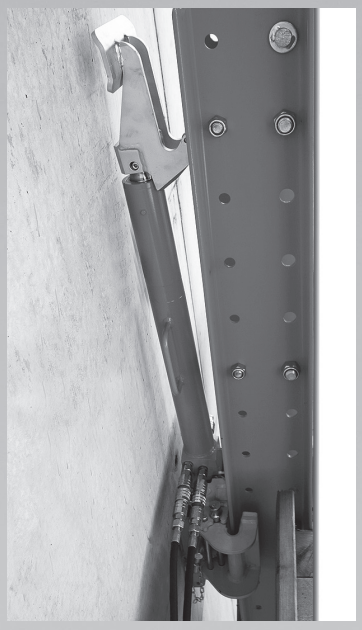
RCS Climbing Device and Hydraulics

Assembly, Commissioning and Maintenance
Spare Parts and Circuit Diagrams

Assembly Instructions – Version 2.1



Climbing Device RCS 50
Article no. 109765



Hydr. Pump RCS
4x190/380-460V
Article no. 109766

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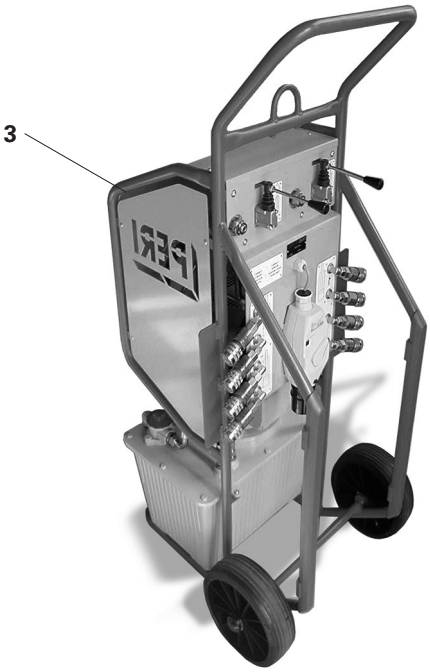
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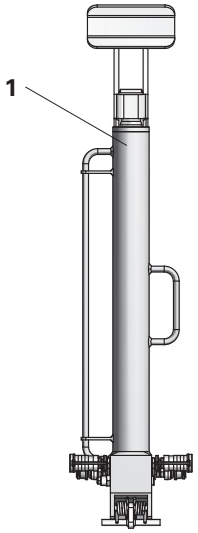
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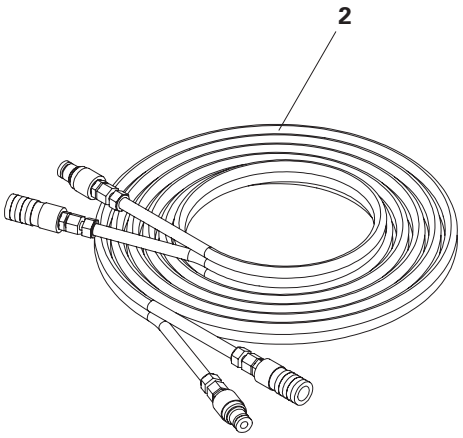
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Main components







1 Climbing Device RCS 50
2 Hydraulic Twin Hose RCS 10 m
3 Hydraulic Pump RCS MAX 2 x 210 bar, 380-460 V

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 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.
All components deemed valid according to the program overview may be used. Exceptions are specified.

Target groups

Contractors
These Assembly Instructions are intended for contractors who
- 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.

Competent personnel
PERI is responsible for training the operating personnel. With their signature on the handover certificate, the operator confirms that they are able to correctly operate the hydraulic system and the Climbing Device RCS 50. See "Participation Protocol and Handover Certificate" on page 71.

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.**
- **A competent person must be on site when any work is carried out on the climbing system, as well as during the climbing procedure.**

* Valid in Germany: 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.

Regular assembly

General information
The climbing mechanism for the RCS self-climbing system consists of:
- Climbing Device RCS 50
- Hydr.Pump RCS 4x190/380-460V
- Climbing Shoe RCS
- Climbing Rail RCS, with Climbing Rail Extension RCS 125, if required

Functionality
The Climbing Device RCS 50 is positioned on the Climbing Shoe RCS. The Climbing Shoe RCS is anchored to the building by means of a wall or slab shoe. The climbing device works together with the pawl in the climbing shoe. The claw on the piston engages with the climbing bolts (spacers in the Climbing Rail RCS) and pushes both of them, together with the falsework structure, upwards. At the end of the stroke, the pawl in the climbing shoe engages with another climbing bolt. Once the cylinder is retracted, the pawl carries the load and the claw circumvents the next climbing bolt. After this, the claw engages with this climbing bolt.

Applications
With the help of the Climbing Hydraulics RCS, climbing units can be moved vertically without using a crane.

Standard supporting structures:
- Guided Climbing Formwork RCS C
- Light Climbing Formwork RCS CL
- Climbing Protection Panel RCS P
- RCS ML Material Lifter and Guided RCS MP Material Platform (used in the same way as RCS P)

For special applications, the design engineer must check whether additional or alternative measures are required for the climbing procedure. These measures are to be shown and described in the operational or assembly plans.

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.



These assembly instructions are not a replacement for the assembly instructions for the hydraulic unit, hydraulic cylinder or complete climbing systems. The instructions for the installed components and systems also apply.

Intended use

The hydraulic system, consisting of the Climbing Device RCS 50 in combination with the Hydr.Pump RCS 4x190/380-460V, is used exclusively for lifting one climbing unit, consisting of formwork and shoring structure, to the next concreting section.

The hydraulic system cannot be used on its own. It has been designed for installation in a climbing system.

PERI products have been designed for exclusive use in the industrial and commercial sectors only by suitably qualified, trained and instructed personnel.

These Assembly Instructions serve as a basis for the project-related risk assessment, as well as instructions for the provision and use of the system by the contractor (user). However, they do not replace them.

The components are to be inspected before each use to ensure they are in perfect condition and that they function correctly.

Only PERI original components may be used. The use of other products and spare parts as well as different constructional systems and modifications, represents a misapplication with a potential safety risk. PERI shall not be held liable in this case.

Changes to PERI components are not permitted and represent a misapplication with a potential safety risk. Safety instructions and permissible loads must be observed.

Components provided by the contractor must comply with the requirements stipulated in these assembly instructions and all applicable laws and standards.

Deviations from the standard configurations listed here are generally impermissible. Special applications must be described in the form of detailed planning and instructions for use based on a separate risk assessment. These special applications must be approved by PERI.

Anything other than the use that is specified in Paragraph 1 is considered contrary to the designated use!

For damage arising from non-intended use
- the operator bears sole responsibility,
- the manufacturer assumes no liability.

Foreseeable misuse
- Transportation of loads and persons.

Instructions for Use

Use in a way that is not intended according to the assembly instructions or deviations from the standard configuration or intended use constitute incorrect use with a 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.

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

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

Technical data

Climbing Device RCS 50

Effective stroke length of	500 mm (maximum 575 mm)
Lifting force	Theoretical nominal lifting force of 45 kN [1)]
Max. operating pressure	190 bar (19.0 MPa)

1) The theoretical nominal lifting force depends on the following points, which must be taken into account when planning the project.
- Use of serial components
- The system's own weight and centre of gravity.
- The length of the hydraulic hoses.
- The lubrication state of the climbing rail near the climbing shoes.

Hydr.Pump RCS 4x190/380-460V

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 (For use only in Canada)
Working area	dependent on the hydraulic oil used, see "Tab. 01" on page 19.
Sound emissions	64 dB (A) at a distance of 1.0 m

Additional technical documentation

- Instructions for Assembly and Use (e.g. for RCS C, RCS CL or RCS P)
- Instructions for Use (e.g. for Climbing Beam RCS 9 t)
- PERI PI separate product information (e.g. for permissible tie loads)
- Assembly Instructions for the hydraulic unit and the climbing device (from the manufacturer)
- Safety data sheet for hydraulic oil
- Safety data sheet for multi-purpose grease
- Hydraulic cylinder documentation
- Declarations of Conformity, Declarations of Incorporation

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 LA-TAG Assembly Set User Information".

Cleaning and maintenance instructions

The Climbing Device RCS 50 has been designed for long-term use on construction sites.

Maintenance intervals must be adhered to and correct storage ensured.

Some repair work may also be inevitable due to the tough working conditions.
Repairs that require the welding or forming of components must be carried out by PERI.

Use PERI original parts as spare parts.



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.

Do not clean the hydraulic unit and hydraulic cylinder with a high pressure cleaner.

Concrete adhesion on the Climbing Device RCS 50 and hydraulic unit must be removed immediately after the concreting process.

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.

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.

Disposal

- Materials are to be sorted correctly and according to type.
- Dispose of the materials in accordance with the applicable national regulations and guidelines.
- Consult the relevant safety data sheet when disposing of hydraulic oil, auxiliary materials and consumables.

Cross-system



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

General information
The contractor must ensure that the documents supplied by PERI are available at all times and understood by the site personnel.

These instructions can be used as a basis for preparing the risk assessment. The risk assessment is compiled by the contractor. These instructions are not a substitute for the 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 correctness.

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 requirements stipulated in these instructions 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 if required, 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.

Contamination
- Always keep working areas, contact surfaces and work platforms of the system free of dirt, objects, snow and ice.
- There is an increased risk of slipping, particularly after hydraulic oil leaks and in wet weather conditions.
- Close off the system in extreme weather conditions.

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 these instructions, 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 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.
- Only use tested and approved lifting gear.
- Do not remain in the danger zone of moving parts.



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 are taken against injuries caused by bumping against protruding components, e.g. assembly of protective components.

System-specific

Warning
In cases of leakage, hydraulic oil can escape at high pressure!
The oil can penetrate the skin and cause severe irreversible injuries.
⇒ Do not use parts of your body to cover the leakage.
⇒ Stay away from the leakage point.

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

Make sure that the guardrails and/or edge covers at building openings and projections are fully installed before accessing the climbing system.

Before entering the system, check for completeness of the platform deck and for danger spots and use PPE if necessary.

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

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

Inspection of the anchoring and associated components must be carried out by the party responsible.

As a result of the relocation procedure, falling edges are formed between the platforms. Such affected areas are to be cordoned off.

Building materials or tools must not be transported as part of the relocation operation. Exceptions to this can be determined through the operational working and assembly instructions.

The transport of persons during the relocation process is strictly prohibited. This does not apply to the operating personnel required for relocation operations.

Working areas at great heights are to be secured by means of appropriate measures to prevent objects from falling down.

The enclosure of the platform or mounting of additional surfaces exposed to the wind changes the degree of stability and must be rechecked. If necessary, additional measures must be implemented.

Use a guide rope to ensure that assembly units suspended from the crane are fully under control when being moved.

Welding or abrasive cutting work is prohibited on the platforms due to the associated fire hazard.

Reliable lightning conduction must be ensured by the contractor.

Assembly work
The contractor must ensure that the user has an appropriate and sufficient number of tools, lifting equipment and slings, suitable and sufficient space for assembly and storage as well as adequate crane capacity at his disposal.

During the transportation procedure, only use the specified attachment points for components.

Avoid standing under suspended loads. If work under suspended loads cannot be avoided, come up with suitable safety measures and apply them. Avoid standing between a fixed object and an object that is drawing near.

Secure interim assembly states by means of temporary supports in order to prevent any items from toppling over.

The contractor must make a level assembly area with sufficient load-bearing capacity available.

Unexpected hazards can always arise when assembly work is carried out. Assess the degree of risk in each individual case and, if necessary, take measures to prevent or minimise the risk.

If guardrails cannot be used or has to be removed due to operational reasons, safety equipment must be installed in its place in order to prevent falls from any height.
If the use of anti-fall equipment is deemed to be inappropriate, personal protection equipment (PPE) can be used if suitable fixing points are available.

Site personnel are forbidden to remain in areas below where assembly work is being carried out, unless the danger zone has been provided with sufficient protection against falling, overturned, sliding or rolling objects and masses. Cordon off and clearly mark any danger zones and check that these are in place and complete every time work is commenced.

Do not walk on components and assembly units.
Find a secure standing position next to the components or assembly units. Use assembly scaffolds.

Always keep components and assembly units free of dirt, ice and snow.

Access
Safe access to all working areas must be guaranteed at all times.

Hatches and openings to accessible working areas must be kept closed during working operations.

Use walkways, stairs, stair towers or site lifts as access routes. Ladders are suitable for use as passageways in exceptional cases only.

Ladders must not be connected to each other for more than two levels and should be offset against one another.

Ladders must be secured on the outer side by means of appropriate anti-fall equipment such as ladder cages or safety nets.

Building edges at passages and openings in accessible areas must be secured.

In case of danger, it must be ensured that working areas can be vacated via emergency escape routes or rescue equipment.
It must also be ensured that at least one emergency escape route or piece of rescue equipment can still be used if the power supply fails.
Determine and apply all appropriate measures.

Throughout the entire relocation procedure, ensure that site personnel can still use the emergency escape route.

In case the access hatches are blocked when retracting the formwork, ensure that site personnel can still use the emergency escape route.

Protection against falling components
Work activities may not be carried out simultaneously on areas positioned on top of each other if the lower working areas are not protected against falling objects.

Avoid installing working areas and access routes in danger zones.
If this is not possible due to work procedures, suitable protective measures must be available to provide protection against falling objects. This also applies to work that only takes a short period of time.
Safety nets (mesh size ≤ 2 cm) and platform planking are considered to be suitable means and are to be installed very close to the structure (distance ≤ 5 cm).

Secure tools and material to prevent them from falling down. Remove concrete residue and other dirt as soon as possible, at the latest before the next climbing cycle. The platforms are to be kept clean at all times.

Operational working areas at great heights are to be secured by means of appropriate structural measures to prevent objects from falling down.

Components that are likely to become unstable
Secure components that are likely to become unstable with suitable means, e.g. using push-pull props, or leave them attached to the crane until the tipping hazard has been eliminated.

Loitering in the tipping range is prohibited. Draw attention to and clearly mark any danger zones.

If necessary, cordon off the danger zones with suitable means. Check that safety signs and barriers are in place before commencing work.

Climbing procedure
Take into consideration the permissible wind speed limit for the climbing procedure.

Personnel, building materials or tools must not be transported as part of the relocation operation. Exceptions to this can be determined through the operational working and assembly instructions on the basis of a corresponding risk analysis.

The climbing procedure must be monitored by a competent and qualified person.

During the climbing procedure, clamping and crushing hazards are brought about by moving components.

The individuals carrying out the climbing procedure must be fully informed about all possible hazards.

All persons who are not required to carry out the climbing procedure must leave the danger zones.

When climbing with the hydraulic climbing device, specifications regarding the arrangement of the hydraulic hoses must be observed. If the standard arrangement is not possible, an authorised person must determine a safe and secure alternative.

As a result of the moving procedure, open edges are formed between the platforms as well as at building openings. When working in this area, personnel must be secured against falling, e.g. by temporary guardrails or wearing PPE.

Secure all resulting shearing edges by means of covers. Cordon off danger zones during the climbing procedure.

In case of a malfunction, lower the platform to the next possible position. Personnel are to leave the climbing unit in a safe and secure manner and a person who is authorised to give instructions is to be notified immediately.

The climbing system cannot be anchored for the next concreting section until the required concrete strength has been achieved.

Maintenance and repairs
The components of the climbing system are to be inspected before every use to ensure that they are in flawless condition.
Only flawless materials may be used.
Have the climbing units checked monthly for signs of damage by competent persons who are authorised to give instructions.

Remove any loose concrete residue.

Immediately remove any dirt that impairs functionality.
Remove and replace damaged components.

In case of overload or damage, stop work on and under the platforms, determine the cause, set down and replace damaged components.

If the maximum permissible wind speed has been exceeded, temperatures are outside the area of application or after any extraordinary event has taken place such as a fire or earthquake, the functionality and load-bearing capacity of all safety components as well as the supporting structure must be checked.

Safety components:
- A visual inspection is to be carried out by authorised personnel before each climbing procedure.
- Before each climbing procedure or each assembly procedure, a functionality check is carried out by qualified personnel.
- If parts need to be replaced, only PERI original components may be used.
- Repairs are to be carried out by qualified PERI personnel only.
- In the case of overloading or recurrent damage, stop work operations on and under the platforms, determine the cause and rectify.

Supporting structure:
- A visual inspection is to be carried out by authorised personnel before initial use.
- Only PERI original components are to be used for repairs or replacement.
- In the case of overloading or recurrent damage, stop work operations on and under the platforms, determine the cause and rectify.

Other components:
- Repairs are carried out by authorised personnel and the person authorised to give instructions is to be informed.
- In the event of frequently recurring damage, determine the cause and remedy it.
- Route hydraulic lines and power cables in such a way that they cannot be disconnected or sheared off, and that they do not pose a tripping hazard.

Hydraulic components
Visual inspections are to be carried out by authorised personnel at regular intervals.
Qualified personnel are to carry out a functionality check before every working cycle or before assembly takes place.
If any defects are discovered, repairs are only allowed to be carried out by qualified personnel.

Hydraulic hoses have an expiry date. Observe the manufacturer-specific information.

Do not suspend any objects from the hydraulic hoses.

Observe the manufacturer-specific information regarding inspection and maintenance of the hydraulic unit.

For correct use and disposal of the hydraulic oil, observe the manufacturer-specific instructions.

Thicken spilled hydraulic oil immediately with oil binder and mop it up.



Wear safety goggles and suitable protective gloves when working on the hydraulic system.



PERI recommends using an oil pan to collect hydraulic oil from the hydraulic unit.

Note
Always switch off the power to the hydraulic unit and prevent it from being switched on again as soon as the moving procedure involving the climbing system has been completed. For this, secure the main switch of the hydraulic unit by means of a padlock.
This safety measure also applies to the following:
- Assembly.
- Maintenance.
- Repairs.
- Inspections.
- Disassembly.

Approval for use is the responsibility of the operating personnel.

Electrical components

Danger
High electric voltage at the hydraulic unit!
Death or serious injury can result from an electric shock.
⇒ Connection only by qualified personnel.
⇒ Only qualified personnel may carry out work and repairs on the electrical components of the systems.
⇒ Only approved, undamaged and tested connecting cables should be used.

Only operate the hydraulic unit using the current and voltage specified on the type plate.

Do not suspend any objects from the electrical lines.

Component overview

Parts list

Pos. no.	Component name	Article no.
1	Climbing Device RCS 50	109765
2a	Hydraulic Twin Hose RCS 10 m	110069
2b	Hydraulic Twin Hose RCS 20 m	110070
2c	Hydraulic Hose 2SN-DN08-FF 1.0 m	129035
2d	Hydraulic Hose 2SN-DN08-FF 2.0 m	129036
2e	Hydraulic Hose 2SN-DN08-FF 5.0 m	129419
2f	Hydraulic Hose 2SN-DN08-FF 10.0 m	129420
2g	Hydraulic Hose 2SN-DN08-FF 15.0 m	129421
2h	Hydraulic Hose 2SN-DN08-FF 20.0 m	129422
3	Hydr.Pump RCS 4x190/380-460V	109766
4a	Plug Socket RCS black	110279
4b	Adapter Cable RCS	110280
5	Climbing Shoe RCS	109468
6	Wall Shoe RCS	109503
7	Slab Shoe RCS	109567
8	Guide-in Tool RCS	114317
9	Climbing Rails RCS	–
10	Climbing Rail Extension RCS	–
23	Truss spindle	–

Hydraulic oil

- Observe national guidelines and regulations, e.g. DGUV regulation 113-020:2017-10 in Germany.
- Top up the hydraulic oil when the climbing device is in a retracted position.
- Observe the hydraulic oil viscosity/temperature diagram.
- Refer to the details for the appropriate operating temperature and viscosity of the hydraulic unit in the manufacturer's assembly instructions.
- Do not mix different hydraulic oils.
- Make a note of the oil type used for filling (e.g. on oil card).
- If the oil type is changed, the units, climbing devices and hoses need to have an oil change.

Areas of application for PERI hydraulic oils in combination with the Hydr.Pump RCS 4x190/380-460V

Designation	Temperature range Hydraulic oil	Cold start temperature	Temperature range Hydraulic pump
Hydraulic oil ISO 11158 HM10	–20 °C ... +25 °C	–20 °C	–20 °C ... +45 °C
Hydraulic oil ISO 11158 HVI22	–20 °C ... +49 °C	≤ –15 °C	
Hydraulic oil ISO 11158 HVI32	–19 °C ... +62 °C	≤ –9 °C	
Hydraulic oil ISO 11158 HVI46	–10 °C ... +70 °C	≤ ±0 °C	

Tab. 01

Note

- The area of application of the hydraulic unit must be within the temperature range of the hydraulic oil and hydraulic unit.
- If other hydraulic oils are to be used, contact PERI.

Hydraulic hoses

Observe national guidelines and regulations, e.g. DGUV regulation 113-020:2017-10 in Germany:

- Maintenance and checking of hoses.
- Notes on laying hose lines.
- Notes on storage.
- Period of use.

Minimum bending radius (internal measurement) as per DIN EN 853:2016-09:

- Hose DN08: 115 mm
- Hose DN10: 130 mm
- Hose DN12: 180 mm

Hydraulic pump

Observe the manufacturer's assembly instructions for the maintenance and repair of the hydraulic unit.

A1 Climbing Device RCS 50

Components

1 Climbing Device RCS 50
1.1 Piston with claw and roller
1.2 Cylinder base
1.3 Return flow from the rod side A with the hydraulic quick-coupler (clip) left + right
1.4 Inflow to the piston base B with the hydraulic quick-coupler (bushing) left + right
1.5 Reposition device
1.6 Locking lever
1.7 Measuring connection
1.8 Lowering brake valve
1.9 Protective caps
1.13 Leg spring

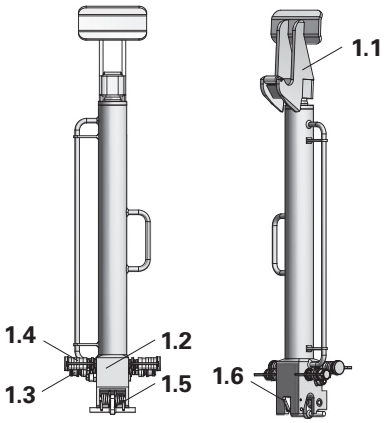


Fig. A1.01

Note

- The Climbing Device RCS can be replaced by the Climbing Device RCS-2. It is possible to combine the two climbing devices.
- Do not operate the Climbing Device RCS with the Hydraulic Unit RCS MAX.

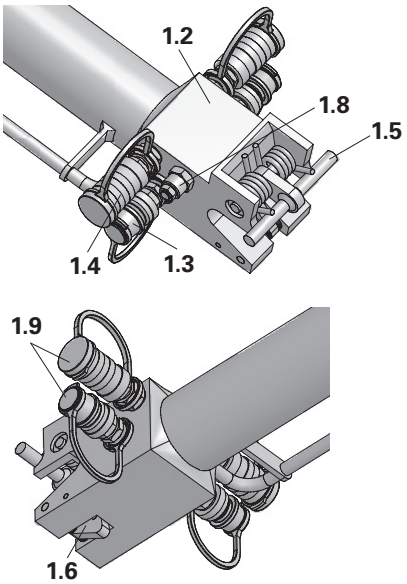


Fig. A1.02

Due to the clear arrangement of the quick-coupler clip (return) and bushing (inflow) on the climbing device and hydraulic unit, it is impossible to connect the inflow and return lines incorrectly. When moving, fit quick-couplers with protective caps (**1.9**) to protect against dirt and damage.
(One set with 4 pieces, Article no. 125632)

To prevent the quick-couplers from colliding with the platforms or other parts of the climbing unit when climbing, it is possible to arrange the couplings vertically using angle pieces.
→ Contact PERI.

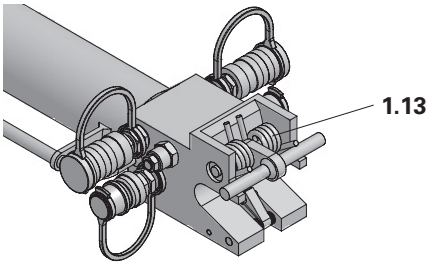
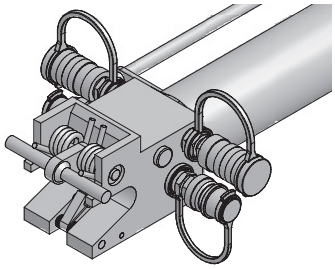


Fig. A1.03


Fig. A1.04

A2 Connections RCS

Hydraulic twin hoses

2a Hydr.Twin Hose RCS 10 m (article no. 110069)
2b Hydr.Twin Hose RCS 20 m (article no. 110070)

Accessories

2.1 Hydraulic quick-coupler (bushing) article no. 110822/128993
2.2 Hydraulic quick-coupler (clip) article no. 110823/128992
2.3 Retaining ring (bushing)

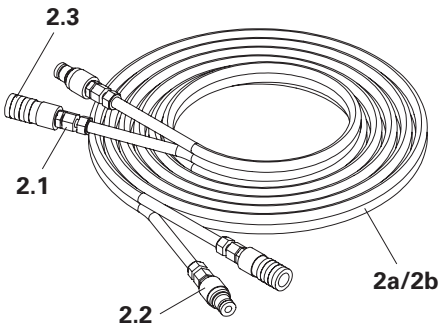


Fig. A2.01

Hydraulic single hoses

2c Hydr.Hose 853-2SN-DN08-FF 1 m (article no. 129035)
2d Hydr.Hose 853-2SN-DN08-FF 2 m (article no. 129036)
2e Hydr.Hose 853-2SN-DN08-FF 5 m (article no. 129419)
2f Hydr.Hose 853-2SN-DN08-FF 10 m (article no. 129420)
2g Hydr.Hose 853-2SN-DN08-FF 15 m (article no. 129421)
2h Hydr.Hose 853-2SN-DN08-FF 20 m (article no. 129422)

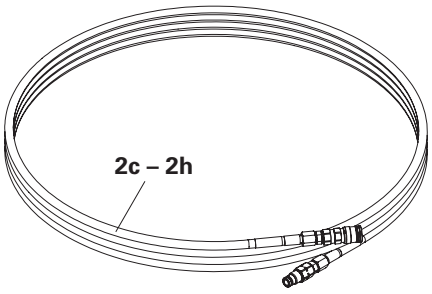


Fig. A2.02

Main components

3 Hydr.Pump RCS 4x190/380-460V for 4 climbing devices [1)]
3.1 Control lever
3.2 Motor protection plug CEE
3.3 Power socket with phase inverter
3.4 Hydraulic oil tank
Filling quantity: max. 22 litres
3.4a Oil drain plug
3.5 Oil level and temperature display
3.6 Filling piece with ventilation filter
3.7 Return filter
3.11 Measuring connection for pressure check (only by PERI personnel)

[1)] For use in Canada only: Hydr.Pump RCS 4x190/380-460V CSA, article no. 114243

The Climbing Device RCS or the Climbing Device RCS-2 can be connected to the Hydraulic Pump RCS.

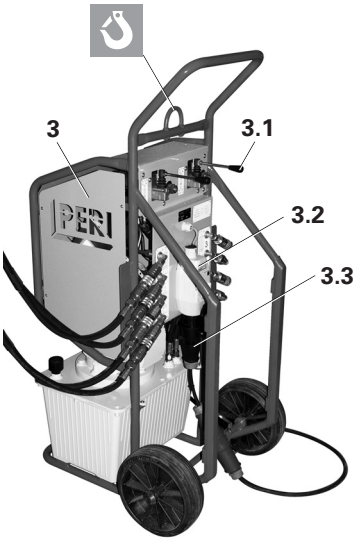


Fig. A3.01

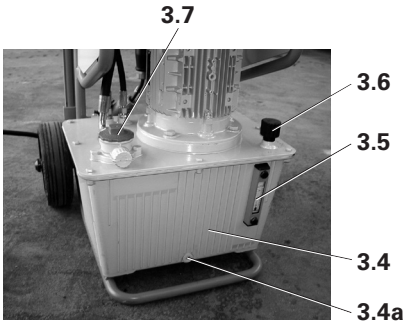


Fig. A3.02

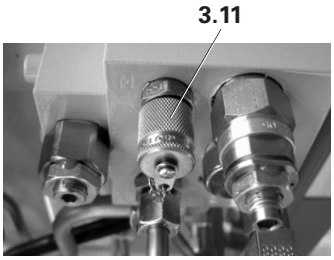


Fig. A3.03

Control units and connections

3.1 Control lever (in centre position)
3.2 Motor circuit breaker
3.3 Power socket with phase inverter
3.8 Return from the piston-rod side A of the cylinder with the hydraulic quick coupler (bushing)
3.9 Inflow to the piston-base side B of the cylinder with the hydraulic quick coupler (clip)
3.10 Rotary field control lamp
7a Plug Socket RCS black [1)]
7b Adapter Cable RCS [2)]

[1)] Accessories for fitting adaptor cable Operating voltage:
380 – 460 V, 50 – 60 Hz
[2)] Accessories for supply line with CEE socket. Operating voltage:
380 – 400 V, 16 A, 50 Hz

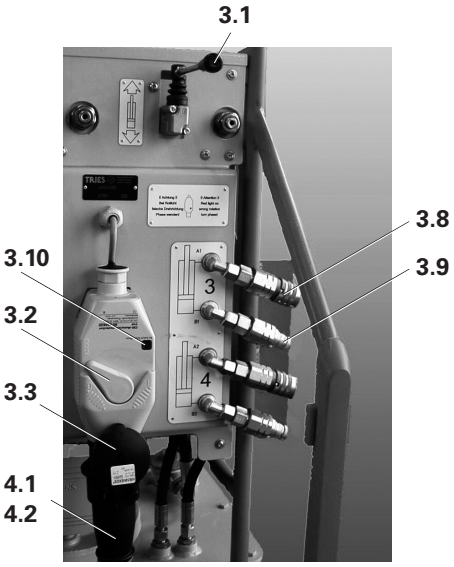


Fig. A3.04

Functionality of the flow divider

A flow divider is installed for each pair of cylinders in the hydraulic pump which evenly divides the flow of the hydraulic oil to the cylinders.
This ensures load-independent synchronisation of the cylinder.
Synchronisation deviations can be corrected in the respective end position by keeping the cylinder running against the limit stop for a period of time.

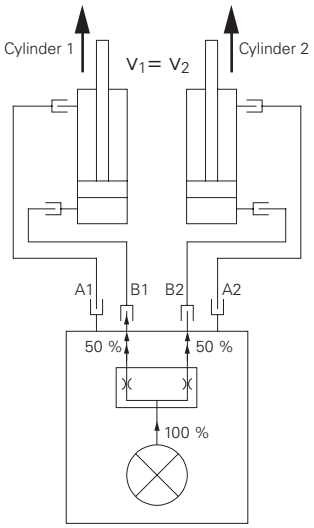


Fig. A3.05

A4 Climbing Shoe RCS

Components

5 Climbing Shoe RCS
5.1 Climbing pawl
5.2 Guiding skid
5.3 Safety pin
5.4 Pawl lock
5.5 Hinged clamp
5.6 Spring lock
5.7 Locating pin for climbing device

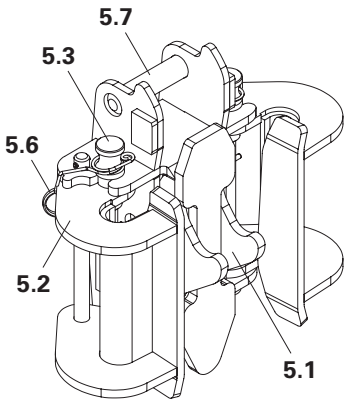


Fig. A4.01

Climbing shoe closed

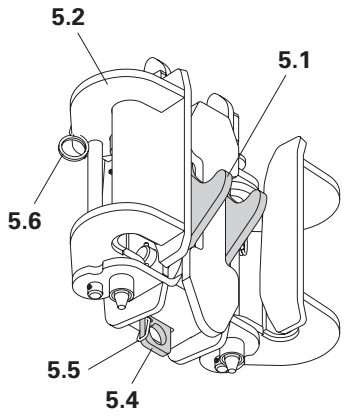


Fig. A4.01a

Climbing shoe open

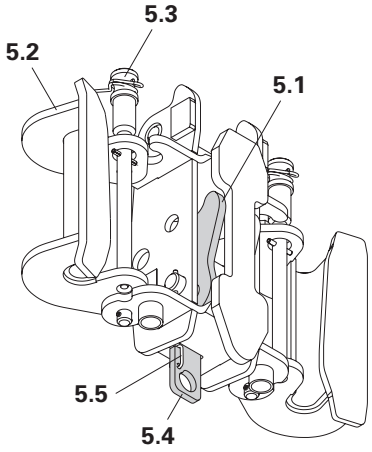


Fig. A4.01b

A5 Climbing device in use

For use in the Self-climbing System RCS C with Wall Shoe RCS

Components

1 Climbing Device RCS 50
5 Climbing Shoe RCS
6 Wall Shoe RCS
9 Climbing Rail RCS
9.1 Climbing bolt
(spacer in the climbing rail)

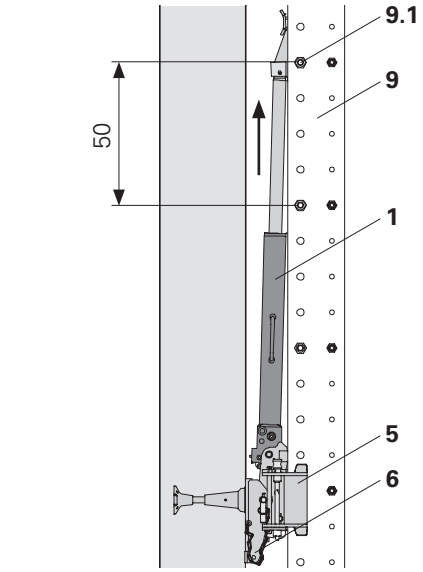


Fig. A5.01

For use with the Climbing Protection Panel RCS P with Slab Shoe RCS

Components

1 Climbing Device RCS 50
5 Climbing Shoe RCS
6 Wall Shoe RCS
7 Slab Shoe RCS
9 Climbing Rail RCS
9.1 Climbing bolt
(spacer in the climbing rail)

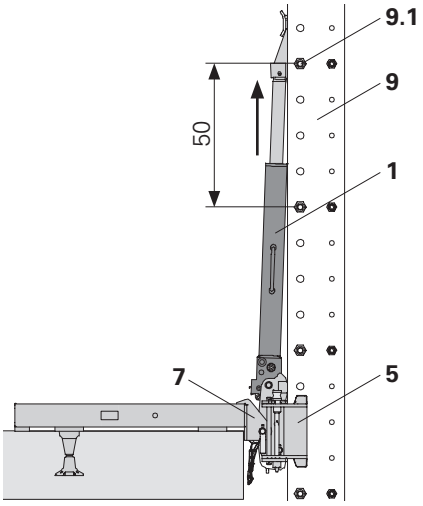


Fig. A5.02

B1 Initial commissioning

Measures prior to initial commissioning

- Check the completeness of the technical documentation, e.g. hydraulic connection plan, equipment list, electrical wiring diagram, instructions for motor circuit breaker and motor.
- Site personnel must familiarise themselves with the system using the available documentation.
- Clean the bushings and clips of all quick-couplers prior to coupling and check for damage.
- For more commissioning details, see the manufacturer's assembly instructions.

Standard assembly

1. Set up the unit, see Section "F1 Hydraulics connection diagram" on page 66.
2. Check the oil level of the unit, and fill if necessary. Fill tank with hydraulic oil, see "Changing hydraulic oil" on page 64.
3. Compare the required type of current and voltage with the information on the type plate.
4. Attach the power connection cable.

or

5. Have the coupling socket connected by qualified personnel, see "Electrical connection" on page 27.
6. Seal unused connections with cover caps.
7. Check all fastenings and connections.
8. Energise the system and check the rotary field on the rotary field monitor, see "Operating the hydraulic unit" on page 38.
   If the control lamp changes to red, change rotary field direction with the integrated phase inverter.
9. Check temperature of the electric motor.
10. Check temperature of the hydraulic oil and, if necessary, bring it up to operating temperature, see "Checking the oil temperature and oil level" on page 63.
11. Set the hydraulic cylinder down on the platform for venting.
12. Connect the hydraulic hoses.
13. Bleed the system and check for leaks, see "Venting the system" on page 52.
14. Carry out any additional steps in the manufacturer's assembly instructions.
15. Install hydraulic cylinder.
16. Put the system into operation.

Measures taken during commissioning

- If necessary, follow the additional steps in the assembly instructions for the hydraulic unit or the climbing device.
- Never re-tighten leaky screw connections under high pressure, only after a pressure release.

Measures

1. Check the rotary field, see "Operating the hydraulic unit" on page 38.
2. Check the level of the hydraulic oil and top up, if necessary.
3. Check temperature of the hydraulic oil and, if necessary, bring it up to operating temperature, see "Changing hydraulic oil" on page 64.
4. Listen out for any unusual pump noises after starting up.
5. If you hear any unusual pump noises, switch off and determine the cause.
6. Check the functionality of the control levers and hydraulic cylinders.
7. Check components and connections for signs of external leakage.

Electrical connection

Danger

High electric voltage at the hydraulic unit!

Death or serious injury can result from an electric shock.

⇒ Only qualified electricians may carry out work and repairs on the electrical components of the system.

⇒ Only approved, undamaged and tested connecting cables should be used.

- Ensure that the cable length is adequate.
- Cables must be connected without tension. Take climbing differences between uncoupled platforms of at least 0.90 m into account!
- Observe the manufacturer's assembly instructions.

Accessories:

- Plug Socket RCS black.
  Article no. 110279 (Fig. B2.01)
- Adapter Cable RCS.
  Article no. 110280 (Fig. B2.02)

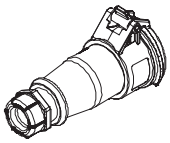


Fig. B2.01

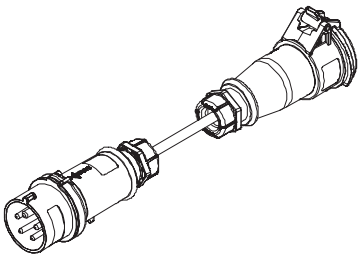


Fig. B2.02

Commissioning after a long downtime period

- Thoroughly clean and rinse preserved equipment before commissioning. Any remaining preservation agents can block the valves.
- Drain condensation water from the hydraulic tank.
- After a long downtime period, check hydraulic oil for usability and change if necessary.

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

Commissioning at low temperatures

At low temperatures, warm up hydraulic oil by flushing the system in order to reach the required start viscosity see "Tab. 01" on page 19.

Recommended hydraulic oil for low temperatures:
Shell Tellus

Standard case

Two cylinders per climbing unit are in use. (Fig. C1.01)

Route the hydraulic hoses and cables

- Depending on the position of the unit, connect the hydraulic hoses to the left or right of the Climbing Device RCS 50.
- Connect the hydraulic hoses in such a way that they are not pulled upwards by the platform during climbing.
- Arrange the cables to prevent them from becoming a hindrance or being damaged.
- Observe the minimum bending radius of the hoses, see Section "Hydraulic hoses" on page 19.

Position of the hydraulic unit
for RCS C/CL:
For the climbing procedure, place the hydraulic pump on the intermediate platform of the stationary climbing unit.
for RCS P:
For the climbing procedure, place the hydraulic pump on the building slab.

To save time, use 2 sets of hydraulic hoses; beforehand, lay the hoses between the wall and the climbing rails in an alternating pattern.

Lay hydraulic hoses and lines in such a way that

- loops and knots are prevented,
- no loops overhang the edge of the platform,
- they do not get caught on the climbing platforms,
- they do not kink or cannot be pulled out of the connections.
- they are free of torsion and tension.

To prevent the quick-couplers from colliding with the platforms or other parts of the climbing unit when climbing, it is possible to equip the climbing devices with angle pieces.
→ Contact PERI.

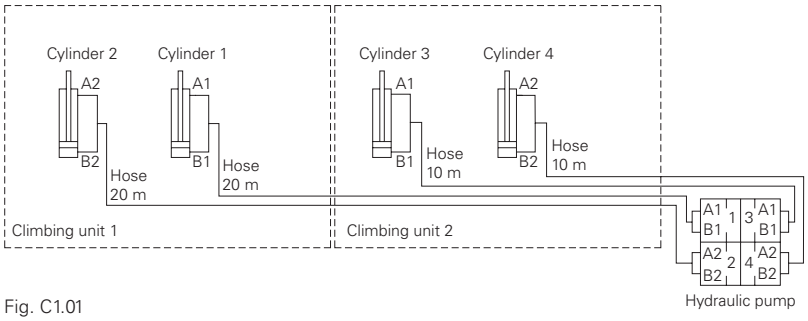


Fig. C1.01

Hose arrangement for self-climbing procedure of the final unit

For each climbing section, move the last unit to be climbed separately. Adapt control sequence as the hydraulic pump is climbed at the same time. Two cylinders are in use on one climbing unit.

Do not connect cylinders 3 + 4 to the hydraulic pump!

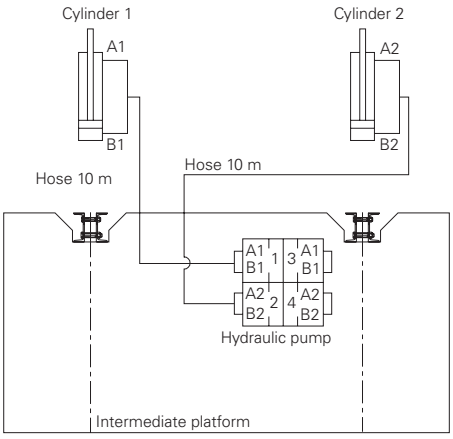


Fig. C1.02

Position of the hydraulic unit
for RCS C/CL:
For the climbing procedure, place the hydraulic pump on the intermediate platform of the stationary climbing unit. The hydraulic pump is climbed at the same time.
In this case, the operator is on the platform.
for RCS P:
For the climbing procedure, place the hydraulic pump on the building slab. Move the hydraulic pump with the crane.

Special consoles with 3 climbing rails

Three cylinders per climbing unit are in use.

Route the hydraulic hoses and cables

- Depending on the position of the units, connect the hydraulic hoses to the left or right of the Climbing Device RCS 50.
- Connect the hydraulic hoses in such a way that they are not pulled upwards by the platform during climbing.
- Arrange the cables to prevent them from becoming a hindrance or being damaged.
- Observe the minimum bending radius of the hoses, see Section "Hydraulic hoses" on page 19.
- At the free connections A and B of the hydraulic unit, connect a short-circuit connection (short piece of tubing).

Connecting the cylinders

1. Attach cylinders 1 + 2 to the outside brackets of unit 1.
2. Attach cylinder 3 to the middle bracket of unit 1.

Note

When extending the cylinders, check the synchronisation and, if necessary, re-adjust cylinder 3 by extending and retracting separately.

Position of the hydraulic pump for RCS C/CL:

For the climbing procedure, place the hydraulic pump on the intermediate platform of the stationary climbing unit. The hydraulic pump is climbed at the same time.
In this case, the operator is on the platform.

for RCS P:

For the climbing procedure, place the hydraulic pump on the building slab. Move the hydraulic pump with the crane.

Lay hydraulic hoses and lines in such a way that

- loops and knots are prevented,
- no loops overhang the edge of the platform,
- they do not get caught on the climbing platforms.
- they are free of torsion and tension.

To prevent the quick-couplers from colliding with the platforms or other parts of the climbing unit when climbing, it is possible to equip the climbing devices with angle pieces.
→ Contact PERI.

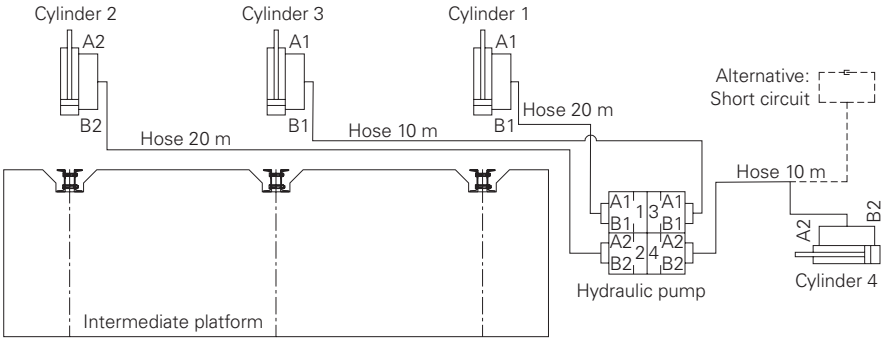


Fig. C1.03

Connecting hydraulic hoses

- The quick-coupler connections on the unit are clearly marked (A1–A2, B1–B2). (Fig. C1.04)
- Refer to the manufacturer's assembly instructions for the connection to the unit.
- Refer to the hydraulic connection diagram in the assembly plans.
- If issues arise during connection, see Section "C6 Remedial measures for malfunctions" on page 50.

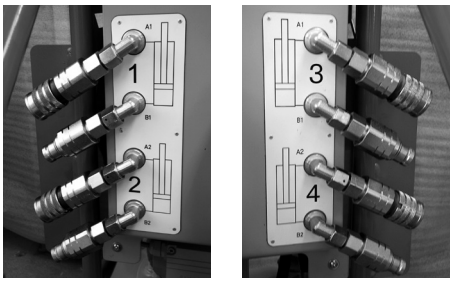


Fig. C1.04

Quick-couplers consist of:

2.1 Hydraulic quick-coupler (bushing) Article no. 110822/128993
2.2 Hydraulic quick-coupler (clip) Article no. 110823/128992
2.3 Retaining ring (bushing)

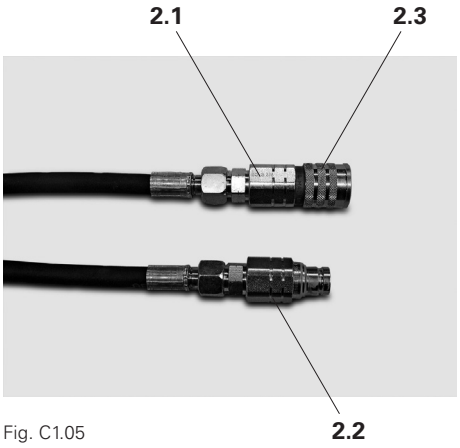


Fig. C1.05

Assembly

1. Clean clip (**2.2**) and bushing (**2.1**) before coupling.
2. Push the clip (**2.2**) as far as possible into the bushing until the retaining ring (**2.3**) engages.
3. Turn retaining ring with a quarter-turn (right or left) to secure it.
   → Accidental disconnection is thus prevented.

(Fig. C1.05)

4. Arrange the hoses so they do not pose a safety risk, and secure their position, e.g. with cable ties.

Rail Climbing System RCS C

Observe the Rail Climbing System RCS C Instructions for Assembly and Use.

Are the hydraulic hoses connected and secured correctly?

Installing the climbing device

1. Position the Climbing Device RCS 50 (**1**) on the bolts of the climbing shoes (**5C**) and engage.
   → The climbing device is pressed against the climbing rail through spring force.
2. Guide the claw (**1.1**) into the climbing rail (**9**).

- Is the locking lever (**1.6**) fully engaged on the cylinder base?
- Are the claws (**1.1**) fully engaged under the climbing bolts (**9.1**)?
- Are the hydraulic hoses arranged in such a way that they do not get tangled or change their position during the climbing procedure?

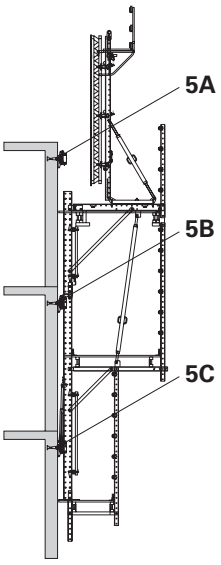


Fig. C1.06

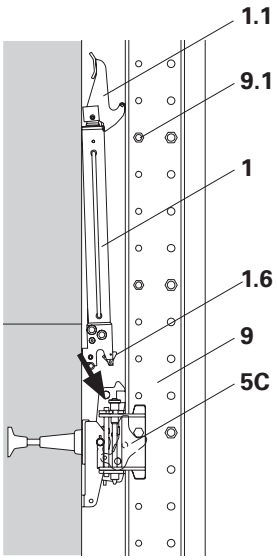


Fig. C1.07

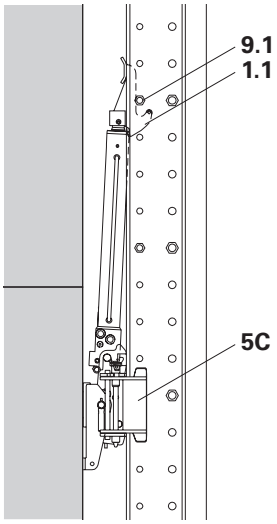


Fig. C1.08

Rail Climbing System RCS CL

Observe the Rail Climbing System RCS CL Instructions for Assembly and Use.

Are the hydraulic hoses connected and secured correctly?

Installing the climbing device

1. Position the Climbing Device RCS 50 (**1**) on the bolts of the climbing shoes (**5C**) and engage.
   → The climbing device is pressed against the climbing rail through spring force.
2. Guide the claw (**1.1**) into the climbing rail extension (**10**).

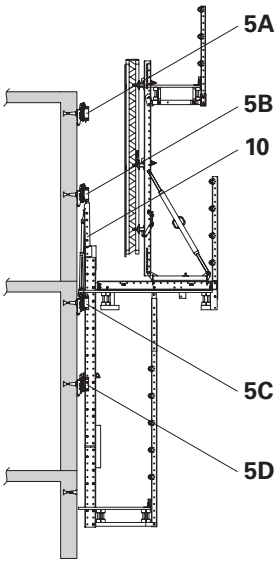


Fig. C1.09

- Is the locking lever (**1.6**) fully engaged on the cylinder base?
- Are the claws (**1.1**) fully engaged under the climbing bolts (**10.1**)?
- Are the hydraulic hoses arranged in such a way that they do not get tangled or change their position during the climbing procedure?

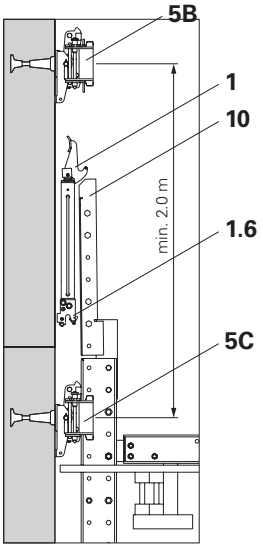


Fig. C1.10

Rail Climbing System RCS P

Observe the Rail Climbing System RCS C Instructions for Assembly and Use.

Are the hydraulic hoses connected and secured correctly?

Installing the climbing device

1. Position the Climbing Device RCS 50 (**1**) on the bolts of the climbing shoes (**5B**) and engage.
   → The climbing device is pressed against the climbing rail through spring force.
2. Guide the claw (**1.1**) into the climbing rail (**9**).

(Fig. C1.11 + Fig. C1.12)

- Is the locking lever (**1.6**) fully engaged on the cylinder base?
- Are the claws (**1.1**) fully engaged under the climbing bolts (**9.1**)?
- Are the hydraulic hoses arranged in such a way that they do not get tangled or change their position during the climbing procedure?

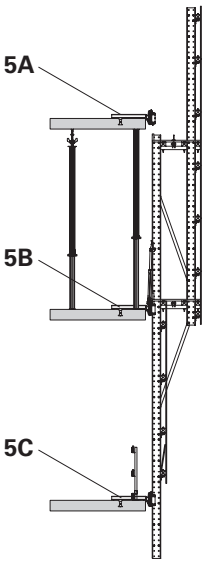


Fig. C1.11

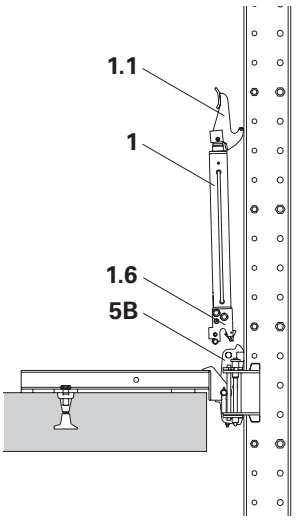


Fig. C1.12

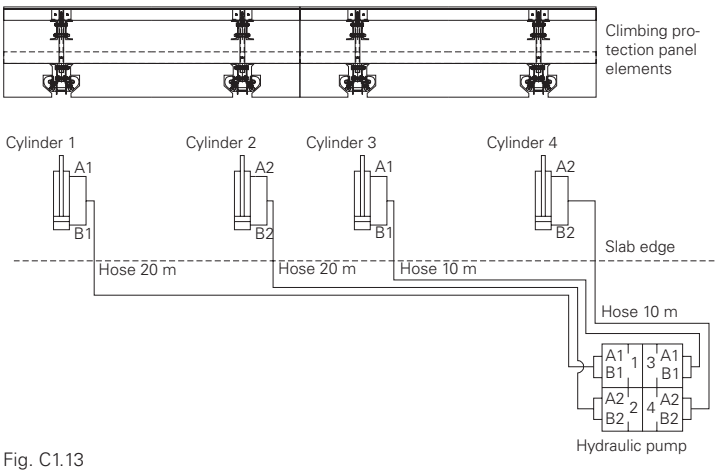


Fig. C1.13

Warning

The moving process may create building edges between the platforms!
A fall can result in serious injury or even death.
⇒ Guardrails must be installed prior to climbing.
⇒ Cordon off areas of risk in advance.
⇒ Use personal protective equipment to prevent falling from a height.

Warning

Body parts may become trapped between climbing rails and climbing shoes, between the climbing device and climbing rails or between building sections (openings, projections) and the climbing system!
This can result in serious injuries.
⇒ Do not hold the climbing shoe and climbing rails when the climbing unit is being moved.
⇒ Keep away from shearing edges (wall openings, projections etc.).

- Only use serviced and tested material.
- If necessary, refer to and carry out the hydraulic system checks in the manufacturer's assembly instructions.
- Check hydraulic hoses and replace if necessary.
- Carefully rinse and bleed hydraulic cylinders and hoses before use, see "Venting the system" on page 52.
- Check fluid level in the oil container and top up, if necessary.
- Unravel any loops and twists in the hydraulic hoses and cables.
- Check whether hydraulic hoses could become trapped.
- Do not place any objects on the hydraulic lines.
- Close unused connections with mating plugs.
- Turn on the power to the system.
- Check the rotary field and adjust if necessary.
- Check the temperature of the oil and bring it to the specified temperature by flushing, if necessary. (For a cold start, see the manufacturer's instructions for use.)
- Listen out for any pump noises after starting up.
- Check components and connections for leaks.
- Lubricate Climbing Rails RCS.
- Check whether the platforms in the area of the climbing rails collide with the quick-couplers or hydraulic hoses during climbing.
- Carry out the climbing procedure from the planned position.

Operating the hydraulic unit

Take into account the enclosed separate operating instructions for the motor circuit breaker and electric motor!

Motor circuit breaker

3.2 Motor circuit breaker
3.3 Power socket with phase inverter
3.10 Rotary field control lamp

If the rotary field display (**3.10**) is red, turn the phase inverter 180° in the plug (**3.3**).
(Fig. C3.01 + Fig. C3.02)
→ Rotary field is changed.

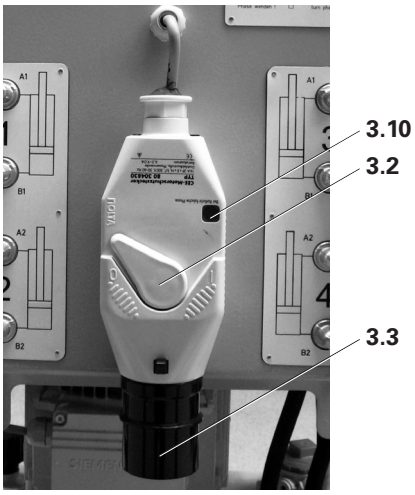


Fig. C3.01

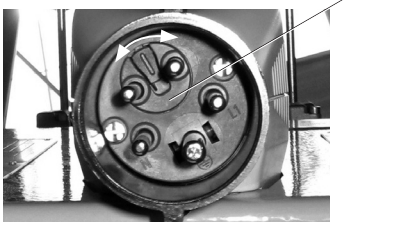


Fig. C3.02

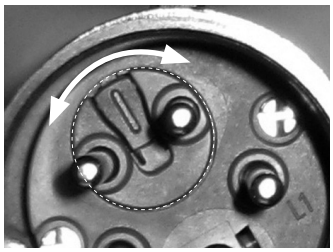


Fig. C3.02a

Control lever	Connections
Right	3 + 4
Left	1 + 2

Are both control levers (**3.1**) in the centre position?

Switching on the hydraulic unit

1. Turn the toggle on the motor circuit breaker (**3.2**) to the right. (Fig. C3.03)
   → The hydraulic pump is switched on.

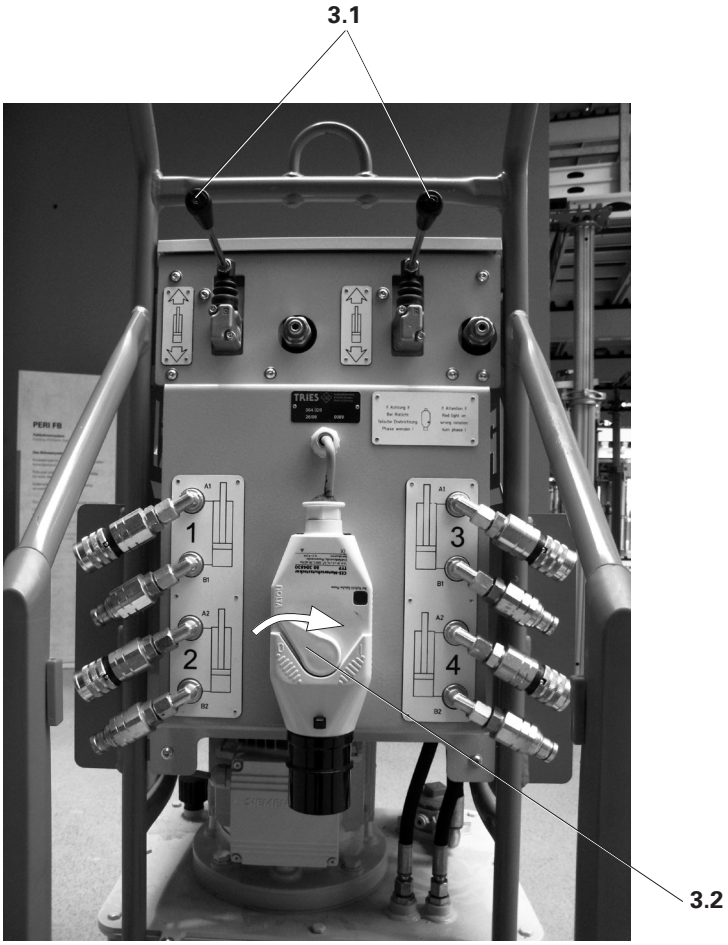


Fig. C3.03

Operating the control lever

1. Press the control lever (**3.1**) upwards. (Fig. C3.04)
   → Cylinder extends.

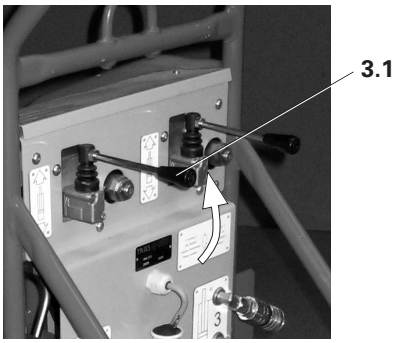


Fig. C3.04

Extending the climbing device

1. If it is not active, activate the climbing shoe (**5**) on which the climbing device is placed, see "Activating the climbing shoe" on page 47.
2. Extend the pistons of all hydraulic cylinders to the first climbing bolt (**9.1**). The load is carried by the claw on the piston (**1.1**).

Are all claws engaged on the climbing bolts? If necessary, deactivate the other climbing shoes, see "Deactivating the climbing shoe" on page 48.

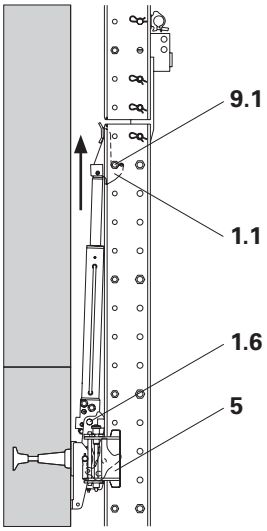


Fig. C3.05

Operating the control lever

1. Press the control lever (**3.1**) downwards. (Fig. C3.06)
   → Cylinder retracts.

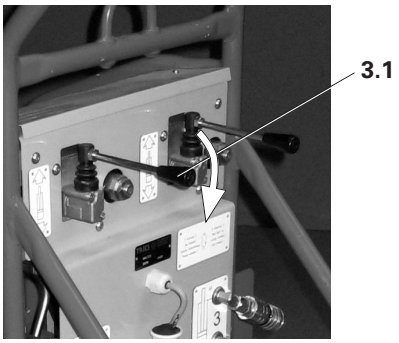


Fig. C3.06

Retracting the climbing device

1. Retract pistons of all hydraulic cylinders.
2. Claw (**1.1**) circumvents the climbing bolts (**9.1**), hydraulic cylinder tips backwards.
3. Retract piston until claw on the piston engages under the climbing bolts.

Are all claws engaged on the climbing bolts?

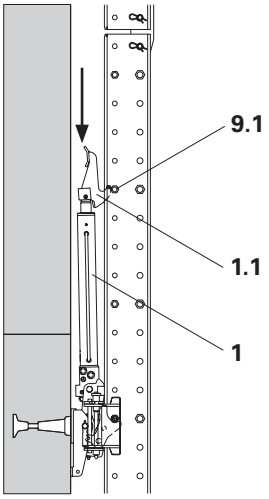


Fig. C3.07

Switching off the hydraulic unit

1. Turn the toggle on the motor circuit breaker (**3.2**) to the left. (Fig. C3.08)
   → The hydraulic pump is switched off.

Always switch off the hydraulic pump if the climbing hydraulic is non-operational.

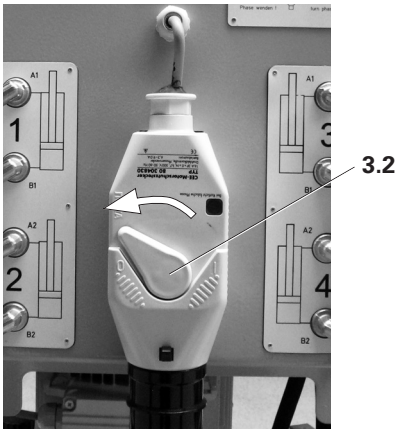


Fig. C3.08

Inserting into the climbing shoe at RCS C

Observe Section "Operating climbing shoes" and the Instructions for Assembly and Use for the RCS Rail Climbing System.

Before the last stroke:
Standard case:
Vertical bearing at the height of the intermediate platform
- Top climbing shoe (**5A**) is deactivated.
- In order to allow for easier insertion into the top climbing shoes, open both guiding skids.
- Middle climbing shoe (**5B**) is activated.

Alternatively:
Vertical bearing at the height of the working platform
- Top climbing shoe (**5A**) is activated.
- Both guiding skids are closed.
- Middle climbing shoe (**5B**), on which the climbing device is placed, is deactivated during the last stroke.

Adjusting the climbing system
- In order to allow for easier insertion, the framework can be adjusted.
- By turning the truss spindle (**23**), the inclination of the top climbing rail (**9A**) is adjusted relative to the bottom climbing rail (**9B**).
- In the event of a lateral offset, extend the cylinders to the same height.

(Fig. C3.10)

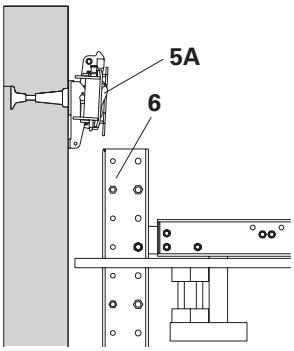
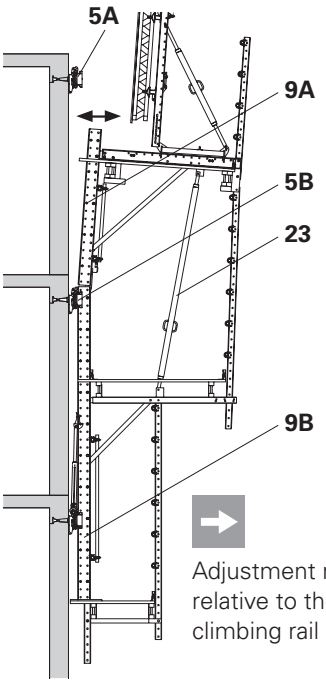


Fig. C3.09



Adjustment range ± 4° relative to the bottom climbing rail (**9B**).

Fig. C3.10

Warning

The moving process may create building edges between the platforms!
A fall can result in serious injury or even death.
⇒ Guardrails must be installed prior to climbing.
⇒ Cordon off areas of risk in advance.
⇒ Use personal protective equipment to prevent falling from a height.

Climbing platforms individually
1. Stop approx. 2 cm in front of the climbing shoes (**5A**).
2. Thread the platforms individually into the climbing shoes by operating the corresponding control levers.

Inserting into the climbing shoe at RCS CL

Observe Section “Operating climbing shoes” and the Instructions for Assembly and Use for the RCS Rail Climbing System.

Standard case:

- Before reaching the next climbing shoe (**5A/5B**), retract the climbing rail extension.
- In the event of a lateral offset, extend the cylinders to the same height.

Warning

The moving process may create building edges between the platforms!
A fall can result in serious injury or even death.

⇒ Guardrails must be installed prior to climbing.
⇒ Cordon off areas of risk in advance.
⇒ Use personal protective equipment to prevent falling from a height.

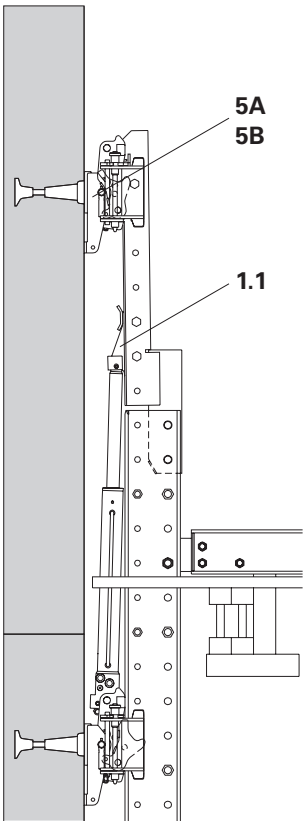


Fig. C3.11

Climbing platforms individually

1. Stop approx. 2 cm in front of the climbing shoes (**5A/5B**).
2. Thread the climbing rail extensions individually into the climbing shoes by operating the corresponding control levers.

Inserting into the climbing shoe at RCS P

- Observe Section "Operating climbing shoes" and the Instructions for Assembly and Use for the RCS P Rail Climbing System.
- Climb platforms individually.

Standard case:

- Top climbing shoe (**5A**) is deactivated.
- Both guiding skids (**5.2**) are open.
- Middle climbing shoe (**5B**) is activated.
- In the event of a lateral offset, extend the cylinders to the same height.

Warning

The moving process may create building edges between the platforms!
A fall can result in serious injury or even death.

⇒ Guardrails must be installed prior to climbing.
⇒ Cordon off areas of risk in advance.
⇒ Use personal protective equipment to prevent falling from a height.

After reaching the upper climbing shoe

1. Stop approx. 2 cm in front of the climbing shoes (**5A**).
2. Close the skids (**5.2**) of the upper climbing shoe (**5A**).
3. Continue stroke.

(Fig. C3.12)

Use the guide-in tool:

If the skids cannot be closed:

1. Pull the climbing rail with Guide-in Tool RCS (**8**) inwards.
2. Close skids.
3. Remove the guide-in tool.

(Fig. C3.13)

Attachment point: bolt Ø 21 (**8.1**).

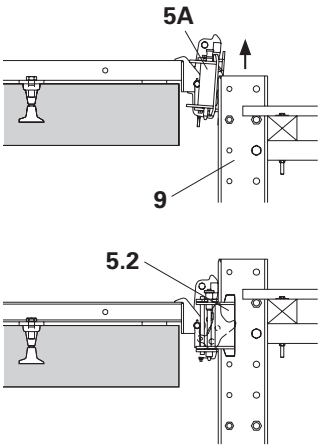


Fig. C3.12

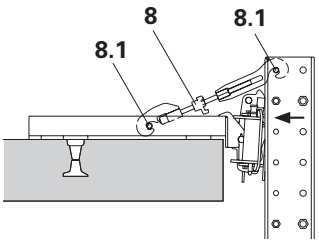


Fig. C3.13

Final stroke

Observe Section “Operating climbing shoes” and the Instructions for Assembly and Use for the rail climbing system.

During the final stroke of a climbing procedure, the vertical load is transferred to another climbing shoe. Therefore, the climbing shoe that is intended to serve as the vertical bearing must be activated:

- Prior to the final stroke, activate the climbing shoes that are intended to be used as the vertical bearing.
- Interrupt the final stroke after load change.
- Deactivate the pawls of the other climbing shoes, if climbing bolt (**9.1**) is engaged above the climbing shoe that is earmarked for use.
- Set climbing unit down on the climbing pawls (**5.1**) of the activated climbing shoes.
- After the final stroke, completely retract all cylinders.

(Fig. C3.14)

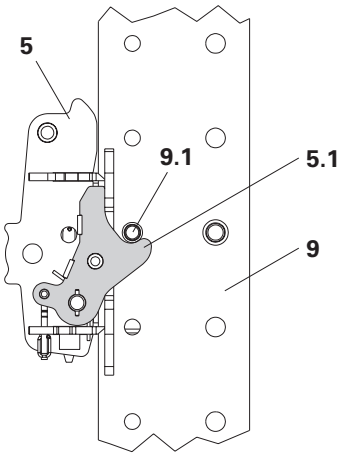


Fig. C3.14

Extend and retract the climbing devices until your limit stop is reached. Synchronisation deviations are thus corrected.

- Are all climbing rails (**9**) aligned with the climbing shoes (**5**)?
- Are all pawls (**5.1**) completely engaged under the climbing bolts (**9.1**)?
- Are all climbing shoes serving as vertical bearings activated?

After climbing

- Open access points (make building edges safe, if necessary).
- Uncouple hydraulic hoses.
- Remove Climbing Devices RCS 50.
- Dismantle Climbing Rail Extension RCS. (For RCS-CL)

Opening and closing the climbing shoe

Danger

- Climbing system can collapse!
  A collapse can result in serious injury or even death.
  ⇒ Do not open the climbing shoe under load or during the climbing procedure!
- Body parts can become trapped between climbing rails and climbing shoes!
  This can result in serious injuries.
  ⇒ Do not reach into the danger zone of the climbing shoe and climbing rail when the climbing unit is moving.

Observe the Instructions for Assembly and Use for the climbing rail system.

Opening the climbing shoe
- makes it easier to insert the climbing rail (**9**) during climbing,
- allows the use of climbing rails during initial assembly.

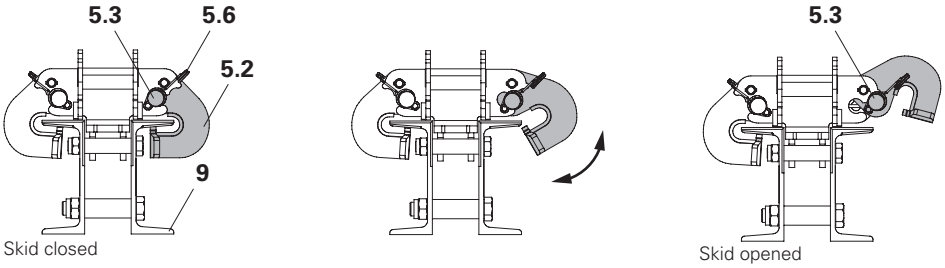
Opening the climbing shoe
1. Release the spring lock (**5.6**).
2. Lift safety pin (**5.3**).
3. Fold back the guiding skid (**5.2**) of the climbing shoe.
4. Re-insert safety pin in the opened position.
5. Proceed in the same way with the other guiding skid.

Closing the climbing shoe
1. Lift safety pin (**5.3**).
2. Fold forward the guiding skid (**5.2**) of the climbing shoe.
3. Re-insert the safety pin in the closed position.
4. Fix the locking spring in place (**5.6**).
5. Proceed in the same way with the other guiding skid.

Are both locking pins on the climbing shoe pushed down completely and are the spring locks fixed in place?

Removing the climbing shoe
Pull the open climbing shoe between the climbing rail (**9**) and the wall upwards and then to the side, see Instructions for Assembly and Use for Rail Climbing System RCS C or RCS CL.

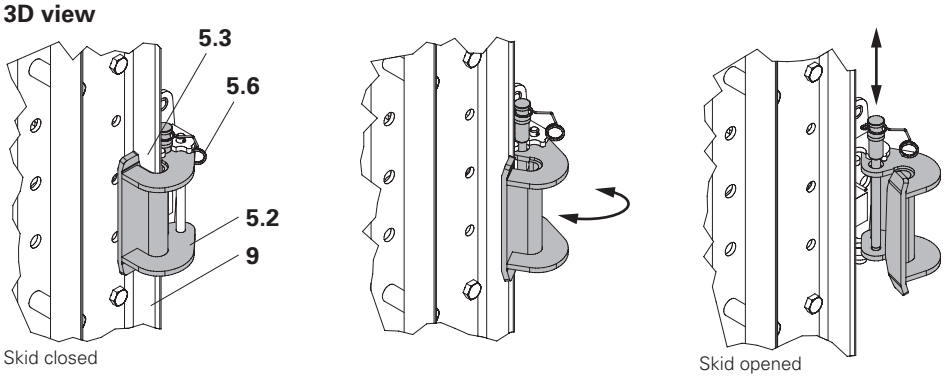
Top view



Skid closed

Skid opened

3D view



Skid closed

Skid opened

Fig. C4.01

Activating the climbing shoe

This position serves to transfer vertical forces from the climbing rail during working operations as well as during climbing.

1. Pull the pawl lock (**5.4**) on the Climbing Shoe RCS (**5**).
2. Fold down the hinged clamp (**5.5**).
3. Let go of the pawl lock.
   The climbing pawl swivels out of the climbing shoe through spring force if no climbing bolt (**9.1**) impedes the climbing pawl (**5.1**).
   → The climbing pawl is activated and operational.

( )

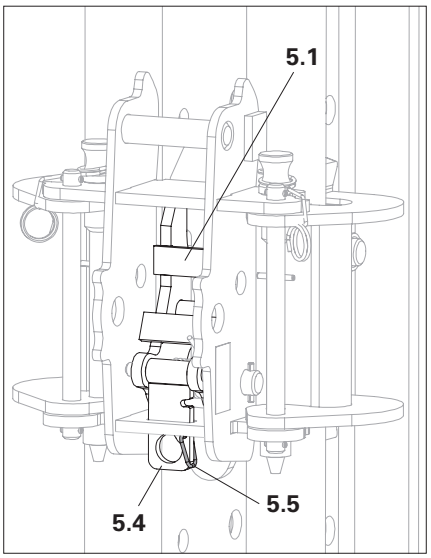


Fig. C4.01a

- Does the climbing pawl (**5.1**) automatically fold out of the climbing shoe?
- Is the hinged clamp (**5.5**) in a clear position?

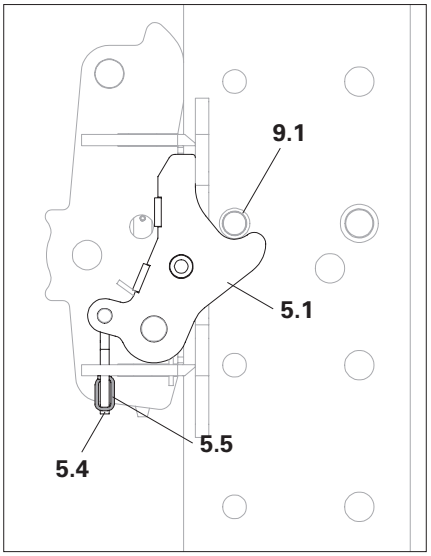


Fig. C4.01b

Deactivating the climbing shoe

Danger

- Climbing system can collapse!
  A collapse can result in serious injury or even death.
  ⇒ Do not open the climbing shoe under load or during the climbing procedure!
- Body parts can become trapped between climbing rails and climbing shoes!
  This can result in serious injuries.
  ⇒ Do not hold the climbing shoe and climbing rails when the climbing unit is being moved.

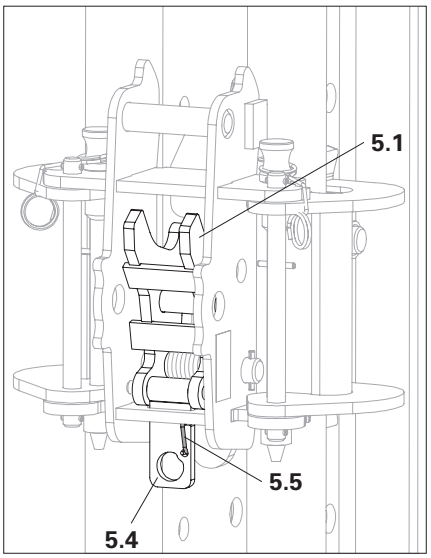


Fig. C4.00c

Deactivating

1. Pull the pawl lock (**5.4**) on the Climbing Shoe RCS (**5**). The climbing pawl (**5.1**) is pulled into the shoe.
2. Fold up the hinged clamp (**5.5**) on the pawl lock (**5.4**) and then let go of the pawl lock.
   The hinged clamp (**5.5**) is then wedged and blocks the climbing pawl.
   → The climbing pawl is locked and non-operational.

Is the hinged clamp (**5.5**) in a clear position?

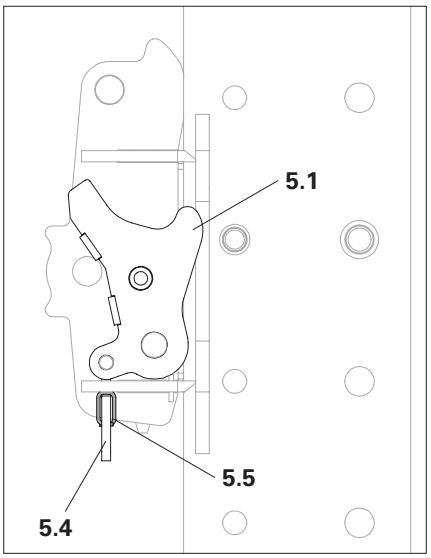


Fig. C4.00d

Disconnecting the hydraulic hoses

Disconnecting

1. Turn the retaining ring (**2.3**) on the socket (**2.1**) until the check mark is reached.
   → Coupling is unlocked.

(Fig. C5.02)

2. Pull the retaining ring (**2.3**) back in the direction of the hose.
   → Coupling is unlocked.

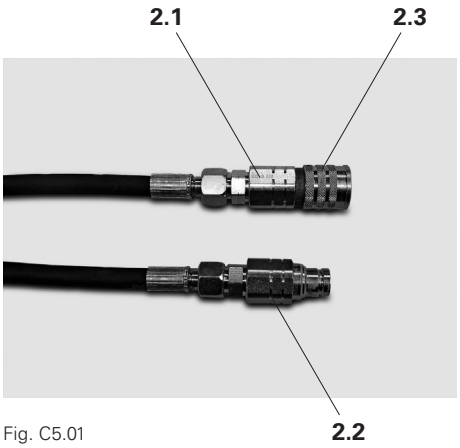


Fig. C5.01

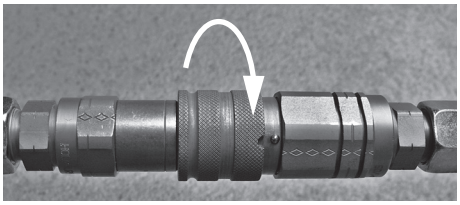


Fig. C5.02

2a Hydraulic Twin Hose RCS 10 m, article no. 110069 (SK050.723A)
2.1 Hydraulic quick-coupler (bushing), article no. 110822/128993
2.3 Retaining ring (bushing)

Dismantling the climbing device

Completely retract the cylinder before dismantling.

Disassembly

1. Remove the hydraulic hoses.
2. Operate the locking lever (**1.6**) on the cylinder base and laterally incline the climbing device so that the locking lever can no longer engage.
3. Lift the climbing device out of the climbing shoe.
4. Transport the climbing device upwards and re-tighten the hoses.

(Fig. C5.03)

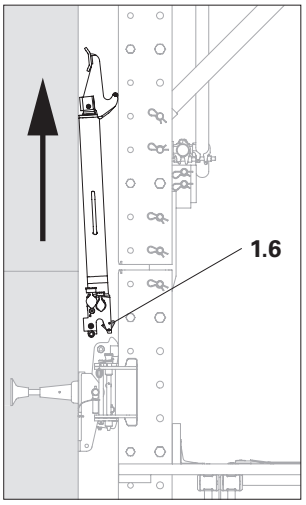


Fig. C5.03

C6 Remedial measures for malfunctions

Overview

Malfunction	Cause	Remedial measure
Cylinder sinks.	Air in the hydraulic system.	Bleed the system.
	Pressure-retaining valve is defective.	Replace climbing device. Repairs carried out by PERI.
	Seals defective.	Replace climbing device. Repairs carried out by PERI.
	Dirt in the hydraulic cylinder.	Replace climbing device. Repairs carried out by PERI.
Uneven cylinder extension and retraction.	Insufficient hydraulic oil in the system.	Top up the oil. Bleed the system. Replace defective hoses.
	Too much friction.	Reduce friction by lubricating the Climbing Rail RCS. Check the tie position.
	Too much weight on the climbing unit.	Reduce the weight.
	Air in the hydraulic system.	Bleed the system.
	Leakage between unit and cylinder.	Retract all cylinders and lower the climbing unit onto the climbing pawls. Identify leakage point and seal it.
	Dirt in the hydraulic system.	Replace hydraulic oil and, if necessary, the oil filter, see manufacturer's assembly instructions.
	Synchronisation deviation.	Perform reference run.
	Flow divider defective.	Repairs carried out by PERI.
Climbing Rail RCS cannot be inserted into the shoe, or climbing is not straight.	Lateral offset due to synchronisation deviation.	Move the cylinders to the same height. Find the cause of the deviation and correct it.
Climbed too far.		Retract all cylinders and lower the climbing unit onto the climbing pawls. Contact PERI.
Hydraulic oil is leaking.	Hydraulic hose is broken or leaks.	Stop the climbing procedure and replace the hydraulic hose. Check all hydraulic hoses.
	Connections not tightened properly.	Disconnect the hydraulic unit from the mains. Re-tighten the connections.
Unit overflows.	Too much hydraulic oil in the tank.	Pump out the hydraulic oil.
	Seal on the return flow filter is defective.	Replace the return flow filter, see manufacturer's assembly instructions.

C6 Remedial measures for malfunctions

Malfunction	Cause	Remedial measure
Cylinder does not extend.	Hoses not connected correctly.	Check hose connections and connect, if necessary.
	Climbing unit blocked.	Retract all cylinders and lower the climbing unit onto the climbing pawls. Remove blockage.
	Insufficient hydraulic oil in the system.	Check system for leaks and seal it. Top up the oil. Bleed the system.
	Too much friction.	Reduce friction by lubricating the Climbing Rail RCS. Check the tie position.
	Too much weight on the climbing unit.	Reduce the weight.
	Leakage between unit and cylinder.	Retract all cylinders and lower the climbing unit onto the climbing pawls. Identify leakage point and seal it. Replace defective hoses.
	Polarity reversed on the motor.	Check rotary field display and, if necessary, change with phase inverter.
Pawl in the shoe does not engage.	Climbing pawl blocked.	Remove blockage.
	Climbing pawl deactivated.	Activate the climbing pawl.
	Pawl moves sluggishly or is dirty.	Clean the moving parts. Check functionality.
	Spring in the Climbing Shoe RCS is broken.	Replace Climbing Shoe RCS. Repairs carried out by PERI.
	Cylinder not extended far enough or synchronisation deviation.	Perform reference run.
Cylinder does not fall back into the Climbing Rail RCS or does not engage.	Locking lever in the cylinder base not engaged correctly.	Correctly place the cylinder base on the bolts of the Climbing Shoe RCS.
	Spring in the cylinder base is broken.	Release the climbing device by hand. Replace climbing device. Repairs carried out by PERI.
	Cylinder head twisted in the cylinder tube.	Align the cylinder head.
Hydraulic coupling cannot be inserted.	Pressure in the hydraulic system.	Switch off system. Carefully release the coupling on the hose to release the pressure, e.g. release coupling by turning halfway and re-tighten. Collect any oil drips. Screw the coupling on again.

Venting the system

- The system must be completely vented after initial commissioning on site, after hydraulic hoses have been replaced, or after maintenance work has been carried out. The oil level in the hydraulic unit must be checked throughout this process and topped up as required.
- The flushing time for each 20 m single hose length is 1 minute (DN 08).

Venting

1. Flush hoses using short-circuit connections. (Fig. C6.02)
2. Connect the cylinder in horizontal position and extend fully.
3. Uncouple the cylinder and flush hoses once again using short-circuit connections. (Fig. C6.02)
4. Connect the cylinder in a horizontal position and retract fully.
5. Uncouple the cylinder and flush hoses once again using short-circuit connections.
6. Connect the cylinder and extend and retract several times.

Venting during hose replacement

1. Detach old hose.
2. Connect new hose on the unit side.
3. Flush hoses using short-circuit connections.
4. Connect the cylinder in horizontal position and extend fully.
5. Uncouple the cylinder and flush hoses once again using short-circuit connections.
6. Connect the cylinder in horizontal position and extend fully.
7. Uncouple the cylinder and flush hoses once again using short-circuit connections.
8. Connect the cylinder and extend and retract several times.

Extend and retract the cylinder several times in order to check for leakage and synchronisation. In the process, extend and retract the cylinder at maximum pressure for a longer time in the end positions.

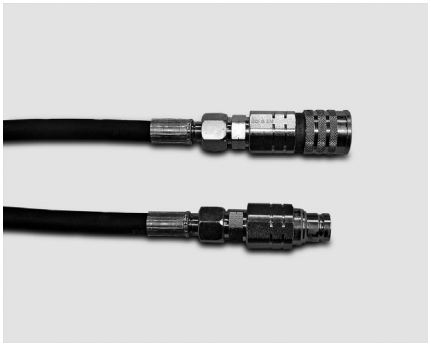


Fig. C6.01

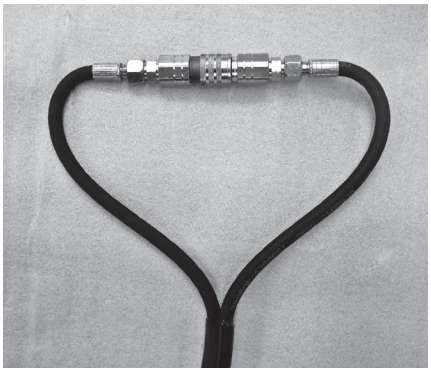


Fig. C6.02

Performing a reference run

Carry out a reference run if there is any synchronisation deviation in a cylinder pair:

1. Extend both cylinders until the climbing pawl or piston claw engages with the climbing rail.
   The piston of the non-engaged climbing device moves very slowly (the leak oil in the flow divider enables end position compensation).
2. Then move both cylinders against the stop for approx. 1 minute.



Carry out this procedure after each climbing process in order to eliminate the standard deviations of the flow divider.



Manual end position compensation
If synchronisation deviation is too large when under load, carry out manual end position compensation with the help of a short-circuit connection.

Moving the cylinders to the same height

Unequal ballasting on the climbing units can result in a lateral offset. In rare cases, this could negatively affect the "inserting" of the RCS Rails in the next climbing shoe. This deviation can be corrected even if the pistons have not been completely extended.

Example
Cylinder 2 is extended further than cylinder 1.

1. Disconnect and short-circuit the hydraulic hoses on cylinder 2.
2. Extend cylinder 1 and compensate for lateral offset (Fig. C6.03)
4. Couple cylinder 2.
5. Fully extend both cylinders.

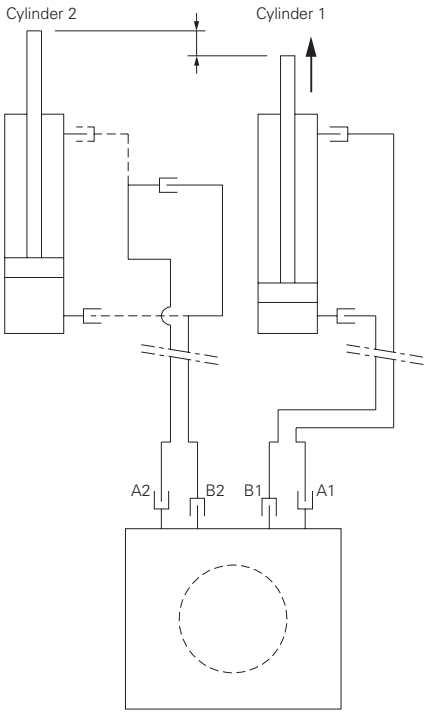


Fig. C6.03

Release the climbing pawl by hand

Warning

Body parts can become trapped between climbing rails and climbing shoes!
This can result in serious injuries.
⇒ Do not hold the climbing shoe and climbing rails when the climbing unit is being moved.

- In the event of a broken leg spring (**5.8**) in the climbing shoe (**5**), manually release the climbing pawl (**5.1**) with the aid of the pawl lock (**5.4**). The climbing procedure can then be completed.
- After completing the climbing procedure, replace the defective climbing shoe or have repair work carried out by PERI.

Procedure

1. Completely extend the pistons of all hydraulic cylinders.
   → Climbing bolts (**9.1**) continue past the climbing pawl (**5.1**).
2. Push the pawl lock (**5.4**) upwards by hand.
   → The climbing pawl is activated. (Fig. C6.04)
3. Retract the hydraulic cylinder until the climbing bolt (**9.1**) is positioned on the pawl (**5.1**).

Are all pawls (**5.1**) engaged?

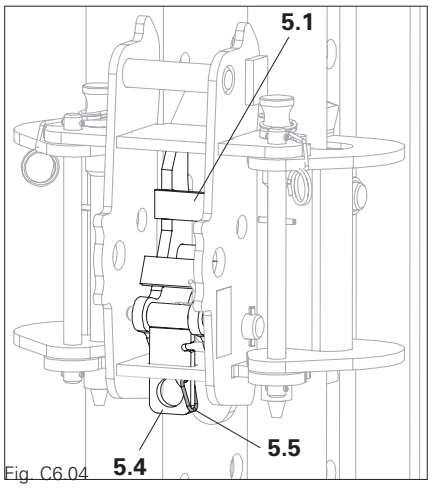


Fig. C6.04

Fig. C6.04a

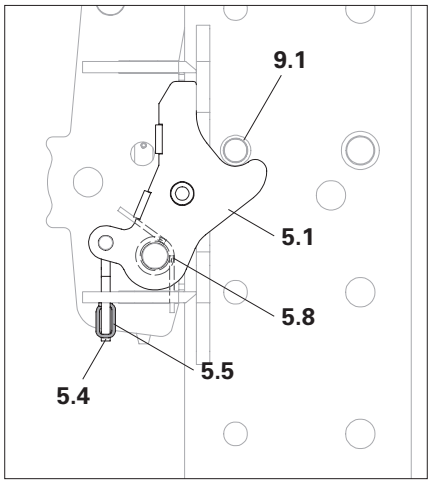


Fig. C6.04b

Climbing with a broken leg spring

Body parts can become trapped between climbing rails and climbing shoes!
This can result in serious injuries.
⇒ Do not touch climbing shoes or climbing rails while the climbing unit is moving.

- In the event of broken leg springs (**1.13**) in the cylinder base, tip the climbing device (**1**) backwards by hand into the climbing rail (**9**). The climbing procedure can then be completed.
- After completing the climbing procedure, replace the climbing device or have repair work carried out by PERI.

Procedure

1. Retract piston until the claw (**1.1**) is guided around the climbing bolts (**9.1**).
2. Pull the climbing device to the climbing rail and position the claw (**1.1**) by hand between the profiles of the climbing rail. (Fig. D7.05)
3. Extend the climbing device and guide it until the claws (**1.1**) engage with the climbing bolts (**9.1**).
4. Let go of the climbing device.
5. Extend the climbing devices and climb the climbing unit upwards by one stroke.
6. Repeat steps 1 – 5 and complete the climbing process.
7. Remove and replace the defective climbing device.

Are all claws engaged on the climbing bolts?

Also use this procedure in the case of forward or laterally inclined climbing rails.

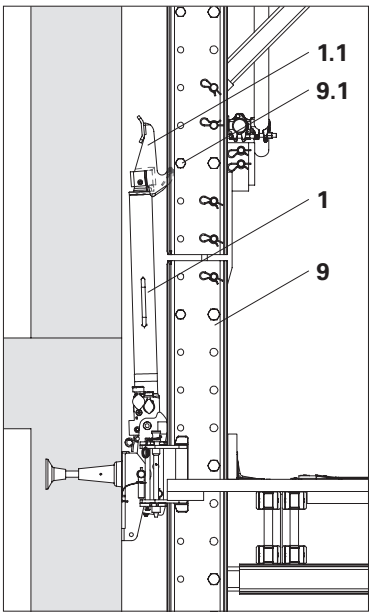


Fig. C6.05

Releasing pressure in hydraulic hoses

Warning

Hydraulic hoses are under high pressure.
Loosening pressurised hydraulic hoses can lead to serious irreversible injuries.

⇒ Ensure that the hydraulic unit is switched off and that there is no operating pressure.
⇒ Ensure that the climbing device is not under load.

When the temperature changes, pressure can build up in the hydraulic hoses, preventing the quick couplings from being operable and the hoses from being connected.

Problem-solving:

1. Loosen the quick-coupler with open-end wrenches (AF22/24 + AF24/27) approx. half a turn until 2-3 drops of oil come out
2. Collect any oil with a cloth
   → Pressure is released
3. Hand-tighten the quick-coupler again with open-end wrenches (AF22/24 + AF24/27)
4. Wipe up leaked oil with a cloth
5. During operation, check the system for leaks and re-tighten leaking couplings

(Fig. C6.06)

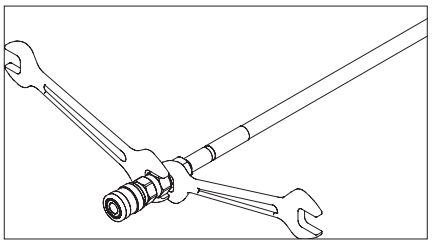


Fig. C6.06

Changing the phase

If the rotary field display lights up red, the rotary field is the wrong way round.

Changing

To change the direction of rotation, see Section “Operating the hydraulic unit” on page 38.

D1 Storage and transportation measures

Safety instructions

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.

Use only suitable and approved load-carrying equipment.

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 relocation procedure
- only ever attach components and assemblies in a positive-locking manner.
- ensure that components or assemblies 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.
- remove or secure loose parts.

Pre-assembled assemblies should always be guided with ropes when moving them by crane.

The access areas on the construction site must be free of obstacles and tripping hazards, as well as being 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.

General information

Store PERI products and components
- in such a way that damage is impossible.
- dry, cleaned and with corrosion prevention at temperatures from –20 °C to + 60 °C.
- store electrical and electronic components in a dry and dust-free location.
- store products and components in a location that is protected from the effects of the weather, sunlight, oils and aggressive substances of any kind.



Observe the manufacturer's instructions for the following components:
- Assembly instructions for the hydraulic unit and the climbing device.
- Safety data sheet for the hydraulic oil.

Moving on the construction site
- Keep bushing and clip of all quick-couplers clean and fit with protective caps during transportation (one set with 4 pieces, article no. 125632) or couple them together.
- Transport the hydraulic hoses and cables rolled up – do not drag along the ground. (do not go below the minimum bending radius.)
- Transport the hydraulic cylinder only with the piston rod in a retracted position.
- For more details see the manufacturer's assembly instructions.

D1 Storage and transportation measures

Temporary storage on the construction site (duration < 6 months)

- Clean bushings and clips of all quick-couplers and fit with protective caps when storing, or connect together.
- Store the hydraulic hoses and cables rolled up and weather-proofed. (do not go below the minimum bending radius.)
- Store the hydraulic cylinder only with the piston rod in a retracted position.
- Place the hydraulic cylinders in the transport boxes provided for storage, see Section "Packaging" on page 60.
- Do not store the hydraulic unit in a horizontal position as the oil can escape.
- For more details see the manufacturer's assembly instructions.

Transport from and to the construction site

- Clean dirt off the climbing devices and hydraulic units, and dry them.
- Clean the bushings and clips of all quick-couplers and fit with protective caps, or connect together.
- Transport the hydraulic hoses and cables rolled up. (do not go below the minimum bending radius.)
- Fill the hydraulic cylinder and hoses with oil.
- Transport the hydraulic cylinder only with the piston rod in a retracted position.
- Place the hydraulic cylinders and units in the designated means of transport and secure them. See Section "Packaging" on page 60.
- Do not transport the hydraulic unit in a horizontal position.
- When moving transport crates with the crane, use only suitable lifting slings that are wrapped around the underside.
- For more details see the manufacturer's assembly instructions.

Longer storage periods

- Do not drain the hydraulic oil during downtime.
- Protect connections against corrosion using a suitable preserving agent. Close all openings so they are airtight.
- For more details see the manufacturer's assembly instructions.
- Store hydraulic hoses and cables rolled up, weather-proofed and in the dark. (do not go below the minimum bending radius.)

Note

- Transport crates
  - are only used for transport and storage purposes,
  - do not use as load-carrying equipment!
- See the manufacturer's assembly instructions for information regarding transport of the unit.

- Clean dirt off the climbing devices and hydraulic units, and dry them.
- Clean the bushings and clips of all quick-couplers and close with protective caps, or connect together.
- Place the hydraulic cylinder in the designated transport crates.
- Store the hydraulic hoses and cables rolled up and weather-proofed. (do not go below the minimum bending radius.)
- Do not store hydraulic units horizontally, as oil can escape through the vent valve.
- Fix cover to the transport crate.

Climbing Device RCS 50 Article no. 109765	26.0 kg
Hydraulic Pump RCS Article no. 109766	109.0 kg
Hydraulic Twin Hose RCS Length 10 m Article no. 110069 Length 20 m Article no. 110070	 9.0 kg 16.0 kg

All weight details do not include the oil.

Transport Case for Climbing Device RCS 50



Fig. D2.01



Fig. D2.02

Dimensions of Hydraulic Pump RCS

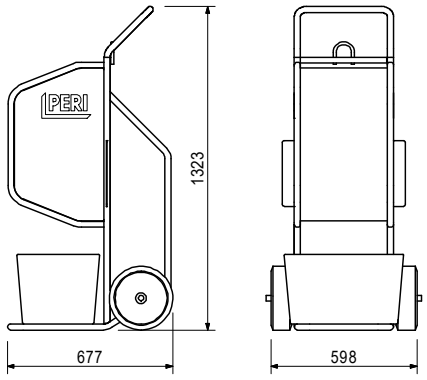


Fig. D2.03

Maintenance and repairs



- Damage and any resulting downtime can be avoided by carrying out scheduled maintenance work.
- Refer to the maintenance table of the manufacturer for the hydraulic unit maintenance intervals.



PERI recommends shortened maintenance intervals:

- for equipment showing signs of heavy wear.
- with high thermal and mechanical loads.
- when subject to heavy soiling.

Maintenance and repairs	Recommended maintenance intervals
■ Replace oil filter, air filter and hydraulic oil.	Before use on next construction site, at least 1x per year.
■ Replace hydraulic hoses.	If damaged, before use on next construction site. Maximum service life 6 years.
■ Check oil temperature and oil level.	Before use on next construction site.
■ Clean machine housing and cylinder. ■ Lubricate moving parts on the cylinder.	If necessary, after each concreting process.
■ Check system for leaks. ■ Check working and control pressures. ■ Check system for noises and vibrations. ■ Check hoses for external damage.	After assembly. Daily to weekly.
■ Lubricate Climbing Rail RCS.	If necessary, weekly to monthly.
■ Check device mounting. ■ Ventilation filter in the filling piece.	Weekly to monthly.
■ Check housing (dirt, damage, protective covers) ■ Check performance.	Monthly to quarterly.
■ Check tubes and hoses. ■ Check protective covers.	Before first use, every six months to one year.
■ Maintenance work on the hydraulic unit.	See manufacturer's assembly instructions.

Checking the fluid level in the oil tank

Liquid volume too low
- the operating temperature increases,
- air inclusions occur,
- the hydraulic cylinder may extend jerkily.

Therefore:
- Keep the oil level display device clean.
- Monitor the oil level continuously.
- Immediately top up any missing hydraulic oil.
- Identify causes of excessive oil consumption.

Checking the oil temperature and oil level

Note
- The operating temperature of the hydraulic oil increases with an increase in the outside temperature.
- If the oil temperature exceeds 70 °C, switch off the hydraulic pump.
- Determine the cause of overheating (for example pressureless flow, excessively high outside temperature, etc.).

- The oil level can vary depending on the type, quantity and size of the consumer.
- Recommended operating temperature of the hydraulic oil: 45° C (average temperature of the hydraulic oil in the tank).

The temperature display (3.5) is to be used for the following:
– Monitoring the operating temperature of the oil.
– Checking the oil temperature regularly during operation.
– As an oil level indicator.

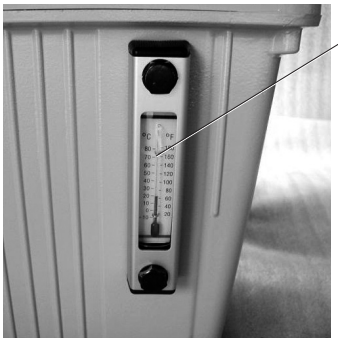


Fig. E1.01

Changing hydraulic oil

Draining hydraulic oil and cleaning the oil tank

1. Completely retract the piston rods.
2. Clean the hydraulic tank, especially in the area of the filling piece.
3. Switch off the unit and drain the hydraulic oil when warm.
4. Remove the oil drain screw (**3.4a**) (hex screw AF 10).
5. Completely drain the tank.
6. Clean the hydraulic tank if necessary.
7. Clean the return flow filter or replace if necessary.
8. Check the ventilation filter in the filling piece (**3.6**) for signs of dirt.
9. For extremely dirty equipment or when changing the hydraulic oil, rinse with separate oil.
10. Drain flushing oil from the hydraulic tank and clean once again if necessary.

! Note

- Instructions for the safe handling of hydraulic oil are included in the safety data sheet of the oil selected for use.
- Avoid bodily contact and contact with the structure. For information on cleaning and correct disposal, see the safety data sheet of the hydraulic oil selected for use.

Filling with new hydraulic oil:

1. Pour in hydraulic oil via the filter.
   - Fill tank only up to the top marking. Do not overfill!
   - The hydraulic oil used must be free of water and dirt.
   - Pour in the hydraulic oil using a clean filling sieve (separate filling sieve, filling funnel with sieve insert, or using an ultra-fine filter).
   - Do not mix hydraulic oils of different quality and from different manufacturers.
2. Close the filling opening with an end cap.
3. Check oil level.
4. Check the tightness of the oil tank (e.g. caps, pipe penetrations, flanges).
5. Record type of oil used and amount in the maintenance chart.

(Fig. E1.02)

Recommended hydraulic oil:

- HVLP 46 – DIN 51524.
  e.g. PERI hydraulic oil HV LP46 20 L, article no. 057376.
- Filling quantity: max. 22 litres.



Fig. E1.02

Cleaning and replacing the oil filter

Components

3.7 Return filter
3.12 Filter element
Type: ARGO P3.0520-51
3.13 Lower part of the housing
Type: ARGO FR 072.0104

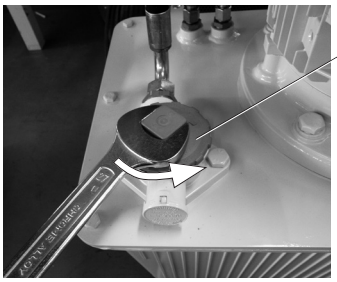


Fig. E1.03

1. Unscrew the plastic cap of the return flow filter (**3.7**) and open. The plastic cap presses the filter element (**3.12**) into the lower part of the housing (**3.13**) by means of a spring. (Fig. E1.03)
2. Pull out the lower part of the housing (**3.13**) including the filter element (**3.12**) from the head piece. (Fig. E1.04)

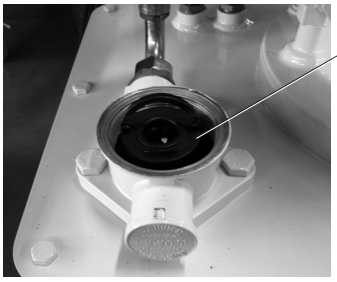


Fig. E1.04

Make sure that the hydraulic oil tank remains free of any dirt and impurities.

1. Drain contaminated oil from the lower part of the housing (**3.13**) and dispose of it correctly.
2. Clean filter element (**3.12**); if necessary, dispose of it correctly and replace with a new filter. (Fig. E1.05)
3. Press the lower part of the housing (**3.13**) with filter element into the head piece.
4. Fit red plastic cap and tighten.



Fig. E1.05

F1 Hydraulics connection diagram

Diagram for the hose arrangement in standard cases

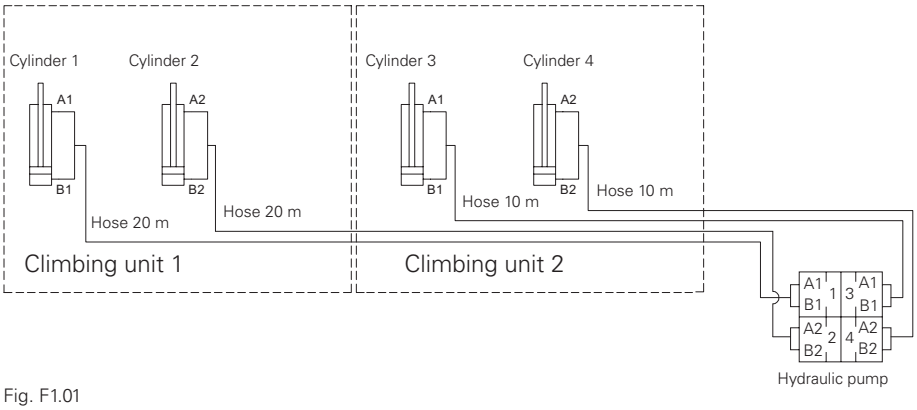


Fig. F1.01

Details: cylinder, hoses and unit

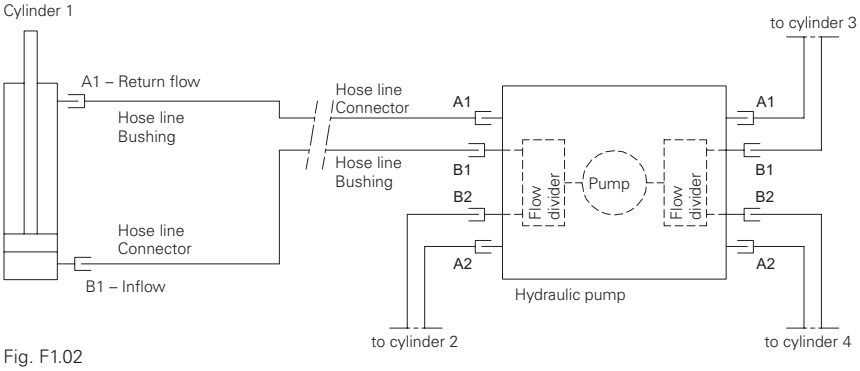


Fig. F1.02

F1 Hydraulics connection diagram

Overall arrangement in standard case

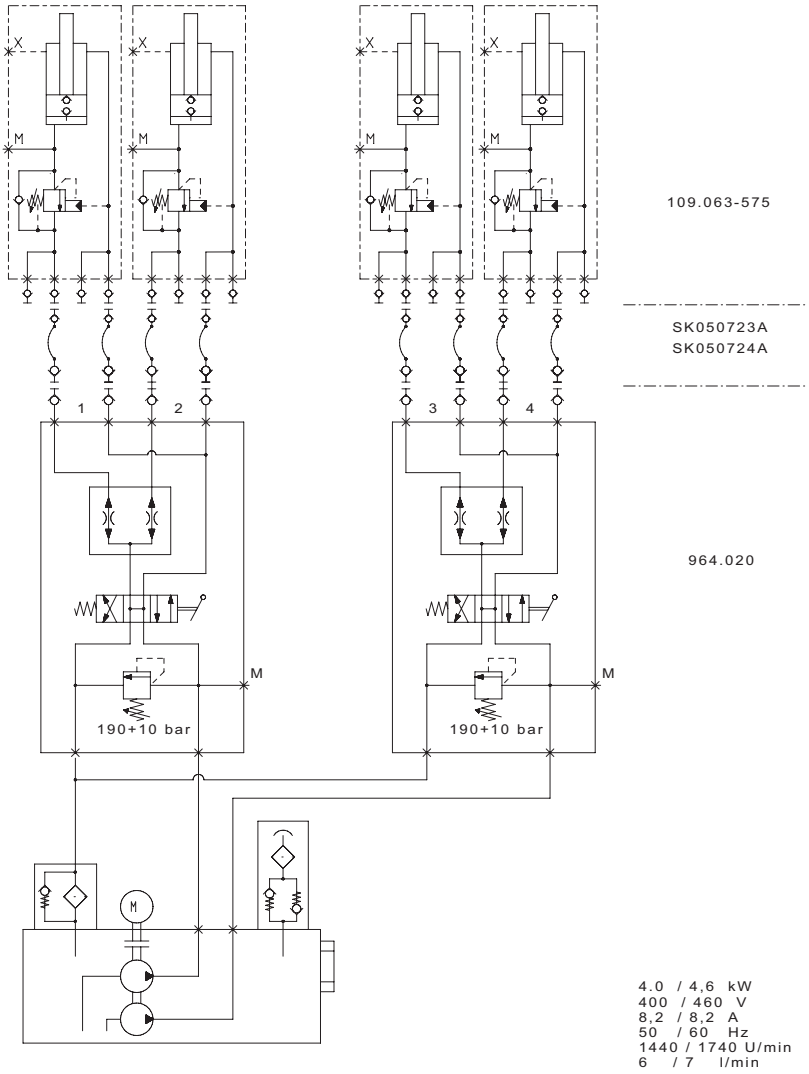


Fig. F1.03

F2 Climbing device circuit diagram

Climbing Device RCS 50
Article no.: 109765

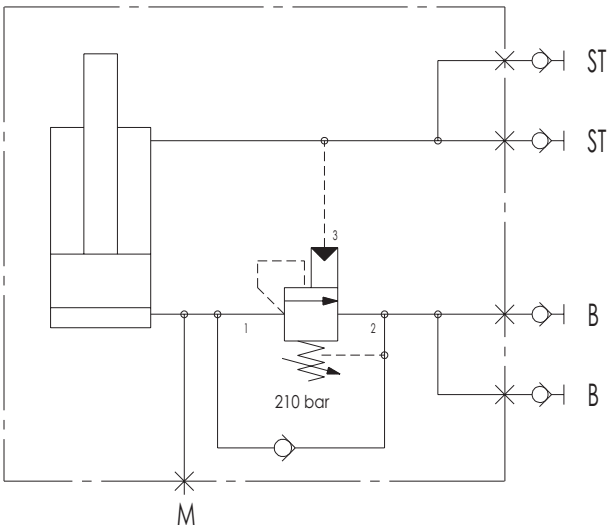
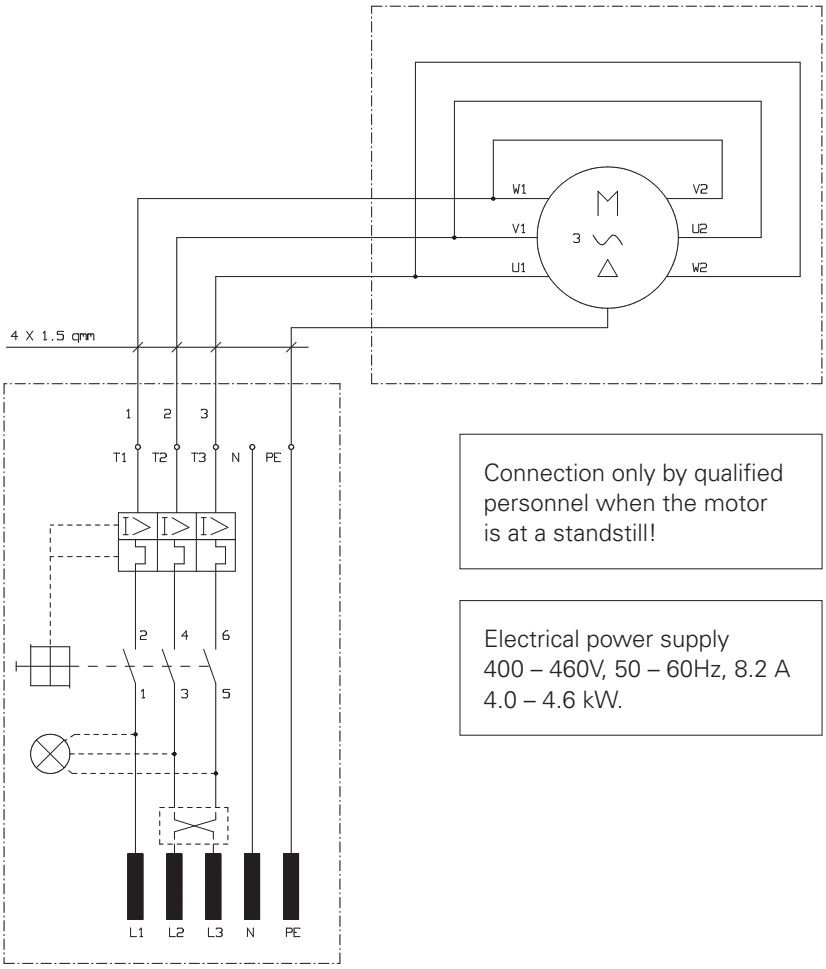


Fig. F2.01

F3 Power supply connection diagram



Connection only by qualified personnel when the motor is at a standstill!

Electrical power supply
400 – 460V, 50 – 60Hz, 8.2 A
4.0 – 4.6 kW.

Fig. F3.01

Maintenance schedule

Maintenance location	Serial number of the hydraulic unit	Maintenance work carried out Oil type and quantity	Date	Name/Signature

Participation Protocol and Handover Certificate
RCS Climbing Device and Hydraulics

Name: _____

Position: _____

Training: _____

- I have participated in the above training course.
- I have received and understood the assembly instructions for the RCS Climbing Device and Hydraulics.
- I know the safety regulations and will adhere to them in practice.
- If I have any questions or in case of uncertainty, I will contact:

Date/Signature:

Germany
PERI SE
Postfach 1264

D - 89259 Weissenhorn

Phone: +49 7309 950 - 0
Fax: +49 7309 950 - 6210

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

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.

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Bevollmächtigter für die Zusammenstellung der technischen Unterlagen:	PERI SE, GROUP QUALITY Anschrift siehe Hersteller

Hiermit erklären wir, dass die Bauart und die Ausführung

Unvollständigen Maschine	RCS Klettermechanismus
für das System	PERI RCS Selbstklettersystem
gemäß der Zeichnung	MO-18-12493
und der Funktion	Der RCS Klettermechanismus besteht aus den Kernbauteilen Kletterwerk RCS 50 oder Kletterwerk-2 RCS 50, dem Hydraulik Aggregat RCS 4x190/380-460V und Hydraulik Doppelschläuchen RCS 10m. Das Kletterwerk RCS 50 steht auf dem Kletterschuh RCS und wird durch das Hydraulik Aggregat RCS 4x190/380-460V angetrieben. Der Kletterschuh RCS ist über einen Wand- oder Deckenschuh am Bauwerk verankert. Das Kletterwerk arbeitet mit der Klinke im Kletterschuh zusammen. Die Klaue am Kolben des Kletterwerks RCS 50 rastet in die Kletterbolzen (Distanzierungen in der Kletterschiene RCS) ein und schiebt die Kletterschiene mitsamt der Klettereinheit nach oben. Vor dem Ende des Hubs rastet die Klinke im Kletterschuh in einen anderen Kletterbolzen ein. Beim Einfahren des Zylinders übernimmt die Klinke im Kletterschuh die Last und die Kolben-Klaue umfährt den nächsten Kletterbolzen. Beim vollständigen Einfahren des Zylinders rastet die Klaue in diesen Kletterbolzen ein.

folgenden geltenden Normen und Richtlinien entspricht.

EG-Richtlinie 2006/42/EG	Richtlinie 2006/42/EG des Europäischen Parlaments und des Rates vom 17. Mai 2006 über Maschinen

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: 2011-03	Sicherheit von Maschinen; Allgemeine Gestaltungsleitsätze – Risikobeurteilung und Risikominderung
DIN EN 60204-1: 2019-06	Sicherheit von Maschinen; Elektr. Ausrüstung von Maschinen Teil 1: Allgemeine Anforderungen
DIN EN ISO 13854: 2020-01	Sicherheit von Maschinen; Mindestabstände zur Vermeidung des Quetschens von Körperteilen
DIN EN ISO 13857: 2020-04	Sicherheit von Maschinen; Sicherheitsabstände gegen das Erreichen von Gefährdungsbereichen mit den oberen und unteren Gliedmaßen
DIN EN 614-1: 2009-06	Sicherheit von Maschinen – Ergonomische Gestaltungsgrundsätze – Teil 1: Begriffe und allgemeine Leitsätze
DIN EN ISO 4413: 2011-04	Fluidtechnik – Allgemeine Regeln und sicherheitstechnische Anforderungen an Hydraulikanlagen und deren Bauteile

Weißenhorn, den 10.01.2024

Dieter Deifel, Leiter R&D Civil Engineering

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
Deutschland

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

We hereby declare that the design and construction of the

partly completed machinery	RCS Climbing Mechanism
for the system	PERI RCS Self-climbing System
according drawing	MO-18-12493
and function	The RCS climbing mechanism consists of the core components Climbing Device RCS 50 or Climbing Device-2 RCS 50, Hydraulic Pump RCS 4x190/380-460V and Hydraulic Twin Hoses RCS 10m. The climbing device RCS 50 stands on the climbing shoe RCS and is powered by the Hydraulic Pump RCS 4x190/380-460V. The RCS climbing shoe is anchored to the structure via a wall or slab shoe. The climbing device works together with the pawl in the climbing shoe. The claw on the piston of the climbing device RCS 50 engages in the climbing bolts (spacers in the RCS climbing rail) and pushes the climbing rail together with the climbing unit upwards. Before the end of the stroke, the pawl in the climbing shoe engages in another climbing bolt. When the cylinder retracts, the pawl in the climbing shoe takes over the load and the piston claw moves around the next climbing bolt. When the cylinder is fully retracted, the claw engages in this climbing bolt.

complies with the following applicable standards and directives.

EC-Directive 2006/42/EC	Directive 2006/42/EC of the European Parliament and of the Council, dated 17th of May 2006 on machinery

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: 2011-03	Safety of machinery - General principles for design - Risk assessment and risk reduction
DIN EN 60204-1: 2019-06	Safety of machinery - Electrical equipment of machines - Part 1: General requirements
DIN EN ISO 13854: 2020-01	Safety of machinery – Minimum gaps to avoid crushing of parts of the human body
DIN EN ISO 13857: 2020-04	Safety of machinery –Safety distances to prevent hazard zones being reached by upper and lower limbs
DIN EN 614-1: 2009-06	Safety of machinery –Ergonomic design principles – Part 1: Terminology and general principles
DIN EN ISO 4413: 2011-04	Hydraulic fluid power – General rules and safety requirements for systems and their components

Weissenhorn, 2024-01-10

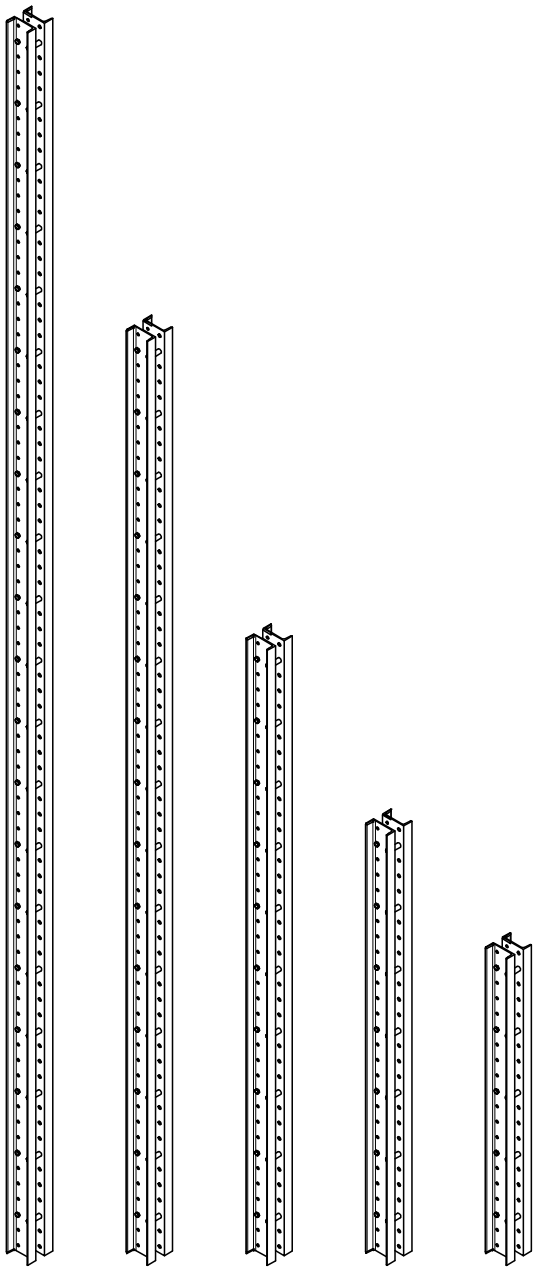
Dieter Deifel, Head of R&D Civil Engineering

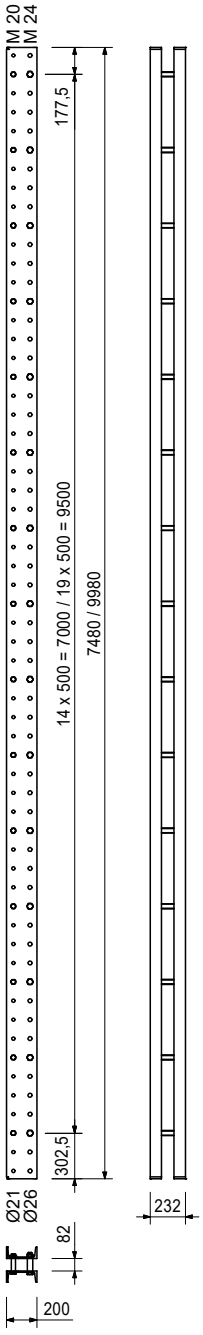
Art no.	Weight [kg]		L [mm]
		Climbing Rails RCS	
114166	78.200	**Climbing Rail RCS 148**	1480
135990	105.000	**Climbing Rail RCS 198**	1980
109469	130.000	**Climbing Rail RCS 248**	2480
112102	156.000	**Climbing Rail RCS 298**	2980
109470	182.000	**Climbing Rail RCS 348**	3480
112141	209.000	**Climbing Rail RCS 398**	3980
109471	262.000	**Climbing Rail RCS 498**	4980
109472	393.000	**Climbing Rail RCS 748**	7480
109610	524.000	**Climbing Rail RCS 998**	9980

Steel profile for all-purpose use of climbing application or civil constructions.

Notes

Wy = 357.6 cm³, Iy = 3576 cm⁴.



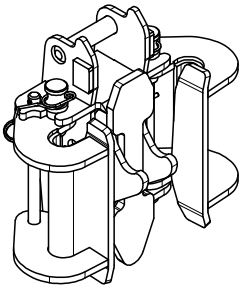


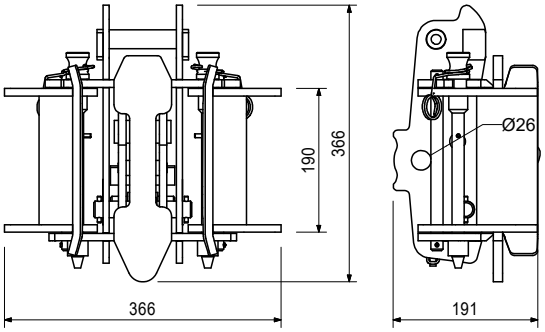
Accessory (not included)

136109	0.472	**Pin Set RCS MAX**

Art no.	Weight [kg]	
109468	19.800	**Climbing Shoe RCS**

Guide and support for Climbing Rail RCS. With foldable leading runners and self-actuating bearing pawl.





Accessory (not included)

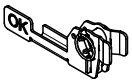
135962	0.379	**Visual Aid Climbing Shoe RCS**

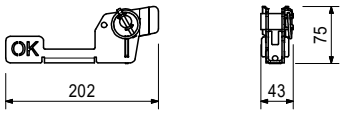
Consists of

116067 Climbing Shoe Lock RCS 2 pc
109902 Locking Pin Ø30x290mm coat 2 pc
711063 Sleeve ISO8752-05.0x035-coat 4 pc
109508 Bolt Ø16x239mm coat 2 pc
750329 Sleeve ISO8752-05.0x020-coat 4 pc
109903 Spring Lock 1 pc

Art no.	Weight [kg]	
135962	0.379	**Visual Aid Climbing Shoe RCS**

Used to indicate the switching position of the Climbing Pawl in the Climbing Shoe RCS.





Accessory (not included)

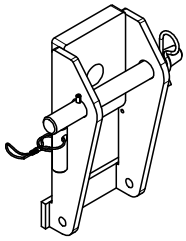
109468	19.800	**Climbing Shoe RCS**

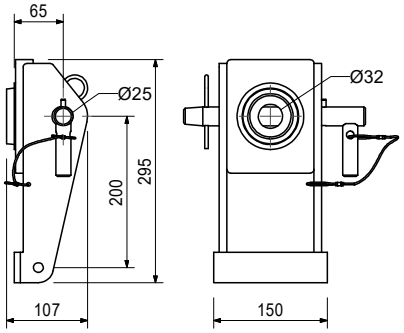
Consists of

126908 Screw ISO4014-M08x045-8.8-ga 1 pc
711071 Hex-Nut ISO7040-M08-8-ga 1 pc

Art no.	Weight [kg]	
109503	7.380	**Wall Shoe RCS**

Anchor System M30. For anchoring Climbing Shoe RCS to the wall.





Accessory (not included)

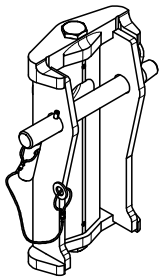
029420	0.590	**Screw ISO4017-M30x070-8.8-ga**

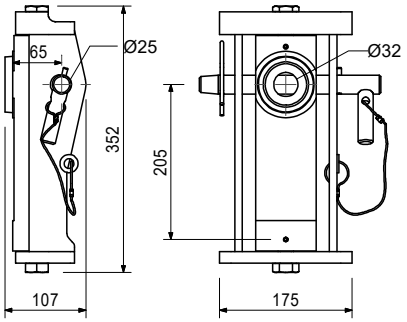
Consists of

715585 Lock.PinØ25x240mm SKS 150 coat 1 pc
022230 Cotter Pin 5/1 ga 1 pc

Art no.	Weight [kg]	
110667	13.700	**Wall Shoe RCS privoted**

Anchor System M30. For anchoring Climbing Shoe RCS to circular walls. Swivel range ± 15°.





Accessory (not included)

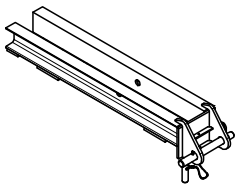
113007	0.700	**Screw ISO4762-M30x070-8.8-ga**

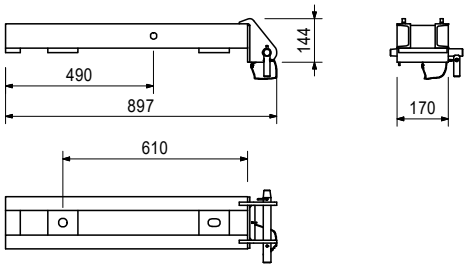
Consists of

715585 Lock.PinØ25x240mm SKS 150 coat 1 pc
022230 Cotter Pin 5/1 ga 1 pc

Art no.	Weight [kg]	
109567	20.200	**Slab Shoe RCS**

Anchor System M24. For mounting Climbing Shoe RCS to slab edges.



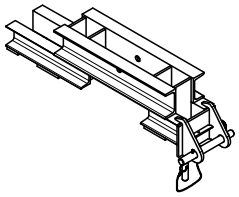


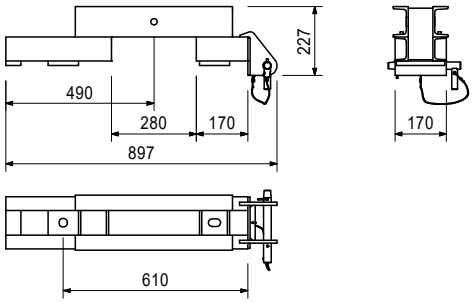
Consists of

715585 Lock.PinØ25x240mm SKS 150 coat 1 pc
022230 Cotter Pin 5/1 ga 1 pc

Art no.	Weight [kg]	
110375	30.800	**Climbing Shoe RCS Corner**

Anchor System M24. For mounting Climbing Shoe RCS to the corners of slab edges.



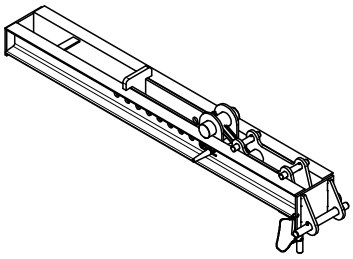


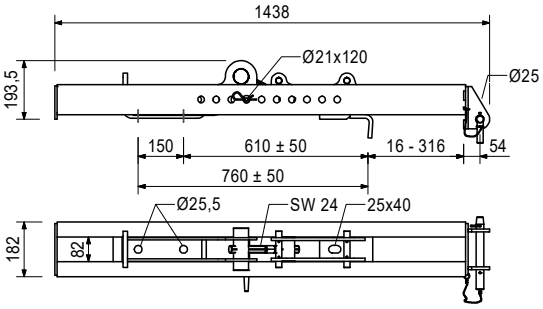
Consists of

715585 Lock.PinØ25x240mm SKS 150 coat 1 pc
022230 Cotter Pin 5/1 ga 1 pc

Art no.	Weight [kg]	
115570	54.400	**Slab Shoe RCS 30 adjustable**

Anchor System M24. For mounting the Climbing Shoe RCS to slab edges. Offset up to 30cm. Anchor distance variable 61 ± 5cm or 76 ± 5cm.



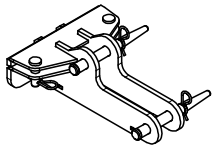


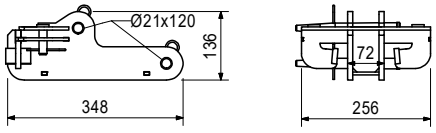
Consists of

715585 Lock.PinØ25x240mm SKS 150 coat 1 pc
104031 Fitting Pin Ø21x120mm 1 pc
022230 Cotter Pin 5/1 ga 2 pc

Art no.	Weight [kg]	
115918	9.380	**Slab Shoe Adaptor RCS/AV/SLS**

Mounted on the Slab Shoe RCS and serves for connecting Kicker AV or SLS Spindles and Bracing DW15.



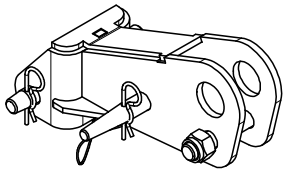


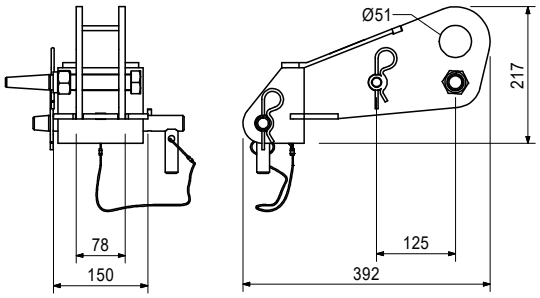
Consists of

104031 Fitting Pin Ø21x120mm 2 pc
027170 Pin Ø16x42mm ga 2 pc
018060 Cotter Pin 4/1 ga 4 pc

Art no.	Weight [kg]	
115850	11.200	**Slab Support Adaptor RCS**

For attaching the Climbing Shoe RCS to a slab support with horizontal Climbing Rail RCS.



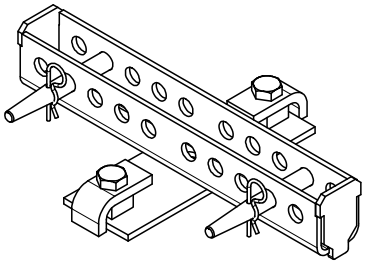


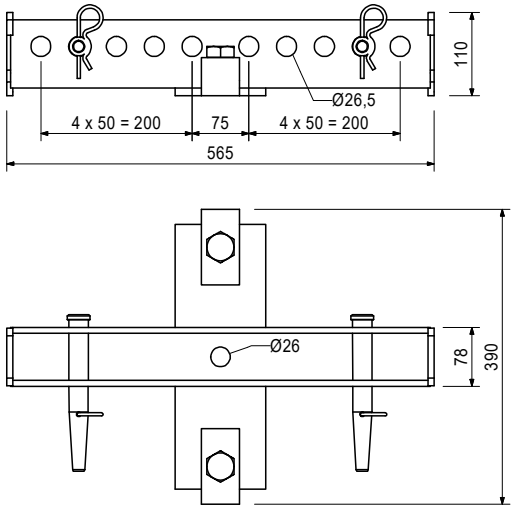
Consists of

715585 Lock.PinØ25x240mm SKS 150 coat 1 pc
111567 Fitting Pin Ø26x120mm 1 pc
022230 Cotter Pin 5/1 ga 2 pc

Art no.	Weight [kg]	
112359	15.000	**Slab Supp. Anchor Shoe RCS M24**

Anchor System M24. For anchoring the slab support with horizontal Climbing Rail RCS.





Accessory (not included)

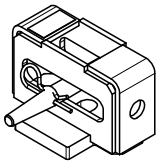
026430	0.334	**Screw ISO4014-M24x070-10.9**

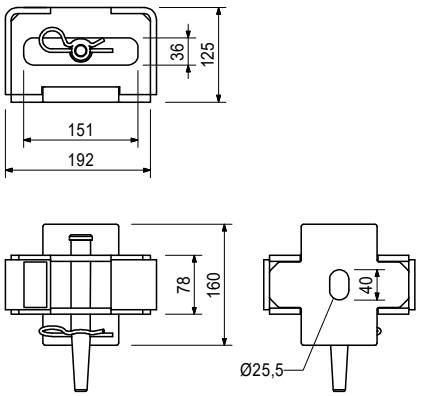
Consists of

026290 Screw ISO4017-M24x050-10.9 2 pc
111567 Fitting Pin Ø26x120mm 2 pc
022230 Cotter Pin 5/1 ga 2 pc

Art no.	Weight [kg]	
116538	6.900	**Slab Supp. Alignment Shoe RCS**

As compression point and for alignment of the slab support with horizontal Climbing Rail RCS. Fixation with the Anchor Bolt Ø14/20x130mm or the anchor system M24.





Accessory (not included)

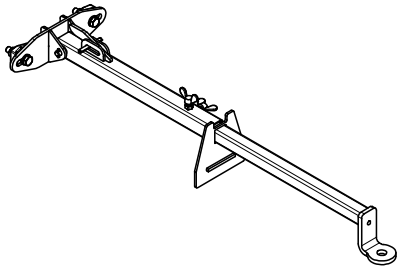
124777	0.210	**Anchor Bolt SW24 Ø14/20x130mm**

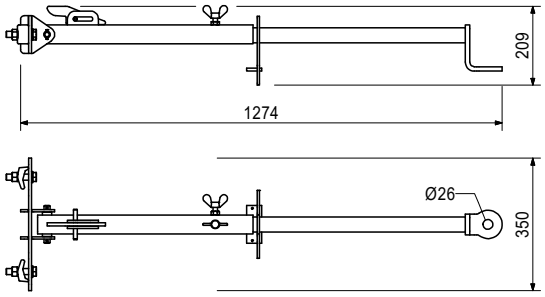
Consists of

111567 Fitting Pin Ø26x120mm 1 pc
022230 Cotter Pin 5/1 ga 1 pc

Art no.	Weight [kg]	
114947	12.600	**Slab Anchor Template RCS 61**

For positioning the Advancing Bolt M24 for the Slab Shoe RCS. Fixed on the stopend formwork.





Accessory (not included)

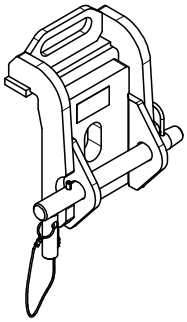
029270	0.331	**Advancing Screw M24 ga**

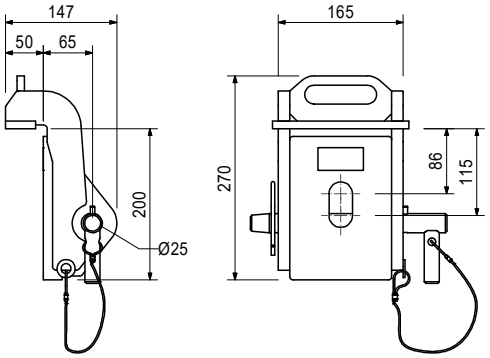
Consists of

112815 Clamping Plate M16 Nova Grip 1 pc
115112 Screw DIN316-M12x25-GT-ga 1 pc
710229 Hex-Nut ISO4032-M16-8-ga 1 pc
711074 Washer ISO7089-16-200HV-ga 1 pc
714093 Screw ISO4014-M16x070-8.8-ga 1 pc

Art no.	Weight [kg]	
113232	10.500	**Stopend Slab Shoe RCS M30**

Anchor System M30. For anchoring the Climbing Shoe RCS at the front end of the slab. With the Reduction Bush Ø30 – Ø25, Item no. 113822, also usable with Anchor System M24.





Accessory (not included)

029420	0.590	**Screw ISO4017-M30x070-8.8-ga**

Consists of

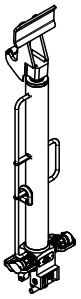
113247 Locking Pin Ø25x260mm comp 1 pc
022230 Cotter Pin 5/1 ga 1 pc

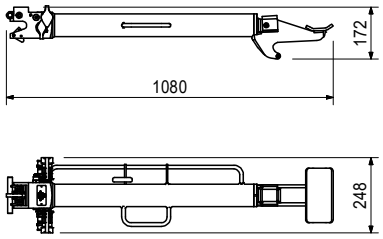
Art no.	Weight [kg]	
109765	27.000	**Climbing Device RCS 50**

For crane-independent climbing of RCS Climbing Units.

Notes

Follow Instructions for Use.
Operating pressure max. 190 bar.
Available nominal lifting force 45kN.





Accessory (not included)

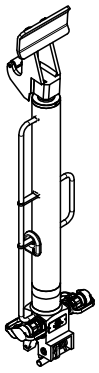
109766	109.000	**Hydr.Pump RCS 4x190/380-460V**

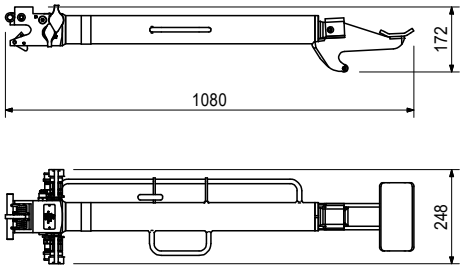
Art no.	Weight [kg]	
135413	27.000	**Climbing Device-2 RCS 50**

For crane-independent climbing of RCS Climbing Units.

Notes

Follow Instructions for Use.
Operating pressure max. 210 bar.
Available nominal lifting force 50kN.





Accessory (not included)

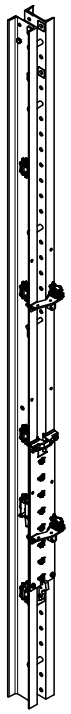
109766	109.000	**Hydr.Pump RCS 4x190/380-460V**
135500	47.000	**Hydr.P. RCS MAX 2x210/380-460V**

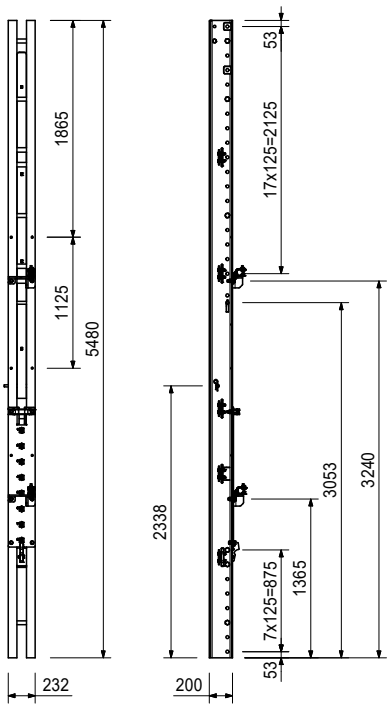
Art no.	Weight [kg]	
136110	395.000	**Driving Rail RCS C MAX**

For simultaneous climbing of Self-Climbing Formwork System RCS C MAX in conjunction with networked Hydraulic Pumps RCS MAX

Notes

After mounting the climbing cylinder, insert Pin Ø26x120mm into the parking position for securing the inner rail during transport. For the installation of the climbing cylinder, the cylinder fixing must be removed.
Follow Assembly Instructions!





Accessory (not included)

136107	41.400	**Climbing Cylinder RCS MAX 75**

Consists of

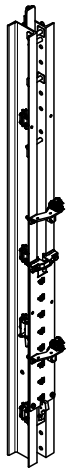
111567 Fitting Pin Ø26x120mm 1 pc
123692 Lock Pin Ø25x200mm SCS coat 1 pc
022230 Cotter Pin 5/1 ga 2 pc
110022 Spacer M20x82mm 1 pc
110023 Spacer M24x82mm 4 pc
109612 Screw ISO4014-M24x130-8.8-ga 1 pc
057138 Screw ISO4014-M24x160-8.8-ga 1 pc
130342 Hex-Nut ISO7042-M24-8-ga 2 pc
070890 Hex-Nut ISO7040-M16-8-ga 8 pc
710381 Hex-Nut ISO7040-M12-8-ga 21 pc
710224 Screw ISO4017-M12x040-8.8-ga 1 pc
710221 Screw ISO4014-M12x060-8.8-ga 20 pc
108546 Screw ISO4017-M16x060-8.8-ga 6 pc
721729 Screw ISO4014-M16x090-8.8-ga 2 pc
711074 Washer ISO7089-16-200HV-ga 8 pc
710880 Washer DIN434-18-ga 14 pc

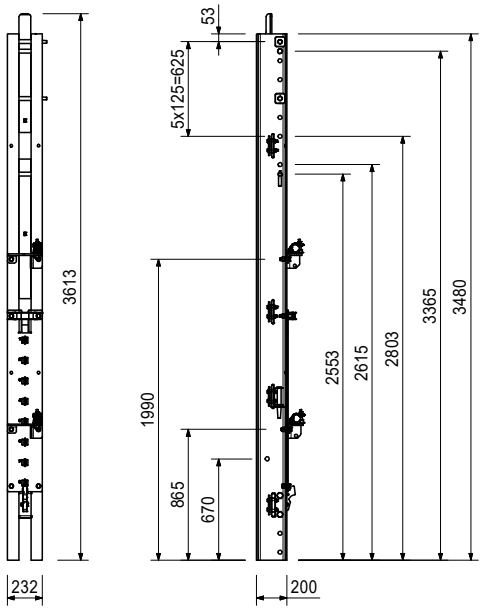
Art no.	Weight [kg]	
136111	268.000	**Driving Rail RCS CL MAX**

For simultaneous climbing of Self-Climbing Formwork System RCS CL MAX in conjunction with networked Hydraulic Pumps RCS MAX.

Notes

After mounting the climbing cylinder, insert Pin Ø26x120mm into the parking position for securing the inner rail during transport. For the installation of the climbing cylinder, the cylinder fixing must be removed.
Follow Assembly Instructions!





Accessory (not included)

136107	41.400	**Climbing Cylinder RCS MAX 75**

Consists of

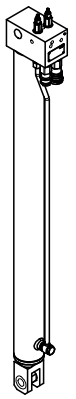
111567 Fitting Pin Ø26x120mm 3 pc
123692 Lock Pin Ø25x200mm SCS coat 1 pc
022230 Cotter Pin 5/1 ga 4 pc
110022 Spacer M20x82mm 1 pc
109612 Screw ISO4014-M24x130-8.8-ga 1 pc
057138 Screw ISO4014-M24x160-8.8-ga 1 pc
130342 Hex-Nut ISO7042-M24-8-ga 2 pc
070890 Hex-Nut ISO7040-M16-8-ga 8 pc
710381 Hex-Nut ISO7040-M12-8-ga 17 pc
710224 Screw ISO4017-M12x040-8.8-ga 1 pc
710221 Screw ISO4014-M12x060-8.8-ga 16 pc
721729 Screw ISO4014-M16x090-8.8-ga 2 pc
108546 Screw ISO4017-M16x060-8.8-ga 6 pc
711074 Washer ISO7089-16-200HV-ga 8 pc
710880 Washer DIN434-18-ga 14 pc

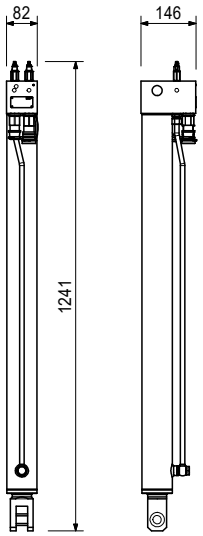
Art no.	Weight [kg]	
136107	41.400	**Climbing Cylinder RCS MAX 75**

Hydraulic Cylinder for Driving Rail RCS C MAX or Driving Rail RCS CL MAX.

Notes

Follow Assembly Instructions of the manufacturer!
After mounting the climbing cylinder, insert Pin Ø26x120mm into the parking position for securing the inner rail during transport.
Max. stroke length 90cm (effective 75cm).
Available nominal lifting force 50kN (theoretical nominal lifting force 65kN).
Max. operating pressure 210 bar.
Ready for operation with Hydraulic Unit RCS MAX 2x210 bar, 380-460V.



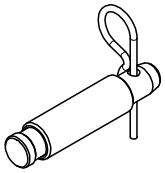


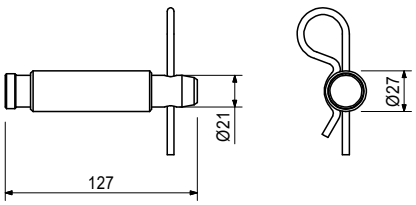
Accessory (not included)

136110	395.000	**Driving Rail RCS C MAX**
136111	268.000	**Driving Rail RCS CL MAX**
135500	47.000	**Hydr.P. RCS MAX 2x210/380-460V**

Art no.	Weight [kg]	
136109	0.472	**Pin Set RCS MAX**

For Creation of 250mm pin pattern in the Climbing Rail RCS.





Consists of

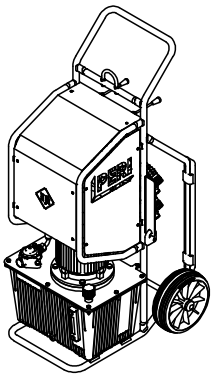
136289 Sleeve 26.9x2.6x80 coat 1 pc
022230 Cotter Pin 5/1 ga 1 pc

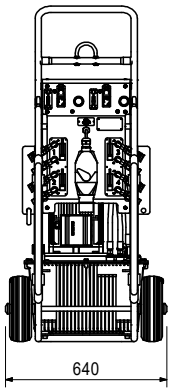
Art no.	Weight [kg]	
109766	109.000	**Hydr.Pump RCS 4x190/380-460V**

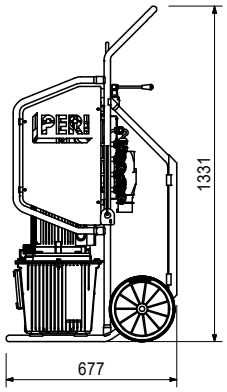
Hydraulic pump for actuating the Climbing Device RCS 50 or LPS 30.

Notes

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







Accessory (not included)

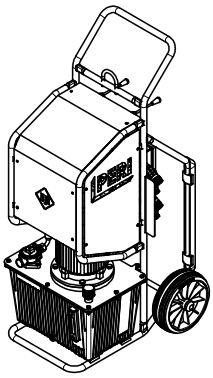
057376	18.300	**Hydr.Oil ISO11158 HVI46 20l**
131270	17.900	**Hydr.Oil ISO11158 HM10 20l**
131274	18.300	**Hydr.Oil ISO11158 HVI22 20l**
137373	18.300	**Hydr.Oil ISO11158 HVI32 20l**

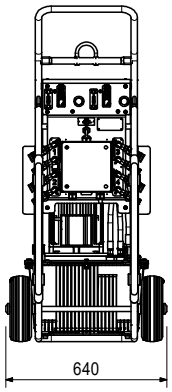
Art no.	Weight [kg]	
114243	109.000	**Hydr.Pump RCS 4x190/460V CSA**

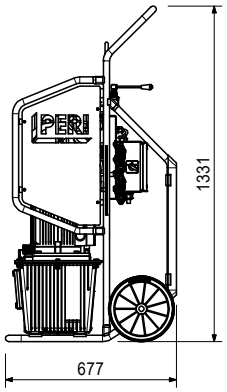
Hydraulic pump for actuating the Climbing Device RCS 50 or LPS 30 (Application area North America).

Notes

Follow Instructions for Use!
Only use original PERI Hydraulic Oil.



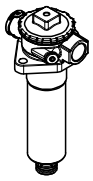


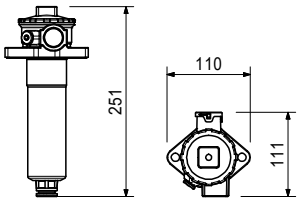


Accessory (not included)

057376	18.300	**Hydr.Oil ISO11158 HVI46 20l**
131270	17.900	**Hydr.Oil ISO11158 HM10 20l**
131274	18.300	**Hydr.Oil ISO11158 HVI22 20l**
137373	18.300	**Hydr.Oil ISO11158 HVI32 20l**

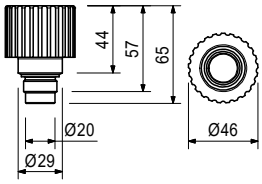
Art no.	Weight [kg]	
130528	0.500	**Return Oil Filter Pump RCS**





Art no.	Weight [kg]	
130529	0.600	**Ventilation Filter Pump RCS**



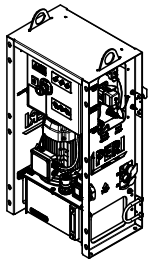


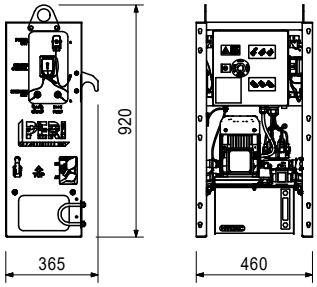
Art no.	Weight [kg]	
135500	47.000	**Hydr.P. RCS MAX 2x210/380-460V**

Hydraulic Pump for driving two Climbing Devices RCS MAX 75 or Climbing Device-2 RCS 50.
Connecting several units enables synchronous climbing of all climbing units.

Notes

Follow Assembly Instructions of the manufacturer!
See PERI Product Information.
Only use original PERI Hydraulic Oil.





Accessory (not included)

135606	0.100	**Return Filter RCS MAX**
135607	0.100	**Tank Breather Filter RCS MAX**
137281	14.000	**Hydr.Oil Filter Pump CE**
137282	1.000	**Hydr.Oil Filterelement 500**
137283	1.000	**Suction-/Pressure Hose 250**

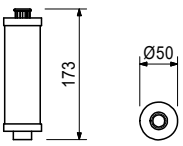
Art no.	Weight [kg]	
135606	0.100	**Return Filter RCS MAX**

Spare part for Hydraulic Pump RCS MAX 2x210 bar.

Notes

Follow Assembly Instructions of the manufacturer!





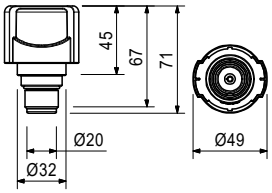
Art no.	Weight [kg]	
135607	0.100	**Tank Breather Filter RCS MAX**

Spare part for Hydraulic Pump RCS MAX 2x210 bar.

Notes

Follow Assembly Instructions of the manufacturer!



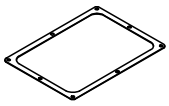


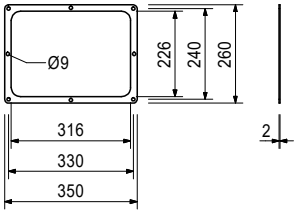
Art no.	Weight [kg]	
136597	0.050	**Gasket Hydr. Tank RCS MAX**

Spare part for Hydraulic Pump RCS MAX 2x210 bar.

Notes

Follow Assembly Instructions!





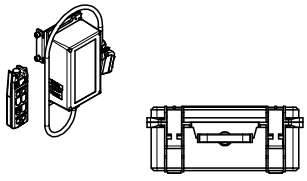
Art no.	Weight [kg]	
136530	5.080	**Remote Contr. RCS MAX wireless**

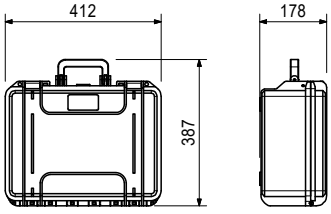
For a wireless operation of Hydraulic Pump RCS MAX 2x210 bar.

Notes

Follow Assembly Instructions of the manufacturer!

Scope of delivery:
1 pc. Remote Control RCS MAX wireless
1 pc. Receiver paired with Remote Control RCS MAX wireless
1 pc. Battery charger with base adapters
2 pc. Chargeable batteries
1 pc. case remote control RCS MAX
2 pc. Magnetic keys
1 pc. Protective casing with harmess





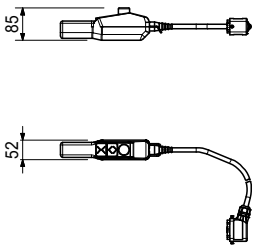
Art no.	Weight [kg]	
135506	2.500	**Remote Control RCS MAX**

Remote control for the simultaneous operation of a climbing unit.

Notes

Follow Assembly Instructions of the manufacturer!



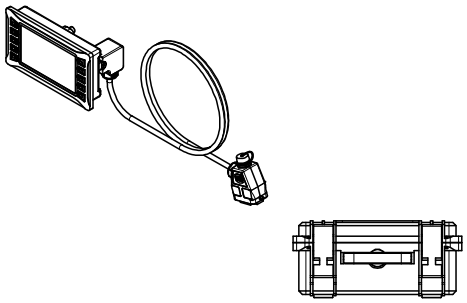


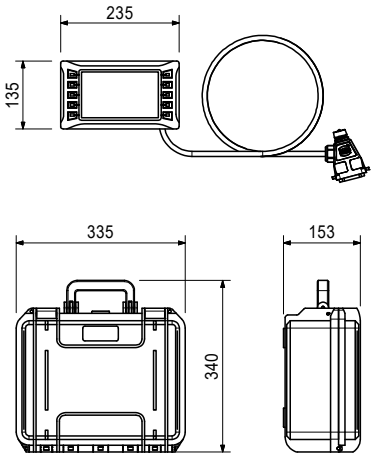
Art no.	Weight [kg]	
135507	3.360	**Display RCS MAX**

For displaying extended information and monitoring of interconnected Hydraulic power packs RCS MAX 2x210 bar.

Notes

Follow Assembly Instructions of the manufacturer!
Cable length: 1.5m.



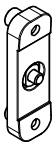


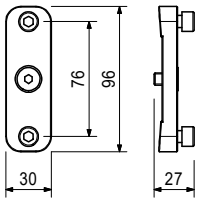
Consists of

136675 Case Display RCS MAX 1 pc

Art no.	Weight [kg]	
136043	0.058	**Display Holder RCS MAX**

For attachement of Display RCS MAX on the Power Unit RCS MAX 2x210 bar.





Consists of

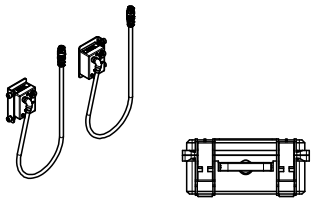
136045 Screw ISO10642-M08x016-8.8-ga 1 pc

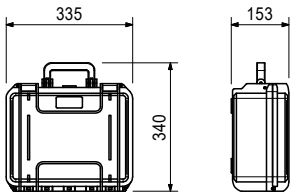
Art no.	Weight [kg]	
136531	2.330	**Data Conn. RCS MAX wireless**

For a wireless group connection between Hydraulic Pumps RCS MAX 2x210 bar.

Notes

Group IN and Group OUT modules are compatible paired.
Technical data see PERI Product Information.





Consists of

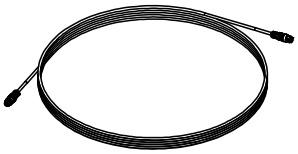
136673 Case Data Conn. RCS MAX 1 pc

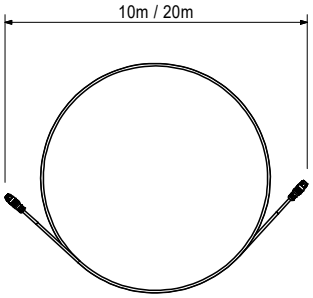
Art no.	Weight [kg]	
		Data Conn. Cables RCS MAX
135503	0.600	**Data Conn. Cable RCS MAX 10m**
135504	1.200	**Data Conn. Cable RCS MAX 20m**

For data connection between Hydraulic Pumps RCS MAX 2x210 bar.

Notes

Follow Assembly Instructions of the manufacturer!





Accessory (not included)

135505	0.100	**Connector Data Cable RCS MAX**

Art no.	Weight [kg]	
135505	0.100	**Connector Data Cable RCS MAX**

For connecting two Data Connection Cables RCS MAX.

Notes

Follow Assembly Instructions of the manufacturer!
Length 18cm.

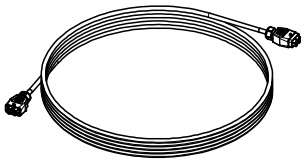


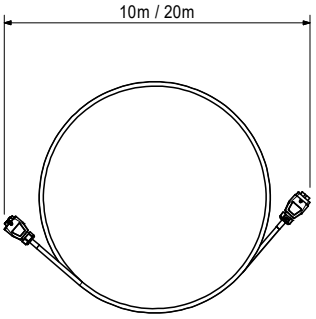
Art no.	Weight [kg]	
		Power Conn.Cables RCS MAX
135498	2.500	**Power Conn. Cable RCS MAX 10m**
135501	4.700	**Power Conn. Cable RCS MAX 20m**

For the power supply between max. 8 Hydraulic Pumps RCS MAX 2x210 bar.

Notes

Follow Assembly Instructions of the manufacturer!





		Accessory (not included)
135502	0.200	**Conn. Power Cable RCS MAX**

Art no.	Weight [kg]	
135502	0.200	**Conn. Power Cable RCS MAX**

For connecting two Power Connection Cables RCS MAX.

Notes

Follow Assembly Instructions of the manufacturer!
Lenght 18cm.

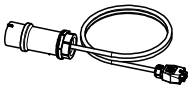


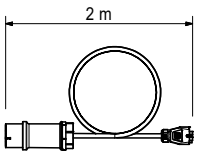
Art no.	Weight [kg]	
135499	0.800	**Power Cab. RCS MAX CEE-32A 2m**

For connecting max. 8 Hydraulic Pumps RCS MAX 2x210 bar to the power supply.

Notes

Follow Assembly Instructions of the manufacturer!
With CEE-Plug 400V, 32A. Manual phase inverter inside.





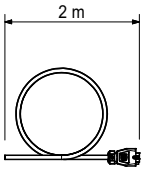
Art no.	Weight [kg]	
136532	0.400	**Power Cable RCS MAX 2m**

For making a country specific power cable.

Notes

Follow Assembly Instructions of the manufacturer!
To connect a country-specific connector to the cable. Only qualified electricians are permitted to work on and repair electrical components.



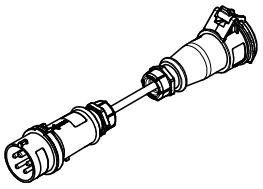


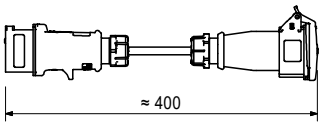
Art no.	Weight [kg]	
110280	0.500	**Adapter Cable RCS**

For the power supply to the Hydraulic Pump RCS.

Notes

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





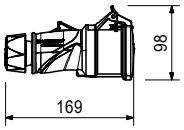
Art no.	Weight [kg]	
110279	0.291	**Plug Socket RCS black**

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

Notes

Follow Instructions for Use!

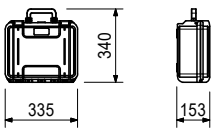




Art no.	Weight [kg]	
136673	1.700	**Case Data Conn. RCS MAX**

For packaging wireless RCS MAX group connections.



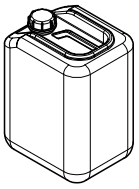


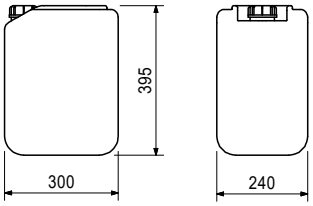
Art no.	Weight [kg]	
		Hydr.Fluids ISO11158 in canister
131270	17.900	**Hydr.Oil ISO11158 HM10 20l**
131274	18.300	**Hydr.Oil ISO11158 HVI22 20l**
137373	18.300	**Hydr.Oil ISO11158 HVI32 20l**
057376	18.300	**Hydr.Oil ISO11158 HVI46 20l**

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.



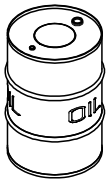


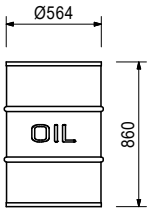
Art no.	Weight [kg]	
		Hydr.Fluids ISO11158 in drum
131273	200.000	**Hydr.Oil ISO11158 HM10 210l**
131275	200.000	**Hydr.Oil ISO11158 HVI22 210l**
137374	201.000	**Hydr.Oil ISO11158 HVI32 210l**
131277	201.000	**Hydr.Oil ISO11158 HVI46 210l**

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.



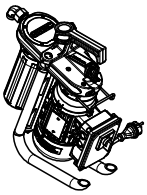


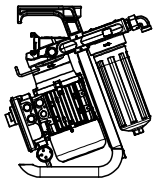
Art no.	Weight [kg]	
137281	14.000	**Hydr.Oil Filter Pump CE**

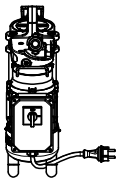
Filter pump for quick and clean transfer of hydraulic oil with simultaneous filtration.

Notes

Follow Instructions for Use!
Power connection 220V/50Hz, plug CEE 7/7







Accessory (not included)

137282	1.000	**Hydr.Oil Filterelement 500**
137283	1.000	**Suction-/Pressure Hose 250**

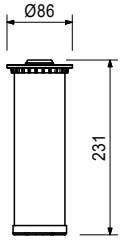
Art no.	Weight [kg]	
137282	1.000	**Hydr.Oil Filterelement 500**

Wear part of the Hydr.Oil Filter Pump CE.

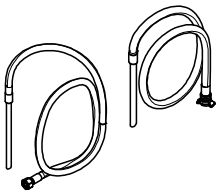
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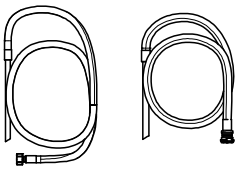
Follow Instruction for use!
Observe the maintenance instructions in the technical documentation for the oil filter pump!
Observe disposal instructions!





Art no.	Weight [kg]	
137283	1.000	**Suction-/Pressure Hose 250**

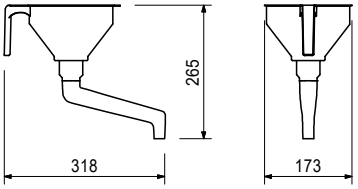




Art no.	Weight [kg]	
130685	0.225	**Universal Funnel**

For easy filling of hydraulic pumps with oil.



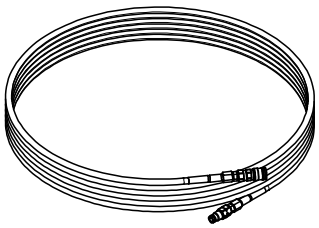


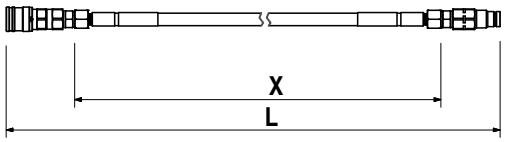
Art no.	Weight [kg]		L [mm]	X [mm]
		Hydr. Hoses 2SN-DN08-FF		
129035	0.996	**Hydr.Hose 853-2SN-DN08-FF 1m**	1169	1000
129036	1.430	**Hydr.Hose 853-2SN-DN08-FF 2m**	2169	2000
129419	2.690	**Hydr.Hose 853-2SN-DN08-FF 5m**	5170	5000
129420	4.900	**Hydr.Hose 853-2SN-DN08-FF 10m**	10170	10000
129421	7.120	**Hydr.Hose 853-2SN-DN08-FF 15m**	15170	15000
129422	9.330	**Hydr.Hose 853-2SN-DN08-FF 20m**	20170	20000

Hydraulic hoses with quick couplings and nominal diameter 8mm.

Notes

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



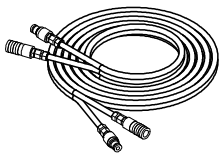


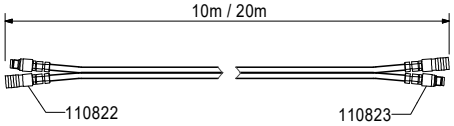
Consists of

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

Art no.	Weight [kg]	
		Hydraulic 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.

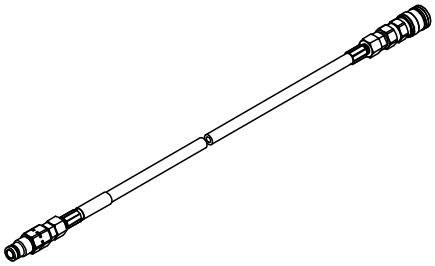


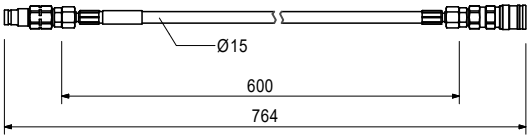


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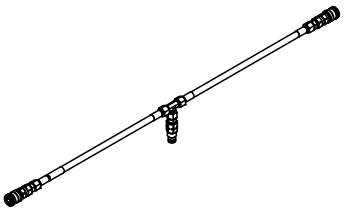
128992 Pin ISO16028 DN10 R3/8IG 2 pc
128993 Sleeve ISO16028 DN10 R3/8IG 2 pc
051750 Male Stud Coupl. X-GE12PSR-ED 4 pc

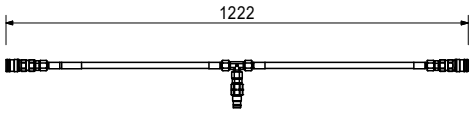
Art no.	Weight [kg]	
126646	0.651	**Bypass Hose RCS**





Art no.	Weight [kg]	
129423	1.370	**Hydr.T-Piece 2SN-DN08-FF**



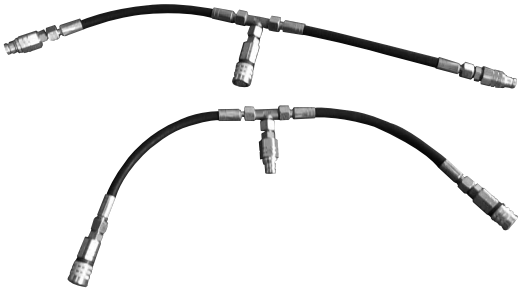


Consists of

128992 Pin ISO16028 DN10 R3/8IG 1 pc
128993 Sleeve ISO16028 DN10 R3/8IG 2 pc
051750 Male Stud Coupl. X-GE12PSR-ED 3 pc

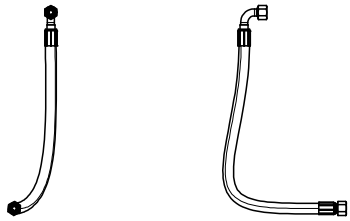
Art no.	Weight [kg]	
112421	3.000	**Hydr. Accum. Piece RCS**

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

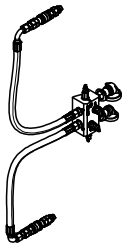


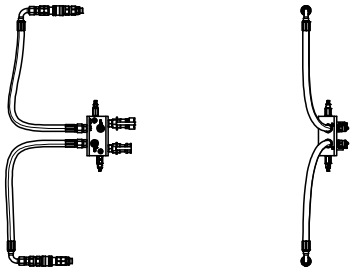
Art no.	Weight [kg]	
137400	0.350	**Hydr.Hose 2SN DN8 65 90°**





Art no.	Weight [kg]	
136533	3.400	**Conv. Set Climbing Device ACS**



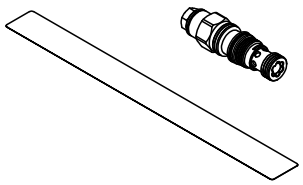


Art no.	Weight [kg]	
135411	1.000	**Con.Set Climb.Device-2 RCS 50**

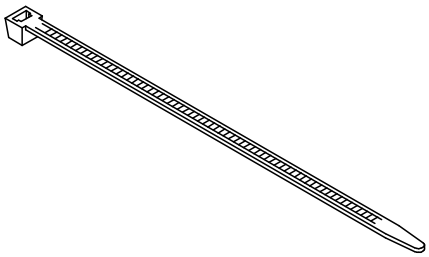
Conversion set for the modification of the Climbing Device RCS 50 in Climbing Device-2 RCS 50.

Notes

Observe conversion kit instructions at all times (see document DO-19-0265205).



Art no.	Weight [kg]	
137346	0.007	**Cable Binder 7.8x540mm**

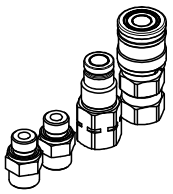


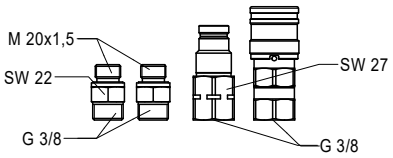
Art no.	Weight [kg]	
129424	0.440	**FF-Coupling Pair X-GE12PSR-ED+**

Spare parts set for PERI Hydraulic Components with quick couplings X-GE 12PSR-ED+.

Notes

For assembling on hydraulic hoses EN853-2SN-DN08.



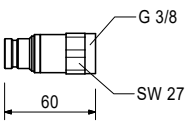


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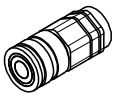
128992 Pin ISO16028 DN10 R3/8IG 1 pc
128993 Sleeve ISO16028 DN10 R3/8IG 1 pc
051750 Male Stud Coupl. X-GE12PSR-ED 2 pc

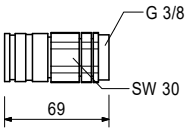
Art no.	Weight [kg]	
110823	0.171	**Quick Coupler Nipple RCS**





Art no.	Weight [kg]	
110822	0.297	**Quick Coupler Bushing RCS**



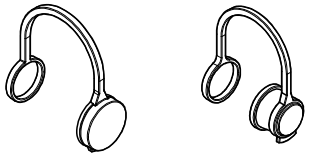


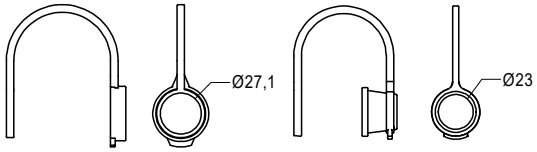
Art no.	Weight [kg]	
125632	0.050	**Prot. Covers Climb. Device RCS**

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 (2x bushing and 2x nipple each).

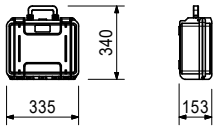




Art no.	Weight [kg]	
136675	1.700	**Case Display RCS MAX**

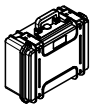
For packaging of RCS MAX display.

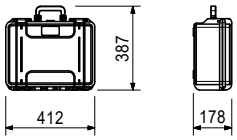




Art no.	Weight [kg]	
136674	2.300	**Case Remote Control RCS MAX**

For packaging of wireless RCS MAX remote control.





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