 m, H60 (**21**) is relieved.
2. Pull out the freewheel (**5.3**). (Fig. 07)
3. Unwind the traction cable Ø 12 mm x 20 m, H60 (**21**) by hand.

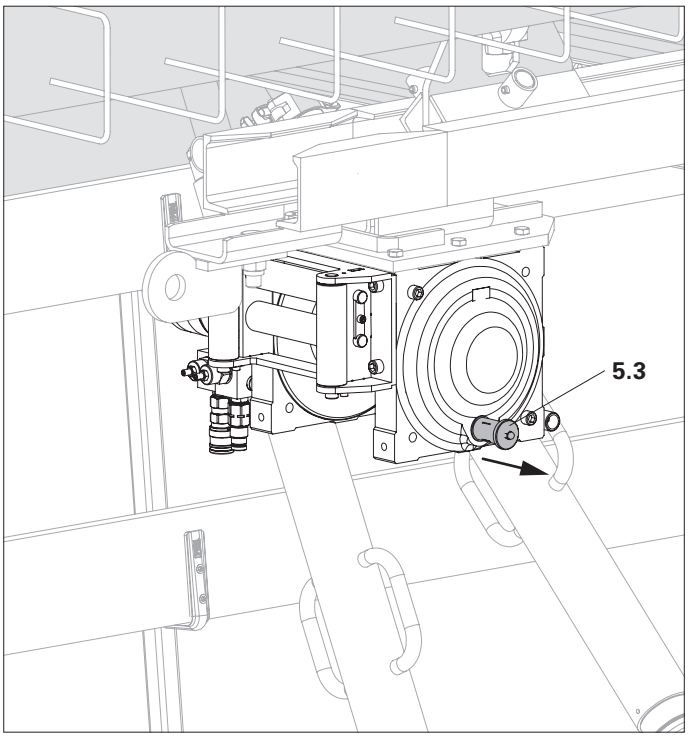


Fig. 07

Tension shoe

- When mounting the tension shoe, ensure that the stability is not compromised. Use a project-specific solution, e.g.
  – Telescopic work platform.
  – Temporary working scaffold.
- The tension shoe edge distance is specified in the project-specific planning.
- The Tension Shoe-2 VGB (**19**) can only be mounted if the Anchor Sleeve M24 (article no. 026230) has been used as an advanced mounting.

Components

19 Tension Shoe-2 VGB	1x
15 Bolt ISO 4014 M24 x 150-8.8	1x

Assembly

1. Remove the anchor positioning stud.
2. Fix Tension Shoe-2 VGB (**19**) to Anchor Sleeve M24 with bolt M24x150 (**15**).

(Fig. 08)

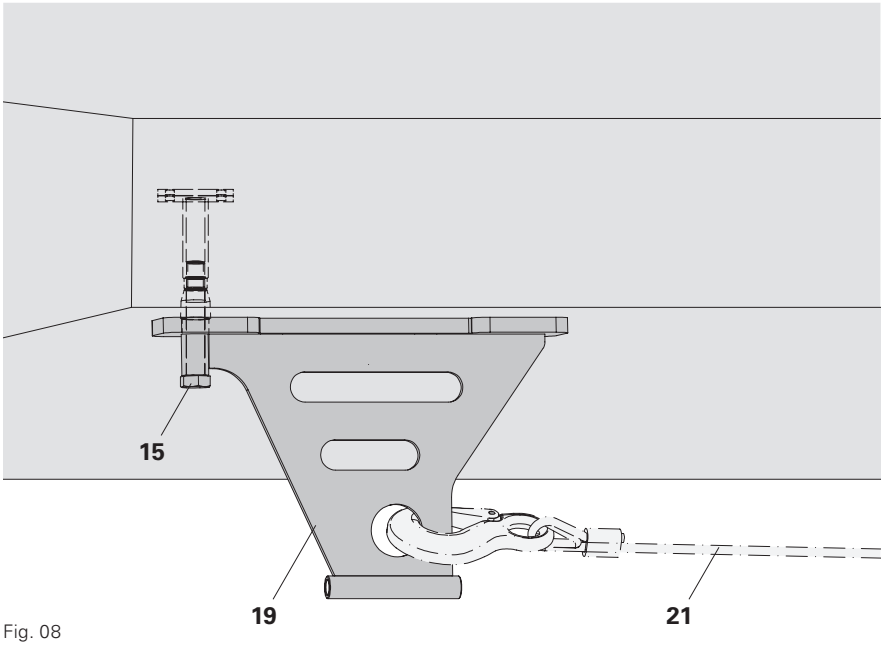


Fig. 08

Suspension Head VARIOKIT M24

- Installation of the Suspension Heads VARIOKIT M24 (**16**) is carried out from a safe working position, e.g.
  - Leading platform of the cantilevered parapet track
  - Telescopic work platform
  - Temporary working scaffold
- The advanced mounting of Anchor Sleeve M24 is gradually removed during the Cantilevered Parapet Track VGB moving procedure and the Suspension Head VARIOKIT M24 is fastened immediately after.
- Do not exceed max. permissible inclination (±15°) of the Suspension Head VARIOKIT M24. (Fig. 10)

Removing the anchor positioning stud

1. Turn over wire nails with a hammer.
2. Unscrew the Anchor Posit. Stud M24 ga from the anchor sleeve by means of an Allen key (AF 14).

(Fig. 09)

Removing the threaded cone

1. Push back wire nail with a hammer.
2. Unscrew Threaded Cone M24/40 from the anchor sleeve using a ratchet wrench and socket (AF 22).

(not shown)

Mounting the suspension heads

1. Fix the Suspension Head VARIOKIT M24 (**16**) to Anchor Sleeve M24 using bolt ISO 4014 M24 x 150-8.8 (**15**). (Fig. 10)
2. Hand-tighten bolt ISO 4014 M24 x 150-8.8 (**15**).

For parapets with large projections, we recommend mounting the Suspension Head VARIOKIT M24 with the opening to the bridge superstructure to make it easier to dismantle the roller units. (Fig. 10a)

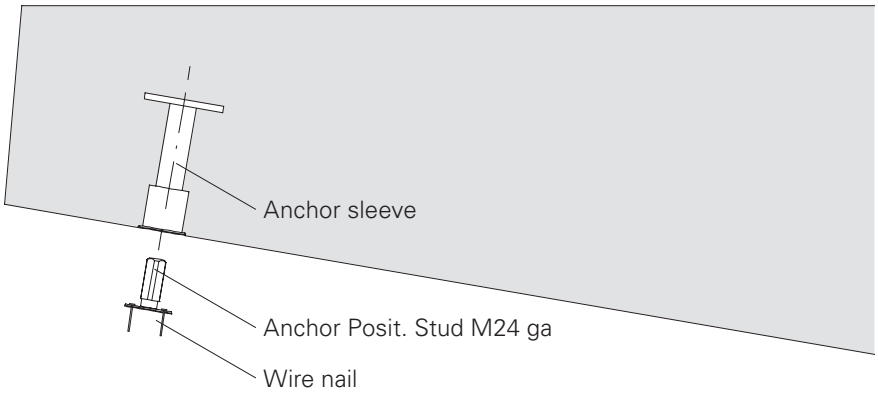


Fig. 09

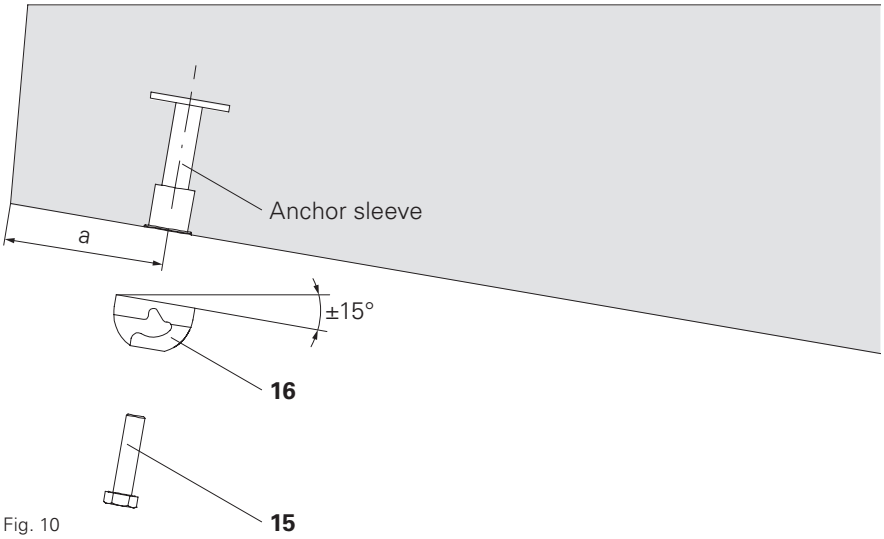


Fig. 10

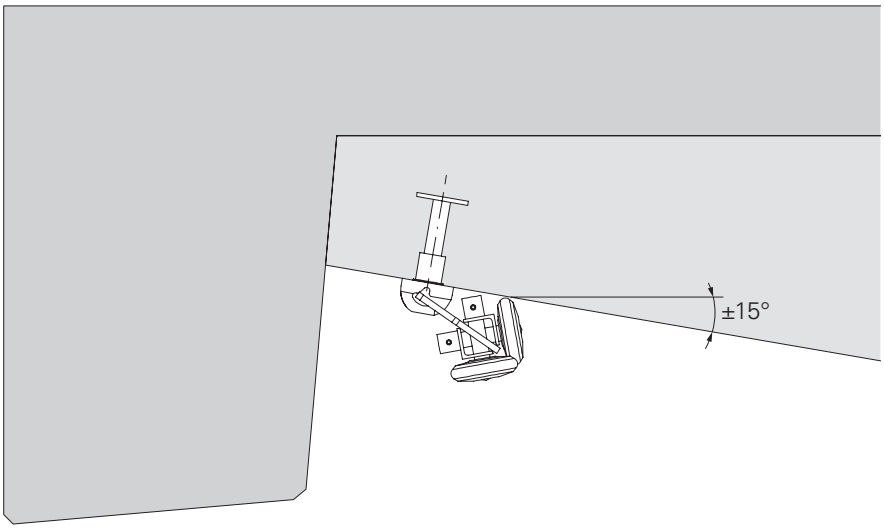


Fig. 10a

Roller Unit VARIOKIT

Make sure that the Suspension Head VARIOKIT M24 (**16**) is mounted correctly. The hook pockets of the Suspension Head VARIOKIT M24 (**16**) should always point alternately towards the outer edge and inner edge of the cantilever. (Fig. 11)

Components

16 Suspension Head VARIOKIT M24
17 Roller Unit VARIOKIT

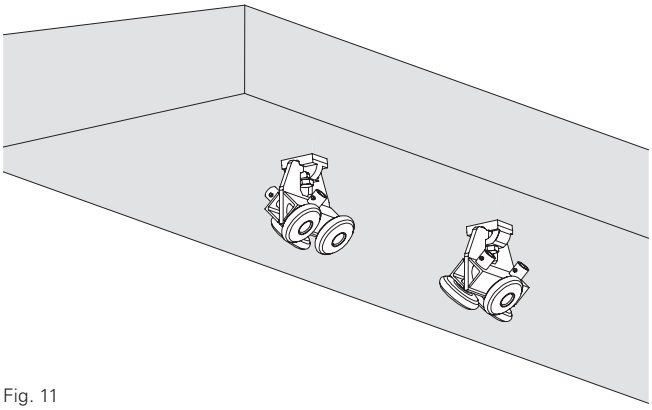


Fig. 11

Assembling the roller units

1. Push the Roller Unit VARIOKIT (**17**) into the Suspension Head VARIOKIT M24 (**16**) sideways. (Fig. B7.01a)
2. Swivel the Roller Unit VARIOKIT (**17**) downwards.

(Fig. 11a + 11b)

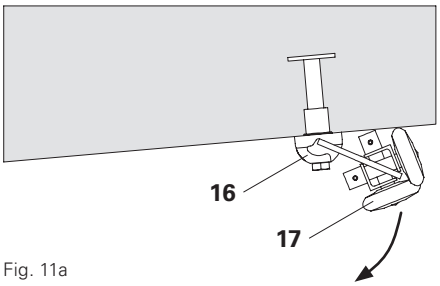


Fig. 11a

The Roller Unit VARIOKIT (**17**) pivots into the vertical end position as a result of gravity. (Fig. 11b)

PERI recommends mounting the Roller Units VARIOKIT (**17**) with the double roller side alternating outwards and inwards, see Instructions for Assembly and Use for the VGB Cantilevered Parapet Track, Section B7.

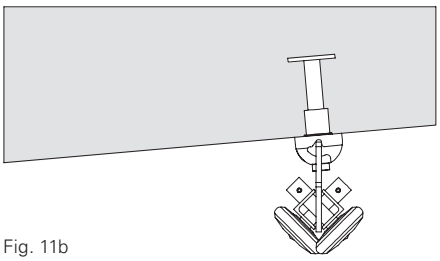


Fig. 11b

Hydraulic pump

Initial commissioning
The following steps must be taken before the hydraulic pump is commissioned for the first time:
- Check the completeness of the technical documentation, e.g. hydraulic plan, equipment list, electrical wiring diagram, instructions for switch and motor.
- Site personnel should familiarise themselves with the hydraulic pump using the documentation.
- Compare the required type of current and voltage with the information on the type plate.
- Have the coupling socket connected by qualified personnel.
- Check the rotary field on the rotary field display.
- Check that the oil tank is clean.
- Fill tank with hydraulic oil.
- Check the temperature of the hydraulic oil and bring it to operating temperature if necessary.
- Clean the bushings and nipples of all quick-couplers, and check for damage.
- Check all fittings and re-tighten if necessary.
- Bleed the hydraulics.

The following steps must be carried out during the initial commissioning of the hydraulic pump:
- Listen out for any pump noises after starting up.
- Check the rotary field.
- Check the level of the hydraulic oil and top up, if necessary.
- Check the temperature of the electric motor and hydraulic oil.
- Check filter and, if necessary, clean or replace.
- Carefully bleed system if required.
- Check the functionality of the hand valves.
- Check components and connections for external leaks.
- Never re-tighten leaky screw fittings under high pressure, but only after releasing the pressure.

The following steps must be carried out during commissioning when the hydraulic unit has been out of operation for a long period of time:
- Thoroughly clean and rinse preserved equipment before commissioning.
- Drain condensation water from the hydraulic tank.
- After a long downtime period, check hydraulic oil for usability and change if necessary.

Recommissioning
All recommended measures for initial commissioning also apply to re-commissioning.

Preparation
Before connection and installation can begin, the hydraulics must be prepared:
- Check the age of the hydraulic hoses and replace if necessary.
- Carefully bleed the hydraulic hoses before use.
- Clean the oil filter or replace it if necessary.
- Check the fluid level in the oil tank and top up with hydraulic oil if necessary.
- Unravel any loops and twists in the hydraulic hoses.
- Remove objects from the hydraulic hoses.
- Clean all bushings and nipples on all quick-couplers.
- Check the rotary field on the rotary field display.
- Check the oil temperature.
- At low temperatures, warm up hydraulic oil by flushing the system in order to reach the required start viscosity.
- Listen out for any pump noises after starting up. Change the rotary field in the event of loud noises.
- Check components and connections for signs of leakage.

Hydraulic pump with cable winch

Follow the Instructions for Use:
- Hydr.Pump RCS 4x190/380-460V
- Hydr. Traction Cable Winch H60.

Assembly

1. Connect Hydr. Accum. Piece RCS (**18a**) to the Hydraulic Connection A1 (**12.3.1**) and A2 (**12.3.3**) with Cylinder 1 & 2 or 3 & 4.
2. Connect Hydraulic Twin Hose RCS (**20**) to Hydr. Accum. Piece RCS (**18a**).
3. Connect second Hydr. Accum. Piece RCS (**18b**) to the Hydraulic Connection B1 (**12.3.2**) and B2 (**12.3.4**) with Cylinder 1 & 2 or 3 & 4.
4. Connect Hydraulic Twin Hose RCS (**20**) to second Hydr. Accum. Piece RCS (**18b**).
5. Connect Hydraulic Twin Hose RCS (**20**) to Hydr. Traction Cable Winch H60 (**5**).

(Fig. 12 + 12a + 13)

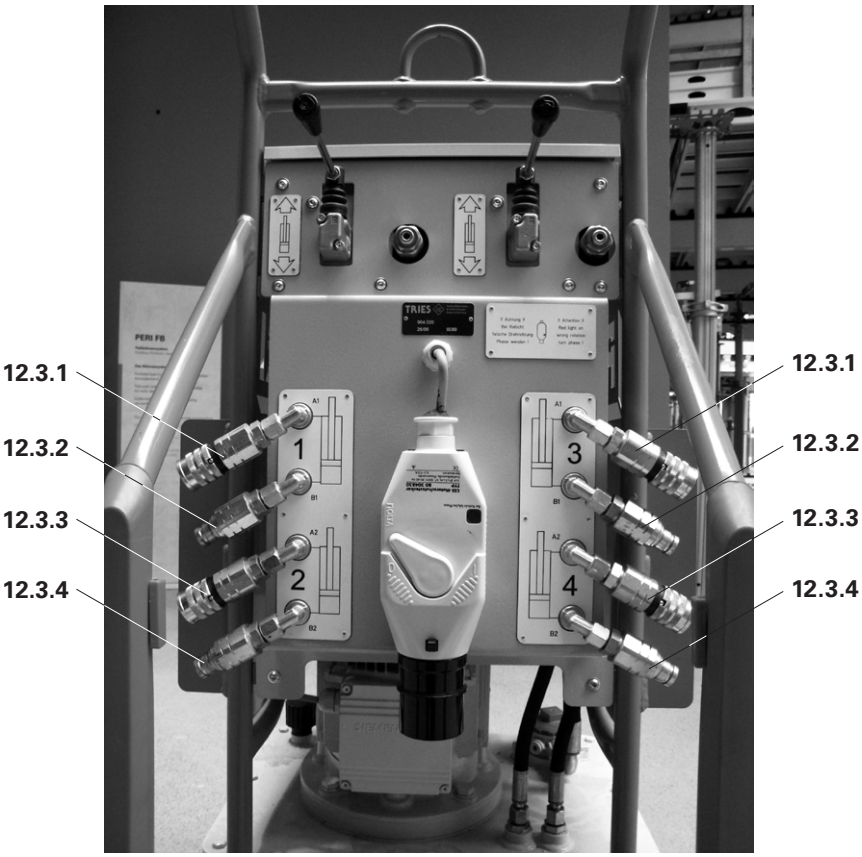


Fig. 12

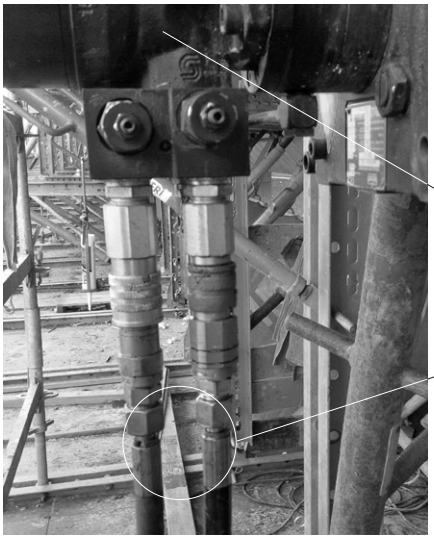


Fig. 13

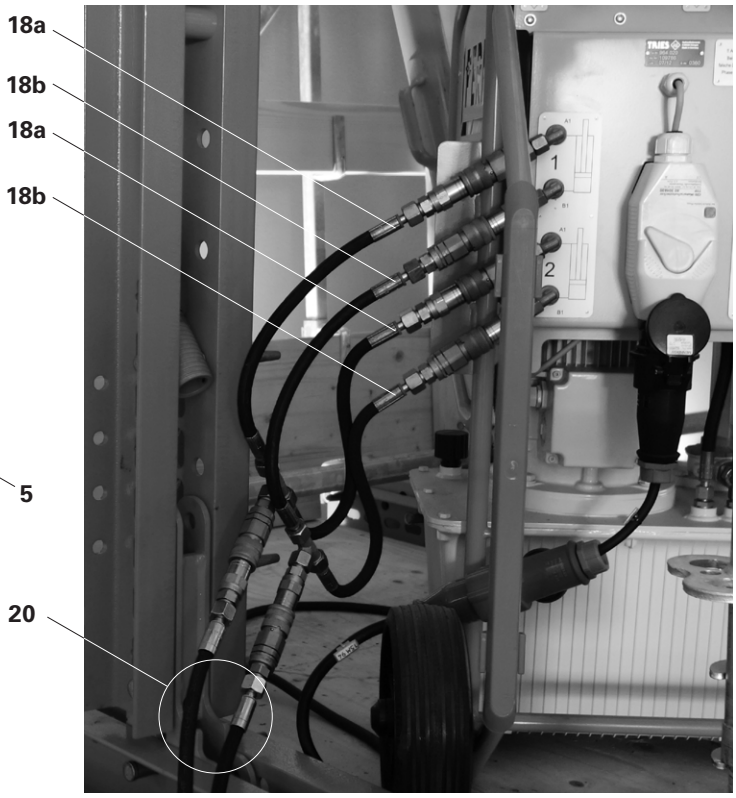


Fig. 12a

Connecting to power supply

Danger

High electric voltage at the hydraulic pump!
Death or serious injury can result from an electric shock.
⇒ Connection only by qualified personnel.

- Compare the required type of current and voltage with the information on the type plate.
- If the rotary field display (**12.3.7**) is red, turn the phase inverter 180° in the plug. (Fig. 14 + 15)

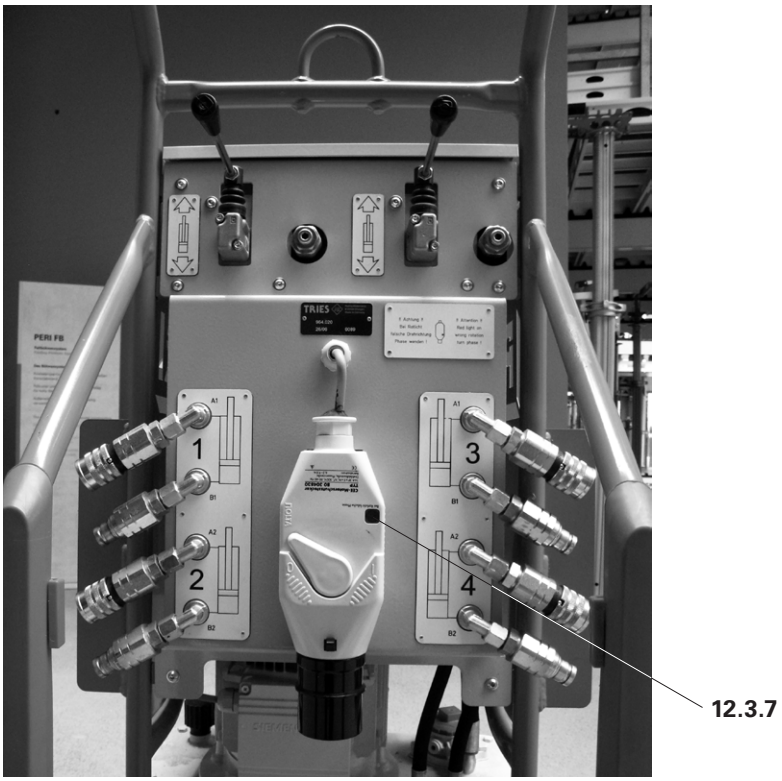


Fig. 14

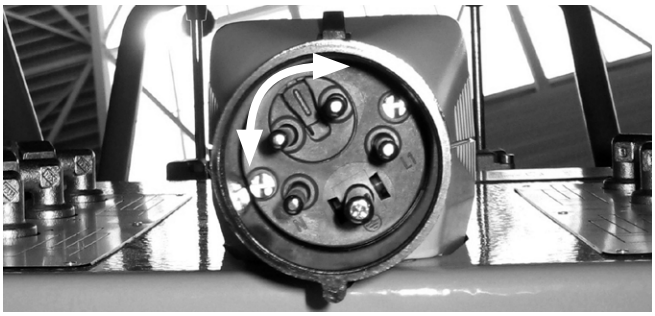


Fig. 15

Accessories
Adaptor Cable RCS (**14**) for operating voltage 400 V and a power supply line with CEE coupling 16 A (article no. 110280).
(Fig. 16)

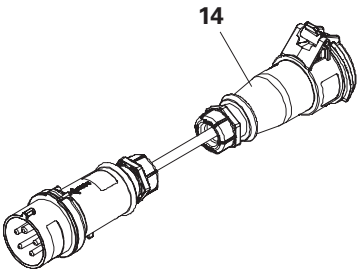


Fig. 16

Switching on the hydraulic pump

- Observe the instructions for use for the Hydr.
  Pump RCS 4x190/380-460V.
- Before switching on, check that both control levers are in the centre position.

1. Turn the toggle on the protective motor switch (**12.3.5**) to the right.
   (Fig. 17)

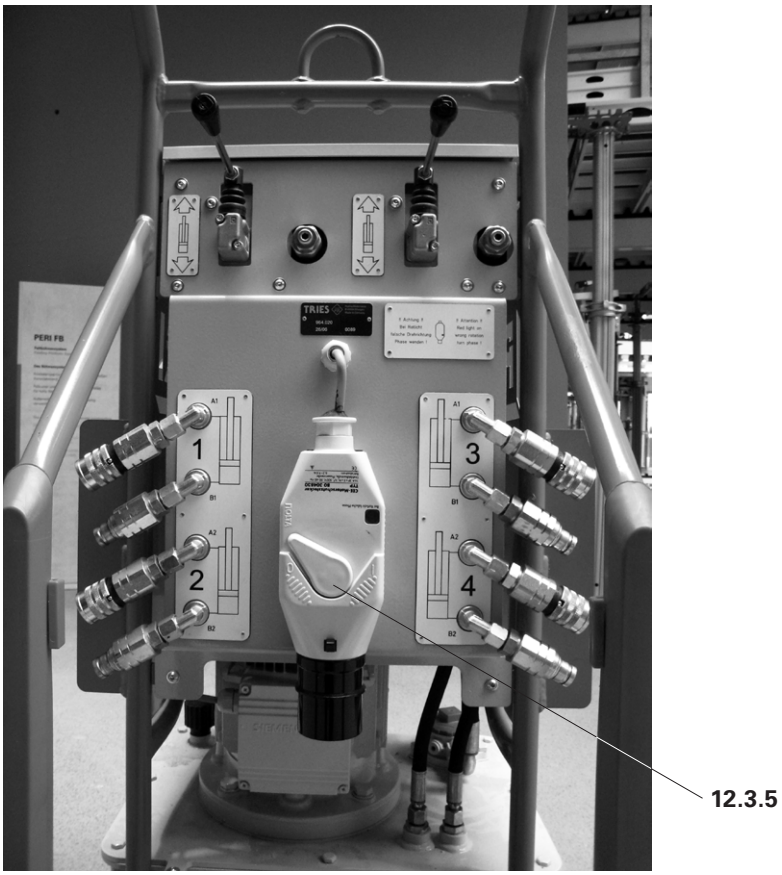


Fig. 17

Operating the hydraulic pump

- Observe the instructions for use for the Hydr.
  Pump RCS 4x190/380-460V.
- Use the control lever (**12.3.6**) of the connected pistons for repositioning.
  – Pistons 1 and 2: left control lever
  – Pistons 3 and 4: right control lever

Starting the moving procedure
Push the control lever (**12.3.6**) upwards.

Ending the moving procedure
1. Relieve Hydraulic Traction Cable Winch H60 (**5**) by pressing the control lever down (**12.3.6**).
2. Move the control lever (**12.3.6**) into the starting position.

(Fig. 18)

Switching off the hydraulic pump
Turn the toggle on the protective motor switch (**12.3.5**) to the left.

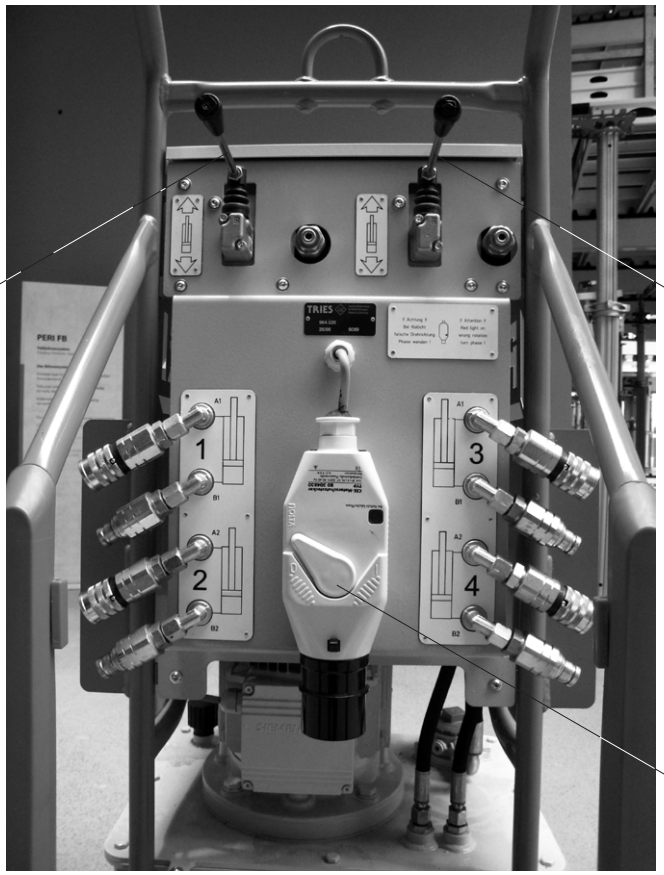


Fig. 18

Venting the system

In order to ensure that the system functions properly, the system must be bled fully every time it is put into operation for the first time on the construction site, after changing pipes and hoses or after maintenance work on the hydraulic cable winch. The oil level in the hydraulic unit must be checked throughout this process and topped up as required.

Initial commissioning and re-commissioning

1. Connect the hose connections to the hydraulic pump.
2. Connect up the hoses. (Fig. 19)

→ A short-circuit connection has now been established.

3. Switch on the hydraulic pump.
4. Push the control lever upwards for approx. 1 minute.

→ Air pockets in the hydraulic hoses are eliminated.

5. Switch off the hydraulic pump.
6. Decouple the hose connection.
7. Connect the hose connection to the cable winch.
8. Activate the freewheeling coupling.
9. Switch on the hydraulic pump.
10. Push the control lever upwards for approx. 1 minute.

→ Air pockets in the hydraulic hoses are eliminated.

→ Venting is complete.

When changing the hose

1. Disconnect the old hose connection.
2. Connect new hose connection to the hydraulic pump.
3. Connect up the hoses. (Fig. 19)

A short-circuit connection has now been established.

4. Switch on the hydraulic pump.
5. Push the control lever upwards for approx. 1 minute.

Air pockets in the hydraulic hoses are eliminated.

6. Connect hose connection to the cable winch.

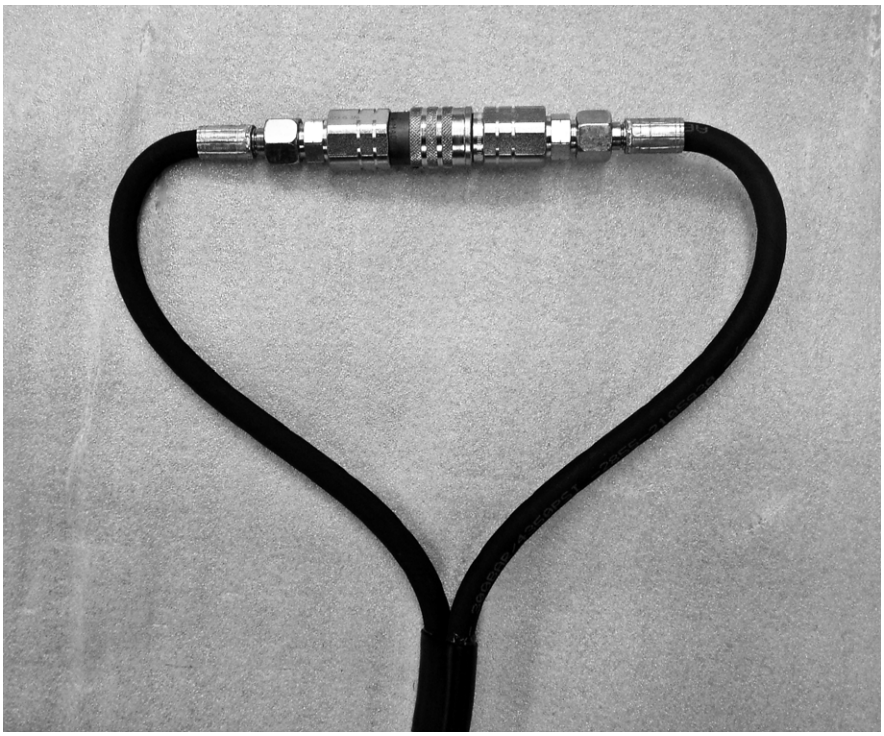


Fig. 19

Framework conditions

- The moving procedure must be monitored by the person in charge at all times.
- The recommended moving and concreting length of the cantilevered parapet track is approx. 25 m.
- Depending on the radius of the curve and the geometry of the superstructure, the optimum length for the moving procedure could be < 25 m, depending on the project.
- Always pull in the axis direction of the rails.
- The moving procedure can
  - either be carried out with the Hydr. Traction Cable Winch H60 (**5**), which is attached directly to the leading platform, see the Section Hydraulic traction cable winch on Page 17,
  - or with a pulling device provided by the contractor which is attached to the lug of the Railslide VARIOKIT 25-2 (**3**).
- With a longitudinal inclination of < 4°, the pulling unit is self-locking.

Pulling methods

– **PERI Pulling Unit**
Attach Pulling Cable Ø12 mm 20 m H60 (**21**) to Tension Shoe-2 VGB (**19**) at a sufficient distance (parapet track length), see Page 21.

– **Pulling unit supplied by contractor**
Attach the traction cable to the lug of the Railslide VARIOKIT 25-2 (**3**). (Fig. 20)

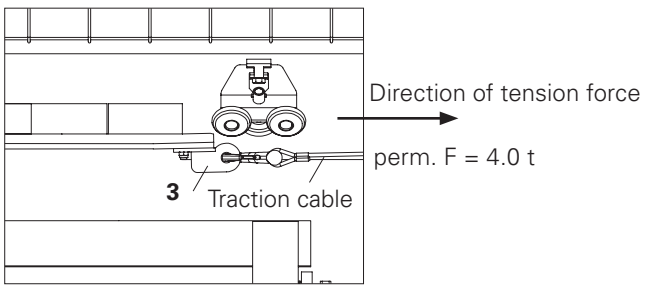


Fig. 20

First moving procedure

Warning

- People between the load and the Hydr. Traction Cable Winch H60.
  Risk of injury!
  ⇒ During the moving procedure, no one is allowed to be in the danger zone in case the cable breaks etc. (Fig. 21)
- Falling material, e.g. toolboxes, on the cantilevered part of the leading platform!
  Risk of injury!
  ⇒ Do not set down any loads on the cantilevered part of the leading platform.

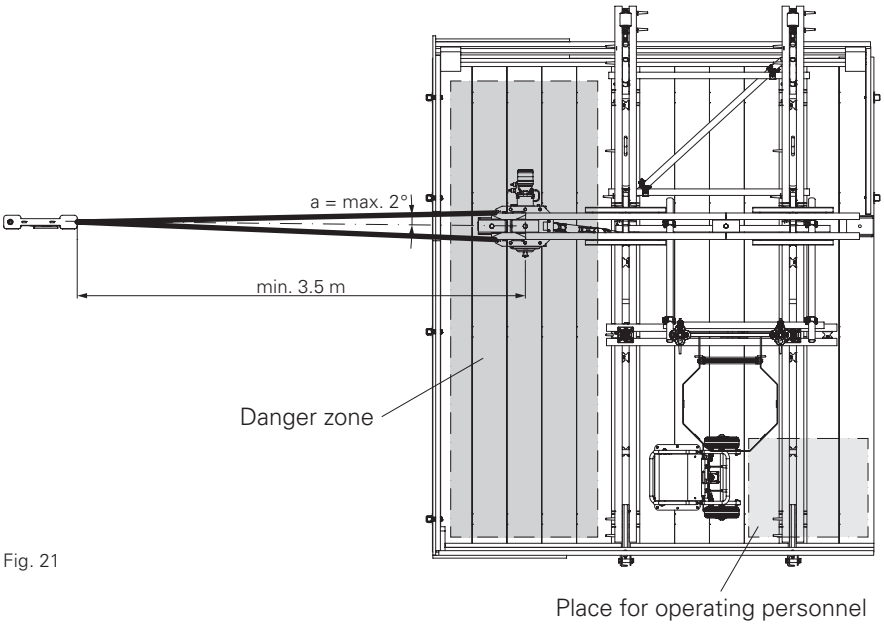


Fig. 21

Note

- When repositioning within the bridge radius, observe the permissible diagonal pull “a” of ±2° to the pulling axis. (Fig. 21)
  ⇒ Traction cable 12 mm x 20 m, H60 not winding up correctly.
  ⇒ Wear on traction cable 12 mm x 20 m, H60 is greater.
- Move the cantilevered parapet track a maximum of 3.50 m in front of the pulling point with a right-angled pulling axis. (Fig. 25)
  ⇒ Wear on traction cable 12 mm x 20 m, H60 is greater.

- When moving, follow the instructions for use for the Hydr. Traction Cable Winch H60.
- During the moving procedure, only operating personnel are allowed to remain on the platform. (Fig. 21)
- The Hydr. Traction Cable Winch H60 may only be used for moving horizontal loads.
- The Hydr. Traction Cable Winch H60 may only be subjected to loads if there are at least 5 windings on the winch.
- The maximum tension force of the Hydr. Traction Cable Winch H60 decreases with each cable layer. If the tension force is no longer sufficient, move the Tension Shoe-2 VGB so that the winch drum has fewer cable layers on it again.

The Pulling Cable Ø12 mm 20 m H60 must be pre-tensioned with >10% of the tension force of the hydr. traction cable winch when the traction cable is wound up.
PERI recommends winding up the traction cable during the moving procedure.

– **Step 1**
Preparing the pulling unit

1. Wind Pulling Cable Ø12 mm 20 m H60 onto Hydr. Traction Cable Winch H60 using 5 windings, see Page 20.
2. Pull the Pulling Cable Ø12 mm 20 m H60 in the moving direction, e.g. onto the lifting platform.
3. Fit Tension Shoe-2 VGB, see Page 21.
4. Attach Pulling Cable Ø12 mm 20 m H60 to Tension Shoe-2 VGB, see Page 21.
5. Actuate the control lever of Hydr. Pump RCS 4x190/380-460 V until the Pulling Cable Ø12 mm 20 m H60 is taut.
6. Check the framework conditions, see Page 30.
7. Actuate the control lever of the Hydr. Pump RCS 4x190/380-460V.
   → Pull with Hydr. Traction Cable Winch H60 until shortly before the next roller unit.

– **Step 2**
Removing the roller unit from the finishing platform

1. Remove the Roller Unit VARIOKIT (**17**).
2. Unscrew the Suspension Head VARIOKIT M24 (**16**).
3. Close the tie hole, see Instructions for Assembly and Use for the VGB Cantilevered Parapet Track, Section A5.

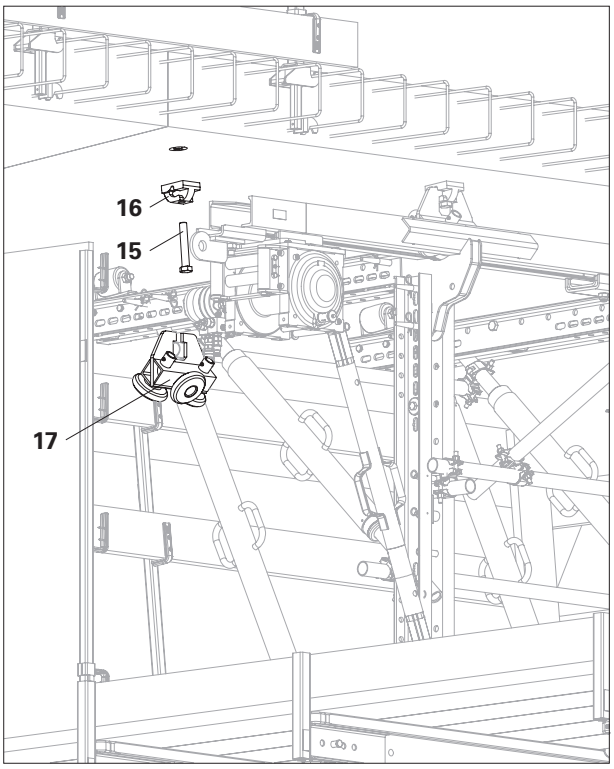


Fig. 22

4. Transport the Suspension Head VARIOKIT M24 (**16**) and Roller Unit VARIOKIT (**17**) to the leading platform. (Fig. 22)

- Between the moving operations, the Roller Units VARIOKIT (**17**) and Suspension Heads VARIOKIT M24 (**16**) are removed from the finishing platform, brought to the leading platform and mounted at the front.
- Depending on the length of the VGB Cantilevered Parapet Track, the cable may need to be pulled several times.

– **Step 3**
Pulling with the hydr. traction cable winch

Make sure that the height of the Railslide VARIOKIT 25-2 (**3**) is optimally adjusted with the Push-Pull Prop RS 210 (**8**) before threading it into each Roller Unit VARIOKIT (**17**). Avoid tilting when threading the Roller Unit VARIOKIT (**17**). (Fig. 23)

1. Switch on the Hydr. Pump RCS 4x190/380-460V (**12**), see Page 28.
2. Operate the Hydr. Pump RCS 4x190/380-460V (**12**), see Page 28.
   → The cable is wound on.
3. Adjust the Push-Pull Prop RS 210 (**8**). (Fig. 23)
4. Switch off the Hydr. Pump RCS 4x190/380-460V (**12**), see Page 28.

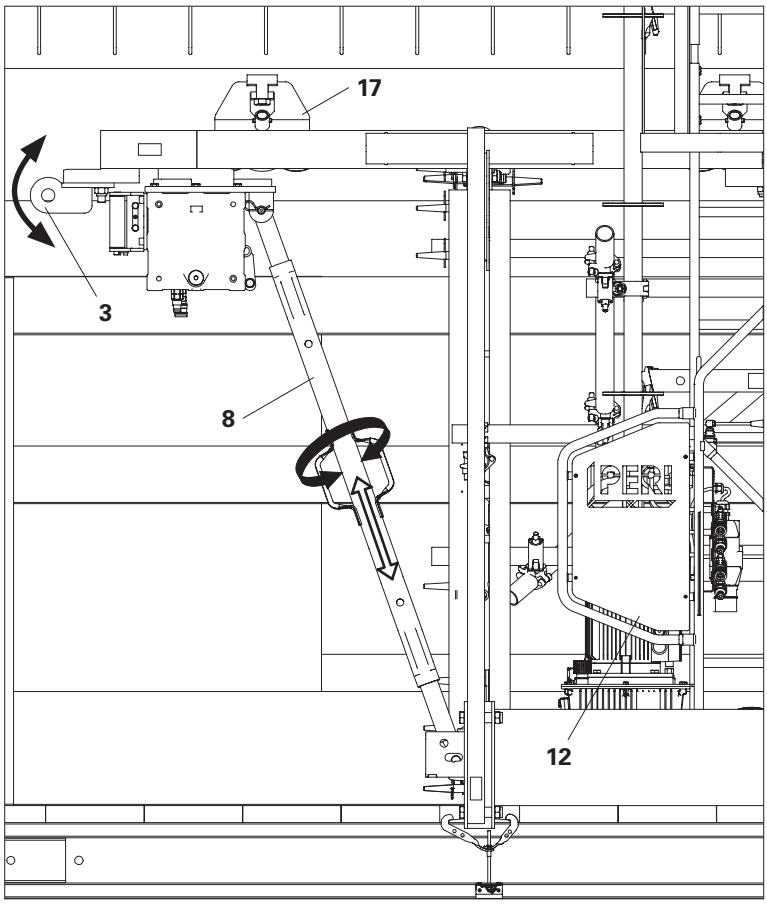


Fig. 23

– **Step 4**
Installing the roller unit in the leading platform

When the roller unit is being mounted, the traction cable must be free of any load.

1. Screw Suspension Head VARIOKIT M24 (**16**) into the Anchor Sleeve M24.
2. Attach the Roller Unit VARIOKIT (**17**).
3. Move the VGB Cantilevered Parapet Track up to the next anchor sleeve. (Fig. 24)

Repeat steps 1 to 4 until the next concreting section has been reached.

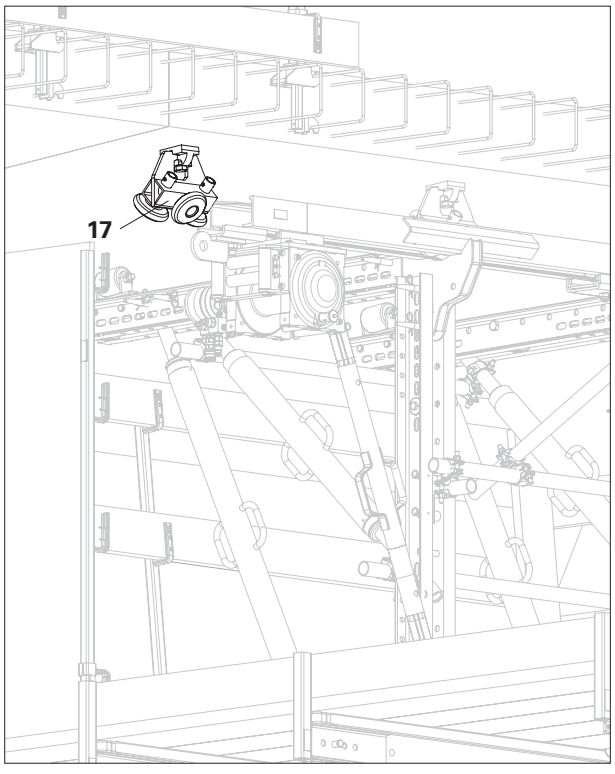


Fig. 24

Next moving procedure

Warning

- People between the load and the Hydr. Traction Cable Winch H60.
  Risk of injury!
  ⇒ During the moving procedure, no one is allowed to be in the danger zone in case the cable breaks etc. (Fig. 25)
- Falling material, e.g. toolboxes, on the cantilevered part of the leading platform!
  Risk of injury!
  ⇒ Do not set down any loads on the cantilevered part of the leading platform.

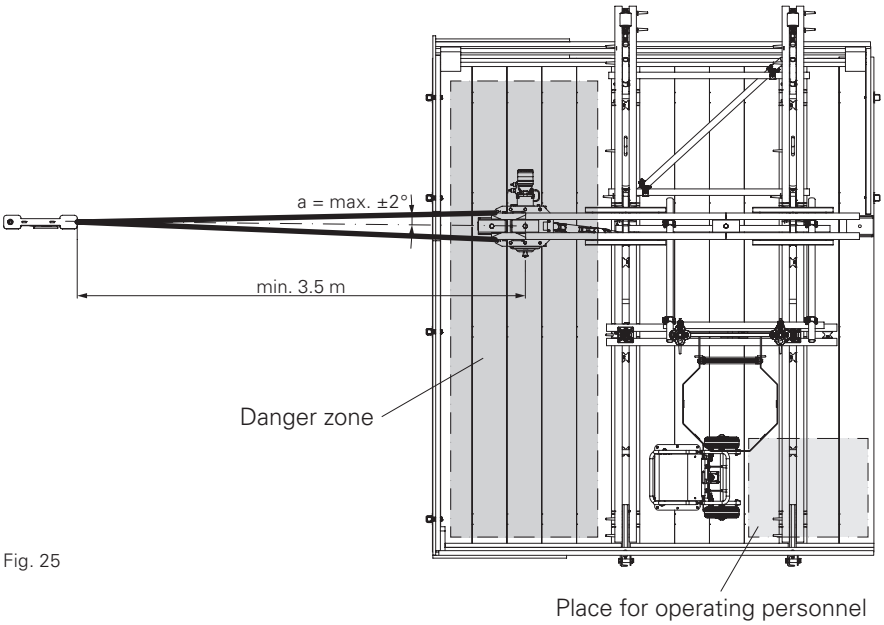


Fig. 25

Note

- When repositioning within the bridge radius, observe the permissible diagonal pull “a” of ±2° to the pulling axis. (Fig. 25)
  ⇒ Traction cable 12 mm x 20 m, H60 not winding up correctly.
  ⇒ Wear on traction cable 12 mm x 20 m, H60 is greater.
- Move the cantilevered parapet track a maximum of 3.50 m in front of the pulling point with a right-angled pulling axis. (Fig. 25)
  ⇒ Wear on traction cable 12 mm x 20 m, H60 is greater.

- When moving, follow the instructions for use for the Hydr. Traction Cable Winch H60.
- During the moving procedure, only operating personnel are allowed to remain on the platform. (Fig. 25)
- The Hydr. Traction Cable Winch H60 may only be used for moving horizontal loads.
- The Hydr. Traction Cable Winch H60 may only be subjected to loads if there are at least 5 windings on the winch.
- The maximum tension force of the Hydr. Traction Cable Winch H60 decreases with each cable layer. If the tension force is no longer sufficient, move the Tension Shoe-2 VGB so that the winch drum has fewer cable layers on it again.

During the moving operation, the Roller Units VARIOKIT (**17**) and Suspension Heads VARIOKIT M24 (**16**) are removed from the finishing platform, brought to the leading platform and mounted at the front.

– **Step 1**
Preparing the pulling unit

1. Pull the Pulling Cable Ø12 mm 20 m H60 (**21**) in the moving direction, e.g. onto the lifting platform.
2. Fit Tension Shoe-2 VGB (**19**), see Page 21.
3. Attach Pulling Cable Ø12 mm 20 m H60 (**21**) to Tension Shoe-2 VGB (**19**), see Page 21.
4. Actuate the control lever (**12.3.6**) of Hydr.Pump RCS 4x190/380-460V (**12**) until the Pulling Cable Ø12 mm 20 m H60 (**21**) is taut.
5. Check the framework conditions, see Page 30.
6. Actuate the control lever (**12.3.6**) of the Hydr.Pump RCS 4x190/380-460V (**12**).
   → Pull with Hydr. Traction Cable Winch H60 (**5**) until shortly before the next roller unit.

– **Step 2**
Removing the roller unit from the finishing platform

1. Remove the Roller Unit VARIOKIT (**17**).
2. Unscrew the Suspension Head VARIOKIT M24 (**16**).
3. Close the tie hole, see Instructions for Assembly and Use for the VGB Cantilevered Parapet Track, Section A5.
4. Transport the Suspension Head VARIOKIT M24 (**16**) and Roller Unit VARIOKIT (**17**) to the leading platform.

(Fig. 26)

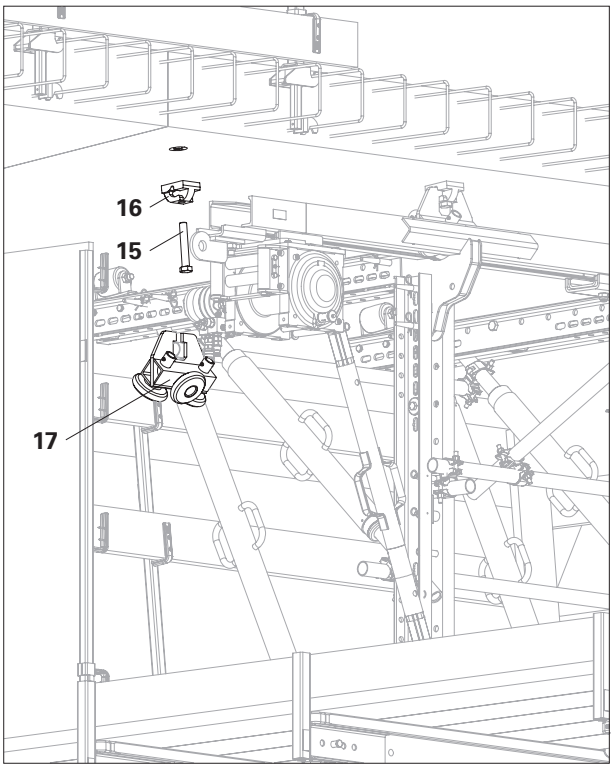


Fig. 26

- Between the moving operations, the Roller Units VARIOKIT (**17**) and Suspension Heads VARIOKIT M24 (**16**) are removed from the finishing platform, brought to the leading platform and mounted at the front.
- Depending on the length of the VGB Cantilevered Parapet Track, the cable may need to be pulled several times.

– **Step 3**
Pulling with the hydr. traction cable winch

Make sure that the height of the Railslide VARIOKIT 25-2 (**3**) is optimally adjusted with the Push-Pull Prop RS 210 (**8**) before threading it into each Roller Unit VARIOKIT (**17**). Avoid tilting when threading in the Roller Unit VARIOKIT (**17**). (Fig. 27)

1. Switch on Hydr.Pump RCS 4x190/380-460V (**12**), see Page 27.
2. Operate the Hydr.Pump RCS 4x190/380-460V (**12**), see Page 28.
   → The cable is wound on.
3. Adjust the Push-Pull Prop RS 210 (**8**). (Fig. 27)
4. Switch off the Hydr.Pump RCS 4x190/380-460V (**12**), see Page 28.

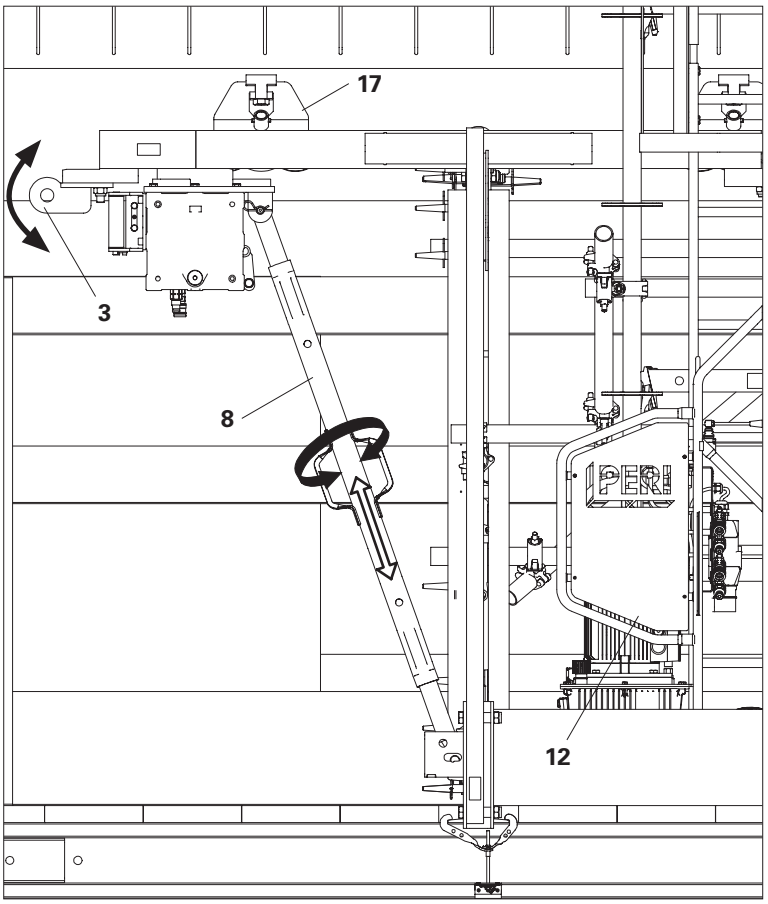


Fig. 27

– **Step 4**
Installing the roller unit from the leading platform

When the roller unit is being mounted, the traction cable must be free of any load.

1. Screw Suspension Head VARIOKIT M24 (**16**) into the Anchor Sleeve M24.
2. Attach the Roller Unit VARIOKIT (**17**).
3. Move the VGB Cantilevered Parapet Track up to the next anchor sleeve.

(Fig. 28)

Repeat additional moving procedures until the next concreting section has been reached.

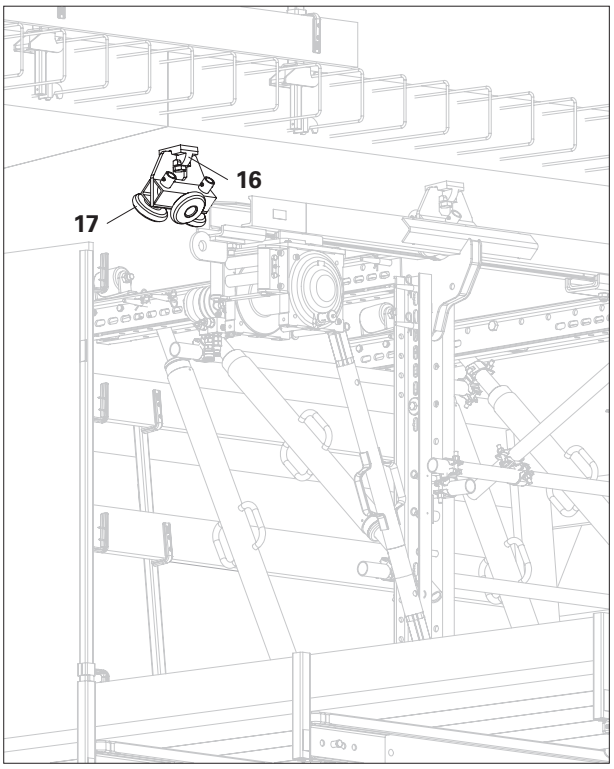


Fig. 28

Remedial measures for malfunctions

Fault	Possible cause / cause of fault	Recommended action
Hydraulic traction cable winch does not pull or only pulls to the "x-th" position	■ Required pulling force too high bridge inclination is too great.	■ Reduce pulling distance, e.g. use position 1-2.
	■ Pressure loss too high, insufficient hydraulic oil in the system.	■ Control and measurement of the system pressure ■ If necessary, use a larger hose diameter if the line length is too great. Determine on project-specific basis, e.g. DN08 – DN12.
	■ Fixing screws M24 x 150 for the roller unit not "hand-tightened".	■ Check fixing: "hand-tighten" fixing screw.
	■ Upward bridge inclination is excessive.	■ If necessary, divide the cantilevered parapet track.
	■ Support force of counter roller too large, thus shortened lever.	■ If necessary, divide the cantilevered parapet track.
	■ Overall, structural offset is too great.	■ If necessary, divide the cantilevered parapet track.
	■ Intrinsic weight of the track too high.	■ If necessary, divide the cantilevered parapet track.
	■ Possibly too much on-site material in the leading and finishing track sections.	■ Information for personnel on-site: remove dirt from the cantilevered parapet track.
	■ Hose length > 5 m is too long. This results in excessive losses in the hose line.	■ Reduce hose length to ≤ 5 m.
	■ Hydraulic pump not supplying operating pressure.	■ See the Instructions for Use for the hydraulic pump.
Cable not winding on correctly.	■ Opening angle is too big, e.g. in the area of radii.	■ Reduce the distance between the tension shoe and the cable winch in the radius area.
	■ Pulling force is too great in a corresponding position.	■ Increase the distance between the tension shoe and the winch in order to use the lowest cable layer.
	■ Minimum distance of 3.5 m from the tension shoe to the cable winch not reached.	■ Increase the distance from the tension shoe to the cable winch.
Hydraulic traction cable winch cannot be unwound by hand.	■ Locking bolt jammed.	■ Pull on the cable. Caution: if the roller moves, the locking bolt may come loose.
	■ Cable is still under tension.	■ Relieve the winch cable with the aid of the hydraulic pump. → Cable must sag.
	■ Cable winch is defective.	■ Replace the cable winch.

Tab. 02

EC Declaration of Incorporation

EG-Einbauerklärung

im Sinn der EG- Maschinenrichtlinie 2006/42/EG, Anhang II, Teil 1, Abschnitt B vom 17.05.2006.

Hersteller: PERI SE
Rudolf-Diesel-Straße 19
89264 Weißenhorn
Deutschland

Hiermit erklären wir, dass die Bauart und die Ausführung der

Unvollständigen Maschine:	VGB VERZUGSEINHEIT
für das System:	PERI VARIOKIT Gesimskappenbahn VGB
Übersichtszeichnung:	A007.524E0000
Funktion:	Mit Hilfe einer hydraulischen Seilwinde werden rollengeführte Schalungseinheiten von einem Betonierabschnitt zum Nächsten verfahren.

folgenden geltenden Normen und Richtlinien entspricht.

EG-Richtlinie 2006/42/EG Maschinenrichtlinie

Es wird erklärt, dass die folgenden grundlegenden Anforderungen der Maschinenrichtlinie 2006/42/EG erfüllt sind:

1.1.3, 1.3., 1.3.1, 1.3.2, 1.3.7, 1.3.9, 1.5.1, 1.5.15, 1.6.1, 1.6.3, 1.6.5

Angewandte harmonisierte Normen, insbesondere:

DIN EN ISO 12100	Sicherheit von Maschinen; Allgemeine Gestaltungsleitsätze – Risikobeurteilung und Risikominderung
DIN EN 60204-1	Sicherheit von Maschinen; Elektr. Ausrüstung von Maschinen Teil 1: Allgemeine Anforderungen
DIN EN ISO 13854	Sicherheit von Maschinen; Mindestabstände zur Vermeidung des Quetschens von Körperteilen
DIN EN ISO 13857	Sicherheit von Maschinen; Sicherheitsabstände gegen das Erreichen von Gefährdungsbereichen mit den oberen und unteren Gliedmaßen
DIN EN ISO 4413	Fluidtechnik – Allgemeine Regeln und sicherheitstechnische Anforderungen an Hydraulikanlagen und deren Bauteile
DIN EN 614-1	Sicherheit von Maschinen – Ergonomische Gestaltungsgrundsätze – Teil 1: Begriffe und allgemeine Leitsätze

Die speziellen Technischen Unterlagen gemäß EG- Maschinenrichtlinie 2006/42/EG, Anhang VII, Teil B wurden erstellt! Auf begründetes Verlangen werden die speziellen Technischen Unterlagen an die zuständigen staatlichen Stellen übermittelt! Die Übermittlung kann elektronisch oder auf Papier erfolgen! Alle Schutzrechte verbleiben bei o.g. Hersteller.

Die Inbetriebnahme unseres Produktes bleibt so lange untersagt, bis festgestellt wurde, dass die Ausführung der Anlage/ Maschine, in welcher der Einbau erfolgen soll oder von dem es ein Teil sein wird, mit den entsprechenden Rechtsvorschriften übereinstimmt.

Bevollmächtigter für die Zusammenstellung der technischen Unterlagen:

PERI SE, GROUP QUALITY
Anschrift siehe Hersteller

Weißenhorn, den 24.01.2022

i.V. Dipl.-Ing. (FH) Dieter Deifel,
Head of R&D Civil Engineering

EC Declaration of Incorporation

EC-Declaration of incorporation

according with the EC Machinery Directive 2006/42/EC, Annex II, Part 1, Section B of 17.05.2006.

Manufacturer: PERI SE
Rudolf-Diesel-Straße 19
89264 Weißenhorn
Germany

We hereby declare that the design and construction of the

Partly completed machinery:	VGB CANTILEVERED PARAPET TRACK
for the System:	PERI VARIOKIT Parapet Track VGB
Overview Drawing:	A007.524E0000
Function:	With the aid of a hydraulic winch, roller-guided formwork units are moved from one casting segment to the next.

complies with the following applicable standards and directives.

EC-Directive 2006/42/EC Machinery Directive

It is declared that the following essential requirements of the Machinery Directive 2006/42/EC have been fulfilled:

1.1.3, 1.3., 1.3.1, 1.3.2, 1.3.7, 1.3.9, 1.5.1, 1.5.15, 1.6.1, 1.6.3, 1.6.5

Applied harmonised standards, in particular:

DIN EN ISO 12100	Safety of machinery - General principles for design - Risk assessment and risk reduction
DIN EN 60204-1	Safety of machinery - Electrical equipment of machines - Part 1: General requirements
DIN EN ISO 13854	Safety of machinery – Minimum gaps to avoid crushing of parts of the human body
DIN EN ISO 13857	Safety of machinery –Safety distances to prevent hazard zones being reached by upper and lower limbs
DIN EN ISO 4413	Hydraulic fluid power – General rules and safety requirements for systems and their components
DIN EN 614-1	Safety of machinery – Ergonomic design principles – Part 1: Terminology and general principles

The special technical documents according to EC Machinery Directive 2006/42/EC, Annex VII, Part B have been prepared! Upon justified request, the special technical documents will be forwarded to the responsible state authorities! The transmission can be made electronically or on paper! All property rights remain with the above-mentioned manufacturer.
The commissioning of our product remains prohibited until it has been determined that the design of the system/machine in which it is to be installed or of which it will be a part complies with the relevant legal regulations.

Person established in the Community authorized to compile the relevant technical documentation

PERI SE, GROUP QUALITY
Address, see manufacturer



i.V. Dipl.-Ing. (FH) Dieter Deifel,
Head of R&D Civil Engineering

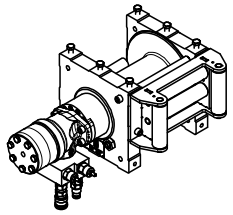
Weißenhorn, 2022-01-24

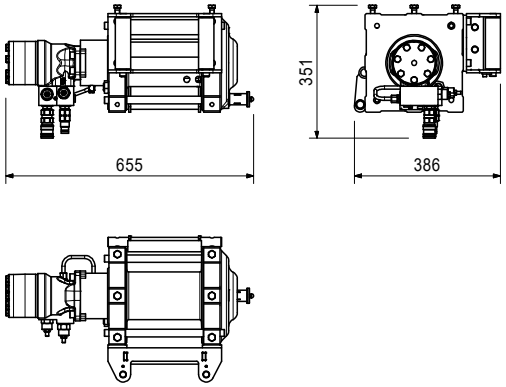
VGB Pulling Unit BA

Art no.	Weight [kg]	
131361	81.000	**Hydr.Pulling Cable Winch H60**

Notes

- Follow Instructions for Use!
- Complete with:
  5 St. Screw ISO4017-M12x045
  1 St. Screw ISO4017-M12x035-8.8-ga



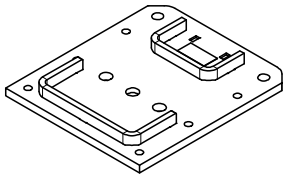


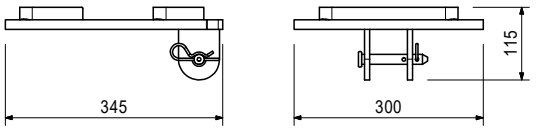
Accessory (not included)

131364 Pulling Cable Ø12mm 20m H60
131426 Adaptor Plate VGB H60

Art no.	Weight [kg]	
131364	16.500	**Pulling Cable Ø12mm 20m H60**

Art no.	Weight [kg]		B [mm]	L [mm]
140282	13.500	**Adaptor Plate-2 VGB H60**	300	345





Consists of

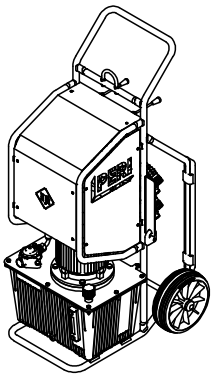
018050 Pin Ø16x65/86mm ga 1 pc
018060 Cotter Pin 4/1 ga 1 pc

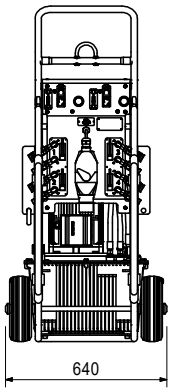
Art no.	Weight [kg]	
109766	109.000	**Hydr.Pump RCS 4x190/380-460V**

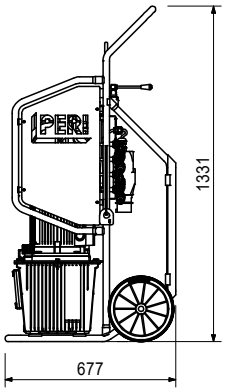
Hydraulic pump for actuating the Climbing Device RCS 50 or LPS 30.

Notes

Follow Instructions for Use.
Use only original PERI Hydraulic Oil.







Accessory (not included)

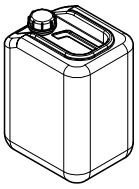
057376	Hydr.Oil ISO11158 HVI46 20l
131270	Hydr.Oil ISO11158 HM10 20l
131274	Hydr.Oil ISO11158 HVI22 20l
137373	Hydr.Oil ISO11158 HVI32 20l

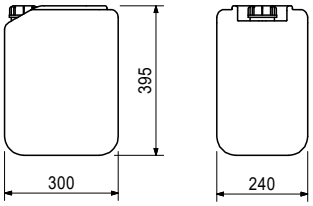
Art no.	Weight [kg]	
057376	18.300	**Hydr.Oil ISO11158 HVI46 20l**

High-quality synthetic hydraulic oils for PERI Hydraulic Power Units with different viscosity suitable for different temperature ranges.

Notes

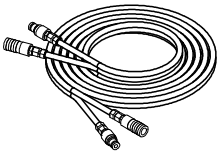
Filter with filter pump before filling the aggregates.
Observe Safety Data Sheet and applicable National Safety Regulations regarding hydraulic oil, in particular for transport, storage and disposal! Observe the technical documentation for the hydraulic power unit! Product Data Sheet on request.

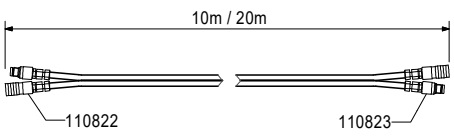




Art no.	Weight [kg]	
		Hydr.Twin Hoses RCS
110069	8.500	**Hydr.Twin Hose RCS 10m**
110070	15.300	**Hydr.Twin Hose RCS 20m**

Two permanently connected hydraulic hoses for connecting hydraulic pumps with hydraulic climbing devices.

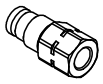


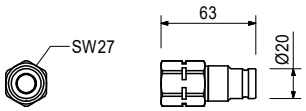


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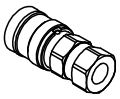
128992 Pin ISO16028 DN10 R3/8IG 2 pc
128993 Sleeve ISO16028 DN10 R3/8IG 2 pc
051750 Male Stud Coupl. X-GE12PSR-ED 4 pc

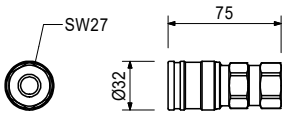
Art no.	Weight [kg]	
128992	0.140	**Pin ISO16028 DN10 R3/8IG**





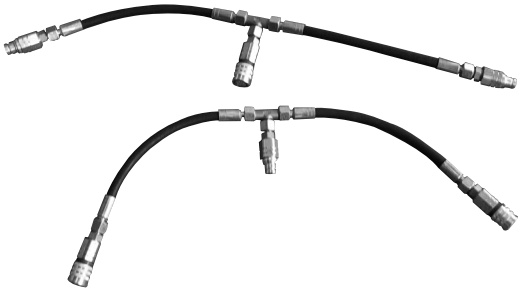
Art no.	Weight [kg]	
128993	0.280	**Sleeve ISO16028 DN10 R3/8IG**





Art no.	Weight [kg]	
112421	3.000	**Hydr. Accum. Piece RCS**

To double the volume of the oil at the Hydraulic Pump RCS. Also doubles the speed of the Hydraulic Winch RCS.

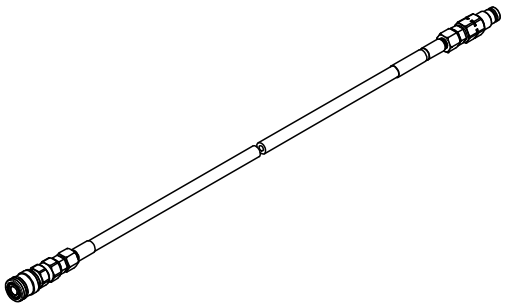


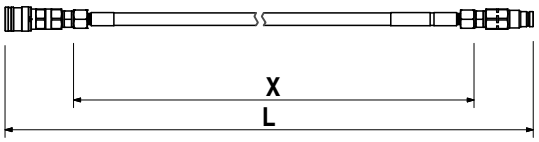
Art no.	Weight [kg]		L [mm]	X [mm]
129036	1.430	**Hydr.Hose 853-2SN-DN08-FF 2m**	2169	2000

Hydraulic hoses with quick couplings and nominal diameter 8 mm.

Notes

Follow applicable Safety Regulations for the installation and maintenance of hydraulic lines!





Consists of

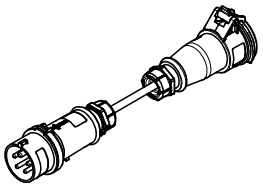
051750 Male Stud Coupl. X-GE12PSR-ED 2 pc
128992 Pin ISO16028 DN10 R3/8IG 1 pc
128993 Sleeve ISO16028 DN10 R3/8IG 1 pc

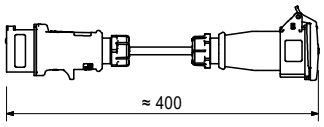
Art no.	Weight [kg]	
110280	0.500	**Adaptor Cable RCS**

For the power supply to the Hydraulic Pump RCS.

Notes

Follow Instructions for Use!
With CEE plug connector 400 V 16 A.





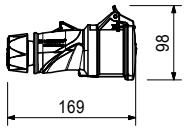
Art no.	Weight [kg]	
110279	0.291	**Plug Socket RCS black**

For providing the power supply to the Hydraulic Pump RCS with 380 – 460 V, 50 – 60 Hz.

Notes

Follow Instructions for Use!



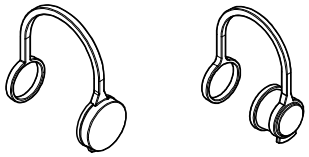


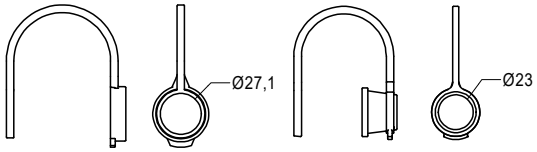
Art no.	Weight [kg]	
125632	0.050	**Prot. Covers Climb. Device RCS**

Spare part.
To protect unplugged quick couplings against dirt and damage.

Notes

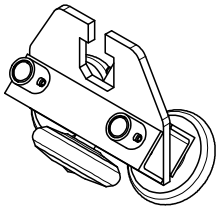
Use with hydraulic hoses with FF couplings possible.
1 set for 1 Climbing Device RCS 50 (2 x bushing and 2 x nipple each).

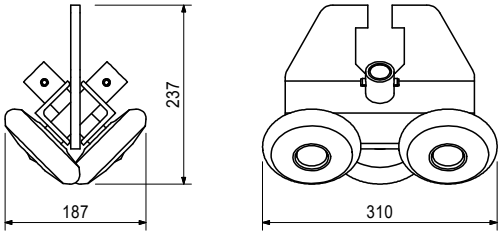




Art no.	Weight [kg]	
114535	18.000	**Roller Unit VARIOKIT**

Roller unit and mounting suspension for Guide Rails VARIOKIT.



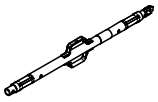


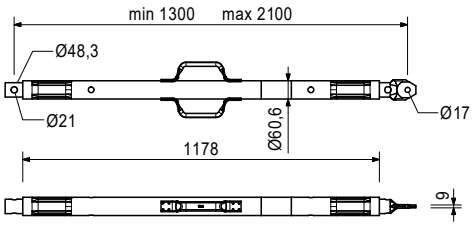
Art no.	Weight [kg]	
117466	10.600	**Push-Pull Prop RS 210 ga**

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

Notes

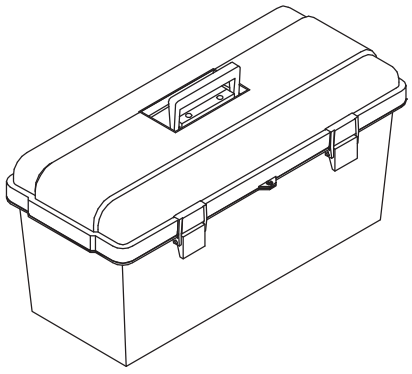
Permissible load see PERI Design Tables.



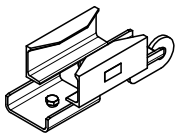


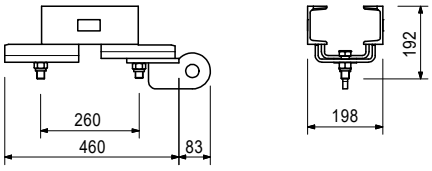
Art no.	Weight [kg]	
115581	10.280	**Service Box Hydraulics**

Consisting of:
1 pc. 115590 Tool Box 580x260x285mm
6 pc. 115583 Pressure Gauge Typ 570 VA-Geh.
6 pc. 115584 Hose MKT 6-02 DN 02
12 pc. 115582 Measuring Coupl. SMK 20-G 1/4-PC
2 pc. 115591 Double Spanner SW10x13
1 pc. 115592 Double Spanner SW13x17
1 pc. 135172 Double Spanner SW19x22
1 pc. 115588 Double Spanner SW19x24
1 pc. 051778 Double Spanner SW24x27
1 pc. 115589 Double Spanner SW27x32
1 pc. 057278 Allen Key Set 8 pcs.
1 pc. 115585 Allen Key SW12
1 pc. 057279 Allen Key SW14
1 pc. 057282 Pipe Wrench
1 pc. 115147 Angle Fitting Set PS
2 pc. 115396 Fitting Set PS RCS short
1 pc. 072180 Ratchet Wrench 1/2"
20 pc. 123881 Tube Screw Plug ROV12SX
20 pc. 123880 Threaded Plug VKAN 12S VIT
100 pc. 051760 Cable Binder NT-240H
2 pc. 126425 Distance Piece Ø120mm coat
1 pc. 126440 Socket SW17 1/2"
1 pc. 135173 Allen Key SHR-Bit SW05
1 pc. 135174 Allen Key SHR-Bit SW06
1 pc. 135175 Allen Key SHR-Bit SW08
1 pc. 135176 Allen Key SHR-Bit SW10
1 pc. 135177 SHR Screwdriver Bit 6 parts Slot/PH
2 pc. 711035 PERI Label 128x65mm
1 pc. 126434 List of contents Hydraulic Service Case



Art no.	Weight [kg]	
131430	12.300	**Railslide VARIOKIT 25-2**

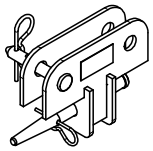


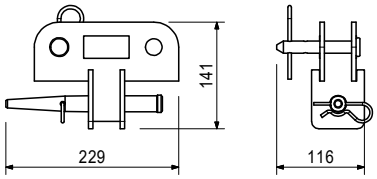


Consists of

057139 Screw ISO4017-M20x060-8.8-ga 1 pc
781053 Hex-Nut ISO7040-M20-8-ga 1 pc

Art no.	Weight [kg]	
131420	2.720	**Spindel Cross Connector SRU**



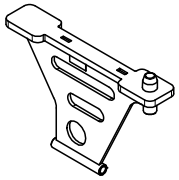


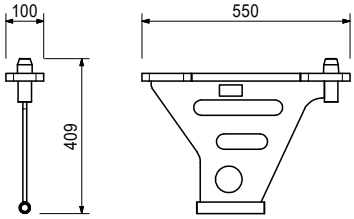
Consists of

018050 Pin Ø16x65/86mm ga 1 pc
018060 Cotter Pin 4/1 ga 1 pc
104031 Fitting Pin Ø21x120mm 1 pc
022230 Cotter Pin 5/1 ga 1 pc

Art no.	Weight [kg]	
131707	12.800	**Tension Shoe-2 VGB**

Tension Shoe-2 VGB for moving the VGB Parapet Track.

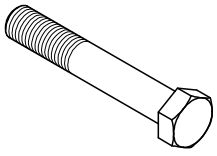


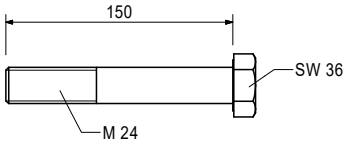


Accessory (not included)

104540 Screw ISO4014-M24x150-8.8-ga

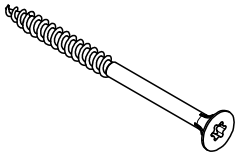
Art no.	Weight [kg]	
104540	0.654	**Screw ISO4014-M24x150-8.8-ga**

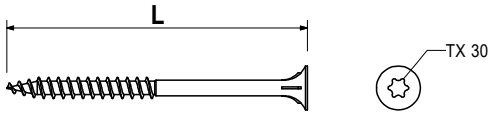




Art no.	Weight [kg]		L [mm]
024540	0.005	**Wood Screw 6x40 SK-TX30 HPI**	40

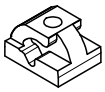
For Torx Bit Points TX30. Self-drilling.

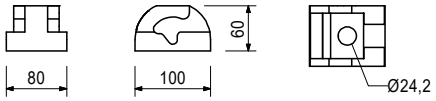




Art no.	Weight [kg]	
114534	2.220	**Suspension Head VARIOKIT M24**

Fixing part for mounting the Roller Unit VARIOKIT underneath the bridge cantilever.





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