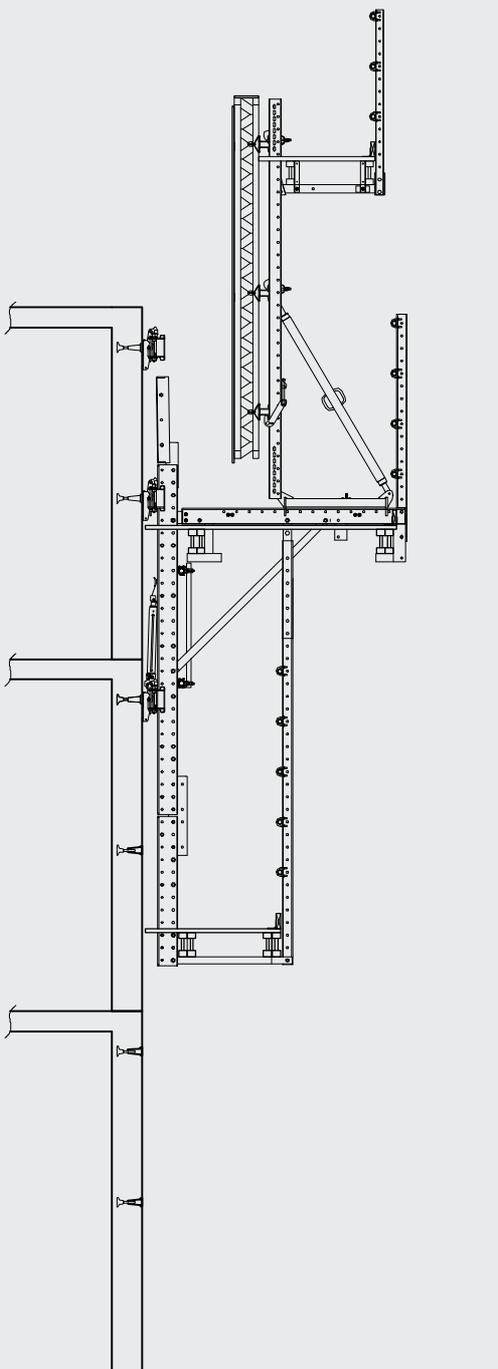


Rail Climbing System RCS-Lite

Formwork scaffold with carriage

Assembly Instructions for Standard Configuration



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Introduction

1. Standard configuration

1.1 General

These assembly instructions describe the standard configuration for RCS as formwork scaffold

- with only one finishing platform
- with intermediate Climbing Shoes on each concreting section
- self-climbing by means of Climbing Rail Extension 110
- Climbing Device RCS 50 to be installed from working platform

1.2 Features

RCS-Lite is based on the RCS - Rail Climbing System with supplementary components.

The rail climbing system is a bracket-type framework construction and is designed as falsework, according to the provisions laid out in DIN EN 12812, for supporting wall formwork.

The climbing scaffold consists basically of 2 bracket units (climbing rails with platform beams and diagonal struts) which are connected with the platforms (working platform and finishing platform) and scaffold tube bracing. Platforms consist of planking fixed to girders (GT 24 or VT 20 formwork girders). The platforms are pre-assembled on the cross-beams (working platform or finishing platform girders). Handrail posts and guardrail posts, with handrail boards or scaffold tubes attached, serve as safety barriers against falling.

The climbing formwork is formed by connecting the formwork and climbing scaffold by means of a SRU U120 strongback which can be moved either as a climbing unit using a crane (attachment point on the strongback) or as a self-climbing unit with an integrated hydraulic climbing mechanism. The self-climbing mechanism has a lifting capacity of 50 kN and a stroke height of 50 cm. Accessories for attaching the formwork serve for mounting VARIO and TRIO formwork systems

Strongbacks are fixed to the carriage and braced with formwork spindles. Through the approx. 90 cm gap created when retracting the formwork, there is an end-to-end free working area available.

The concreting platform is mounted to the formwork or the strongback.

For self-climbing the system with the hydraulic Climbing Device RCS additionally a climbing rail extension 110 has to be installed on the top end of the climbing rail. This enables to install the climbing device on the level of the working platform. Additionally intermediate climbing shoes are installed on the wall for proper guidance and support during the climbing sequence.

2. Intended use

1. PERI products have been exclusively designed as technical work equipment for use in the industrial and commercial sectors by suitably trained personnel.
2. These assembly instructions serve as a basis for the building-related risk assessment and the instructions for the provision and use of the system by the contractor (user). However, this does not replace these.
3. Only PERI original components may be used. The use of other products and spare parts represent a misapplication with associated safety risks.
4. The components are to be inspected before each use to ensure that they are in perfect condition as well as being able to function correctly.
5. Changes to PERI components are not permitted and represent a misapplication with associated safety risks.
6. Safety instructions and permissible loads must be observed at all times.
7. Components provided by the contractor must conform with the characteristics required in these assembly instructions as well as all valid construction guidelines and standards.
In particular, the following apply if nothing else is specified:
 - Timber components:
Strength Class C24 for Solid Wood EN 338.
 - Scaffold tubes:
galvanized steel tubing with minimum dimensions \varnothing 48.3 x 3.2 mm according to EN 12811-1:2003 4.2.1.2.
 - Scaffold tube couplings according to EN 74.
8. Any deviations from the standard configuration may only be carried out after a separate risk assessment has been done by the contractor (user). On this basis, appropriate measures for the working safety and stability are to be implemented.

3. Overview

Abbreviations used:

- | | | | |
|-------|---------------------------------------|-------|--|
| h_B | Storey height | a | Anchor distance to concrete joint |
| h_G | Utilization height above ground level | b | Width of influence of a bracket |
| h_S | Formwork height | c | Spacing of bracket axes in the ground plan |
| ö | see other chapter | x_R | Retraction way max. 90 cm |

3.1 Climbing Scaffold

Assembly of the climbing scaffold varies depending on the storey height, the formwork used and type of guardrail protection.

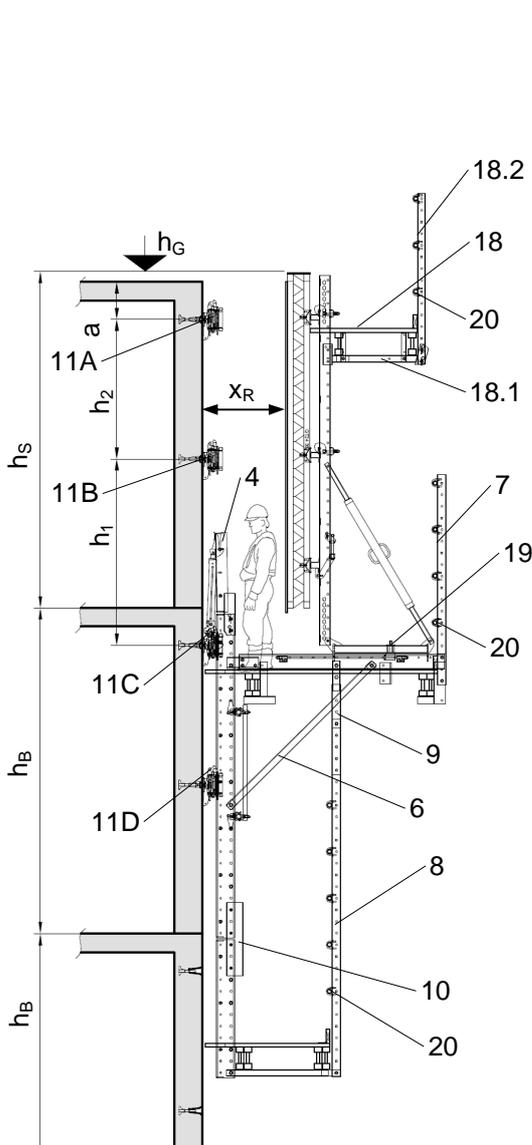


Fig. 1 : Use with VARIO formwork climbing condition

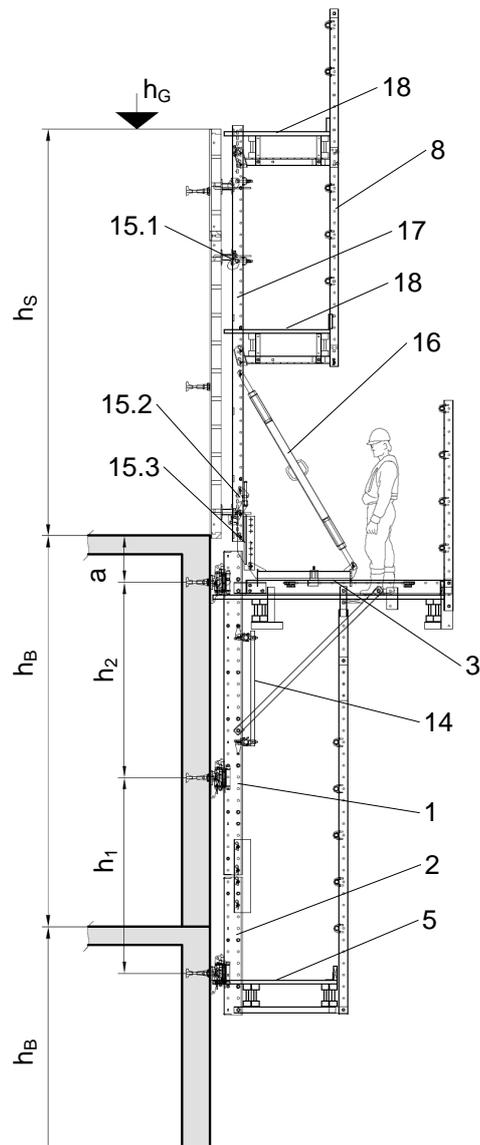


Fig. 2 : Use with TRIO formwork working condition

3.2 Mounting with climbing shoe

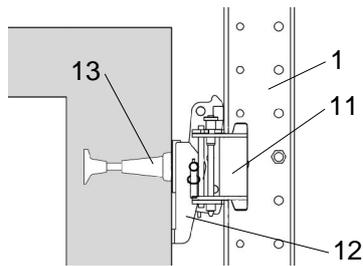


Fig. 3: Overview of mounting position

Overview of Mounting Position

- 2 Climbing Rail RCS
- 11 Climbing Shoe RCS, Item No. 109468 ¹⁾
- 12 Wall Shoe RCS, Item No. 109503 ¹⁾
- 13 Anchorage

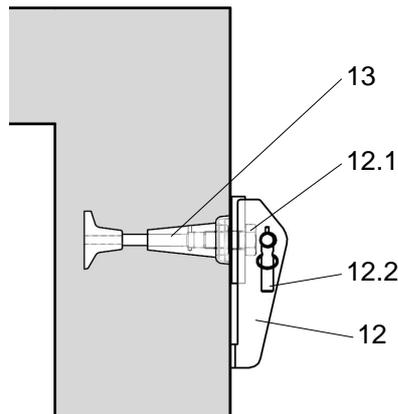


Fig. 4: Wall shoe

Wall Shoe ¹⁾

- 12 Wall Shoe RCS, Item No. 109503 ¹⁾
- 12.1 Hex. Bolt M30x70-8.8, Item No. 029420 ¹⁾
- 12.2 Locking Pin for Wall Shoe RCS ¹⁾

Anchorage version 1:
with climbing cone 2 M30/DW20

Anchorage version 2:
with Screw-On Cone M30/DW26

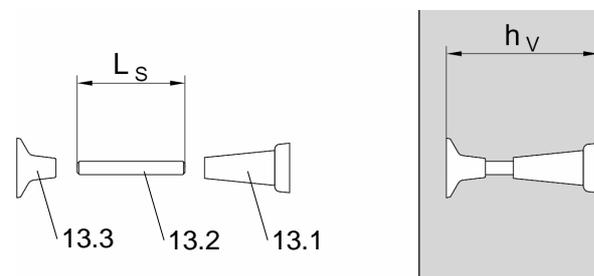


Fig. 5: Anchorage M30/DW20

Anchorage version 1: with climbing cone 2 M30/DW20

- 13.1 Climbing Cone 2 M30/DW20, Item No. 030920 ¹⁾
- 13.2 Tie Rod DW20, Item No. 030700 ^{1) 2)} or Tie Rod B20, Item No. 030745 ^{1) 2)}
- 13.3 Threaded Anchor Plate 20, Ø 100 mm Item No. 030860 ^{1) 2)}

According to Building Authority Approval Z-21.6-1767

Important!

With the tie rod B20 (with continuous thread), the load-carrying capacity of the anchorage can be less than the tie rod DW20 (with discontinuous thread)! See Building Authority Approval or corresponding product information.

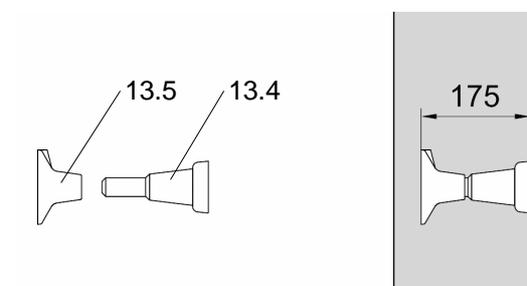


Fig. 6: Anchorage M30/DW26

Anchorage version 2: with Screw-On Cone M30/DW26

- 13.4 Screw-On Cone M30/DW26, Item No. 057257 ¹⁾
- 13.5 Threaded Anchor Plate 26, Ø 120 mm Item No. 030870 ^{1) 2)}

According to Building Authority Approval Z-21.6-1766

¹⁾ all parts of the suspension and anchorage are safety components

²⁾ embedded parts – not reusable

Name	Item. No.	
1. Climbing Rail RCS 348	109470	²⁾
2. Climbing Rail RCS 148	114166	²⁾
3. Working Platform		
3.1 Crossbeam RCS 220	109716	
4. Climbing Rail Extension 110	113745	
5. Finishing Platform		
5.1 Finishing Platform Beam RCS	109722	
6. Diagonal Strut RCS 212	110012	²⁾
7. Guardrail Post RCS 226	109720	
8. Handrail Post RCS 384	109721	
9. Climbing Rail Extension 100	109791	
10. Climbing Rail Connector 79	113744	
11. Climbing Shoe RCS	109468	¹⁾
12. Wall Shoe RCS	109503	¹⁾
13. Anchoring		¹⁾
14. Scaffold Tube Bracing		²⁾
15. Strongback RCS as Steel Waler Universal SRU U120		²⁾
15.1 Waler Fixation U 100-120	110059	
15.2 Adjusting Unit SRU, external	110400	
15.3 Strongback Adapter RCS/SRU	115325	
16. Formwork Spindle as Heavy Duty Spindle SLS		²⁾
17. Formwork VARIO or TRIO		
18. Concreting platform and intermediate formwork platform		
18.1 Platform Beam RCS/SRU 113	114301	
18.2 Guardrail Post RCS/SRU 184	114328	
19. Carriage RCS	109968	²⁾
20. Guardrails with Scaffold tubes or timber		

¹⁾ Safety component

²⁾ Part of the load-bearing system

4. Climbing Device and Hydraulics

4.1 Climbing device and hydraulic hoses

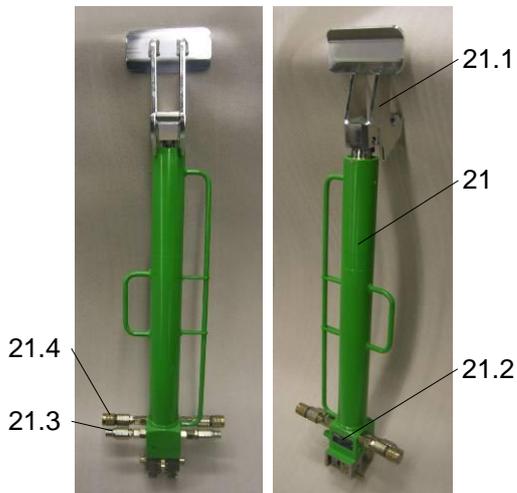


Fig. 7: Climbing Device RCS

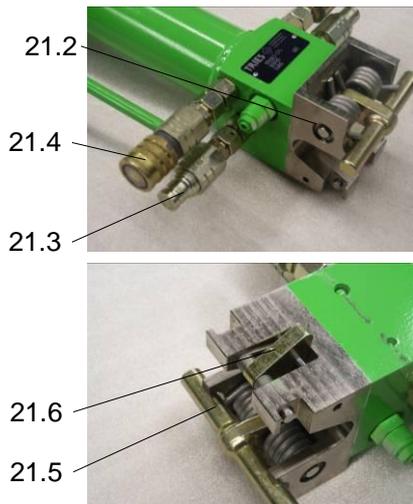


Fig. 8: Cylinder Base

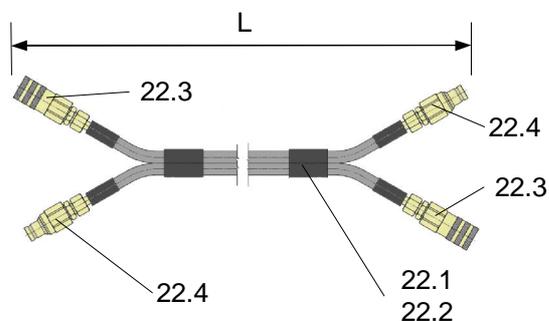


Fig. 9: Hydraulic Twin Hose

21 Climbing Device RCS 50¹⁾

Details can also be found in the RCS Climbing Device operating instructions

21.1 Piston head with claw

21.2 Cylinder base

21.3 Return from the piston side with hydraulic quick-coupler (nipple) left + right²⁾

21.4 Inflow to the piston base with hydraulic quick-coupler (bushing) left + right²⁾

21.5 Reposition Device

21.6 Locking Lever

Due to the clear arrangement of the quick-couplers nipple (return) and bushing (inflow) on the climbing and hydraulic units, incorrectly connecting the inflow and return lines is excluded.

22.1 Hydraulic Twin Hose RCS 10 m³⁾

22.2 Hydraulic Twin Hose RCS 20 m³⁾

22.3 Hydraulic Quick-Coupler (bushing)

22.4 Hydraulic Quick-Coupler (nipple)

¹⁾ Climbing devices are safety components

²⁾ In order to prevent the quick-couplers colliding with platforms or other parts of the climbing protection wall when climbing, there is the possibility of vertically arranging the couplings by means of angle pieces. → Contact PERI!

³⁾ Hydraulic hoses are safety components

4.2 Hydraulic Pump

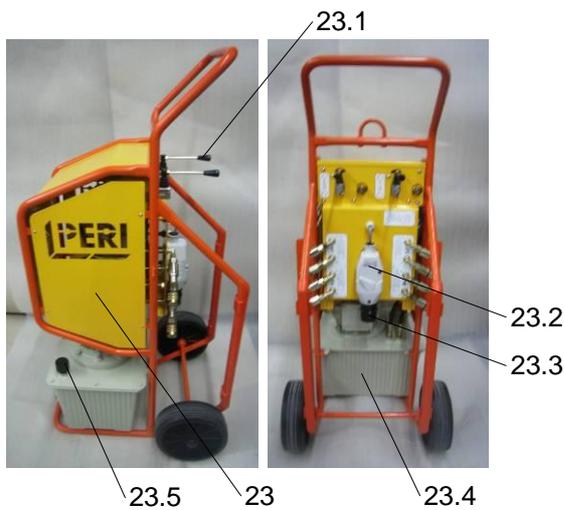


Fig. 10: Hydraulic Pump

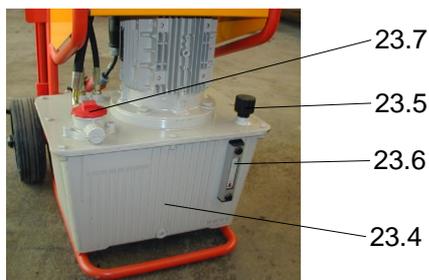


Fig. 11: Hydraulic Oil Tank

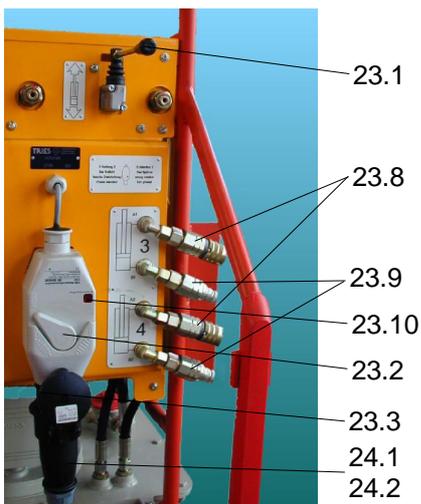


Fig. 12: Hydraulic Unit Connections

23 Hydraulic Pump RCS 4 x 190 bar, 380-460V ¹⁾ for 4 climbing devices

Details can also be found in the operating instructions for the RCS Climbing Device

- 23.1 Operating lever
- 23.2 Switch unit
- 23.3 Electricity socket with phase inverter
- 23.4 Hydraulic oil tank
- 23.5 Filling piece
- 23.6 Oil level indicator
- 23.7 Oil filter
- 23.8 Return from the piston side of the cylinder with hydraulic quick-coupler (bushing)
- 23.9 Inflow for the piston head side of the cylinder with hydraulic quick-coupler (nipple)
- 23.10 Rotary field control lamp

Accessory for power supply with CEE socket operational voltage 380-400V/16A, 50Hz:

24.1 Adapter Cable RCS

Accessory for assembly of adapter cable, operational voltage 380-400V, 50-60Hz:

24.2 Plug Socket RCS, black

¹⁾ Hydraulic pumps are safety components

5. Operating Status and Loads

5.1 Working Operations

- Cleaning the formwork, reinforcement for the wall, closing the formwork, concreting and striking, inspection and maintenance
- Platforms are freely accessible for the required work to be carried out.
- Formwork is moved forward and retracted on the carriage.
- Max. wind speed 72 km/h (wind impact pressure $q = 0.25 \text{ kN/m}^2$)
- Loads are to be evenly distributed. One-sided loads on cantilevered platform areas are not permitted without adequate measures against uplift at the opposite bracket!

5.2 Climbing Operations

- Moving the climbing unit by crane or by means of the hydraulic climbing mechanism
- The formwork is retracted on the carriage.
- Non-planned loads on the platform are to be removed
- Climbing by crane:
personnel are not allowed on the platforms during the climbing procedure
- Self-climbing:
personnel required for the climbing procedure are usually on the adjacent platforms. When climbing the last platform in a cycle or if manual adjustments are required during the self climbing procedure, accessing the platform to be climbed is necessary.
- Max. wind speed 64 km/h (wind impact pressure $q = 0.2 \text{ kN/m}^2$)
The climbing position has to be structurally verified, as this can be decisive.

5.3 Non-Operational Status

- During longer work breaks, overnight, storm warnings, with wind speeds over 72 km/h
- Accessing the platforms during storm conditions is forbidden
- The formwork is moved on the carriage into the concreting position
- Materials and other equipment can be left on the working platform
- The resulting wind speed (wind impact pressure) for storm conditions depends on utilization height, wind zone and terrain category according to DIN 1055 or EC 1. Equivalent values based on the relevant local wind load standard can be chosen accordingly.
- If given limits are exceeded, a visual inspection of all bearing parts and a functional check of all safety-related parts are required for further use.
- If a storm warning has higher wind speeds than originally stated, the site management is to be informed, all enclosure tarpaulins are to be removed and the scaffold can be climbed down to the previous floor but only on the instructions of authorized site personnel.
Materials and other equipment are to be removed from the platforms.

5.4 Overview of Live Loads

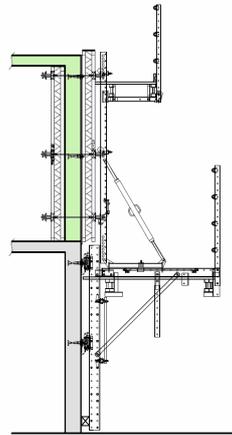
Table 1: Live Loads

Platform	Working Procedure				Climbing	Non-operational
	Reinforcement	Cleaning	Concreting	Preparation		
Concreting platform	75 kg/m ²		150 kg/m ²			
Working platform	300* kg/m ²	150 kg/m ²	150 kg/m ²		75 kg/m ²	100 kg/m ²
Finishing platform		150 kg/m ²		150 kg/m ²		
Max. wind speed	72 km/h				64 km/h	specified
Carriage	Retracted or in concreting position				Retracted	concreting position

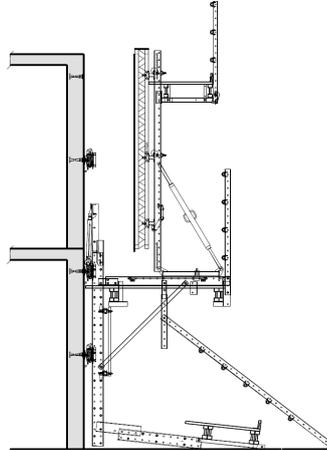
* The maximum live load for working platforms can be reduced to 200 kg/m² (specified)

The bearing structure has to be verified for these loads and conditions with a structural analysis according to PERI product information.

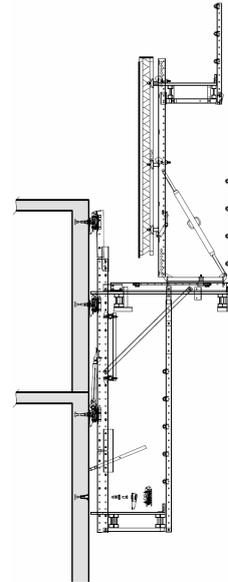
6. Operating sequence



Mounting on 1st casting segment. Place formwork, reinforce and concrete 2nd section. Strike formwork.

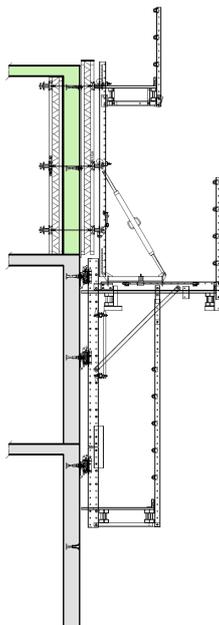


Mount Climbing Shoes, assemble Climbing Rail Extension and install Climbing Device. Attach finishing platform.

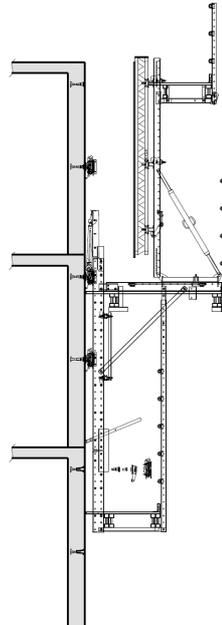


Climbing to 2nd section. Climbing rail Extension leads into Climbing Shoe. Recover lower anchor.

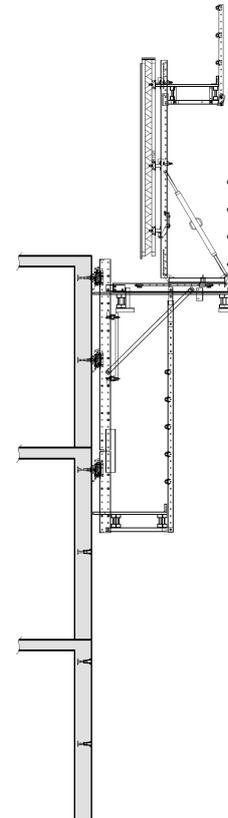
Fig. 13: Initial use



Place formwork, reinforce and concrete standard section. Strike formwork.



Recover lower Climbing Shoe, mount upper Climbing Shoe. Assemble Climbing Rail Extension and install Climbing Device. Self-climbing of the climbing unit.



Interrupt climbing sequence for mounting and recovering next Climbing Shoes. Dismantle Climbing Rail Extension in final position.

Fig. 14: Standard cycle

7. Safe working conditions

The structures shown in these assembly instructions are examples and feature only one component size. They are valid accordingly for all component sizes contained in the standard configuration.

7.1 General safety instructions

9. Deviations from the standard configuration and/or intended use present a potential safety risk.
10. All country-specific laws, standards and other safety regulations are to be taken into account whenever our products are used.
11. During unfavourable weather conditions, suitable precautions and measures are to be taken in order to ensure both working safety and stability.
12. The contractor (user) must ensure the stability during all stages of construction. He must ensure and verify that all loads which occur are safely transferred.
13. The contractor (user) has to provide safe and secure working areas which can be safely accessed. Areas of risk must be cordoned off and clearly marked. Hatches and openings on accessible working areas must be kept closed during working operations.
14. For better comprehensibility, detailed drawings are partly incomplete. The safety installations which have possibly not been featured in these detailed drawings must nevertheless be available.

7.2 Storage and transportation

1. Do not drop the components.
2. Store and transport components so that no unintentional change in their position is possible. Detach lifting gear from the lowered units only if these are in a stable position and no unintentional change is possible.
3. When moving the components, make sure they are lifted and set down so that any unintentional tilting over, falling apart, sliding or rolling away is avoided.
4. Use only suitable load-carrying equipment to move the components as well as using the designated load-bearing points.
5. During the lifting and moving procedure, ensure all loose parts are removed or secured.
6. During the moving procedure, always use a guide rope.
7. Move components on clean, flat and sufficiently load-bearing surfaces only.

7.3 System-specific safety instructions

1. The contractor has to ensure that assembly, adjusting and dismantling, moving as well as correct use and handling of the product is supervised by trained and authorized personnel.
2. All persons working with the product must be familiarized with the working and safety instructions.
3. The contractor must ensure that the assembly instructions, other relevant operational and assembly documentation, all required plan documents, parts lists and other data are at the user's disposal.

Assembly work

4. The contractor has to make sure that appropriate and sufficient tools, lifting equipment and accessories, a suitable and adequately-sized area for assembly and storage, as well as enough crane capacity are available for the user.
5. During assembly work, unexpected dangerous situations can always arise – the level of which is to be determined on an individual basis and, if necessary, measures are to be taken that will eliminate or at least reduce the risk to a minimum.
6. If guardrails cannot be used due to technical reasons or they have to be removed, other equipment must in place for catching any person falling to the ground. If the use of catching equipment should be inappropriate, then a safety harness (personal protection equipment) can be used, if suitable attachment points are available.
7. Use guide rope for better control of the assembly units when being moved by crane.
8. Avoid working under the path of loads being moved by crane. If this is not possible, suitable measures are to be determined and implemented. Site personnel must avoid remaining between suspended loads and the building.
9. Personnel must keep away from the area below where assembly work is being carried out if the area at risk is not protected from falling objects. This area is to be clearly cordoned off.

Maintenance and repairs

10. Climbing scaffold components are to be checked before every use to make sure they are in satisfactory condition. Basically, all materials used must be in perfect condition.
11. Platforms are to be inspected by authorized personnel at regular intervals for any signs of damage. Dirt and concrete surplus which can impair the functionality must to be removed immediately. Damaged construction components are to be identified, removed and replaced.
12. If the maximum permissible wind speed is exceeded, temperatures are beyond usual limits or after unusual events such as fire or earthquakes, all safety-related parts and the load-bearing system itself are to be checked for function and bearing capacity before being used.

Safety components:

- Visual inspections by authorized personnel at regular intervals
- Function control to be carried out before every climbing sequence and assembly by qualified personnel
- Parts are to be replaced only with PERI original components.
- Repairs must be carried out by PERI-trained personnel only
- In cases of overloading or recurring damage, stop work on and under the platforms, determine and stop the cause.

Load-bearing system:

- Visual inspection to be carried out by authorized personnel before the first use
- Only PERI original parts to be used for repairs or exchange
- In cases of overloading or recurring damage, stop work on and under the platforms, determine and stop the cause.

Other components:

- Repairs to be carried out by qualified personnel and site management is to be informed
- In cases of recurring damage, determine and stop the cause.

Access

13. Safe access to working areas must be provided at all times.
14. Gangways, stairs, stair towers or lifts are the preferred methods. Ladders are suitable only in exceptional cases.
15. Internal scaffolding ladders must not connect more than 2 scaffolding levels and have to be offset. Safety must be ensured by mounting suitable equipment such as guardrails or netting on the outside edge of the scaffold.
16. All access hatches and openings in accessible areas of the scaffold must be fitted with appropriate equipment to prevent accidents. Hatch covers must be closed every time after use.
17. In the case of an emergency situation, the working areas must have escape routes or suitable rescue equipment available. It must also be ensured that at least one escape route or set of rescue equipment is still usable if power supplies are cut off.

Protection against falling objects

18. Work must not take place at the same time on areas directly on top of each other, if the lower working and access areas are not protected against falling objects such as tools and materials.
19. Access and working areas in dangerous positions are to be avoided. If this is not possible due to working procedures, suitable safety equipment must be in place. This also applies to work of short duration.
20. High working positions must be secured with suitable netting (mesh size max. 2cm), stretching below the working area from the top edge of the guardrail and fixed as close as possible to the building edge. The gap between the building and netting may not exceed 5 cm. Alternatively, the scaffold decking at high working positions can be placed close to the building and multi-part guardrails can be replaced by a solid protective wall.
21. Lower-positioned working areas must have appropriate protective cover along the entire length of the area at risk.
22. Ensure that tools and materials are not at risk of falling off the working area. Remove concrete surplus and other evidence of dirt at regular intervals. In general, the platforms are to be kept clean.

Climbing procedure

23. Strike formwork only when the concrete has sufficiently hardened and site management has given the go-ahead. Mounting the climbing units for the next concreting step can only take place after the required concrete strength has been achieved.
24. When platforms are being moved, unprotected edges are created between the individual platforms which present a safety risk. Such affected areas are to be cordoned off!
25. No persons, building materials or tools may be transported on the platforms when being moved by crane. Exceptions are permitted due to an operational work and assembly instruction which is in line with a required risk analysis.
26. When climbing by means of the hydraulic climbing device, details regarding the arrangement of the hydraulic hoses must be considered. If a standard arrangement is not possible, then a safe alternative is to be determined by a designated authorized person.
27. In the event of a malfunction, the platform is to be set down in the next possible position, personnel are to leave the climbing unit using a safe access point and site management are to be informed immediately!

Additional PERI product information

Assembly instructions (e.g. for formwork systems VARIO or TRIO)
Operating instructions (e.g. for Climbing Crossbeam 10t)
PERI PI – separate product information (e.g. for perm. anchor loads)
PERI design tables

Part A Work Preparation

A1 Planning the Climbing scaffold

A1.1 System Dimensions

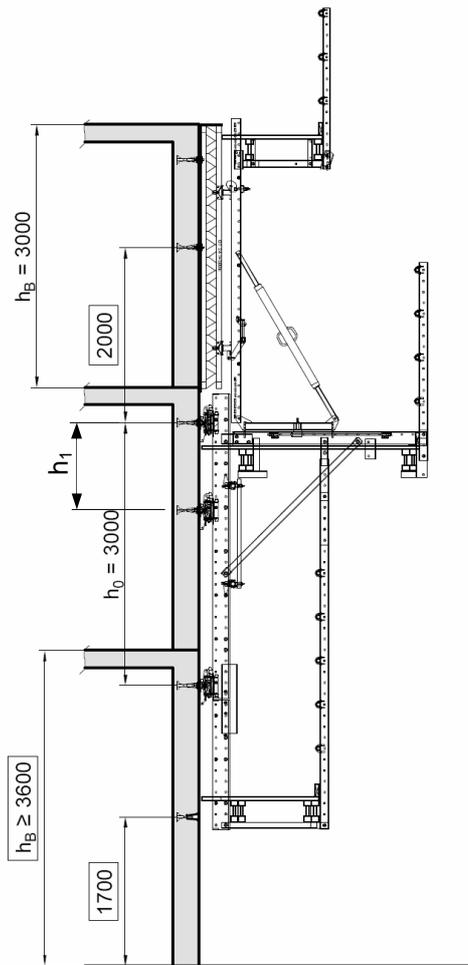


Fig. 15: Typical arrangement for storey height $h_B = 3.00$ up to 3.60 m

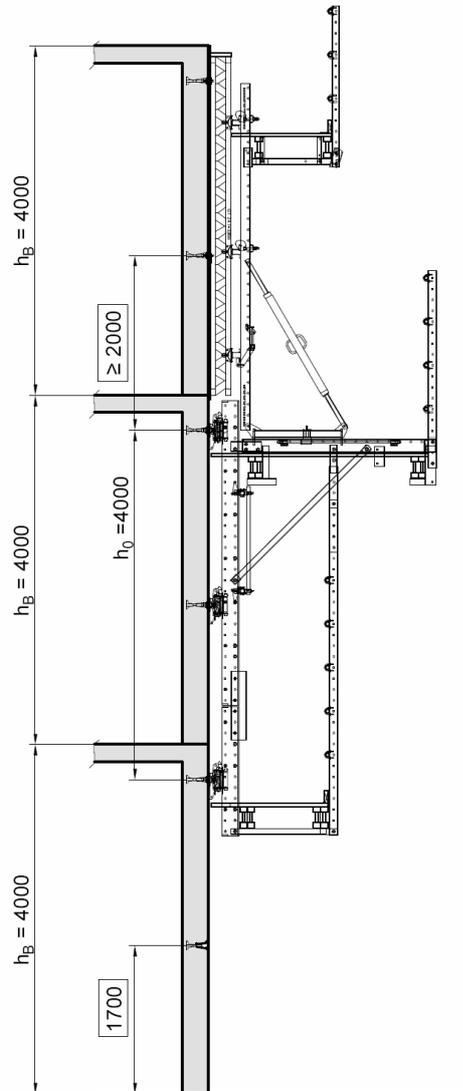


Fig. 16: Typical arrangement for storey height $h_B = 3.60$ up to 4.00 m

Storey heights $h_B < 3.50$ m ($h_1 < 1.50$ m)

When recovering the lower climbing shoe during the climbing sequence, the installed climbing rail extension must have reached the leading climbing shoe. Possibly it is required to position the finishing platform lower by means of the climbing rail extension 100 .

ÖFig. 17 and ÖC1, Fig. 70

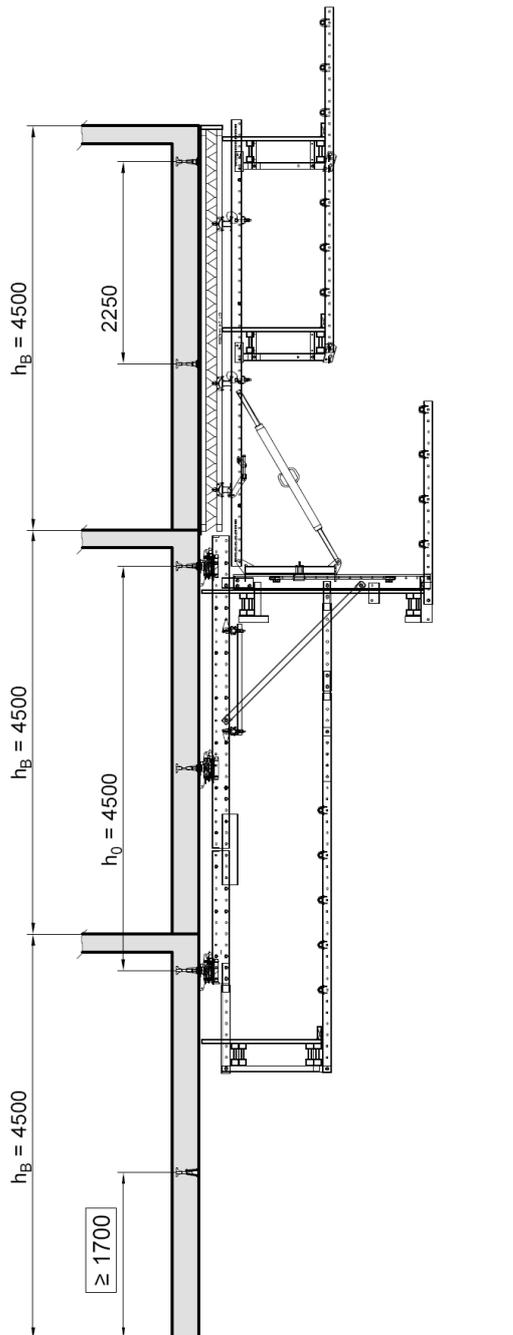


Fig. 17: Typical arrangement for storey height $h_B = 4.00$ up to 4.50 m

General requirements:

Additional intermediate Climbing Shoe RCS for each concreting section.

Regular cycle:

Minimum storey height: $h_B \geq 3.00$ m

Maximum storey height: $h_B \leq 4.50$ m

For storey heights > 4.00 m the finishing platform has to be suspended with additional cClimbing Rail extensions 100

Deviating storey heights require a detailed climbing sequence examination.

For storey heights $h_B > 4.50$ m demand other configuration of climbing rails and finishing platforms.

Structural height of bracket for working and storm conditions: $h_0 = h_B$
(distance of tension and compression point)

Self-climbing:

Minimum requirement for using the hydraulic Self-Climbing Device RCS 50:

Distance of between Climbing Shoes where Climbing Device located: $\Delta h \geq 2.00$ m

Assembly of Climbing Rail Extension 110 for installation of Self-Climbing Device RCS 50 from working platform.

Anchoring and Starter Height

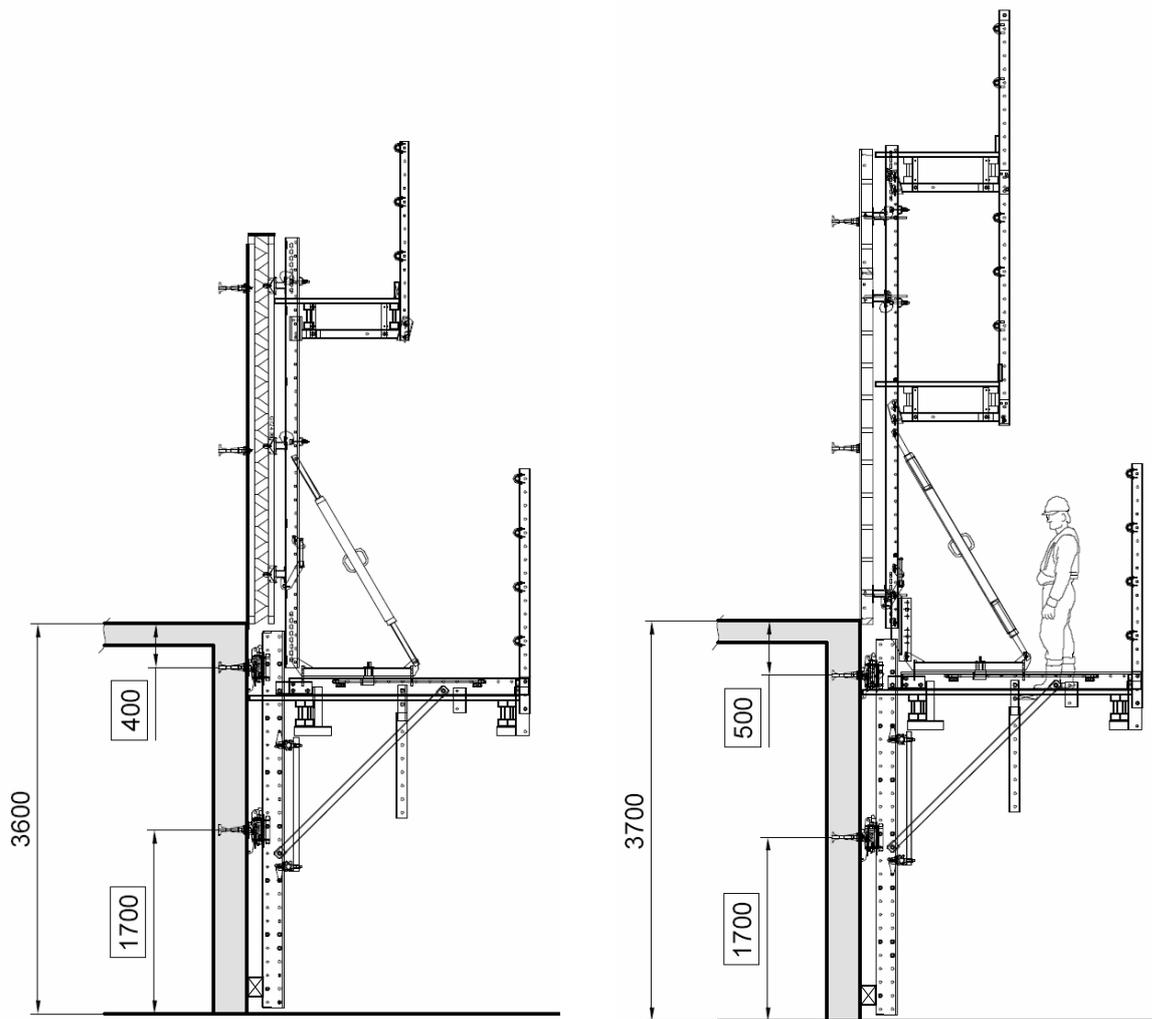


Fig. 18: Starter height with VARIO

Fig. 19: Starter height with TRIO

This measurements result from:

- Requirement for proper formwork fixation and adjustment.
- Functionality of first self-climbing sequence.
- Attaching and pulling of pre-assembled finishing platform.

The climbing rail has to be blocked off the wall at its base with timber (width 15 cm).

Table 2: System dimensions depending on the formwork

	VARIO	TRIO
Anchor spacing a	40 cm	50 cm
Length of the top climbing rail	Starter height min. h_B	
3.48 m	3.60 m	3.70 m

A1.2 Bearing reactions

The bearing reactions which act on the anchors and the building itself are to be taken from project-specific calculations. The maximum bearing reactions are to be shown on the general arrangement drawings. For all important load cases, the anchors, load application on the concrete and the transfer of forces into the building must be statically verified.

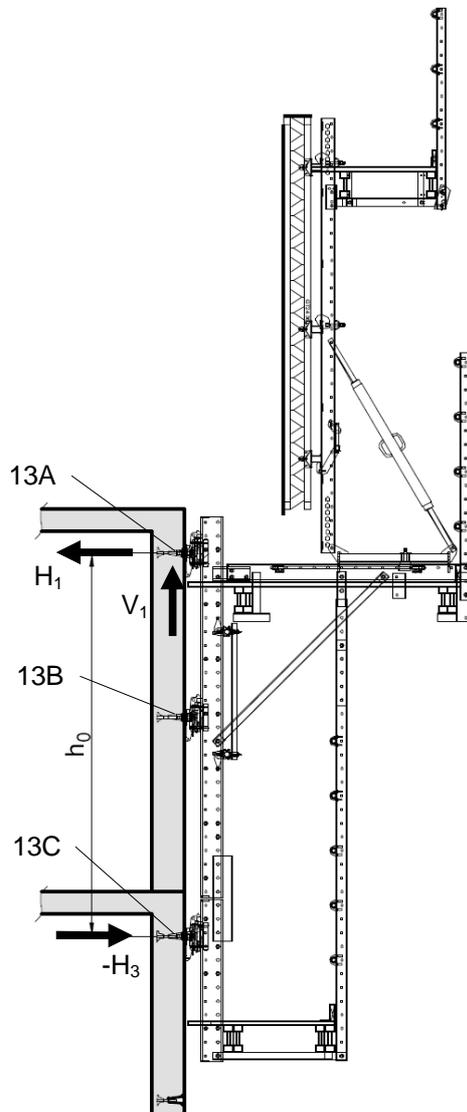


Fig. 20: Version 1: Vertical support on top climbing anchor

Version 1:

To insure proper installation of the self-climbing device the standard vertical support is located on the top climbing anchor **13A**.

The climbing anchor **13A** has to be verified for interaction of the forces H_1 and V_1 .

This can be decisive for the platform size.

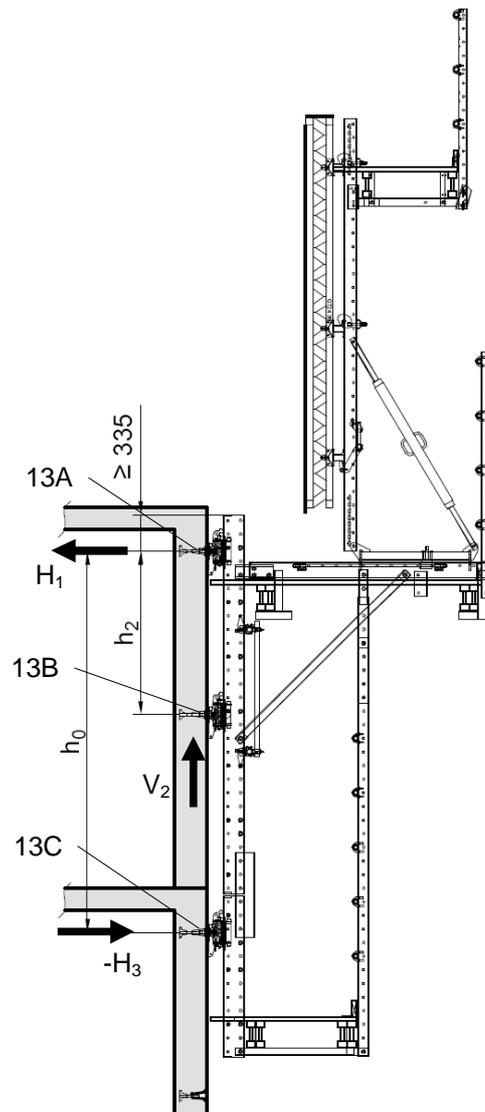


Fig. 21: Version 2: Vertical support on intermediate climbing anchor

Version 2:

To ensure maximum capacity of the climbing anchors the vertical support can be located on the intermediate climbing anchor **13B**.

The climbing anchor **13A** has to be verified for pure tension H_1 and anchor **13B** for pure shear force V_1 . For self-climbing operation the given dimensions have to be considered and additionally after the first stroke the vertical support has to be changed to the top anchor.

A2 Planning of the Platforms

A2.1 General

The construction of the platform decking must be done professionally and according to valid safety regulations.

The materials used must be of good quality.

Tripping hazards, unnecessary recesses and gaps in the decking are to be avoided or covered.

The distance between the lowest decking and the building can be up to a maximum of 5 cm.

The gap between individual planks can be up to a maximum of 2 cm.

The distance to the decking of adjoining platforms can be a maximum of 2 cm. Larger gaps are to be covered with firmly fixed boarding or by means of safety netting with a maximum mesh size of 2 cm.

Openings in the decking which are necessary for the work purposes must have correctly-fitted covers which remain in position.

Safe working conditions for all anchor points are made possible by the positioning of finishing platforms.

A2.2 Planking

Planking on the working platform

Load Class 4 working scaffold – maximum load 300 kg/m² according to DIN EN 12811-1

Timber planking according to strength class C24 for Solid Wood EN 338:

Minimum dimensions $w \times d = 24 \times 4.0$ cm or 20×4.5 cm

If less than 45 mm planking thickness, then we recommend to connect the single planks at the cantilever and in the middle of the span crosswise with a screwed timber min. $w \times d = 12 \times 4$ cm.

Alternative: Solid Wood Strength Class C16 – EN 338: Minimum dimensions of the planking $w \times d = 24 \times 5$ cm

For use as **safety scaffold** for heights up to 3.00 m, a double layer of planking $w \times d = 24 \times 5$ cm is required – see DIN 4420-1.

Planking on the finishing platforms

Load Class 2 working scaffold – maximum load 150 kg/m² according to DIN EN 12811-1

Timber planking according to strength class C24 for Solid Wood EN 338:

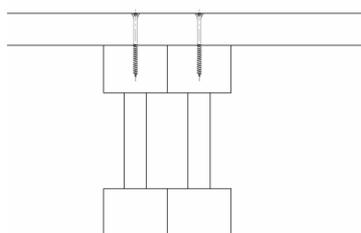
Minimum dimensions $w \times d = 20 \times 4$ cm

If less than 45 mm planking thickness, then we recommend to connect the single planks at the cantilever crosswise with a screwed timber min. $w \times d = 12 \times 4$ cm.

Alternative: Solid Wood Quality Strength Class C16 – EN 338: Minimum dimensions of the planking $w \times d = 24 \times 5$ cm

Attention:

When using planking with a lower strength class or dimensions or plywood sheets, a separate structural verification is required!



Mounting the planking

Fix each individual plank **3.6** using TORX 6x80 **3.15** (2x) – $e = 120$ mm to each girder **3.5** it crosses.

Attention:

Cantilevered planks and their girders are to be appropriately secured against lifting! For cantilevers larger than that specified, static verification is required!

Fig. 22: Attaching the planks

A2.3 Platform girders

Design of platform girders

Permissible spans and cantilevers of platform girders for working and finishing platform see separate product information.

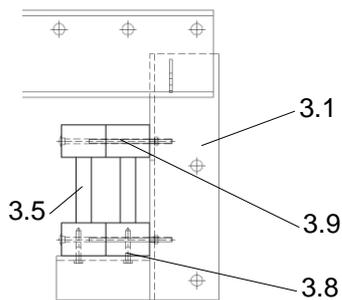
Possibly an additional buckling prevention of the working platform girders is required

Platform stiffening

Diagonal planking min. $w \times d = 4 \times 20$ cm is screwed to the underside of the platforms

Fixed with 2 TORX 6x80 per plank

Fixation of platform girders



Working platform: rear

Cross Beam U160 RCS **3.1**

Girder (here GT24) **3.5**

Double girders:

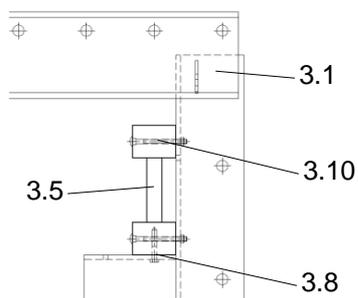
Mounted with
F.H. Bolt M8x200 MU + Washer **3.9** (2x)

Optionally for securing against uplift:
TORX 6 x 60 **3.8** (2x)

Single girders:

Mounted with
F.H. Bolt M8x200 MU + Washer **3.10** (2x)

Optionally for securing against uplift:
TORX 6 x 60 **3.8** (1x)



Attention:

F.H. bolts M8 are to be pre-drilled with $\varnothing 8$.

In case of VT 20 use lower drill hole in the cross beam for top chord.

Fig. 23: Mounting of girder

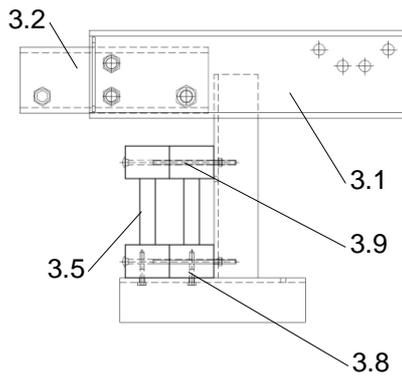


Fig. 24: Mounting of girder

Working platform: front

Cross Beam U160 RCS 3.1

Girder (here GT24) 3.5

Cross beam head RCS/VARIO 3.2:

Mounted with

F.H. Bolts M8x200 MU + Washer 3.9 (2x)

Optionally for securing against uplift:

TORX 6 x 60 3.8 (2x)

Attention:

F.H. bolts M8 are to be pre-drilled with $\varnothing 8$.

In case of VT 20 use lower drill hole in the cross beam for top chord.

Finishing platforms

Platform Girder 4.1

Girder (here GT24) 4.2

Single girders:

Mounted with

Hex. Wood Screws 8 x 80 DIN 571 4.5 (4x)

alternatively with TORX 6x80

Double girders:

Mounted with

F.H. Bolts M8x200 MU + Washer 4.6 (2x)

Attention:

F.H. bolts M8 are to be pre-drilled with $\varnothing 8$.

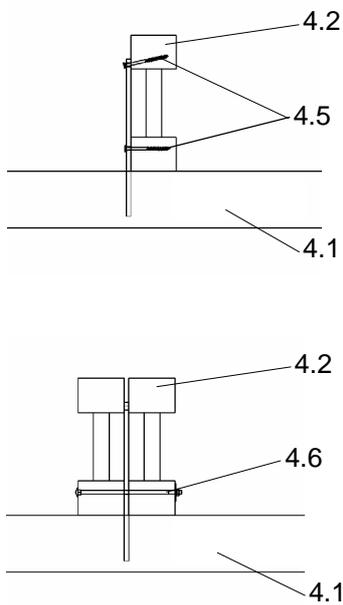


Fig. 25: Mounting of girder

A2.4 Mounting of toe board

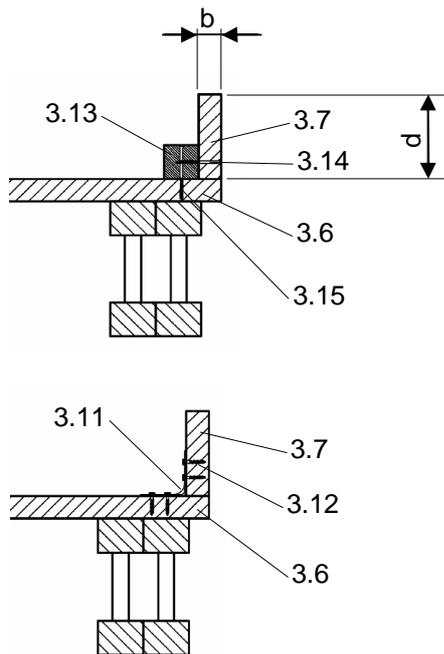


Fig. 26: Mounting of toe board

Requirements:

Toe boards made of solid wood C24 (coniferous wood S10)
Minimum dimensions w/d = 3/15cm

Figure: working platform planking 3.6

Mounting – Alternative 1:

Mounting of toe board 3.7 with
timbers 6/6 cm 3.13
TORX 6x80 3.14
SPAX 6x100 3.15

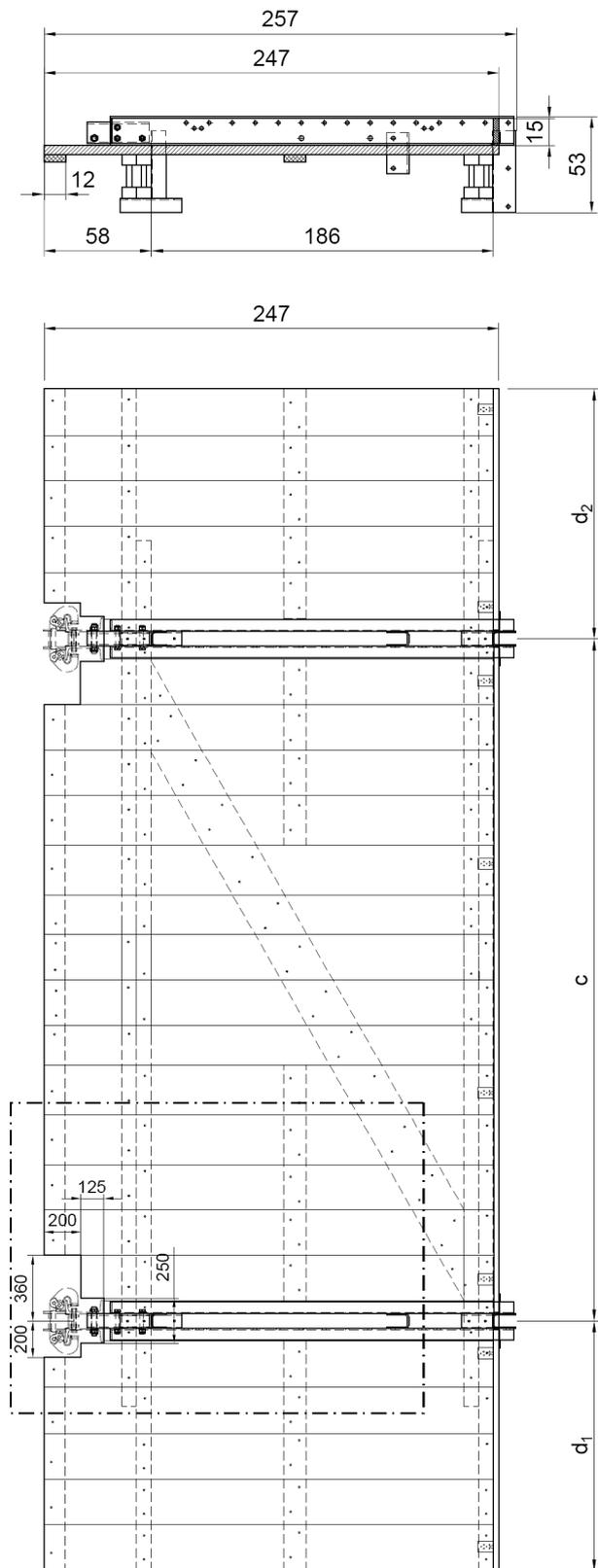
Screws fixed at 50 cm spacing

Mounting – Alternative 2:

Mounting of toe board with
reinforced steel angle bracket 90x90x2.5 3.11
TORX 6x40 3.12 (8x)

Screws fixed at approx. 100 cm spacing

A2.5 Working platforms



Opening for foldable hatch

Opening in decking 57 x 72 cm
 Supported with timber 120/40 mm
 Fixed to lateral continuous planks with
 F.H. bolts DIN 603 M8x125 3.10 (min. 4x)

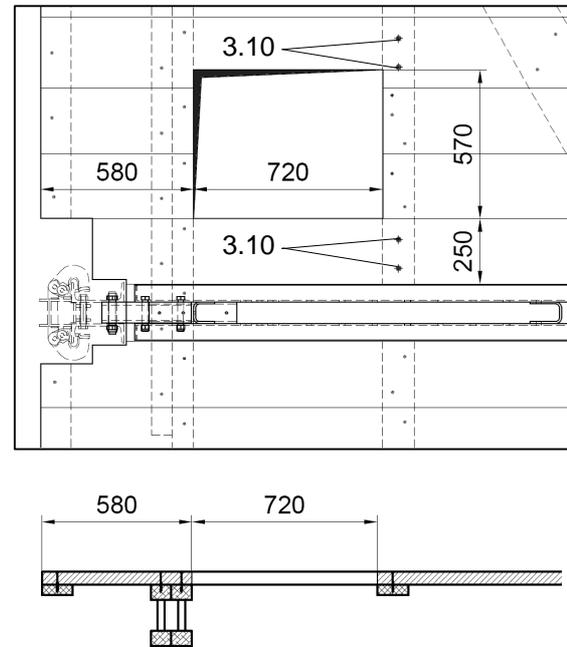


Fig. 27: Working platform

A2.6 Finishing platform

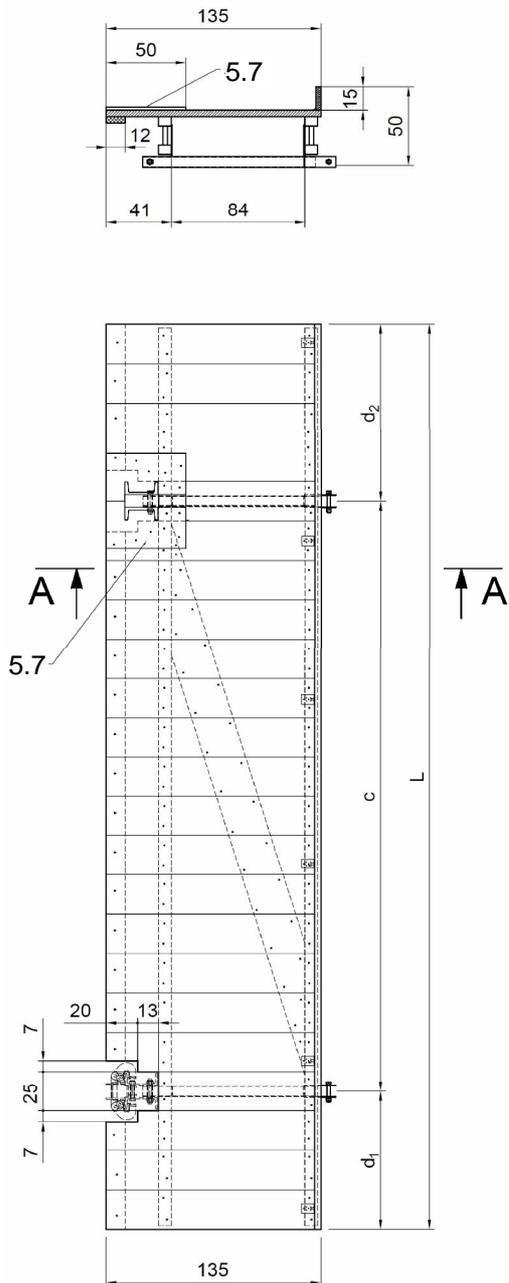


Fig. 30: Finishing platform

To avoid cutting of girders GT24 for adjustment use double girders and shift to reach the exact platform length.

Plywood cover **5.7** on the finishing platform prevents small objects from falling to the ground and simplifies dismantling after construction work has been completed. It is simply screwed on to the finishing platform decking when work is required to take place using the scaffold.

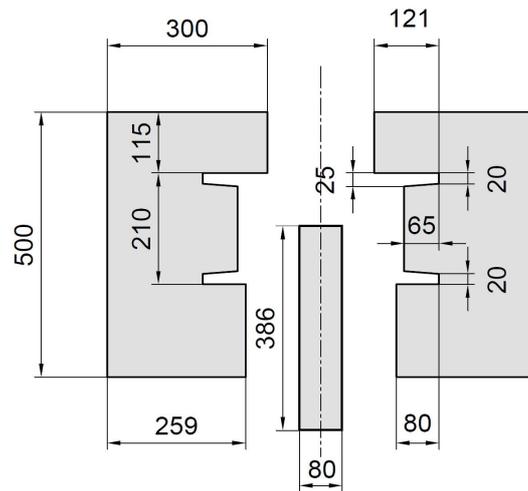


Fig. 28: Plywood cover Version 1
Opening for Climbing Rail (UU200)

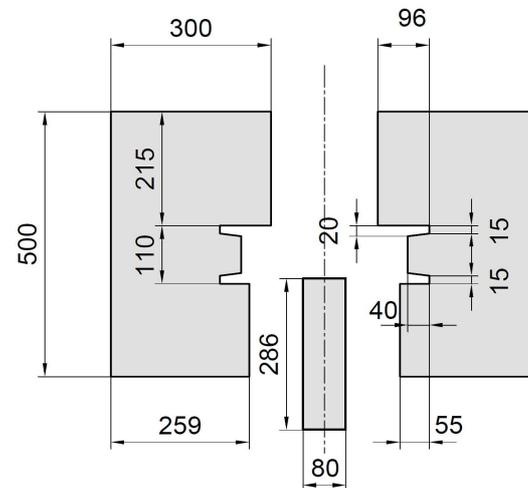
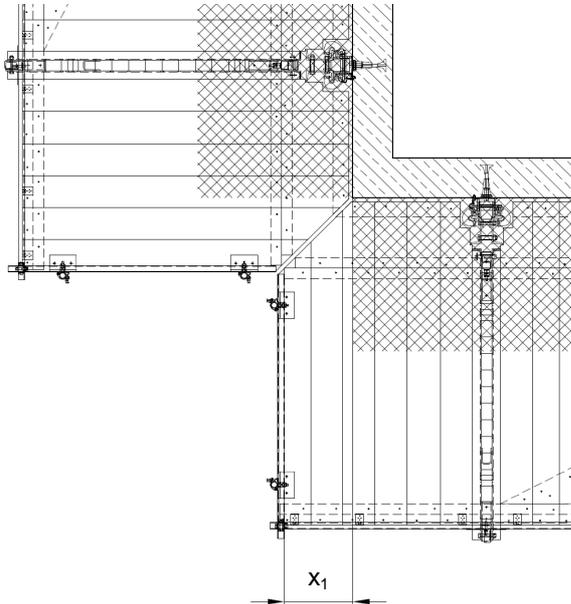


Fig. 29: Plywood cover Version 2
Opening for Climbing Rail Extension 100 (UU100)

A2.7 Corner platforms

Mount the decking on the corner and internal platforms in such a way that they do not obstruct the climbing procedure, and that problem-free access from one platform to another is also possible when the formwork is retracted.



Version 1: mitered platforms

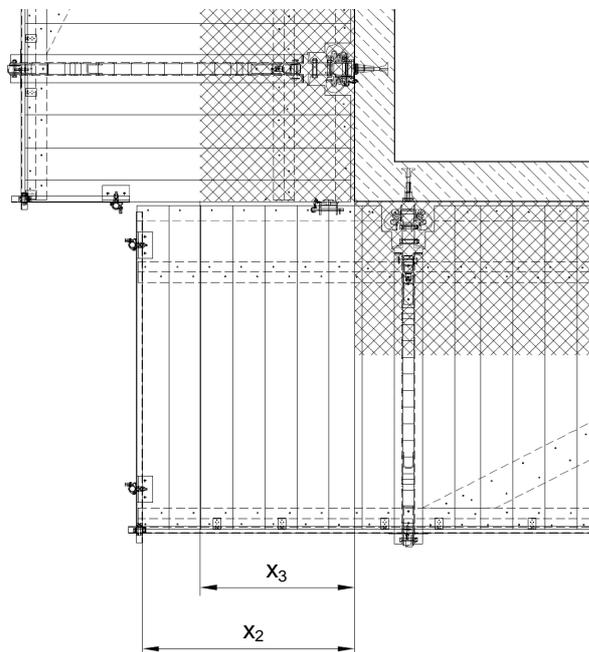
The platforms are mitered up to the wall-side girder.

Lateral guardrails are attached between the decking girders on the front side

ÖA3.4

Ensure that there is a minimum passage width x_1 of approx. 50 cm.

Fig. 31: Mitered corner platforms



Version 2: One platform with overhang

One platform is positioned up to the corner. The other platform must overlap sufficiently so that there is adequate passage width between the guardrails and formwork when the formwork is retracted.

Platform overhang x_2

Formwork thickness + retraction distance x_3

Passage width $x_2 - x_3 \geq 50$ cm

Attention:

In order to maintain the permissible cantilever of the platform girders (ÖA2.3), the distance of the bracket to the corner is to be minimized for overlapping platforms. Please note – a more exact static verification of the anchors could be required!

Fig. 32: Corner platform with overhang

Note:
shaded areas = retracting areas for the formwork elements

A2.8 Platforms on circular structures

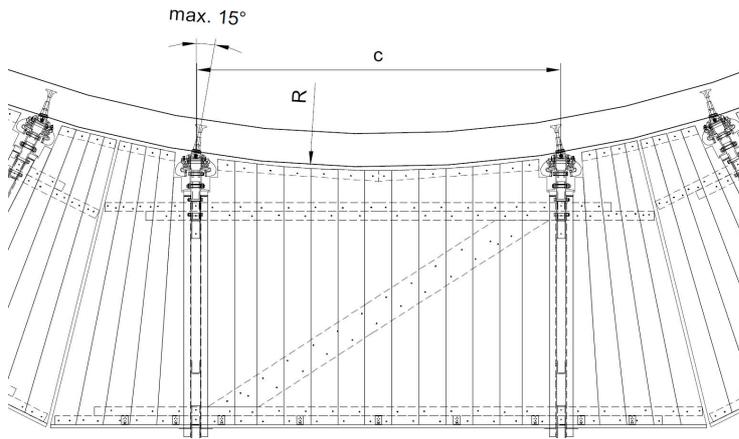


Fig. 33: Parallel bracket arrangement

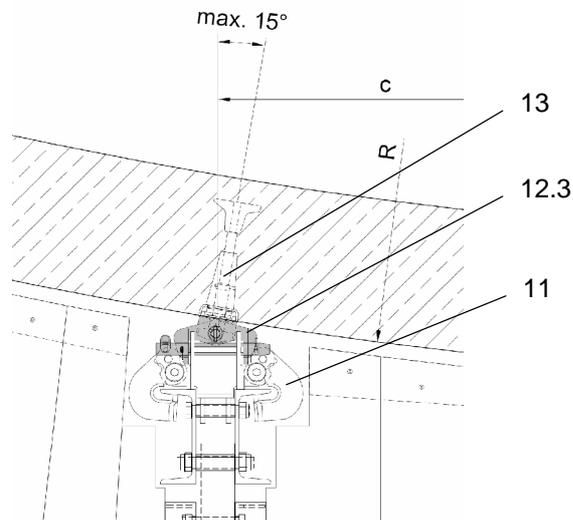


Fig. 34: Turnable wall shoe

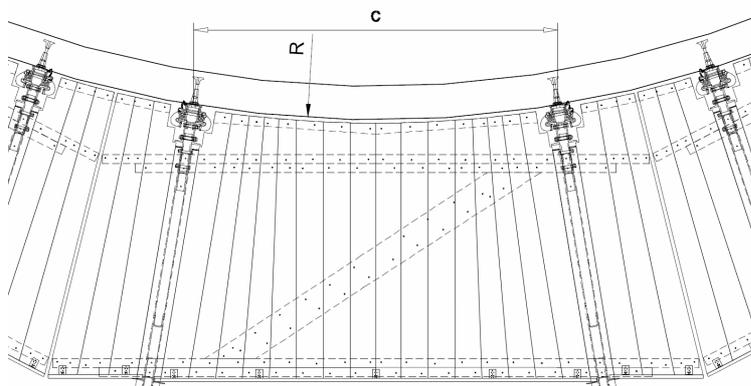


Fig. 35: Radial bracket arrangement

Parallel bracket arrangement

With guided climbing formwork, brackets are to be arranged in a parallel fashion on circular structures in order to ensure the functionality of the formwork carriage.

The turnable wall shoe **12.3** can be used in order to connect the climbing shoe **11** with the anchoring **13**.

It compensates for twists of up to $\alpha = 15^\circ$ between the axes of the anchors and the scaffold bracket.

For such applications, separate static verification is required for the wall shoe and the anchoring.

Minimum radius for use of the turnable wall shoe depending on the anchor spacing c :

$$R \geq \frac{c}{2 \cdot \sin(15^\circ)} \approx 2 \times c$$

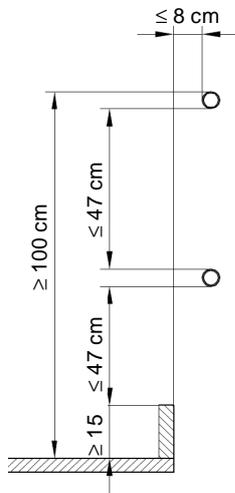
Radial bracket arrangement

As the formwork cannot be moved to the rear on the formwork carriage with radial arranged climbing brackets, either the formwork has to be removed for installation of the top climbing shoe or it has to be installed after climbing underneath the formwork.

In addition, special measures for attaching decking girders along with the installation of scaffold tube bracing have to be undertaken.

A3 Guardrails

A3.1 General requirements



Guardrails must be fitted according to valid safety regulations!

Guardrails must be fitted to all open platform edges at all levels.

Netting or solid boarding to handrails to be used to prevent objects falling from the platforms.

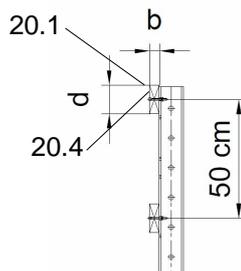
The following can be used as guardrails:

- Handrail boards
- galvanized steel scaffold tubes $\text{Ø}48.3$ or $\text{Ø}60.3$
- timbers with enclosure made of netting, tarpaulin, plywood or profiled sheeting

Toe board, $\text{ÖA}2.4$

Fig. 36: Guardrails

A3.2 Guardrails with handrail boards



Requirements:

Handrail boards **20.1** made of solid wood C24 (coniferous wood S10)

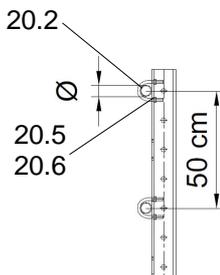
Dimensions $w/d = 3/15, 4/12$ or $5/12$ cm or with corresponding static verification, fixed on inner side with 50 cm spacing

Mounting:

F.H. bolts DIN 603 M8x70 MU **20.4**

Fig. 37: Guardrails with handrail boards

A3.3 Guardrails with scaffold tubes



Requirements:

Steel scaffold tubes **20.2** minimum quality St37-2

Dimensions $\text{Ø} \times t = 48.3 \times 3.2$ or 60.3×4.5 mm inner side, with netting or tarpaulin also on the outer side 50 cm spacing

Mounting:

clamp A64 DIN 3570 **20.5**

Hex. nut ISO 4032 M12-8 **20.6** (2x)

Fig. 38: Guardrails with scaffold tubes

A3.4 Lateral guardrails

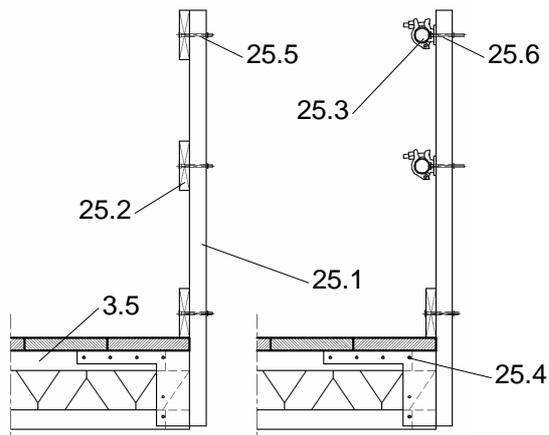


Fig. 39: 3-part guardrail arrangement

Version 1: 3-part end handrails

If no safety barrier is required for the full height, a three-part end handrail can be installed:

Mount side handrail post CB **26.1** with wood screws 6x80 (5x) **26.4** to decking girder **3.5**.

Guardrail with handrail boards **25.2**:
Fix handrail boards **26.2** and toe board with F.H. bolts M8x100 DIN 603 **26.3**.

Guardrail with scaffold tubes **25.3**:
Fix Guardrail Connector CB **26.2** and toe board with F.H. bolts M8x100 DIN 603 **26.3**

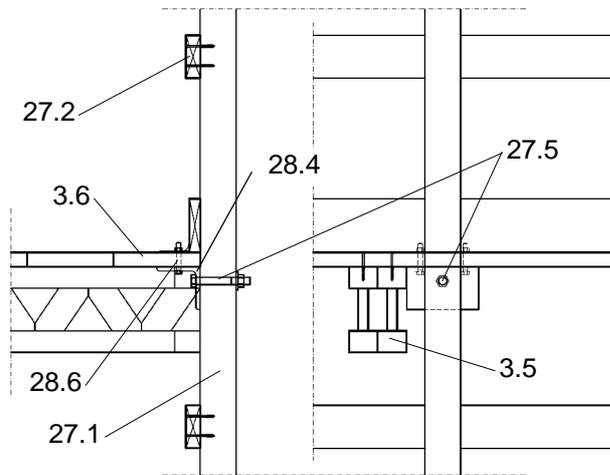


Fig. 40: Handrail boards as guardrails

Version 2: end-to-end lateral guardrails with handrail boards

Attention:

Not suitable for enclosures!

Fix one L-bracket 120x120x12 **28.4** with hex. bolts M12x80 (2x) **28.6** and large washers ISO7094-12 to the pre-drilled edge plank **3.6** of the decking.

Bolt edge plank **3.6** according to specifications to the decking girder **3.5** or strengthen with timbers.

Mount pre-drilled vertical timber 10/12 **27.1** to the L-bracket using hex. bolts M20x150 **27.5**

Fix handrail boards **27.2** to the vertical timbers using TORX 6x80

Fix toe board – ÖA2.4

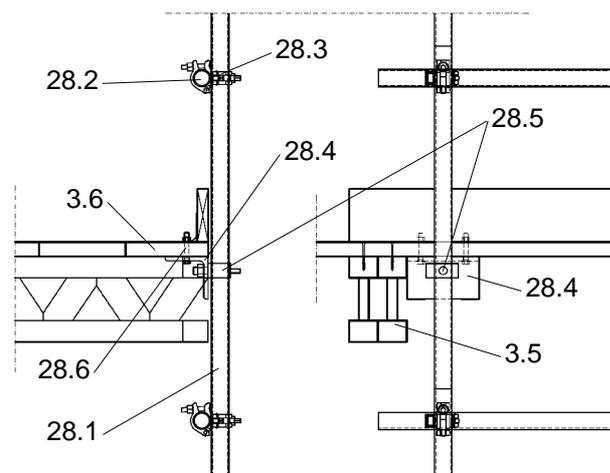


Fig. 41: Scaffold tubes as guardrails

Version 3: end-to-end lateral guardrails with scaffold tubes

Attention:

Not suitable for enclosures!

Fix one L-bracket 120x120x12 **28.4** with hex. bolts M12x80 (2x) **28.6** and large washers ISO7094-12 to the pre-drilled edge plank **3.6** of the decking.

Bolt edge plank **3.6** according to specifications to the decking girder **3.5** or strengthen with timbers.

Fix vertical scaffold tube Ø48 **28.1** to the L-bracket using screw-on coupling AK48 **28.5**

Fix horizontal scaffold tube Ø48 **28.2** to the vertical scaffold tube using standard coupling NK48 **28.3**

Fix toe board – ÖA2.4

A4 Planning Requirements

A4.1 Position of Leading Anchor in the Ground Plan

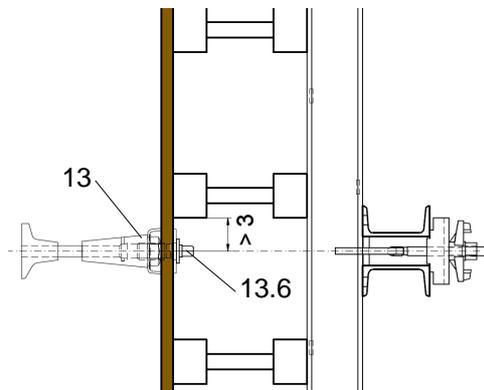


Fig. 42: Standard leading anchor fixation

VARIO:

There should be sufficient space between the anchor axis and adjacent formwork girders (horizontal 3 cm) so that the leading anchor **13** can be mounted to the advancing bolt **13.6**.

TRIO:

There should be sufficient space between the anchor axis and the formwork struts (horizontal 3 cm, vertical 4 cm) so that the leading anchor can be mounted to the advancing bolt.

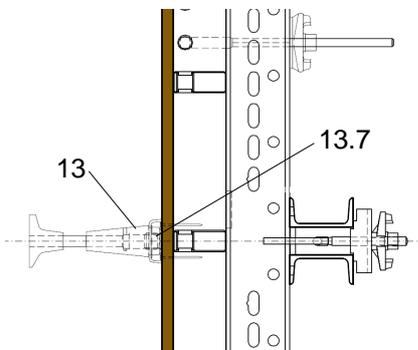


Fig. 43: Leading anchor fixation at formwork struts

If the anchor position collides with struts of the TRIO formwork, then the Anchor Positioning Stud M30 **13.7** instead has to be fixed with nails 30x80 on the formlining.

A4.2 Planning of the Climbing Sequence

During planning as well as compiling work instructions for the climbing sequence, the following points must be considered:

- Special attention is to be paid to the corner area assembly of the trailing platforms so that there is safe access from one climbing unit to the next and the Hydraulic Pack can be moved safely. For this, the transition areas must be wide enough and without steps.
- Especially on corner and internal platforms, the decking must be designed so that it does not collide with the platforms or formwork of adjacent climbing units during the climbing procedure.
- Gangways and ladder access are planned in such a way so that safe entry to all climbing units is guaranteed at all times.
- Planning the climbing sequence includes operations around the whole building. This includes determining suitable positions for the hydraulic hoses and climbing the last climbing unit.
- A hydraulic plan shows how the climbing units are connected to the hydraulic hoses on the hydraulic aggregate.
- Suitable measures are to be specified regarding the erection of barriers or other safety equipment on open edges.

A4.3 Crane attachment

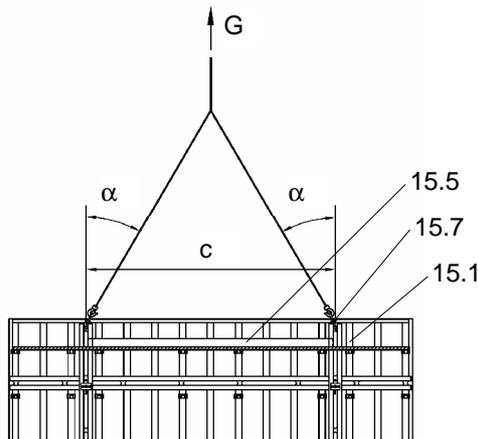


Fig. 44: Timber brace between strongbacks

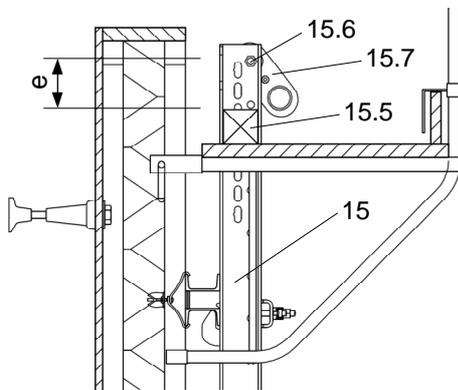


Fig. 45: Section through timber brace

The size of climbing units can also be restricted by the permissible load of the attachment point on the strongback. In this respect, for platforms of primary importance the weight has to be determined during the planning stage. Also when assembling and dismantling climbing units, which are moved with the self-climbing device, the permissible load of the attachment points must be taken into consideration.

The weight of each climbing units is to be specified in the general arrangement drawings.

Crane operation without spreader beam

- Attachment of a timber **15.5** as compression brace at the top end of the strongback **15**. For proper positioning the timber can be fixed to the concreting platform.
- Crane attachment point crane eye BR 2.5t **15.7** fixed with spacer for platform beam **15.6** to the top end of the strongback **15**.

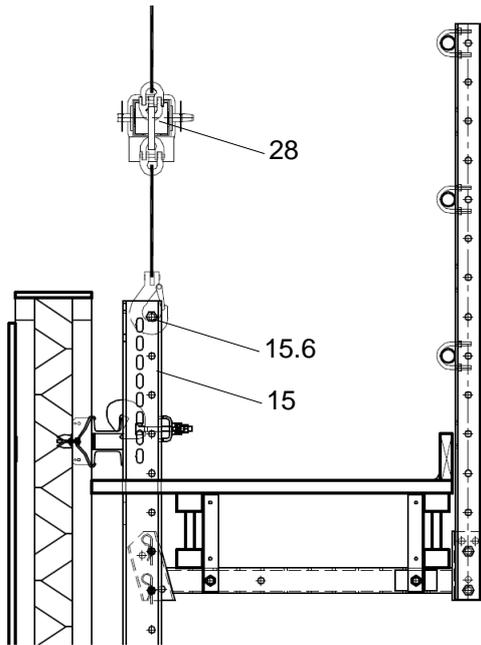
Note:

Load capacity per crane eye max. 2500 kg with max. $e = 25$ cm
Permissible weight of platform see Table 3

Table 3: Crane sling angle and permissible weight of symmetric climbing units

Crane sling angle α	Permissible weight of the climbing unit		
	$c \leq 3,00$ m	$c \leq 4,00$ m	$c \leq 5,00$ m
15°	5000 kg *	5000 kg *	5000 kg *
20°	5000 kg *	4400 kg	3730 kg
25°	4240 kg	3440 kg	2910 kg
30°	3490 kg	2780 kg	2350 kg

* The crane eye BR 2,5t is decisive
An alternative attachment point with higher load-bearing capacity can be used (planning and static verification are required).



Crane operation using Climbing Crossbeam RCS 10t as spreader beam

Adjustment and application of Climbing Crossbeam RCS 10t **28** see according instructions for use

- Attachment point:
Spacer for Platform Beam **15.6** inserted in hole at top end of the strongback **15**
Load capacity max. 5000 kg

Notes:

The attachment of a timber as compression brace is not necessary.

One chain of the Climbing Crossbeam RCS 10t has the option to be adjusted for locating the crane hook above the centre of gravity. So even non-symmetric platforms can be moved hanging horizontally.

Fig. 46: Application of Climbing Crossbeam

Part B Assembly

B1 Pre-assembling the formwork

B1.1 Mounting the strongback to VARIO formwork

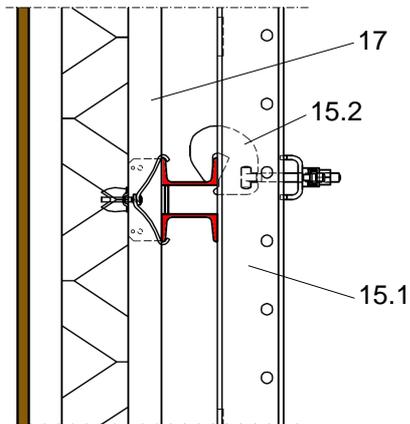


Fig. 47: Strongback Connector SRU

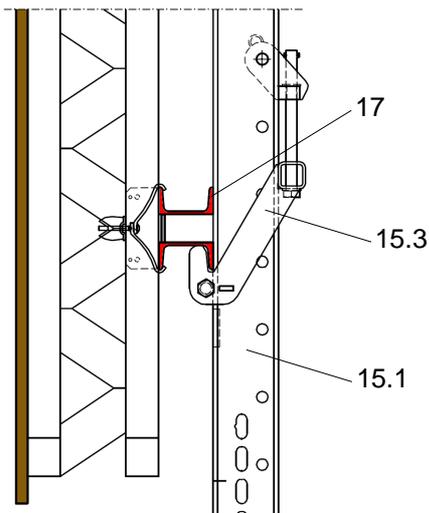


Fig. 48: Height Adjusting Unit SRU

- Position strongback on the waler of the formwork according to planning specifications.
- Tension the strongback SRU U120 **15.1** on waler of the formwork **17** with the help of the waler fixation SRU **15.2**.
- Pull the height adjusting unit SRU **15.3** over the lower end of the strongback.
- Fix upper part of the adjusting unit in the strongback with bolts $\varnothing 20$.
- Spindle lower part with the adjustment bolt SW 30 until touching the waler flange. Waler flange now lies on the jaws of the height adjustment unit on both sides.
- Fine adjustment of the strongback position.

Note:

Formwork weight per SRU height adjustment unit: 1200 kg

Attention:

When using TRIO formwork, steel walers are to be clamped on the formwork elements for connection with strongback. In this respect, ensure that there is a load-bearing connection for transferring forces from the formwork weight!

B1.2 Mounting the strongback to TRIO formwork

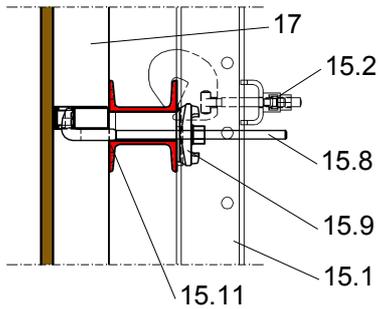


Fig. 49: Strongback Connector SRU at TRIO

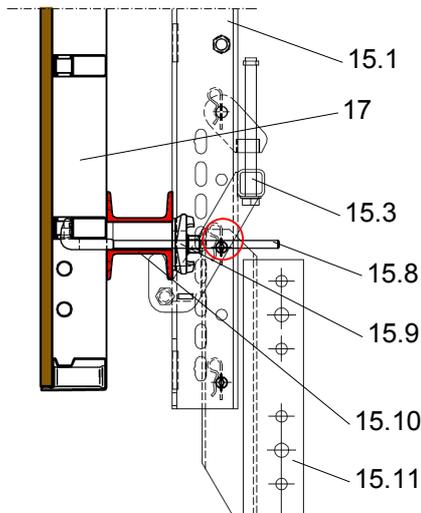


Fig. 50: Height Adjusting Unit SRU on TRIO

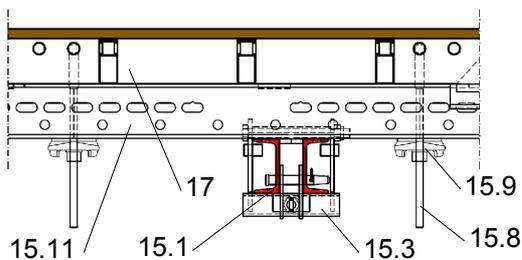


Fig. 51: Clamping of waler to TRIO panel

- Clamp SRU waler **15.11** by means of Hook Ties DW 15 **15.8** and Wingnut Counterplates DW15 **15.9** at specified positions on the TRIO panel.

Attention:

Use min. 2 Hook Ties DW 15 (left and right) close to each strongback position. Hooks are pointing upwards.

- Position SRU strongback **15.1** on the SRU walers according to planning specifications.
- Clamp the SRU strongback **15.1** to the waler of the TRIO formwork **17** with the help of the Waler Fixation SRU **15.2** at specified position.
- Pull the height Adjusting Unit SRU **15.3** over the lower end of the strongback.
- Attach Strongback Adapter RCS/SRU **15.11** to the strongback using pins Ø20
- Position and fix upper part of the Adjusting Unit **15.3** in the strongback with pin Ø20.
- Spindle lower part with the adjustment bolt SW 30 until touching the waler flange. Waler flange now lies on the jaws of the height adjustment unit on both sides.
- Fine adjustment of the strongback position.

Note:

Formwork weight per SRU height adjustment unit: 1200 kg

Concreting platforms

Mounting of concreting platform to the formwork according to planning specifications.

B1.3 Concreting platforms

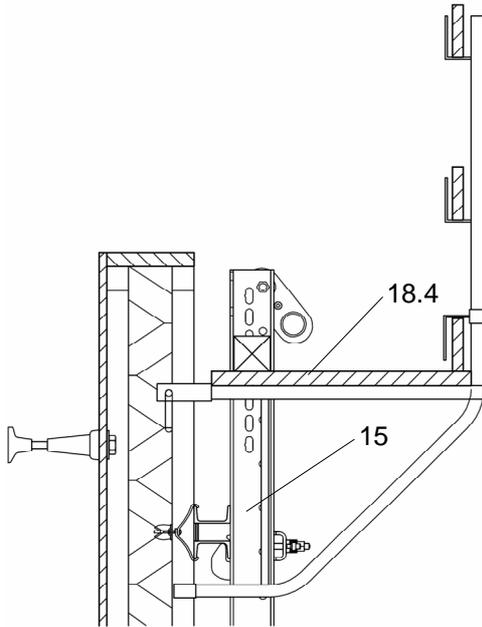


Fig. 52: Concreting platforms with single brackets GB 80

Concreting platforms with single brackets

Mounting of concreting platform to the formwork according to planning specifications.

- Hang the brackets for the concreting platform on the formwork and cover with planking. Omit the planking **18.4** at the strongback **15** and fix it to the brackets.
VARIO: Brackets GB 80
TRIO: brackets TRG 80

Attention:

The planking is to be fixed to the brackets to prevent shifting and uplift by suitable measures.

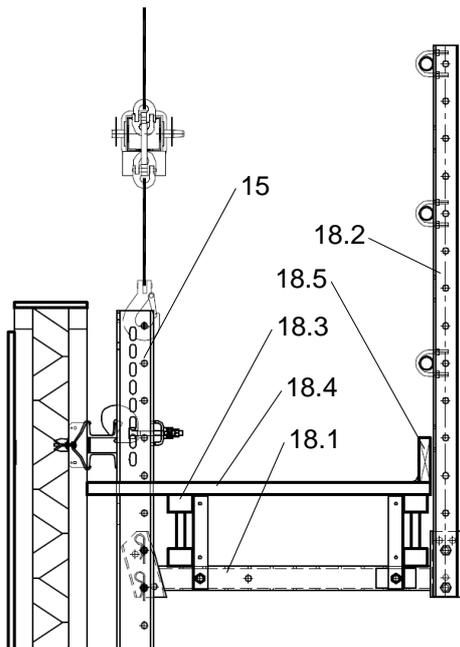


Fig. 53: Concreting platform attached to strongback

Concreting platforms attached to strongback

Assembly of concreting platform according to planning specifications:

- Screw girders to vertically aligned connectors of Platform Beam RCS/SRU 113 **18.1** with Lag Screws 8x60
- Cut planking **18.4** to size and screw onto girders with TORX 6x80. Omit the planking at the strongback **15**.
- Attach toe board **18.5** with Angle Brackets 90 and TORX 6x40
- Attach pre-assembled platform to strongback **15** with Pins Ø21x120
- Connect Guardrail Post RCS/SRU 184 **18.2** to Platform Beam with Hex. Bolts M20x100
- Fix scaffold tubes or guardrail boards to Guardrail Post ØA3

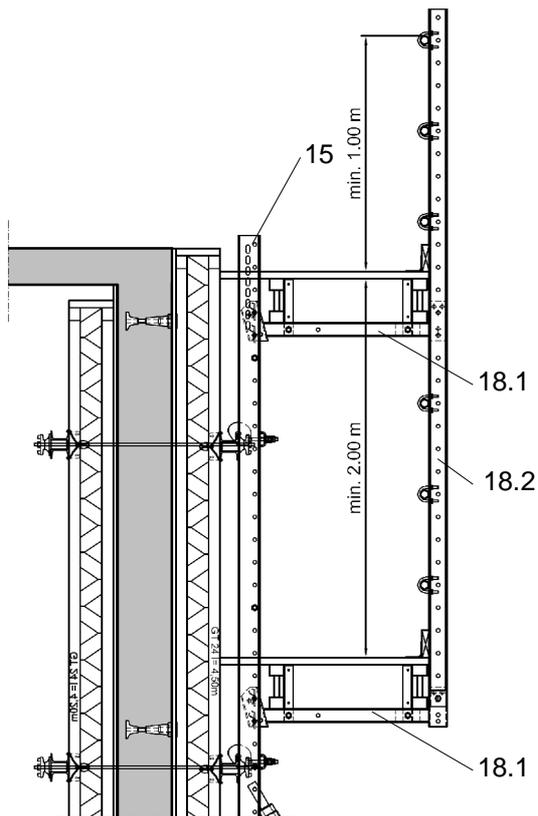


Fig. 54: Platforms attached to strongback

Intermediate platforms attached to strongback

- For intermediate platforms also use Platform Beam RCS/SRU 113 **18.1** attached to the strongback **15**.
- A Guardrail Post RCS 384 **18.2** is used for continuous guardrail protection. Connected to the Platform Beams RCS/SRU 113 with Hex. Bolts M20x100

Note:

Ladder access configuration see separate product information PI

B2 Assembly bracket unit

Attention:

For the assembly process, a crane or other lifting equipment and a flat assembly surface are required; intermediate conditions are to be secured by temporary support to prevent tilting.

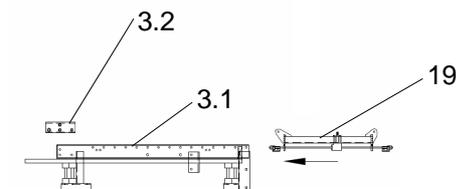


Fig. 55: Pre-assembling working platform

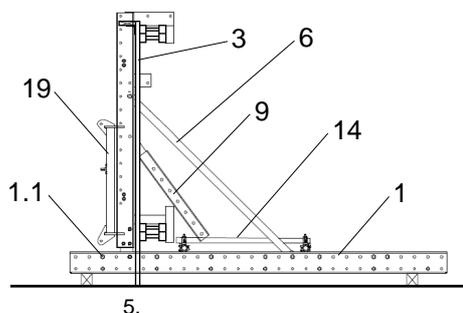


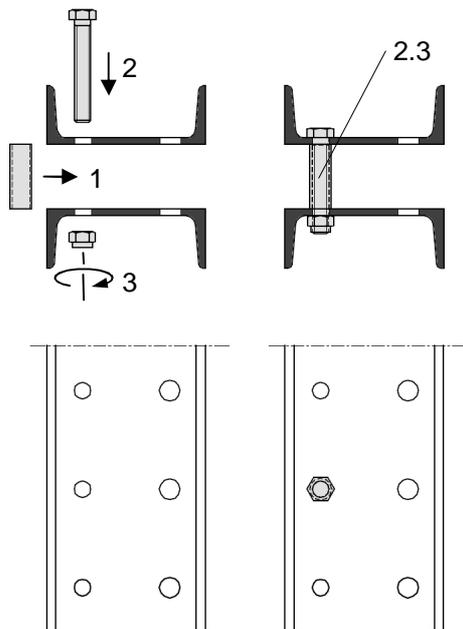
Fig. 56: Pre-assembling bracket unit

- Pre-assembly of the working platform **3** ÖA2.5
- Mounting of the VARIO **3.2** crossbeam head to the crossbeam **3.1**
- Push carriage **19** from the rear on to the crossbeam **3.1** and fix with hex. bolts M20x120-8.8
- Position the climbing rail **1** on ground (upper end with spacer **1.1** in 3rd hole) and connect scaffold tube bracing **14**
- Lift working platform **3** with crane (crane attachment points: 2 pins Ø21x120 in carriage)
- Tilt platform and connect crossbeam **3.1** with climbing rail in 5th hole Ø26 using hex. bolt M24x130-8.8.
- Install Diagonal Struts RCS 212 **6** with hex. bolts M24x130-8.8
- Mount Climbing Rail Extension 100 **9** to the crossbeam **3.1** with hex. bolt M24x130-8.8

Attention:

For assembly purposes, it may be necessary to reposition spacers ÖB2.2 or to release vicinal spacers in the climbing rail.

B2.1 Insertion of an additional spacer M20



In individual cases it may be required to insert a spacer M20 **2.3** as additional climbing bolt into the climbing rail.

1. Position tube sleeve $\text{Ø}26.9 \times 2.6 \dots 82$ of the spacer in the climbing rail by means of a hammer.
2. Insert hex. bolt ISO 4014 M20 \times 120-8.8 into the holes $\text{Ø}21$ in the climbing rail and through the tube sleeve.
3. Tighten self-locking nut ISO 7042 M20-8 (SW30) on the bolt.

Important!

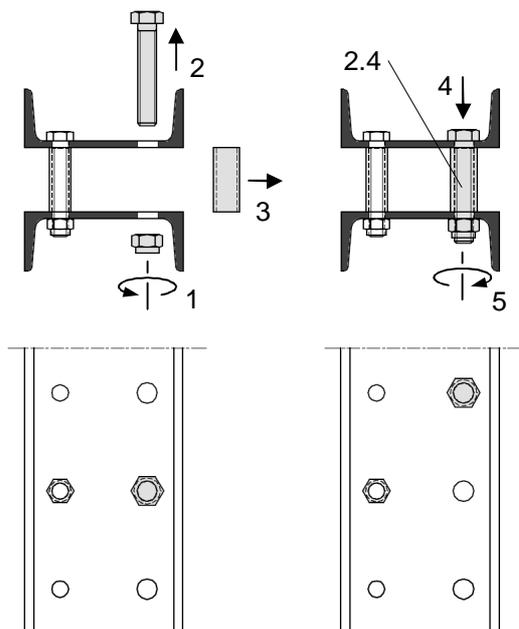
Use the given bolt length and nut type only!

Attention:

For assembly purposes, it may be necessary to release vicinal spacers in the climbing rail.

Fig. 57: Insertion spacer M20

B2.2 Re-positioning of spacers M24



In individual cases it may be required to re-position spacers M24 **2.4** in the climbing rail.

1. Release nut ISO 7042 M24-8 (SW36)
2. Remove hex. bolt ISO 4014 M24 \times 130-8.8
3. Re-position tube sleeve $\text{Ø}33.7 \times 4 \dots 82$ of the spacer by means of a hammer.
4. Insert hex. bolt ISO 4014 M24 \times 130-8.8 into the holes $\text{Ø}26$ in the climbing rail and through the tube sleeve.
5. Tighten self-locking nut ISO 7042 M24-8 (SW36) on the bolt.

Important!

In the climbing rail the spacers M20 (climbing bolts) must not be re-positioned.

Attention:

For assembly purposes, it may be necessary to release vicinal spacers in the climbing rail.

Fig. 58: Re-positioning spacer M24

B3 Initial mounting procedure

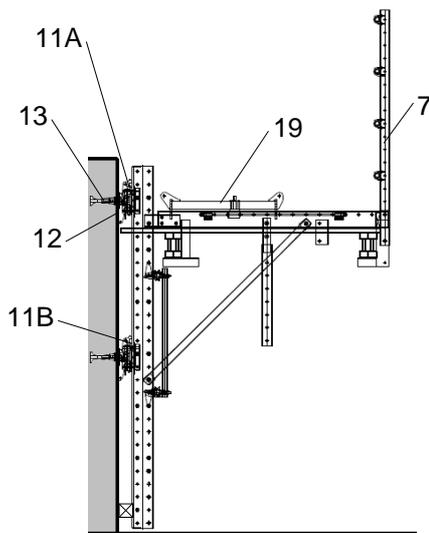


Fig. 59: First application

Attention:

Without the use of the finishing unit, lateral guardrails can be installed with the help of the end handrail frame 55.

Attention:

Before mounting RCS-Lite units stability of the building structure has to be checked.

- Assemble guard rail **7** to crossbeam
- Mount wall shoes RCS **12** to the concreted anchors **13** öC4.1
- Assembly of the climbing shoes RCS **11** to the wall shoes with locking pin, öC4.1
- Activate the climbing pawl in the upper climbing shoes **11A**, öC5.3
- Open lower climbing shoes **11B**
- Crane attachment point:
fitting pins Ø21x120 in carriage **19**

Attention:

The most suitable retraction distance of the carriage is to be determined by trial and error in order to lift the climbing unit horizontally.

- Move the bracket unit with guide ropes from a safe position
- Either lead climbing rails from below into upper closed climbing shoes **11A**.
Alternatively insert climbing rails into open shoes and close them from a safe position!
- Close lower climbing shoes **11B**

Important!

Are both climbing rails hanging correctly in both climbing shoes?

B4 Mounting the formwork

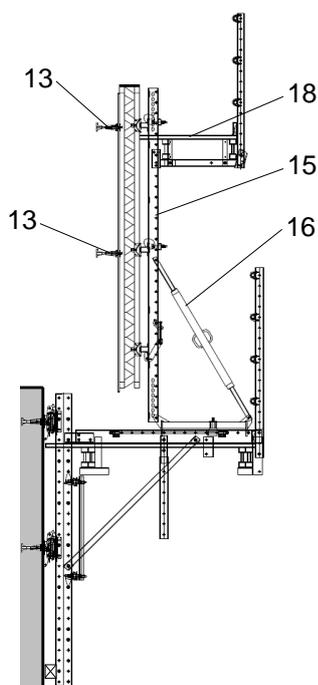


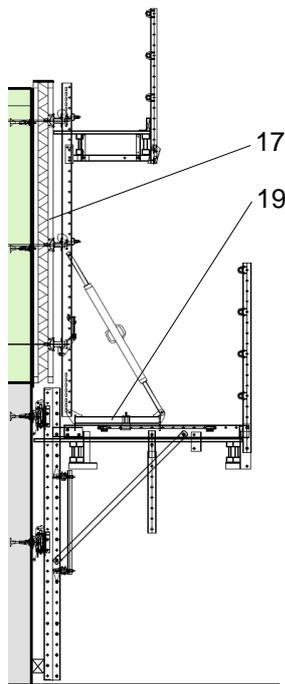
Fig. 60: Mounting the formwork

Attention:

For assembly work on edge areas which are not secure, use personal protection equipment.

- The climbing rail has to be blocked off the wall at its base with timber (width 15 cm).
- Erect pre-assembled formwork and move to bracket unit. Crane attachment öA4.3
- Attach strongback **15** to the carriage with pins Ø21x120, crane lifting gear remains tensioned.
- Install formwork spindle **16** on strongback and carriage using pins Ø21x120 (2x)
- Release crane lifting gear
- Install leading anchors **13** on the formwork

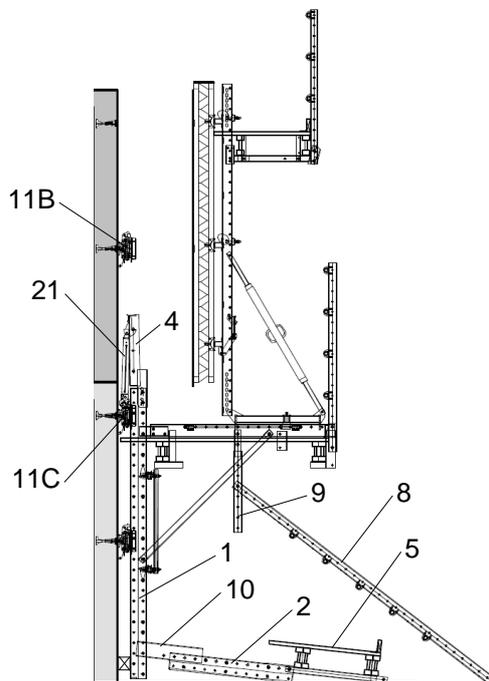
B5 Concreting at first application



- Install reinforcement
- Move carriage **19** in concreting position
- Align formwork **17** vertically and horizontally, adjust formwork vertically öC2.2
- Moderately pre-tension formwork against the wall with the carriage
- Set formwork ties and panel connectors
- Concrete second section

Fig. 61: Concreting at first application

B6 Initial Moving Procedure



- Loosen the formwork ties and release leading anchors
- Dismantle connections between the climbing unit panels
- Retract carriage **19**

Attention:

The most suitable retraction distance for the carriage is to be determined by trial and error in order to lift the climbing unit, suspended horizontally on crane slings, into the climbing shoe.

- Assemble top climbing shoes **11B** öC4.1. Pawl is locked öC5.2
- Attach lower Climbing Rail RCS 148 **2** with Climbing Rail Connector 79 **10** to top climbing rail **1** using pins Ø26x120 (3x)
- Connect platform beams of finishing platform 5.1 to lower Climbing Rail RCS 148 **2**
- Connect Guard Rail Posts 348 **8** to Climbing Rail Extension 100 **9**
- Mount Climbing Rail Extension 110 **4** to upper end of Climbing Rail **1** with pins Ø26x120 (2x)
- Install Climbing Device RCS 50 **21** on climbing shoe **11C**. Ensure pawl is activated öC5.3

Fig. 62: Initial moving preparation

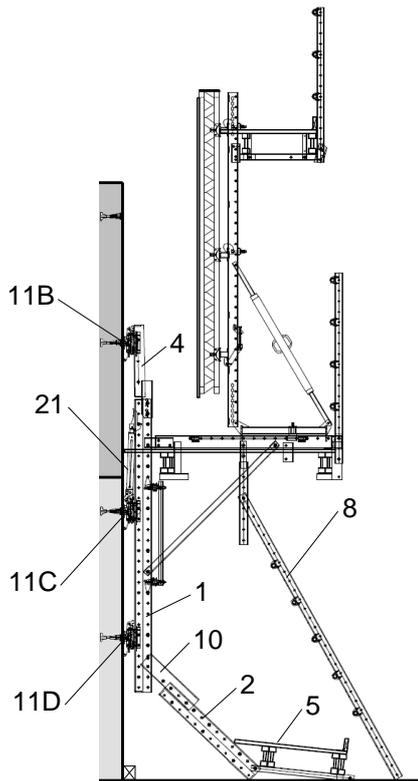


Fig. 63: Initial moving step 1

- Connect hydraulic Self-Climbing Devices RCS 50 to hydraulic pump \ddot{O} D2.8

Attention:

Consider safety measures according to standard climbing procedure \ddot{O} D2

- Lift climbing unit with Self-Climbing Devices until Climbing Rail Extension 110 4 reaches Climbing Shoe 11B

Attention:

Monitor the thread-in process to avoid jamming.

- If necessary lead Climbing Rail Extension 110 into climbing shoe 11B. Squeezing hazard – use lever!
- Climbing Rail Connector 79 10 swivels in. Finishing platform 5 and guardrail 8 are pulled towards wall.

Attention:

Stop climbing procedure before base of the Climbing Rail RCS 348 1 leaves bottom Climbing Shoe 11D, as soon as the Guardrail Post 348 8 or the Climbing Rail Connector 79 10 can be fixed.

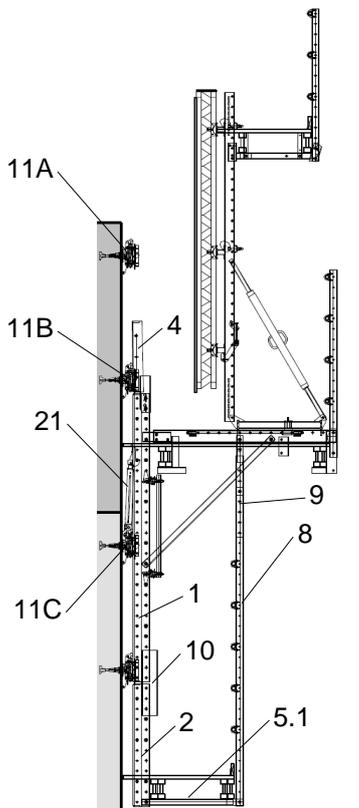


Fig. 64: Initial moving step 2

Attention:

Interrupt climbing procedure before base of the Climbing Rail RCS 348 1 leaves bottom Climbing Shoe 11D, as soon as the Guardrail Post 348 8 or the Climbing Rail Connector 79 10 can be fixed.

- Fix Climbing Rail Connector 79 10 with 4th pin \ddot{O} 26x120 to Climbing Rail RCS 348 1 for rigid connection of the two Climbing Rails
- Fix the Guardrail Post 348 8 at the base to the Finishing Platform Beam 5.1 with Hex. Bolt M20x120 (incl.)
- Fix the Guardrail Post 348 8 at the top additionally to the Climbing Rail Extension 100 9 with Pin \ddot{O} 21x120 for rigid connection
- Assemble top climbing shoes 11A \ddot{O} C4.1. Pawl is locked \ddot{O} C5.2
- Continue climbing procedure

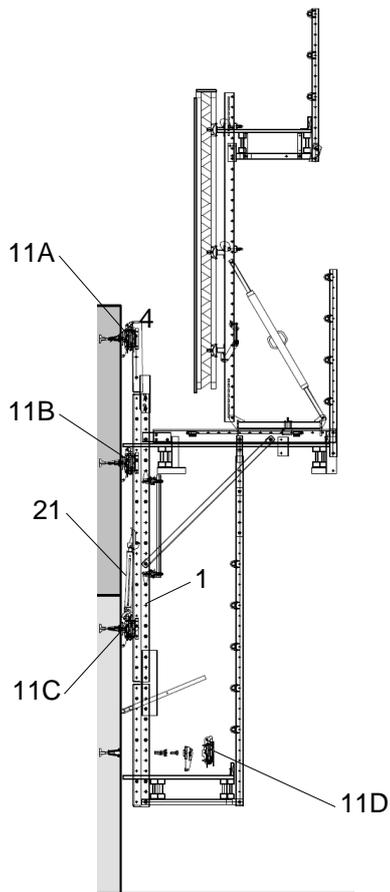


Fig. 65: Initial moving step 3

Attention:

Interrupt climbing procedure when before finishing platform reaches bottom Climbing Shoe **11D**.

- Use Excentric Lever RCS to release bottom Climbing Shoe **11D** from compression.
- Disassemble bottom Climbing Shoe **11D** öC4.2
- Remove Excentric Lever RCS and continue climbing procedure
- Lift climbing unit with Self-Climbing Devices RCS 50 until Climbing Rail Extension **110 4** reaches Climbing Shoe **11A**

Attention:

Monitor the thread-in process to avoid jamming.

- If necessary lead Climbing Rail Extension **110 4** into climbing shoe **11A**. Squeezing hazard – use lever!

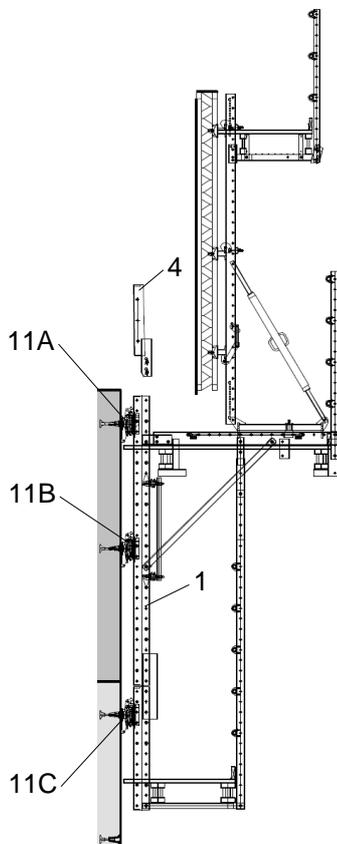


Fig. 66: Initial moving step 4

- Top Climbing Rail RCS 348 **1** reaches top Climbing Shoe **11A**
- Interrupt last stroke and activate pawl öC5.3 either in Climbing Shoe **11A** or **11B** for vertical support
- Lock pawl in Climbing Shoe **11C** where Self-Climbing Device RCS 50 stands on öC5.2
- Lift climbing unit to final position until activated pawl engages and lower for vertical support.
- Retract and remove Self-Climbing Devices RCS 50
- Remove Climbing Rail Extension **110 4**
- Consider safety measures according to standard climbing procedure öD2
- Assembly of additional safety equipment, such as ladder access and lateral guardrails.

B7 Assembly of ladder access

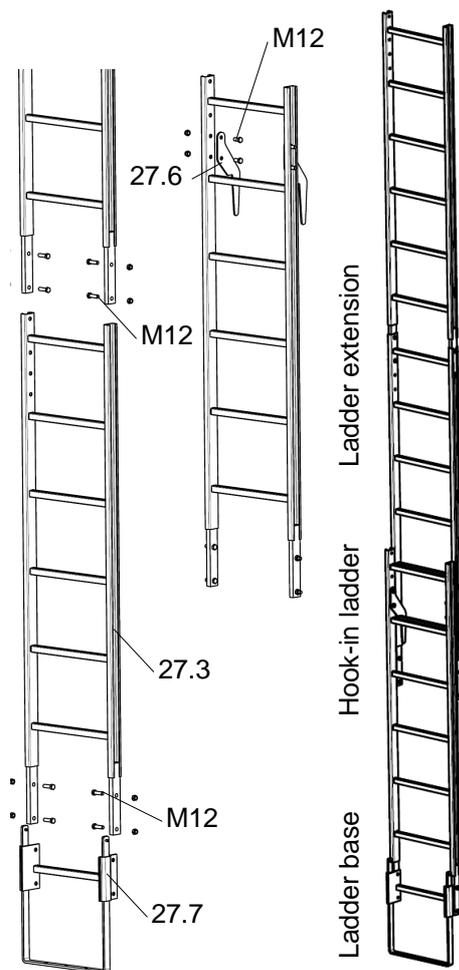


Fig. 67: Pre-assembly of ladders

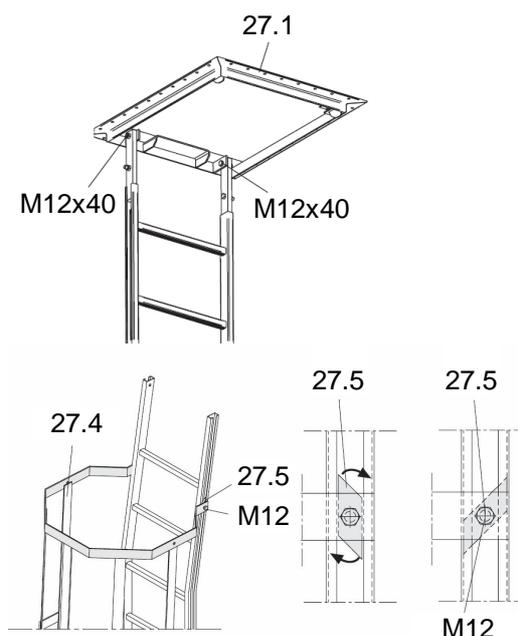


Fig. 68: Final assembly of ladders

Working platform

- Existing cut-out in planking between brackets nearby carriage. Size: 72x 57cm
Remaining plank width > 10 cm.
- Screw supporting planks under decking to the lateral end-to-end planking. (Drill Ø8 mm, 4 F.H. M8x100 MU and washers A8 ISO 7093)
- Install hatch 55x60, foldable into opening of planking and fix to each plank (Drill Ø8 mm, F.H. bolts M8x60 MU + washers A8 ISO 7093).

Pre-assembly of the ladders:

- Lay out ladders on ground.
- Ladder extension:
Release bolts M12 (SW19) and connect the ladders **27.3** with the bolts
- Hook-in ladders:
Fix ladder hooks **27.6** with bolts M12 (SW19) and hook the lower ladder on to the upper one. Rungs of both ladders must be at the same level.
- Ladder base:
Attach ladder base **30 27.7** with bolts M12 (SW19) at the lower end of the ladder.

Final assembly of the ladder access:

- Lead-in the pre-assembled ladders into the open hatch **27.1** by means of the crane.
- Fix the top ladder **27.3** with bolts M12x40 at bolt connectors of the hatch
- To fix the ladder horizontally at the base, screw the pulled out stirrup of the ladder base **30 27.7** to the planking using 3 TORX TSS 6 x 40.
- Move and hold ladder safety cage **27.4** in position using a rope.
- Release bolts M12 (SW19) on clamping plates **27.5**.
- Insert clamping plates in ladder beam, twist to lock, and tighten bolts. Fix all four clamp connectors in the same manner.

Part C Application

C1 Standard Cycle Operations

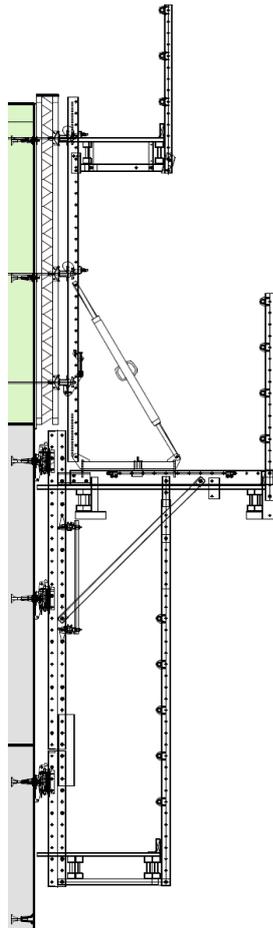


Fig. 69: Concreting

Concreting walls and slabs with anchored formwork.

The vertical loads are transferred through designated climbing shoe into the building.

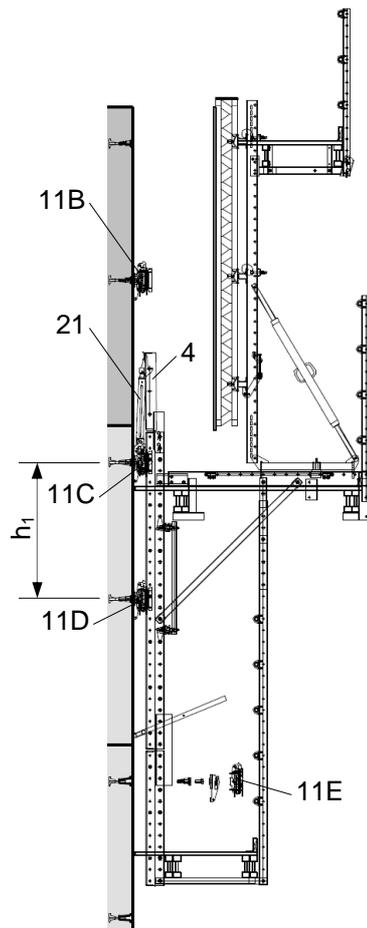


Fig. 70: Striking

Note:

Minimum $h_1 = 1.50$ m, otherwise wait with dismantling until climbing rail extension leads into climbing shoe **11B**.

Loosen leading anchor mounting parts and strike formwork. **ÖC3**

Dismantle suspension **11E**. **ÖC4.2**

Mount wall shoe and climbing shoe in advance **11B**. **ÖC4.1**

Mount Climbing Rail Extension **110 4** on top of climbing rail.

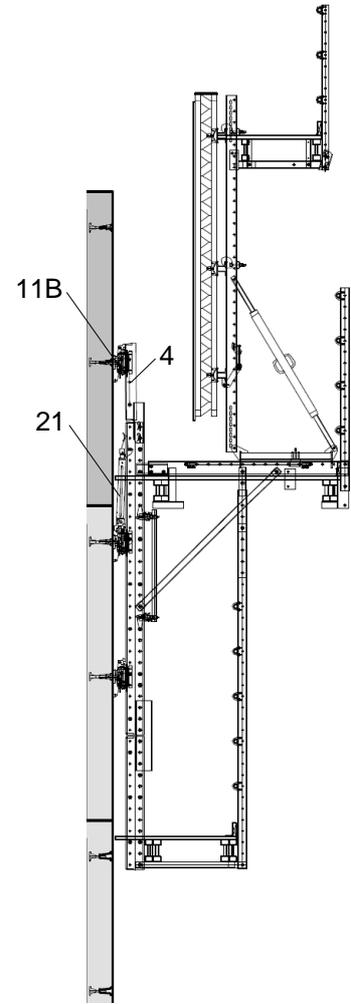


Fig. 71: Self-climbing

Self-climbing operations. **ÖD2.3**
Climbing in 50 cm strokes.

Lead-in Climbing Rail Extension **110 4** at Climbing Shoe **11B**.

Note:

Moving with crane **ÖD1**

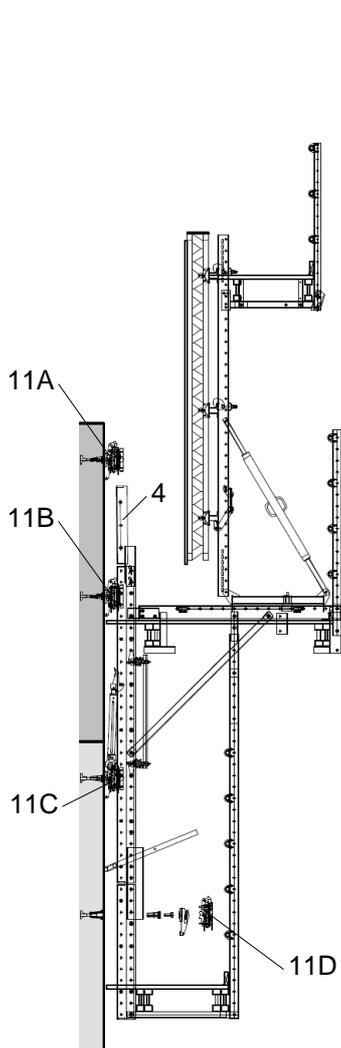


Fig. 72: Climbing interruption
 Interrupt climbing procedure for dismantling suspension **11D** and mounting climbing shoe in advance **11A**.
 Continue climbing procedure.
 Lead-in Climbing Rail Extension 110 **4** at Climbing Shoe **11A**.

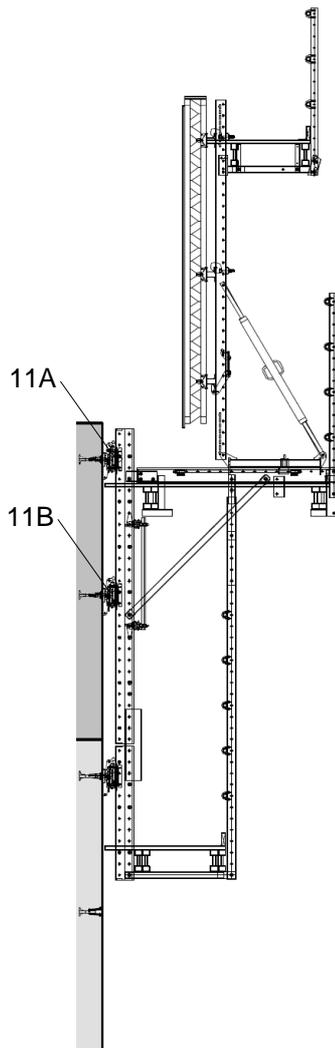


Fig. 73: Completion
 During last stroke put climbing unit on the activated pawl of the Climbing Shoe designated for vertical support, either **11A** or **11B**.
 Remove Climbing Device RCS 50 and Climbing Rail Extension 110.

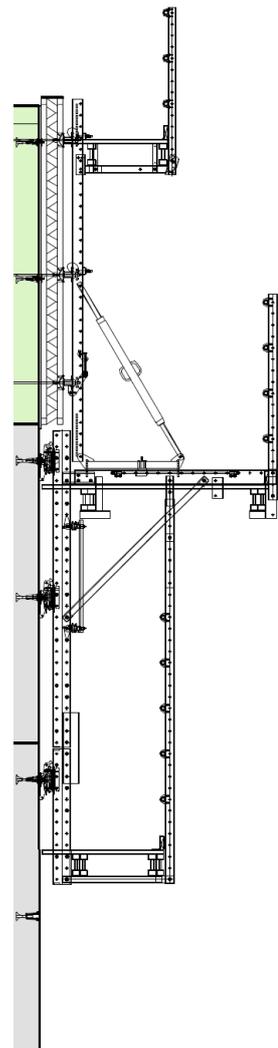


Fig. 74: Shuttering
 Attach leading anchor to formwork. **ÖC3**
 Clean formwork and install reinforcement.
 Move carriage to concreting position **ÖC2.1**
 Adjust formwork. **ÖC2.2**
 Set internal formwork and anchor ties. Concrete the wall.
 Projecting wall formwork serves as stopend formwork for the slab.

C2 Working with the formwork

C2.1 Operating the Carriage

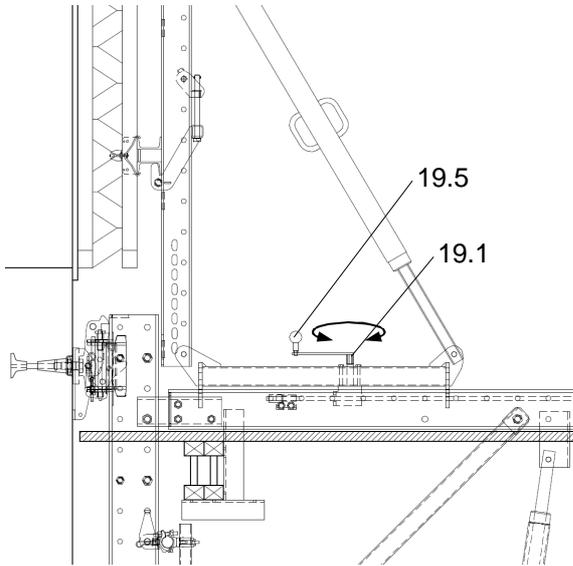


Fig. 75: Carriage operations

- By turning the drive screw **20.1** with the Carriage Crank Lever SW19, the carriage can be moved to and from the wall.
- The carriage can be moved a maximum of 90 cm
- When moving, operate both carriages on a platform at the same time.

Important!

Have all advancing bolts, formwork ties and connections to the formwork elements of adjacent platforms been detached?

C2.2 Adjusting the Formwork

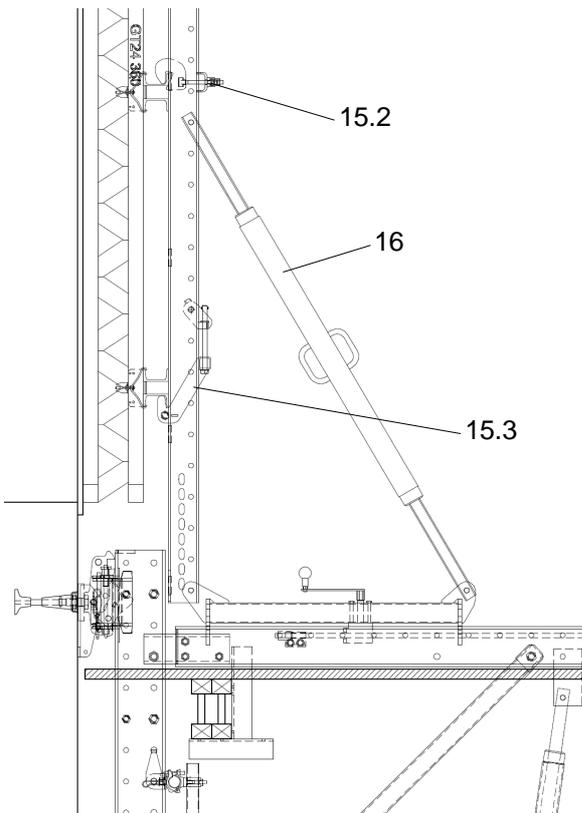


Fig. 76: Adjusting the formwork

Setting vertically:

- Hold spirit level against formwork and adjust the formwork vertically by turning the formwork spindle **16**.

Important!

Is the formwork positioned directly against the wall?

Height adjustment:

- Loosen the strongback connector SRU **15.2** and adjust the formwork to the exact height required by turning the spindle on the height adjusting unit **15.3**.
- Re-tighten strongback connector SRU.

Moving horizontally:

- Loosen strongback connector SRU **15.2** and move formwork against the strongback with a lever.
- Re-tighten strongback connector SRU.

C3 Assembly of Leading Anchor

C3.1 Mounting with Advancing Bolt

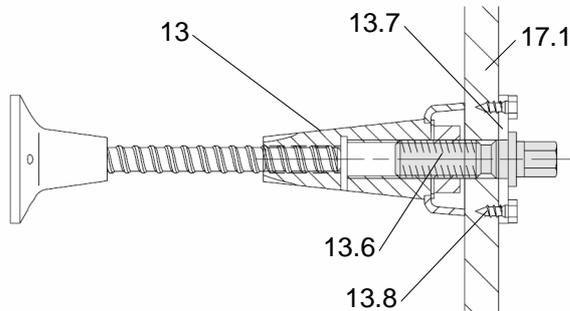


Fig. 77: Mounting with advancing bolt

- Position of the leading anchor is measured to the nearest millimeter regarding the height and in the ground plan.

Attention:

Check required space for the anchor positioning plate 20.

- Drill through formlining 17.1 with drill bit $\varnothing 32$
- On the back, screw on anchor positioning plate 20 13.7 using 4 hex. wood screws $\varnothing 6 \times 20$ 13.8 fitting with the drilled holes on the formlining.
- Insert advancing bolt M30 13.6 or alternatively a hex. bolt M30x70 into the anchor positioning plate
- On the concreting side, screw leading anchor 13 to the advancing bolt M30.

Attention:

Before striking, always remove the advancing bolts!

C3.2 Mounting with Anchor Positioning Stud

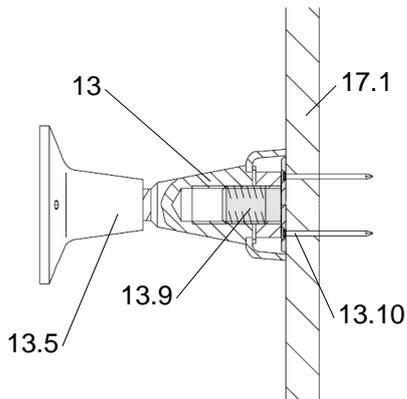


Fig. 78: Mounting with advancing bolt

If fixing with advancing bolt is not possible, then the less stable mounting with the anchor positioning stud can be used.

- On the concreting side, nail the anchor positioning stud 26 13.9 to the formlining 17.1 using wire nails 3.1x80 13.10.
- On the concreting side, screw leading anchor 13 in the anchor positioning plate.

Tip:

For proper positioning, fix the threaded anchor plate to the reinforcement with wire.

Attention:

During striking, the nails are pulled through the formlining. Therefore, ensure that nails are hammered in straight!

C4 Assembly and dismantling of the suspension unit

C4.1 Mounting the suspension unit

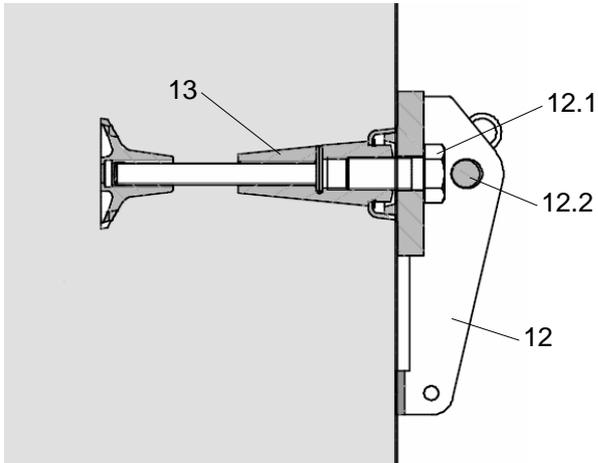


Fig. 79: Fixing the wall shoe

- Firstly, pull the locking pin **12.2** out of the wall shoe **RCS 12**.
- Screw the wall shoe **RCS** to the anchoring **13** by means of hex. bolts **M30x70-8.8 12.1**.

Important!

Bolts firmly tightened?

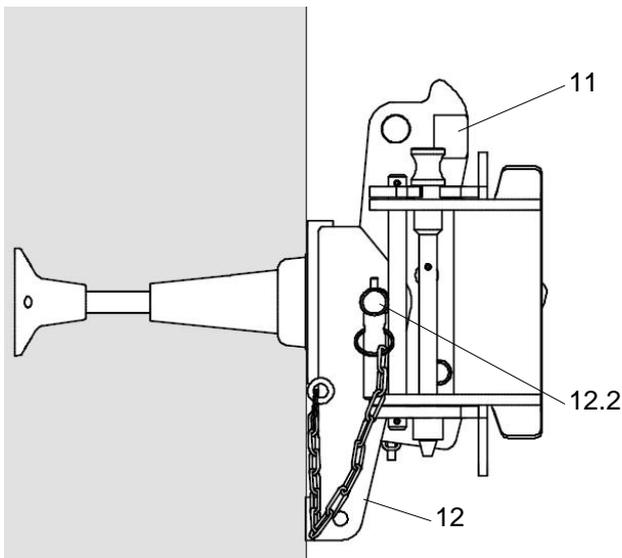


Fig. 80: Fixing the climbing shoe

- Insert the climbing shoe **RCS 11** in the wall shoe **RCS 12**.
- Put the locking pin **12.2** through the lateral cheeks of the wall shoe and climbing shoe and secure with cotter pin.

Important!

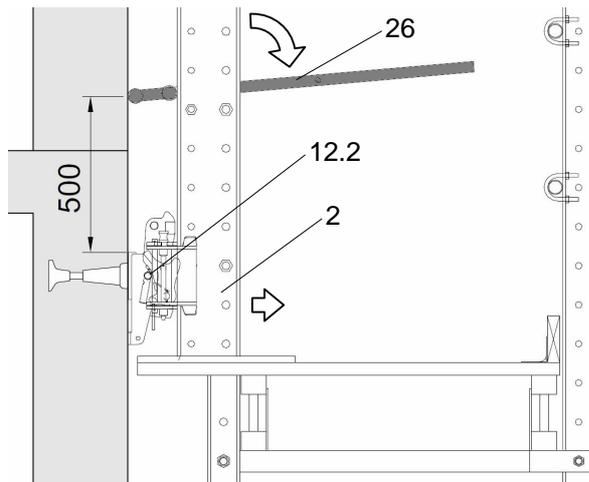
Are all locking pins fully inserted in the climbing shoes?

Cotter pins inserted in locking pins?

Has the climbing shoe been accurately aligned (vertically)?

Depending on the situation, the pawl in the climbing shoe is locked **ÖC5.2** or activated **ÖC5.3**, the climbing shoe is opened or closed **ÖC5.1**

C4.2 Dismantling the suspension unit



- Insert eccentric lever RCS **26** laterally between wall and lower climbing rail **2**. For disassembly of the climbing shoe ensure that enough distance to the wall shoe is given (min. 50cm).
- Push climbing rail **2** away from the wall with the eccentric lever until the pin **12.2** in the wall shoe is released.
- The climbing shoe now is freed.

Attention:

Make sure that the eccentric lever is properly fixed by friction.

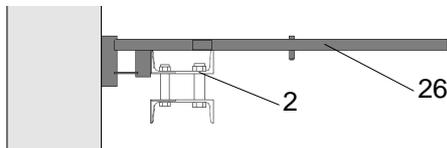
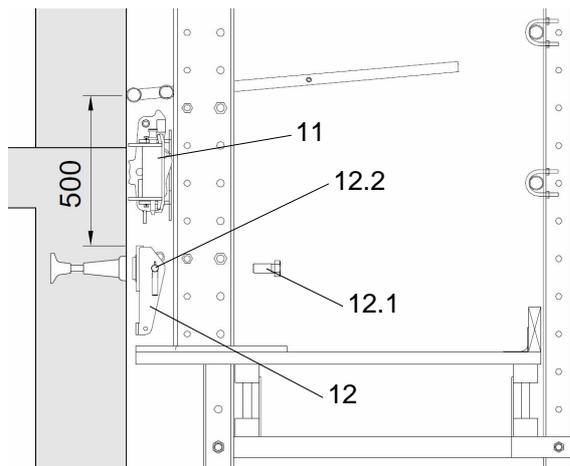


Fig. 81: Releasing the climbing shoe



- Open both runners **11.3** ÖC5.1
- Lock pawl in the climbing shoe ÖC5.2
- Hold climbing shoe **11** and pull locking pins **12.2** out of the wall shoe RCS **12** and the climbing shoe.
- The climbing shoe can now be pulled out sideways behind the climbing rail.
- Remove hex. bolt M30x70-8.8 **12.1** and dismantle the wall shoe RCS.
- If eccentric lever is used then raise it carefully until the climbing rail is released.

Attention: contusion hazard!

Fig. 82: Dismantling the suspension unit

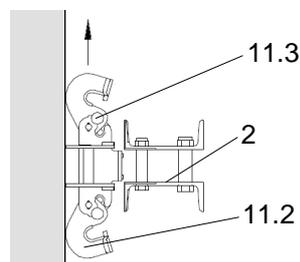


Fig. 83: Dismantling of the climbing shoe

Tip:

When using the climbing rail extension with sufficient space between climbing rail and finishing platform, the climbing shoe can be pulled downwards out of the climbing rail after the wall shoe has been dismantled.

C4.3 Dismantling the Anchorage

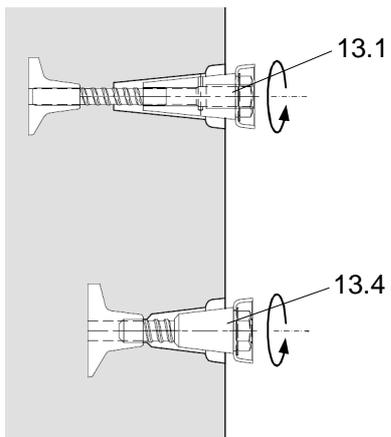


Fig. 84: Dismantling the anchorage

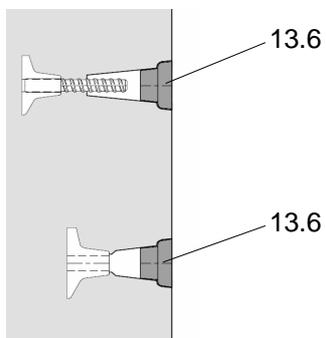


Fig. 85: Dismantling the anchorage

- Loosen the re-usable part of the anchoring by means of a ring spanner SW 46 and completely screw out:

Climbing Cone 2 M30/DW20 **13.1** or
Screw-On Cone M30/DW26 **13.4**

- If necessary:
Close anchor hole with PERI KK concreting cone M30-80/52 **13.6** and PERI sealing compound water resistant

C5 Operating the climbing shoe

C5.1 Opening and closing the Climbing Shoe

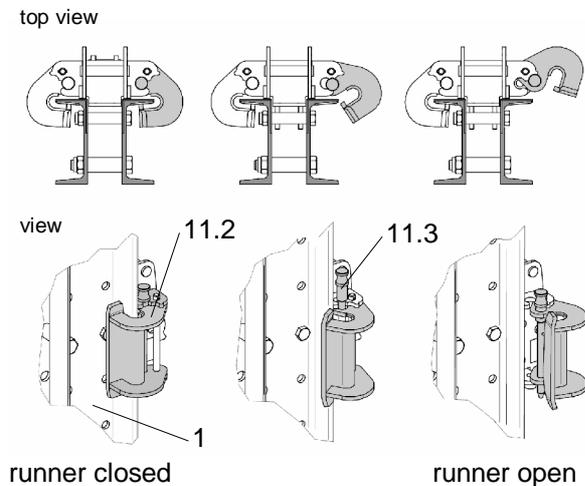


Fig. 86: Opening the climbing shoe

- By lifting the locking pin **11.3** both runners **11.2** on the climbing shoe can be opened towards the rear or closed in the opposite direction.
- After opening, the climbing shoe can now be pulled out sideways behind the climbing rail **1** (C4.2)

Important!

Are both locking pins fully inserted in the climbing shoes?

Attention:

Opening the climbing shoe makes it easier to insert the climbing rail **1** during climbing and allows using the climbing rail in the initial assembly.

C5.2 Locking the Climbing Pawl

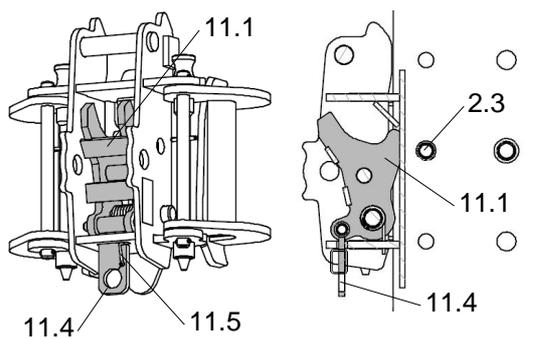


Fig. 87: Climbing pawl is locked (non-operational)

- By pulling the pawl lock **11.4**, the climbing pawl **11.1** is pulled into the shoe and is then non-operational.
- Lift up the hinged bail on the pawl lock **11.4** and release the pawl lock. The hinged bail is now clamped and fixes the climbing pawl.

The climbing pawl is now locked and non-operational

Important!

Is the hinged bail in a clear position?

C5.3 Activating the Climbing Pawl

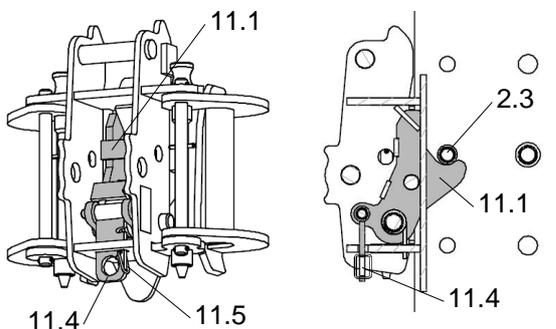


Fig. 88: Climbing pawl is activated (operational)

- Pulling the pawl lock **11.4**, folding down the hinged bail **11.5** and releasing pawl lock, the climbing pawl is activated again.
- If no climbing bolt **2.3** gets in the way of the climbing pawl, it automatically swivels out from the climbing shoe.

The climbing pawl is activated and is now operational

Important!

Functional check of climbing pawl!
Is the hinged bail in a clear position?

C6 Dismantling the climbing unit

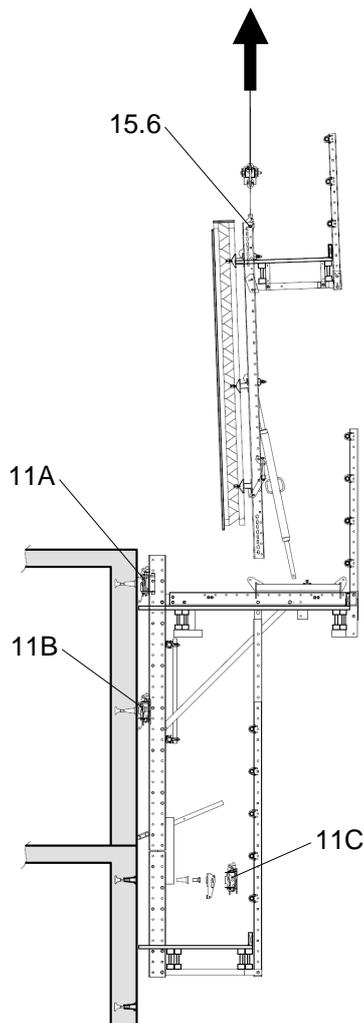


Fig. 89: Dismantling the formwork

Attention:

Additional dropping hazards are created. These areas are to be cordoned off or secured using other appropriate measures!

For assembly work on edge areas which are not secure, use personal protection equipment.

- Strike formwork and retract carriage
- Remove the lowest climbing shoe **11C** ÖC4.2 and the climbing anchor ÖC4.3
- Attach crane slings or Climbing Crossbeam RCS 10t to head of strongback **15.6** ÖA4.3 and tension.
- Detach formwork spindle and strongback from carriage.
- Lift away formwork and set down and dismantle on a suitable area.
- Move carriage **19** over the climbing unit's centre of gravity.
- Attach crane slings or Climbing Crossbeam RCS 10t to the carriage (Pin Ø21x120).

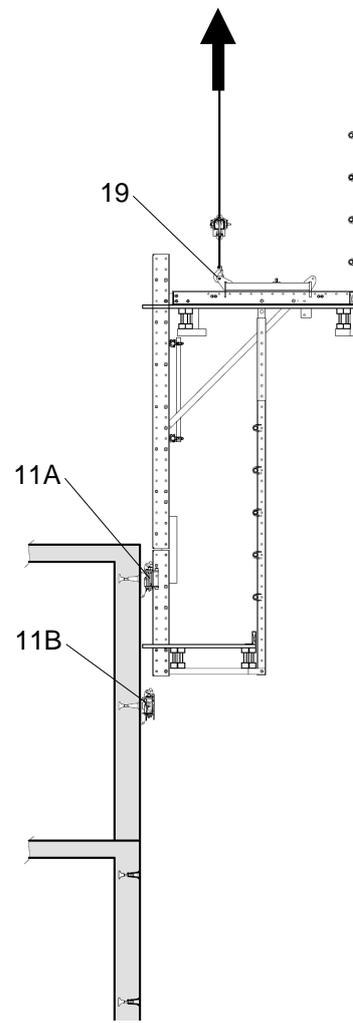


Fig. 90: Dismantling the climbing unit

Attention:

Is Climbing Shoe **11A** the vertical support?

If not:

Activate Pawl in Climbing Shoe **11A** ÖC5.3, lift climbing unit until pawl engages and lower.

- Lock Climbing Shoe **11B** ÖC5.2, which is not the vertical support and open ÖC5.1.
- Personnel leave the climbing unit.
- Lift climbing unit out of Climbing Shoes with the crane
- Transport climbing unit to suitable assembly area and dismantle
- Disassembly of the remaining climbing shoes **11A** and **11B**, wall shoes and dismantle of the anchorage by trained personnel from a safe and secure position.

Part D Moving the Climbing Unit

D1 Moving with the crane

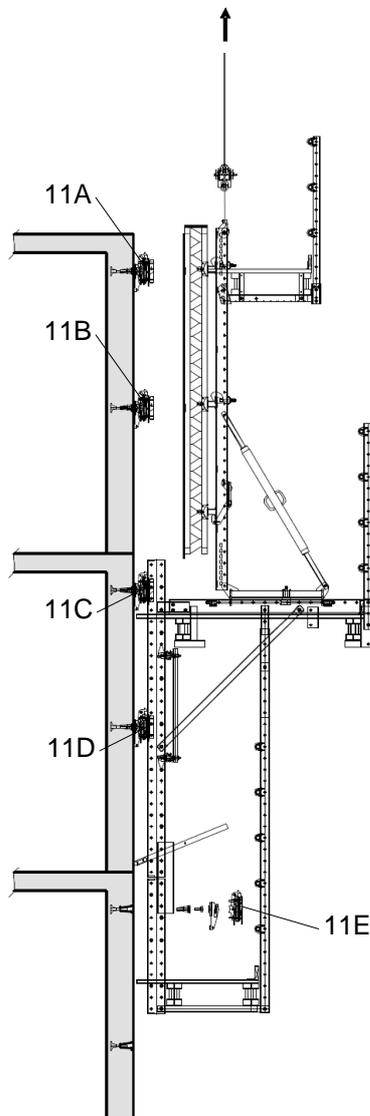


Fig. 91: Climbing procedure with crane

D1.1 Preparations

- Release formwork anchors and leading anchor mounting. **ÖC3**
- Dismantle connections between formwork panels of the climbing units.
- Retract carriage **ÖC2.1** in order to avoid tilting in the climbing shoes, position the carriage in such a way that the strongback is over the centre of gravity of the climbing unit.
- Mount top climbing shoes **11A** and **11B** in advance. **ÖC4.1**
- Pawl of climbing shoe **11B** is released **ÖC5.3**. Both runners are closed **ÖC5.1**
- If climbing shoe **11A** is the designated vertical support then release the pawl **ÖC5.3**, otherwise lock it **ÖC5.2**. Both runners are closed **ÖC5.1**
- Attach the crane slings or the hooks of the Climbing Crossbeam RCS 10t to the strongback. **ÖA4.3**
- Personnel leave the climbing unit.

D1.2 Moving procedure

Attention:

For assembly work on edge areas which are not secure, use personal protection equipment.

Check after each climbing step:

Does the climbing unit rest on the designated climbing shoes on both sides?

If not: Lift the climbing unit a few centimeters with the crane. Lock other climbing shoes. ÖC5.2.

Place climbing unit on designated climbing shoes.

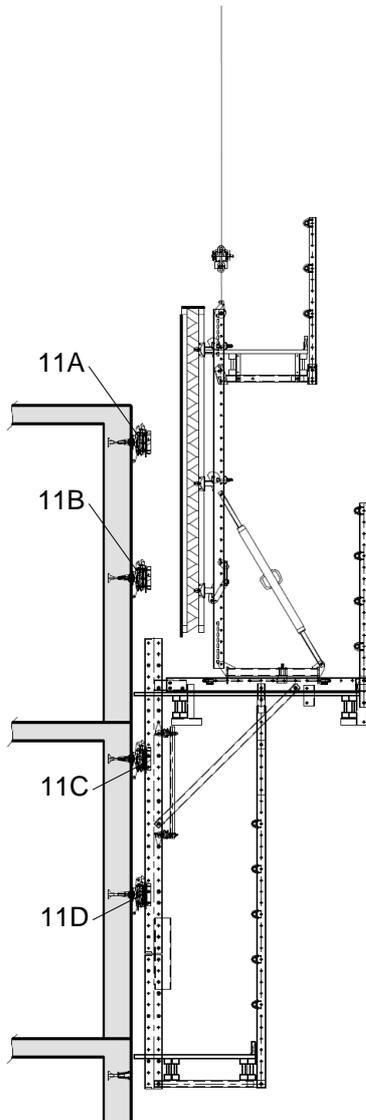


Fig. 92: Climbing step 1

Climbing Step 1

Carefully lift the climbing unit with the crane to the next climbing shoes **11B**.

Pawls audibly engage the designated climbing pins.

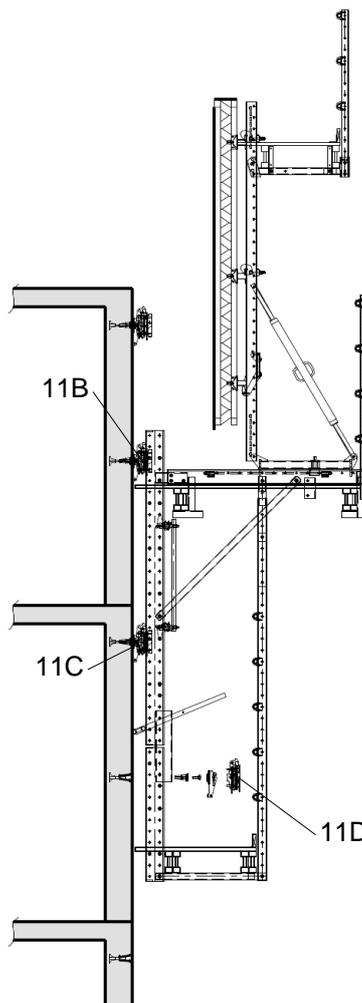


Fig. 93: Interruption

Interruption

Lead Climbing Rail into Climbing Shoe **11B**. Pawls engage. Interrupt climbing procedure. Personnel enter finishing platform.

Dismantle Climbing Shoe **11D**, Wall Shoe and anchor. ÖC4.2

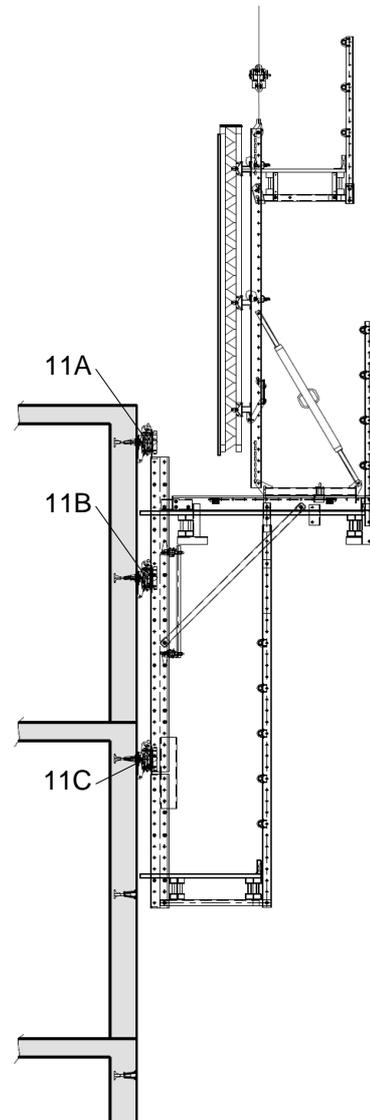


Fig. 94: Climbing step 2

Climbing Step 2

Continue climbing procedure. Lead Climbing Rail into next Climbing Shoe **11A**. Pawls engage.

Personnel re-enter platform.

Detach crane lifting gear

D2 Moving with the climbing unit

For mounting, start up and maintenance, spare-parts list and hydraulic scheme refer to document: "Operating Manual RCS Climbing Device", Edition 2006-10-31

D2.1 Initial Operations

- See "Operating Manual RCS Climbing Device", Section 1

D2.2 Preparations

Attention:

Additional dropping hazards are created due to the climbing procedure. These areas are to be cordoned off or secured using other appropriate measures!

For assembly work on edge areas which are not secure, use personal protection equipment.

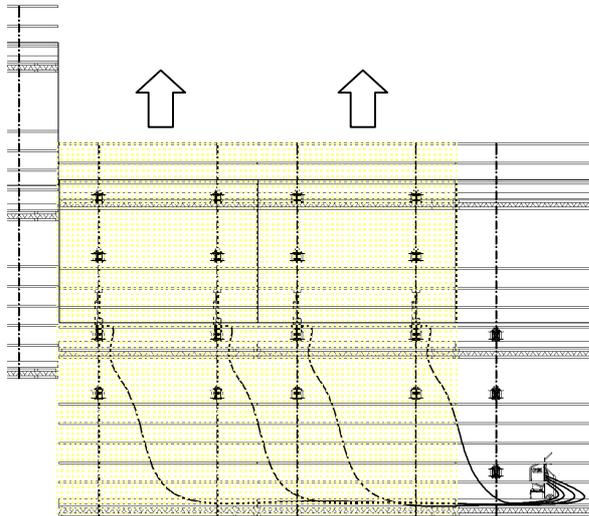


Fig. 95: Climbing groups before the climbing procedure

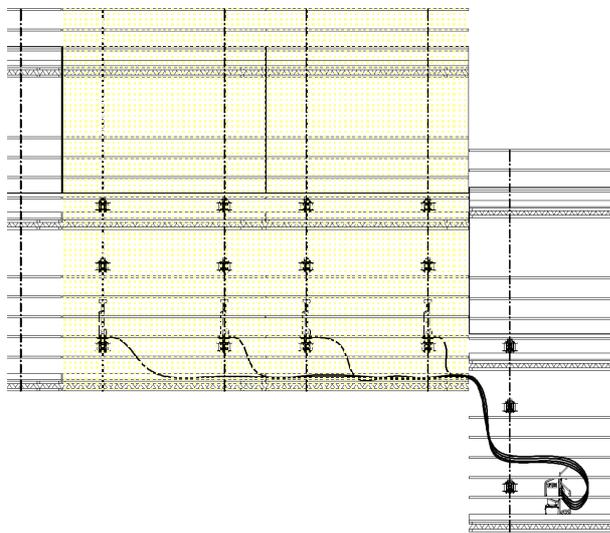


Fig. 96: Climbing groups after the climbing procedure

- Dismantle bottom Climbing Shoe **11E** (Fig. 91) on height of the finishing platform. **ÖC4.2**
- Release corresponding climbing anchor and close anchor hole if required. **ÖC4.3**
- See operating instructions for the RCS Climbing device, Section 3 and 4
- During installation of the climbing device, the hydraulic hoses are normally pulled through the space between the wall and climbing rails, laid on the finishing platform. **ÖD2.8**

Attention:

The arrangement of sockets and plugs of the quick couplers is unmistakable.

Tip:

In order to save time, we recommend using 2 sets of hydraulic hoses.

Then locate the second set in advance for the following climbing sequence.

- Attach climbing devices on the climbing shoes of the climbing group
- Depending on the position of the aggregate, the hydraulic hoses are attached on the left or right of the climbing devices

Important!

Ensure that the hydraulic hoses do not get tangled with the platforms or with the building!

Make sure that no loops form in the area of those platforms ready to be climbed.

No objects or parts of the platforms may project into the area containing the hoses.

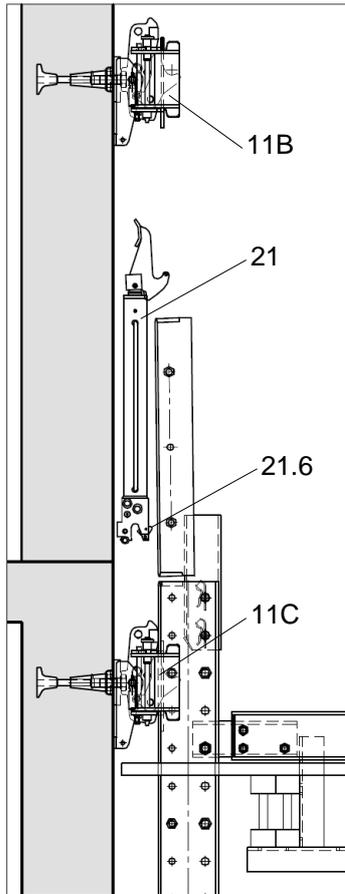
- Monitor the climbing procedure from a secure position.

Attention:

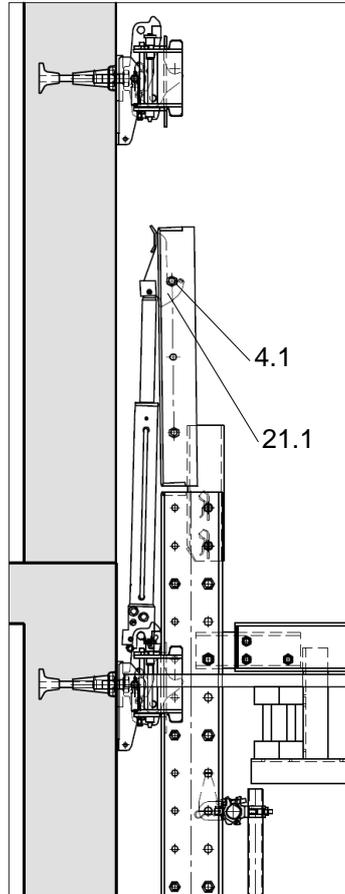
If manual intervention in the climbing process is required, the platforms which are to be climbed may be accessed only after consultation with service personnel.

D2.3 Self-Climbing Procedure

Step 1



Step 2



Step 3

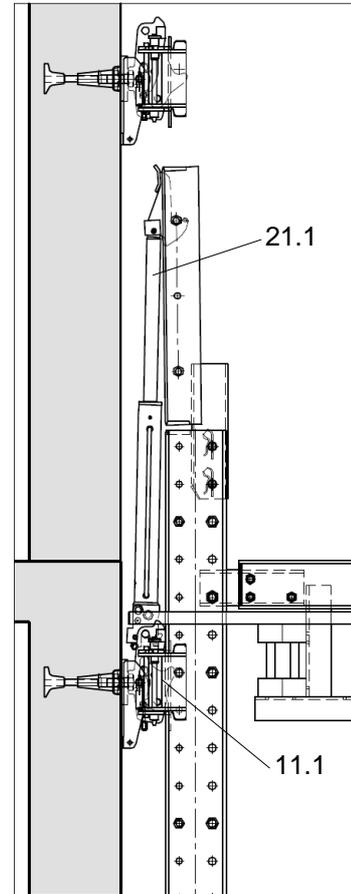


Fig. 97: Self-climbing procedure - steps 1-3

Place the Climbing Device **21** on the bolts of the Climbing Shoe. **11C**.

Attach hydraulic hoses with quick couplers to the Climbing Device.

Attention:

Have hydraulic hoses been attached on the correct side?

Locking lever **21.6** engaged at cylinder base?

Hydraulic hoses cannot become tangled?

Extend pistons of all hydraulic cylinders out to the first climbing pin **4.1** of the Climbing Rail Extension 110.

Imposed load is now carried by the claw on the piston **21.1**.

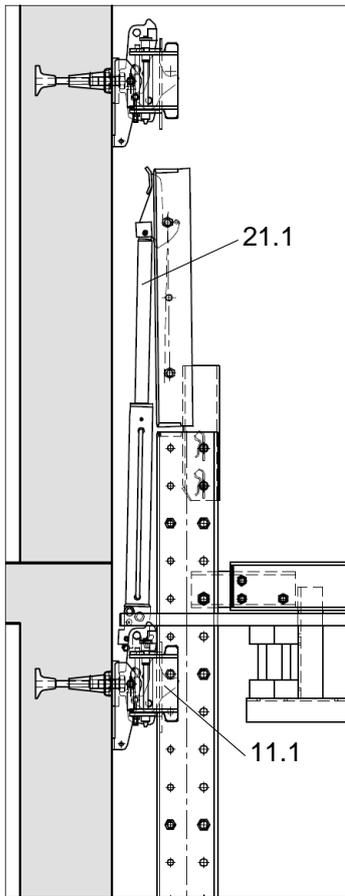
Attention:

All claws on the pistons engaged?

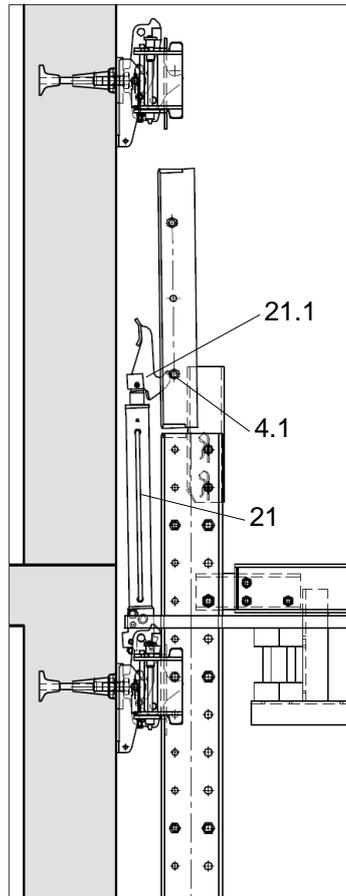
Further extension of the pistons **21.1** for all hydraulic cylinders

Pawl **11.1** in the climbing shoe is pressed inwards.

Step 4



Step 5



Step 6

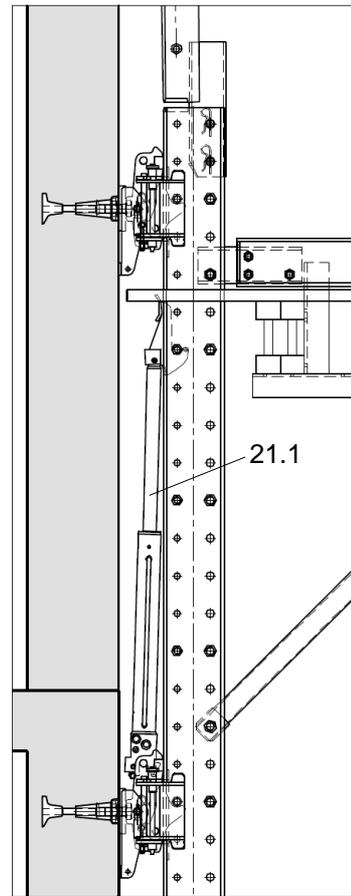


Fig. 98: Self-climbing procedure - steps 4-6

Complete extension of pistons **21.1** in all hydraulic cylinders.

Attention:
Climbing pawls **11.1** in all Climbing Shoes engaged in the climbing pins?

If not: Climb back and remove cylinder and bleed.

Retract pistons in all hydraulic cylinders

Claw **21.1** is taken around the climbing pins **4.1**, hydraulic cylinder **21** tilts backwards.

Retract the piston until claw engages climbing pin **4.1**.

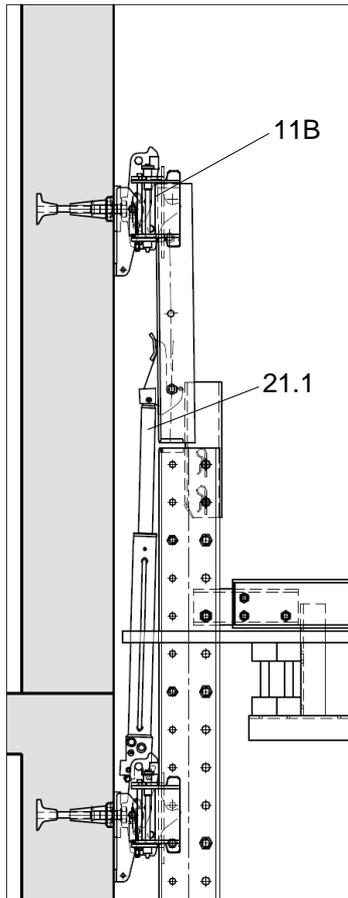
Attention:
Have all claws engaged the climbing pins?

Extend pistons **21.1** in all hydraulic cylinders

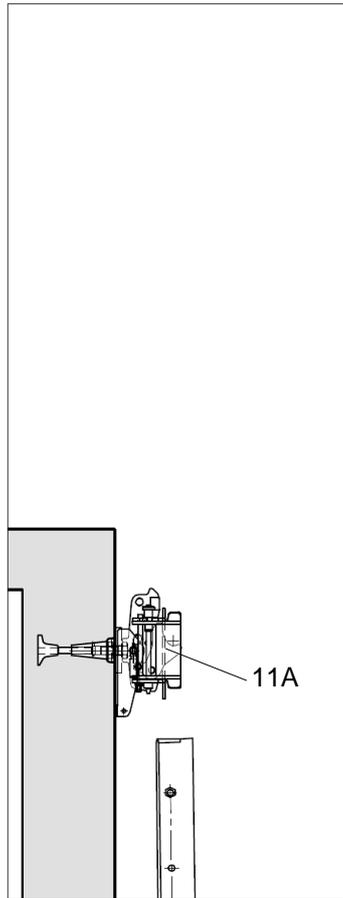
By repeating steps 3 to 6, the climbing unit gradually climbs in 50 cm increments.

Attention:
If hydraulic hoses become stretched or tangled, immediately break off the climbing procedure and eliminate the problem!

Step 7



Step 8



Step 9

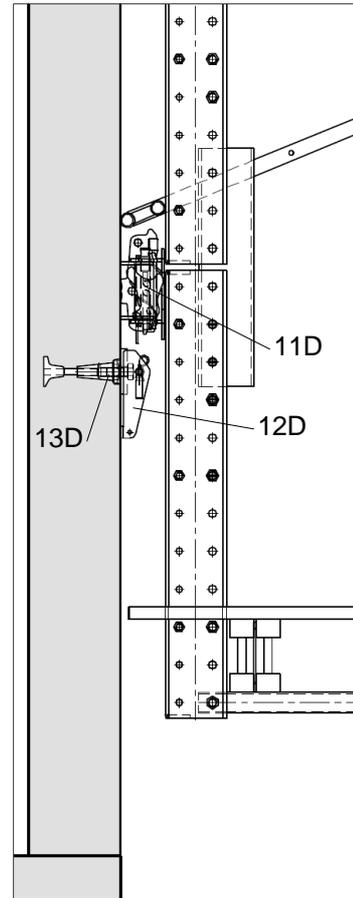


Fig. 99: Self-climbing procedure - steps 7-9

When reaching next Climbing Shoe **11B** then lead-in the Climbing Rail Extension 110.

Attention:

If Climbing Rail Extension 110 jams in Climbing Shoe then climb back and guide with a lever.

Interrupt climbing procedure.

Mount wall shoe and climbing shoe in advance **11A**. **ÖC4.1**

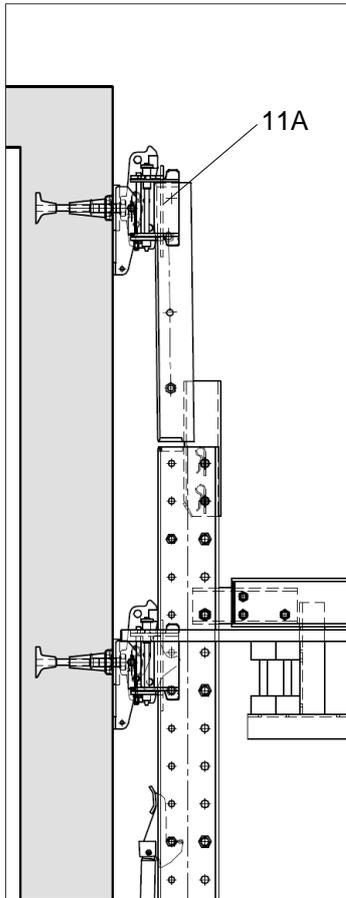
If Climbing Shoe **11A** is the designated vertical support then activate pawl **ÖC5.3**, otherwise lock it **ÖC5.2**.

Dismantle bottom Climbing Shoe **11D** and Wall Shoe **12D** **ÖC4.2**

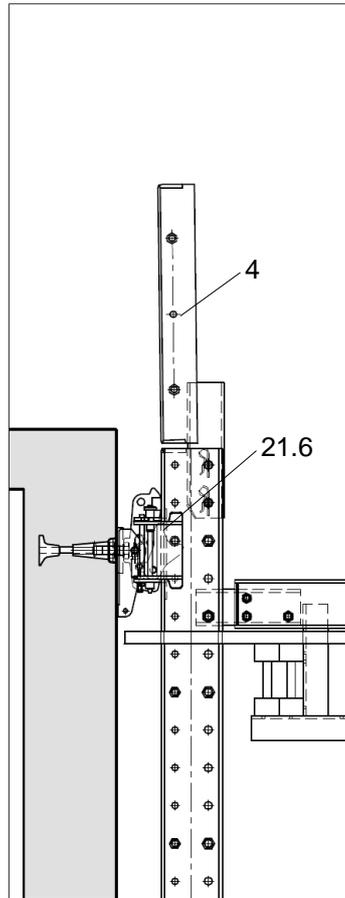
Release and dismantle climbing cone **13D** and close anchor hole if required. **ÖC4.3**

Continue climbing procedure.

Step 10



Step 11



Step 12

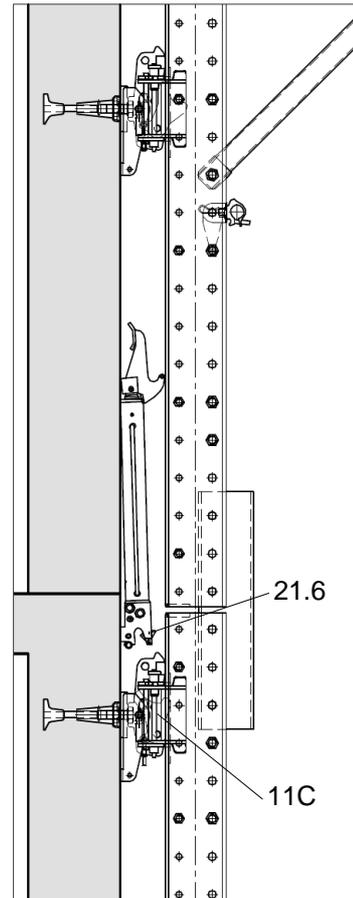


Fig. 100: Self-climbing procedure - steps 10-12

When reaching next Climbing Shoe **11A** then lead-in the Climbing Rail Extension **110**.

Attention:
If Climbing Rail Extension **110** jams in Climbing Shoe then climb back and guide with a lever.

Stop last lift after approx. 10 cm.

Lock pawl **11.1** in the lowest Climbing Shoe **11C**, on which the climbing device is positioned.

Activate pawl in Climbing Shoes **11A** or **11B**, whether it is the designated vertical support. **ÖC5.3**

Lock pawl in other Climbing Shoes. **ÖC5.2**

Continue climbing procedure.

Attention:
Are all climbing pawls activated which have been designated for vertical load bearing?

Put climbing unit on the activated pawl of the designated Climbing Shoe.

Release hydraulic hoses from climbing device with the help of the quick-couplers.

Apply locking lever **21.6** on the cylinder base and remove Climbing Device.

Dismantle Climbing Rail Extensions **110 4**.

Transport Climbing Rail Extensions **110**, hydraulic aggregate, climbing devices and hydraulic hoses to the next climbing units.

D2.4 Self-climbing of the final climbing unit

- The hydraulic aggregate is placed on the finishing platform of the unit to be climbed.
- Only one unit may be climbed in order to avoid tangling the hydraulic hoses. **ÖD2.8**
- Monitor the hydraulic hoses during the climbing procedure.

Attention:

If the hydraulic hoses start to stretch or become tangled, stop the climbing procedure and eliminate the problem!

- After the last unit has been climbed, the hydraulic climbing devices are to be transported to the next floor.
- Temporary storage of all hydraulic equipment to protect against soiling and damage.

D2.5 Solving malfunction problems

- Synchronization process is not working properly
- Cylinder begins to fall back

See "Operating Manual RCS Climbing Device", Section 2

D2.6 Operating the oil hydraulic unit

See "Operating Manual RCS Climbing Device", Section 4

D2.7 Removing air from the hydraulic device

See "Operating Manual RCS Climbing Device", Section 5

D2.8 Hydraulic schemes

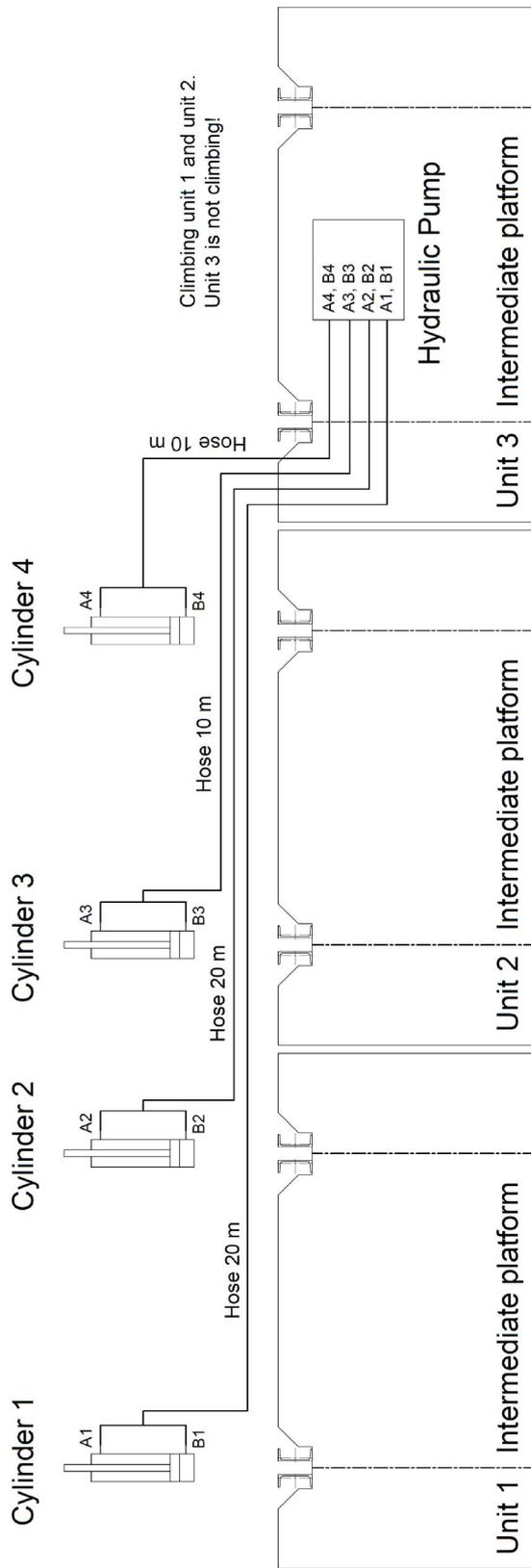


Fig. 101: Hydraulic Scheme for standard climbing procedure

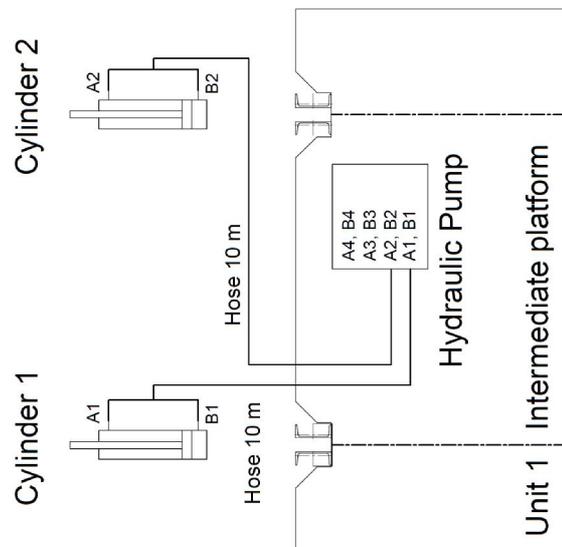


Fig. 102: Hydraulic Scheme for climbing procedure of last climbing unit

Part E General Information

E1 Cleaning and Maintenance

- During cleaning, ensure components are safely stored!
- Components may not be cleaned whilst still attached to the crane!
- Remove any concrete surplus!
- Spray new formwork and new brackets on all sides before first use with release agent e.g. PERI BIO Clean
- Spray formwork every time after striking with a release agent, then clean.

- For longer storage periods, e.g. bad weather, store components in clean condition and sprayed. Any damage to the paintwork is to be repaired with anti-corrosion paint.
- Spray (grease if necessary) moving parts regularly with a release agent.
- Ensure that elements and accessories are properly stored.
- Never use unnecessary force during assembly and dismantling.

Why?

- Provides good protection against sticking and corrosion before first dirt accumulation. Prevents complete moistening with a release agent.
- Helps to remove concrete surplus and makes cleaning easier. Removing by force or scraping off is not necessary. Formlining and paint remain intact.
- Steel components are protected against corrosion and the formlining against weathering.
- Removes rust, prevents corrosion and keeps parts in good working order.
- Prevents damage to the components. Damage to the formlining through any indentations is avoided.
- Maintains the functionality of the parts as well as faster re-use.

E2 Transport

- Move components with suitable and secure transport means and lifting gear.
- Dismantle platforms, form storage units, and combine into transportation units.

- Place pieces of timber between the elements. Secure transportation units e.g. steel bands or scaffold tubes.
- Secure transportation units with suitable load-securing equipment.

Why?

- Avoids damage caused by inappropriate transport means.
- Small parts are not lost, assembly groups remain together.

- Securing parts will be protected; dents, shifting of elements or falling on top of each other is avoided.
- Elements remain firmly in position during transportation – no shifting or falling.

E3 Storage

- Store all parts in bundles. Use closed containers.

- Avoid direct contact with the ground and water. Storage in an inclined position is possible.

Why?

- Parts can be found and used faster. Damageable and smaller components as well as tools are protected.
- Components are protected from dirt, dampness and corrosion. Storage bundles are supported on timber pieces.

E4 Hydraulic System

- Climbing device
- Hydraulic aggregate
- Hydraulic hoses

For additional requirements regarding the cleaning, maintenance, transport and storage refer to document: "Operating Manual RCS Climbing Device", Edition 2006-10-31

Maintenance of oil hydraulic equipment

See "Operating Manual RCS Climbing Device", Section 1

Service of oil hydraulic equipment

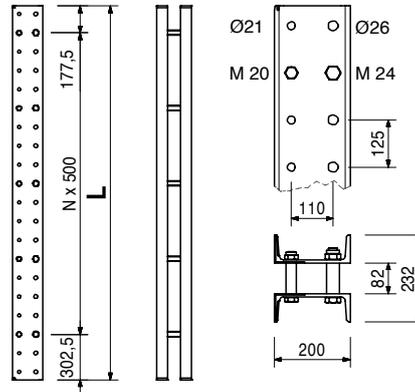
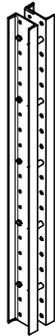
See "Operating Manual RCS Climbing Device", Section 3

Item no.	Weight kg		L
114166	78,300	Climbing Rail RCS	1480
109469	130,000	Climbing Rail RCS 148	2480
109470	183,000	Climbing Rail RCS 248	3480
109471	262,000	Climbing Rail RCS 348	4980
109472	394,000	Climbing Rail RCS 498	7480
109610	525,000	Climbing Rail RCS 748	9980

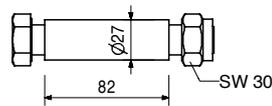
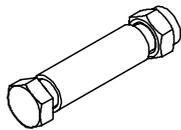
Steel profile for all-purpose use of climbing applications or civil constructions. With Spacer M 20-82 and M 24-82.

Technical Data

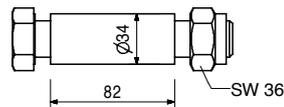
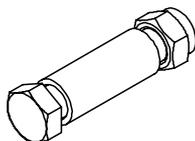
Wy = 357,6 cm³, Iy = 3576 cm⁴



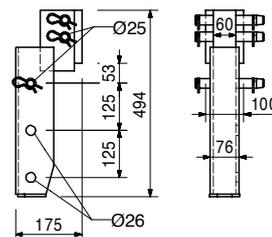
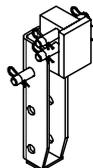
110022	0,493	Spacer M20-82 Spacer for Climbing Rails RCS.	Complete with 1 pc. 104477 Bolt ISO 4014 M20x120-8.8, galv. 1 pc. 781053 Nut ISO 7042 M20-8, galv.
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110023	0,910	Spacer M24-82 Spacer for Climbing Rails RCS.	Complete with 1 pc. 109612 Bolt ISO 4014 M24 x 130-8.8, galv. 1 pc. 105032 Nut ISO 7042 M24-8, galv.
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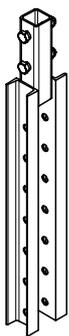
110569	16,700	Climbing Rail Hinge RCS For an articulated connection on Climbing Rails RCS or used as compression point at Climbing Brackets RCS.	Complete with 3 pc. 710894 Pin Ø 25 x 180, geomet. 6 pc. 018060 Cotter Pin 4/1, galv.
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Item no.	Weight kg
109791	25,900

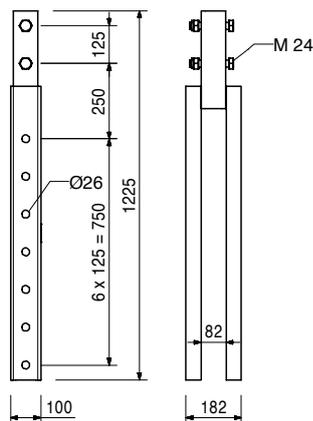
Climbing Rail Extension RCS 100

For extension of Climbing Rails RCS for connection of the finishing platform.



Complete with

2 pc. 109612 Bolt ISO 4014 M24 x 130-8.8, galv.
2 pc. 105032 Nut ISO 7042 M24-8, verz.



113745	32,800
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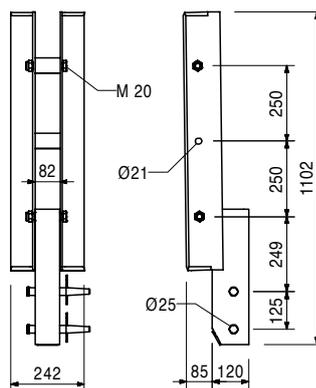
Climbing Rail Extension RCS 110

For extension of Climbing Rails RCS and for the use of the Climbing Device RCS 50 on the main platform.



Complete with

2 pc. 110022 Spacer M20-82
2 pc. 111567 Fitting Pin Ø 26 x 120
4 pc. 022230 Cotter Pin 5/1, galv.



109743	6,520
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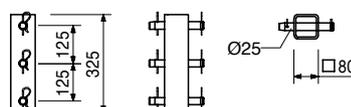
Climbing Rail Connector RCS 33

For articulated connection of Climbing Rails RCS.



Complete with

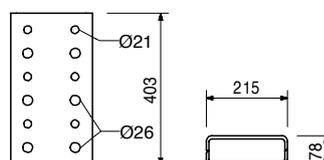
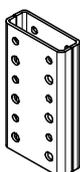
3 pc. 710894 Pin Ø 25 x 180, geomet.
6 pc. 018060 Cotter Pin 4/1, galv.



111833	12,700
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Climbing Rail Connector RCS 40

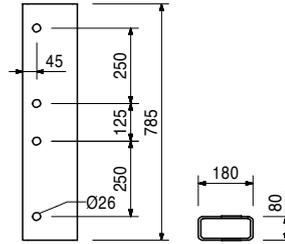
For articulated connection or reinforcing of the Climbing Rails RCS.



Item no.	Weight kg
113744	22,800

Climbing Rail Connector RCS 79

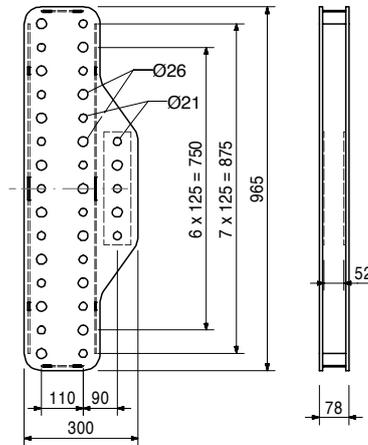
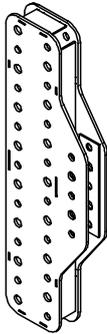
For rigid connection of Climbing Rails RCS with limited bending moment.



111390	32,800
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Climbing Rail Connector RCS 97

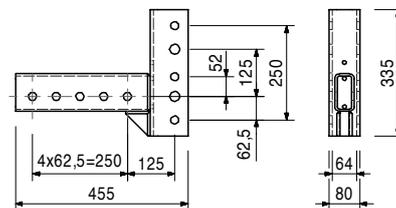
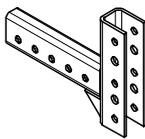
For rigid connection of Climbing Rails RCS. With connector for Heavy Duty Spindle SLS.



111283	9,560
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Angle Connector RCS/SRU

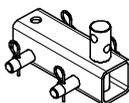
For right-angled connection of Steel Walers SRU to the Climbing Rails RCS and for mounting of Guardrail Posts to the Steel Walers SRU.



123534	5,910
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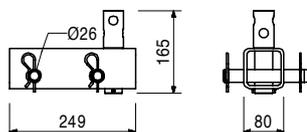
Brace Connector RCS DW15/ M20

For mounting diagonal bracing with Tie Rod DW 15 and a compression strut on the Climbing Rail RCS.



Complete with

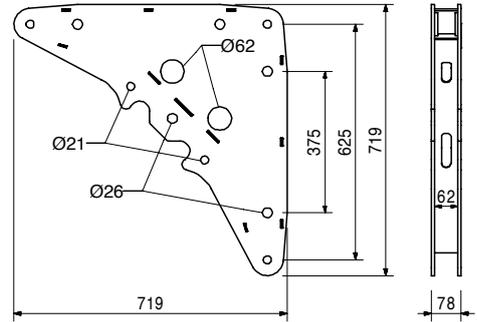
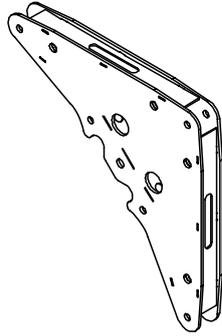
2 pc. 710894 Pin Ø 25 x 180, geomet.
4 pc. 018060 Cotter Pin 4/1, galv.



Item no.	Weight kg
111382	35,200

Climbing Rail Angle Connector RCS

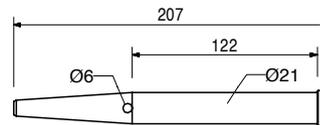
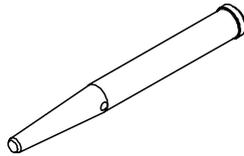
For rigid right-angled connection of Climbing Rails RCS, for frame works or used as a bracket. With connector for Heavy Duty Spindles SLS and Tie Rod Cylinder Yoke SRU.



104031	0,462
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Fitting Pin ø 21 x 120

For diverse connections.



018060	0,030
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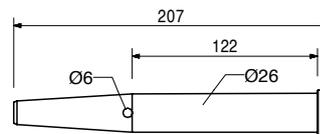
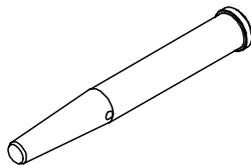
Accessories

Cotter Pin 4/1, galv. (1 pc.)

111567	0,729
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Fitting Pin ø 26 x 120

For diverse connections.



022230	0,033
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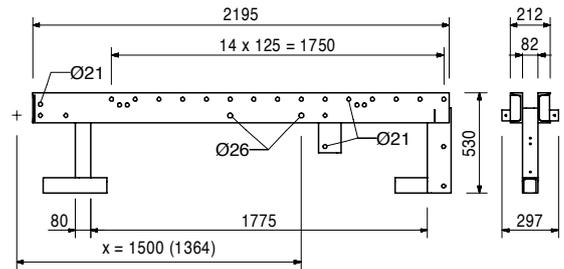
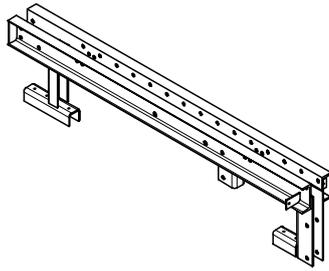
Accessories

Cotter Pin 5/1, galv. (1 pc.)

Item no.	Weight kg
109716	107,000

Crossbeam RCS 220

Platform beam for formwork brackets with Carriage RCS.



110015	10,400
110285	7,920
109968	41,600

Accessories

Crossbeam Head RCS/VARIO (1 pc.)

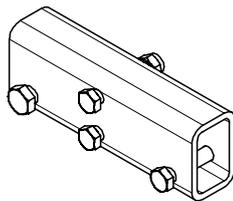
Crossbeam Head RCS/TRIO (1 pc.)

Carriage RCS (1 pc.)

110015	10,400
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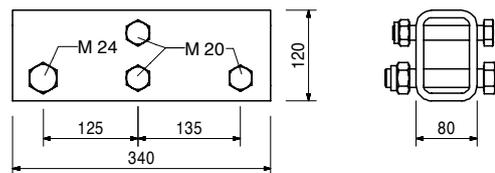
Crossbeam Head RCS/VARIO

For connection of the Crossbeam RCS 220 to the Climbing Rail RCS when in use with VARIO GT 24 formwork (x = 1500).



Complete with

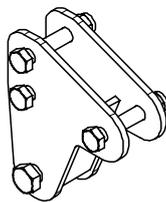
- 1 pc. 109612 Bolt ISO 4014 M24 x 130-8.8, galv.
- 1 pc. 105032 Nut ISO 7042 M24-8, galv.
- 3 pc. 104477 Bolt ISO 4014 M20 x 120-8.8, galv.3
- pc. 781053 Nut ISO 7042 M20-8, galv.



110285	7,920
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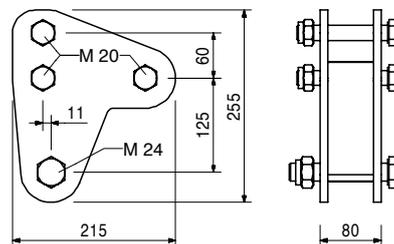
Crossbeam Head RCS/TRIO

For connection of the Crossbeam RCS 220 to the Climbing Rail RCS when in use with TRIO formwork (x = 1364).



Complete with

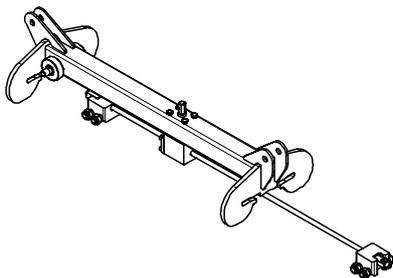
- 1 pc. 109612 Bolt ISO 4014 M24 x 130-8.8, galv.
- 1 pc. 105032 Nut ISO 7042 M24-8, galv.
- 3 pc. 104477 Bolt ISO 4014 M20 x 120-8.8, galv.
- 3 pc. 781053 Nut ISO 7042 M20-8, galv.



Item no.	Weight kg
109968	41,600

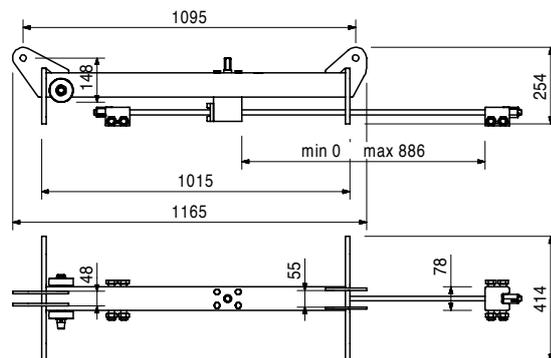
Carriage RCS

Self-locking carriage with rollers on the Crossbeam RCS 220. Formwork can be retracted by approx. 880 mm.



Complete with

4 pc. 104477 Bolt ISO 4014 M20 x 120-8.8, galv.
4 pc. 781053 Nut ISO 7042 M20-8, galv.



110094	1,180
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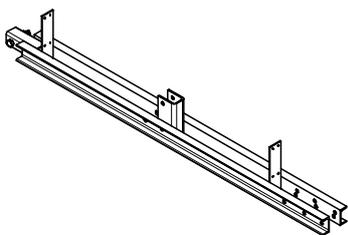
Accessories

Carriage Crank Lever SW 19 (1 pc.)

109717	58,300
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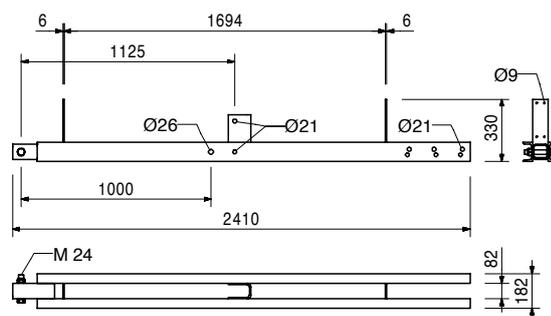
Intermediate Platform Beam RCS 241

Beam for climbing platforms.



Complete with

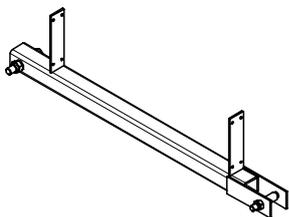
1 pc. 109612 Bolt ISO 4014 M24 x 130-8.8, galv.
1 pc. 105032 Nut ISO 7042 M24-8, galv.



109722	14,200
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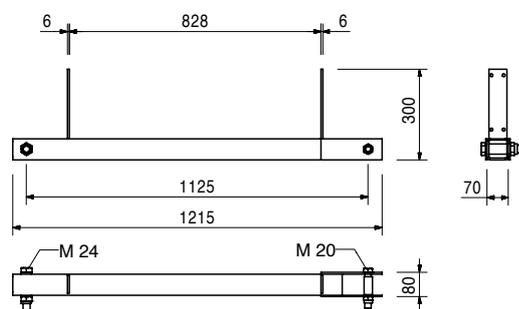
Finishing Platform Beam RCS 122

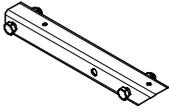
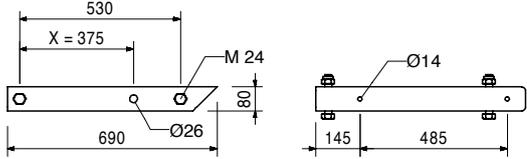
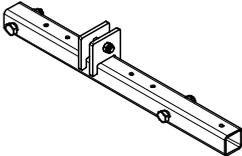
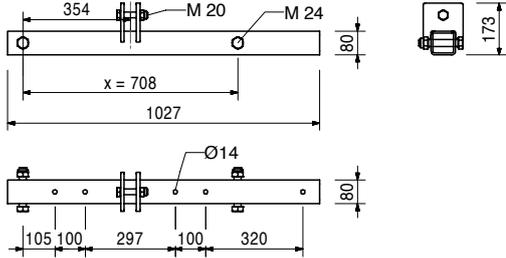
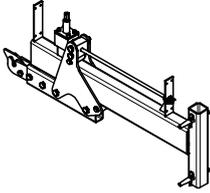
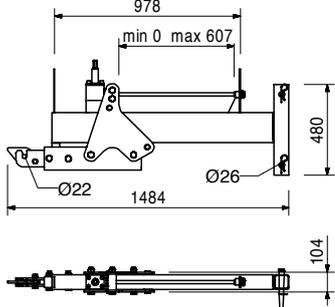
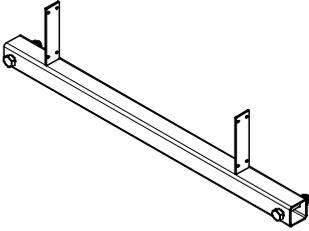
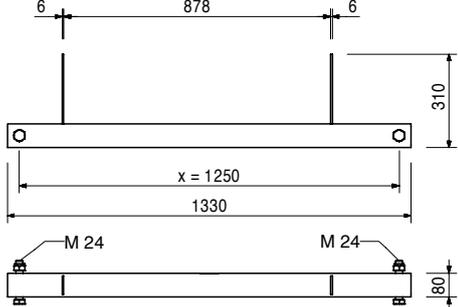
Beam for finishing platforms.



Complete with

1 pc. 104477 Bolt ISO 4014 M20 x 120-8.8, galv.
1 pc. 781053 Nut ISO 7042 M20-8, galv.
1 pc. 109612 Bolt ISO 4014 M24 x 130-8.8, galv.
1 pc. 105032 Nut ISO 7042 M24-8, galv.



Item no.	Weight kg		
111631	10,100	Crossbar RCS 69 As crossbar or brace when used as climbing protection panel (platform width 1.00 m).	Complete with 2 pc. 109612 Bolt ISO 4014 M24 x 130-8.8, galv. 2 pc. 105032 Nut ISO 7042 M24-8, verz.
			
110234	18,200	Crossbar RCS 103 As crossbar when used as climbing protection panel (platform width 1.32 m).	Complete with 1 pc. 710226 Bolt ISO 4014 M20 x 90-8.8, galv. 1 pc. 781053 Nut ISO 7042 M20-8, galv. 2 pc. 109612 Bolt ISO 4014 M24 x 130-8.8, galv. 2 pc. 105032 Nut ISO 7042 M24-8, verz.
			
111212	74,800	Sledge Platform Beam RCS Platform beam with sledge for mounting to the vertical Climbing Rail RCS. Formwork is suspended on the sledge and retractable by approx. 600 mm.	Complete with 2 pc. 111567 Fitting Pin Ø 26 x 120 2 pc. 022230 Cotter Pin 5/1, galv.
			
110467	17,500	Crossbar RCS 133 As platform beam when used with suspended formwork.	Complete with 2 pc. 109612 Bolt ISO 4014 M24 x 130-8.8, galv. 2 pc. 105032 Nut ISO 7042 M24-8, verz.
			

Item no.	Weight kg
109718	16,500
110473	18,300
110012	23,400

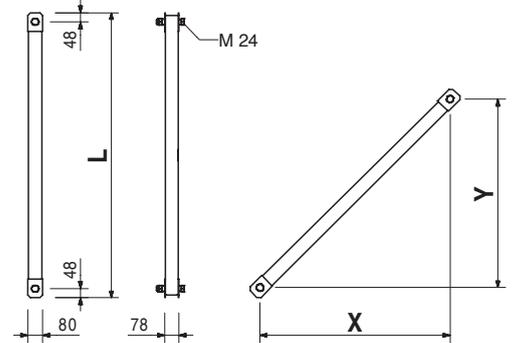
Diagonal Strut RCS
Diagonal Strut RCS 142
Diagonal Strut RCS 160
Diagonal Strut RCS 212

For bracing of RCS truss brackets.

	L	X	Y
	1512 1	000 1	000
1	697	1500	1000
	2217 15	00 15	00

Complete with

2 pc. 109612 Bolt ISO 4014 M24 x 130-8.8, galv.
 2 pc. 105032 Nut ISO 7042 M24-8, verz.



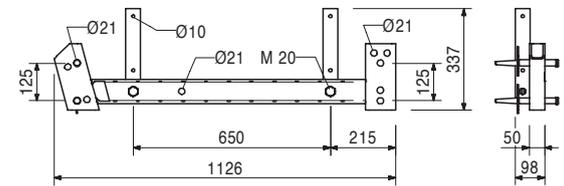
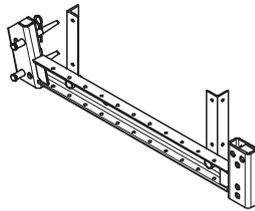
114301	17,100
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Platform Beam RCS/SRU 113

For assembling of cantilevered platforms onto Steel Walers SRU or Climbing Rails RCS.

Complete with

2 pc. 104031 Fitting Pin \varnothing 21 x 120
 2 pc. 022230 Cotter Pin 5/1, galv.
 2 pc. 706458 Bolt ISO 4017 M20 x 40-8.8, galv.
 2 pc. 781053 Nut ISO 7042 M20-8, galv.



Accessories

114328	16,400
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Guardrail Post RCS/SRU 184 (1 pc.)

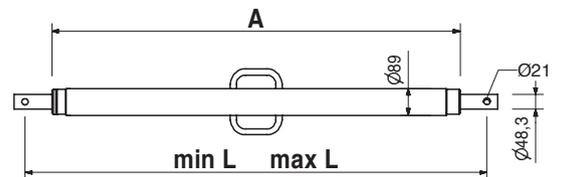
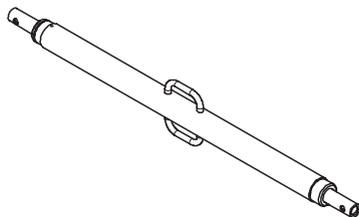
111035	12,000	Heavy-Duty Spindle SLS
101773	14,300	Heavy-Duty Spindle SLS 40/80
101774	17,900	Heavy-Duty Spindle SLS 80/140
101776	24,330	Heavy-Duty Spindle SLS 100/180
101778	31,800	Heavy-Duty Spindle SLS 140/240
101779	37,900	Heavy-Duty Spindle SLS 200/300
109726	44,300	Heavy-Duty Spindle SLS 260/360
109785	50,500	Heavy-Duty Spindle SLS 320/420
		Heavy-Duty Spindle SLS 380/480

Used as adjustable spindle for truss beams made of Steel Walers SRU and Climbing Rails RCS.

A	min. L	max. L
344	400	800
746	800	1400
946	1000	1800
1346	1400	2400
1944	2000	3000
2544	2600	3600
3144	3200	4200
3744	3800	4800

Note

Permissible load see PERI Design Tables.



Item no.	Weight kg		
110477	3,990	Spindle Adapter SLS/RCS For connection of Heavy Duty Spindles SLS to the Climbing Rails RCS.	Complete with 1 pc. 104031 Fitting Pin \varnothing 21 x 120 1 pc. 018060 Cotter Pin 4/1, galv.
110084	2,310	Scaffold Tube Adapter RCS \varnothing 48 For mounting scaffold tubes \varnothing 48 mm to the Climbing Rails RCS.	Complete with 1 pc. 017040 Screw-On Coupling AK 48, galv. 1 pc. 710894 Pin \varnothing 25 x 180, geomet. 2 pc. 018060 Cotter pin 4/1, verz.
114328	16,600	Guardrail Post RCS/SRU 184 For mounting guardrails on the Platform Beam RCS/SRU.	Complete with 2 pc. 114727 Bolt ISO 4017 M20 x 100-8.8, galv. 2 pc. 781053 Nut ISO 7042 M20-8, galv.
109720	26,600	Guardrail Post RCS 226 For mounting guardrails on the main platform for RCS formwork scaffold or used as horizontal strut for bracing.	Complete with 2 pc. 104477 Bolt ISO 4014 M20 x 120-8.8, galv. 2 pc. 781053 Nut ISO 7042 M20-8, galv.

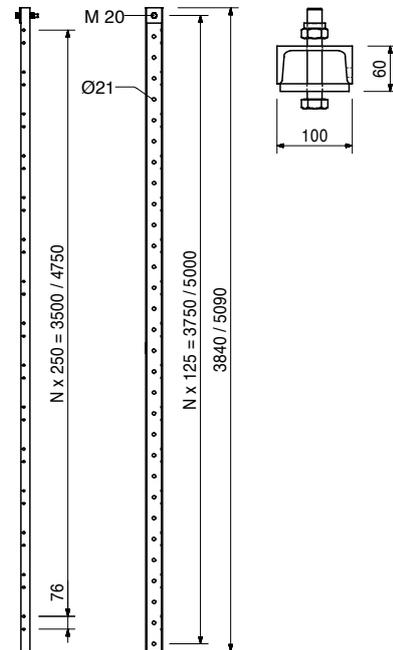
Item no.	Weight kg
109721	40,700
109773	67,900

Guardrail Post RCS
Guardrail Post RCS 384
Guardrail Post RCS 509

For mounting guardrails on the intermediate and finishing platforms for RCS formwork scaffold or used as horizontal strut for bracing.

Complete with

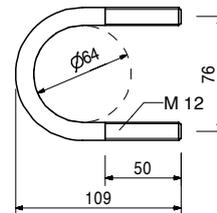
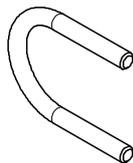
1 pc. 104477 Bolt ISO 4014 M20 x 120-8.8, galv.
 1 pc. 781053 Nut ISO 7042 M20-8, galv.



110296	0,220
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Clamp A64 DIN 3570 M12, galv.

For mounting scaffold tubes to the Guardrail Posts RCS.



Accessories

710330	0,017
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Nut ISO 4032 M12-8, galv. (2 pc.)

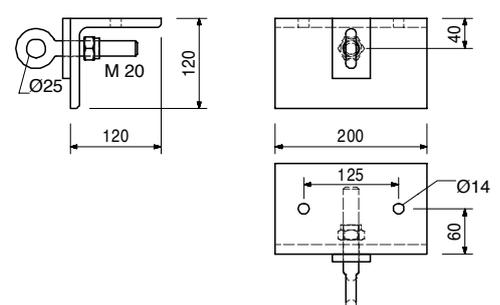
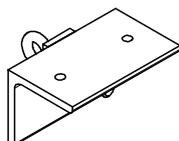
110290	5,030
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Timber Fixation RCS 12/20

For mounting timbers to the Climbing Rails RCS when used as climbing protection panel.

Complete with

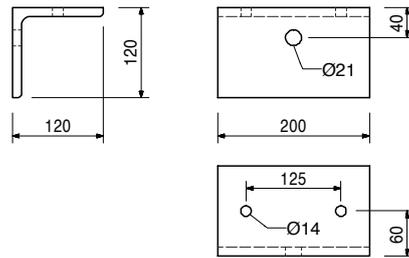
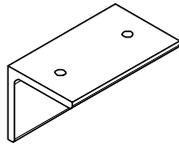
1 pc. 110281 Eye Screw M 20, right, galv.
 1 pc. 781053 Nut ISO 7042 M20-8, galv.



Item no.	Weight kg
110289	4,260

L-Angle RCS 120 x 120 x 200

For mounting of lateral guardrail posts to the platform planking.



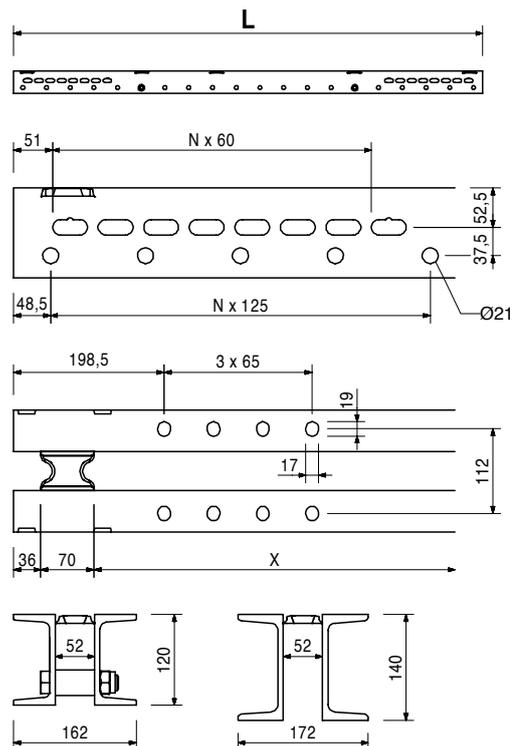
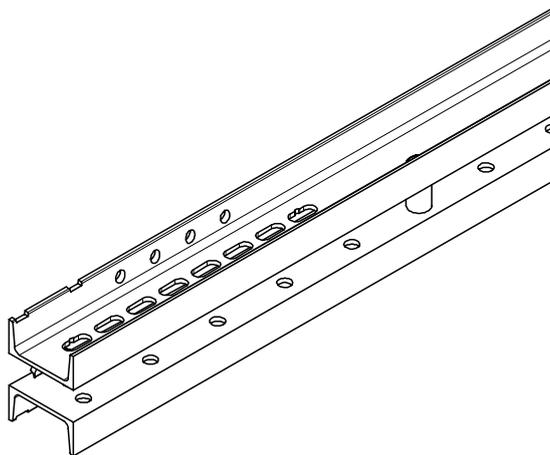
		Steel Waler Universal SRU	L
103868	18,100	Steel Waler Universal SRU U120 l = 0,72 m	722
103871	24,200	Steel Waler Universal SRU U120 l = 0,97 m	972
103874	30,900	Steel Waler Universal SRU U120 l = 1,22 m	1222
103877	38,100	Steel Waler Universal SRU U120 l = 1,47 m	1472
103886	44,700	Steel Waler Universal SRU U120 l = 1,72 m	1722
103889	52,000	Steel Waler Universal SRU U120 l = 1,97 m	1972
103898	58,600	Steel Waler Universal SRU U120 l = 2,22 m	2222
103892	65,600	Steel Waler Universal SRU U120 l = 2,47 m	2472
103929	72,000	Steel Waler Universal SRU U120 l = 2,72 m	2722
103903	81,000	Steel Waler Universal SRU U120 l = 2,97 m	2972
103906	92,600	Steel Waler Universal SRU U120 l = 3,47 m	3472
103915	106,000	Steel Waler Universal SRU U120 l = 3,97 m	3972
103918	119,000	Steel Waler Universal SRU U120 l = 4,47 m	4472
103922	134,000	Steel Waler Universal SRU U120 l = 4,97 m	4972
103925	146,000	Steel Waler Universal SRU U120 l = 5,47 m	5472
103928	159,000	Steel Waler Universal SRU U120 l = 5,97 m	5972
103943	157,000	Steel Waler Universal SRU U140 l = 4,97 m	4972

Universal steel waler used as strongback for girder wall formwork, as component for VARIOKIT and for diverse RCS applications. With adjustable spacers.

Technical Data

SRU 120 $W_y = 121,4 \text{ cm}^3$, $I_y = 728 \text{ cm}^4$

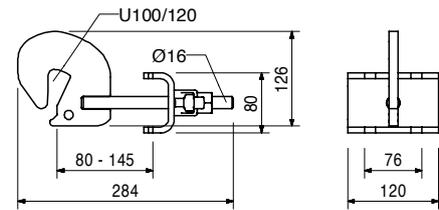
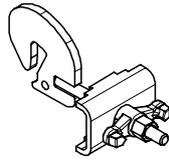
SRU 140 $W_y = 172,8 \text{ cm}^3$, $I_y = 1210 \text{ cm}^4$



Item no.	Weight kg
110059	2,620

Waler Fixation U 100-120

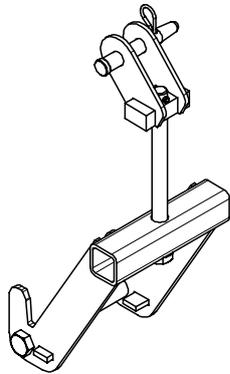
For mounting VARIO GT 24 elements to the Strongback CB or Steel Waler SRU.



110400	6,920
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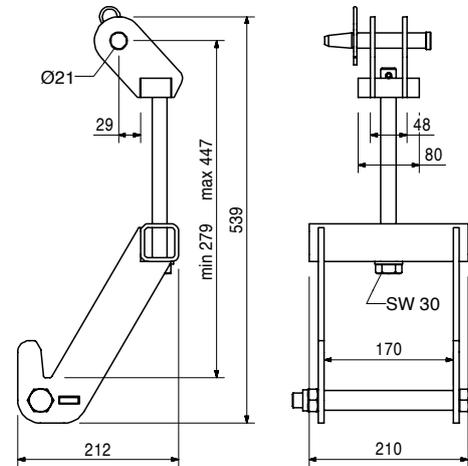
Adjusting Unit SRU, external

For the external height adjustment of the formwork element at the strongback (Steel Waler SRU).



Complete with

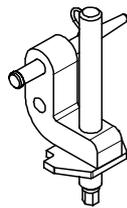
1 pc. 105400 Pin Ø 20 x 140, galv.
1 St. 018060 Federstecker 4/1, verz.



111135	5,620
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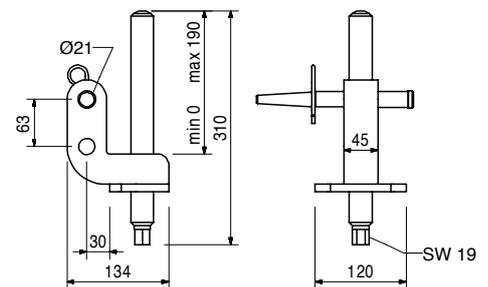
Adjusting Unit SRU, internal

For the internal height adjustment of the formwork element at the strongback (Steel Waler SRU).



Complete with

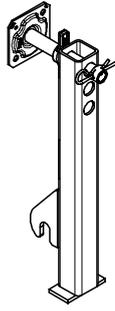
1 pc. 105400 Pin Ø 20 x 140, galv.
1 pc. 018060 Cotter Pin 4/1, galv.



Item no.	Weight kg
111720	15,400

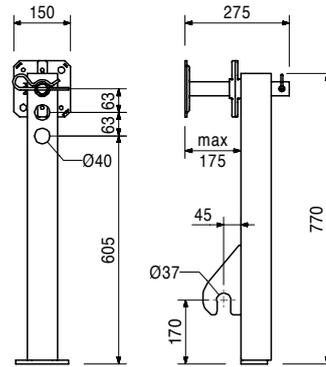
Setting Clamp RCS 77

To press the formwork against the building structure when assembled with suspended formwork.



Complete with

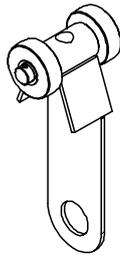
1 pc. 104305 Adj. Base Plate UJB 38-27/17
1 pc. 710304 Cotter Pin 7, galv.



111403	4,840
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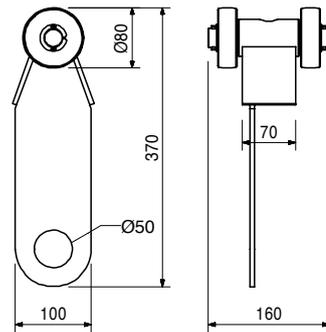
Suspension roller for Climbing Rail RCS.

For suspending and moving of formwork elements on horizontal Climbing Rails RCS.



Technical Data

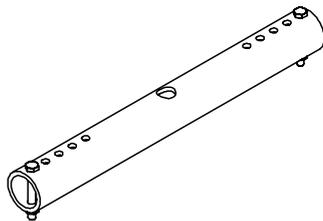
Permissible Load 1.5 t.



057050	4,450
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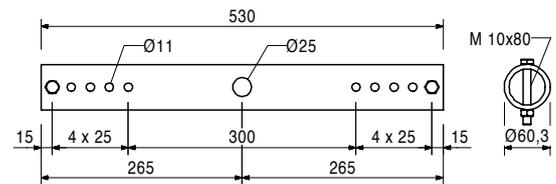
Suspension Tube VARIO 53

For suspending of VARIO GT 24 elements.



Complete with

2 pc. 710593 Bolt ISO 4014 M10 x 80-8.8, galv.
2 pc. 710234 Nut ISO 4032 M10-8, galv.



Accessories

030745	2,600
030580	0,371

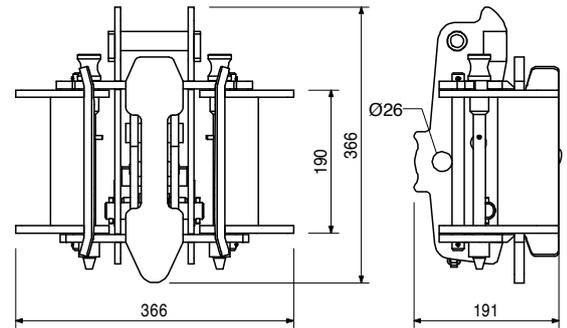
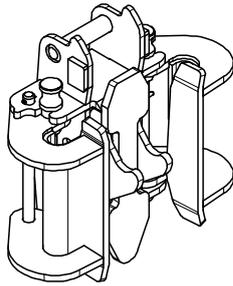
Tie Rod B 20 Special Length (1 pc.)

Nut DW 20 SW 36/60 (4 pc.)

Item no.	Weight kg
109468	19,300

Climbing Shoe RCS

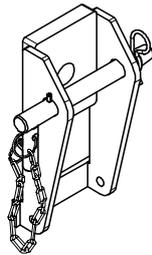
Guidance and bearing support for Climbing Rails RCS: with foldable guidance skids and self-acting bearing pawl.



109503	7,430
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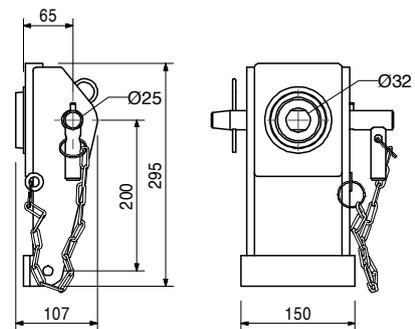
Wall Shoe RCS

Anchoring system M30. For anchoring the Climbing Shoe RCS to the wall.



Complete with

1 pc. 715585 Pin Ø 25 x 240, SKS, galv.
1 pc. 022230 Cotter Pin 5/1, galv.



029420	0,590
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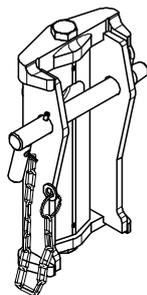
Accessories

Bolt ISO 4017 M30 x 70-8.8, galv. (1 pc.)

110667	13,800
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Wall Shoe RCS, hinged

Anchoring system M30. For anchoring the Climbing Shoe RCS to curved walls. Hinge limitation ± 15°.

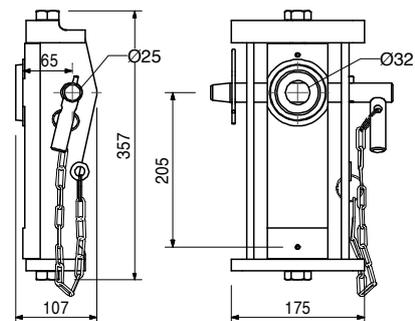


Complete with

1 pc. 715585 Pin Ø 25 x 240, SKS, galv.
1 pc. 022230 Cotter Pin 5/1, galv.

Note

Reduced bearing load for hinged application.



113007	0,700
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Accessories

Cyl. Bolt ISO 4762 M30 x 70-8.8, galv. (1 St.)

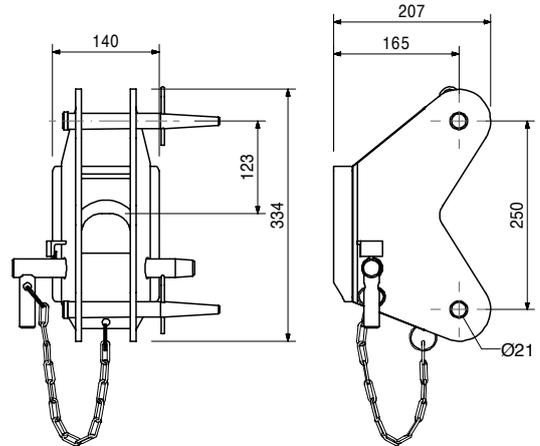
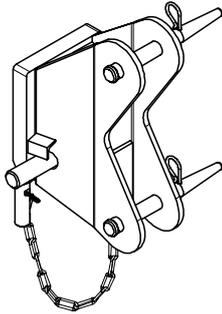
Item no.	Weight kg
110315	11,100

Mounting Ring Adapter RCS M30

For anchoring with Mounting Ring M30 when used as non-guided climbing formwork.

Complete with

- 1 pc. 715585 Pin \varnothing 25 x 240, SKS, galv.
- 2 pc. 104031 Fitting Pin \varnothing 21 x 120
- 2 pc. 018060 Cotter Pin 4/1, galv.



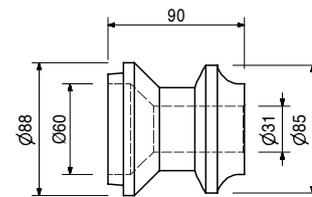
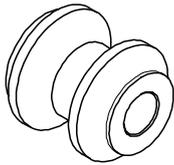
029480	1,830
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Mounting Ring M30, galv.

Anchoring system M30. For anchoring of climbing brackets.

Note

Permissible load see PERI product info.



Accessories

029540	0,920
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Bolt ISO 4014 M30 x 130-10.9 (1 pc.)

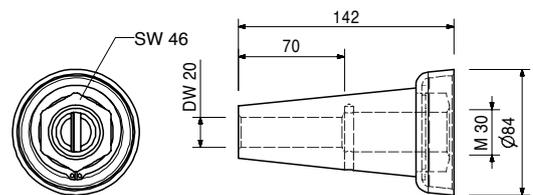
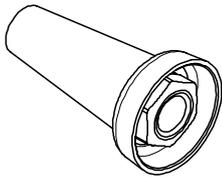
030920	1,650
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Climbing Cone-2 M30/ DW 20, galv.

Anchoring system M30. For anchoring of climbing brackets.

Note

Permissible load see PERI product info.



Accessories

030860	0,801
030700	2,560

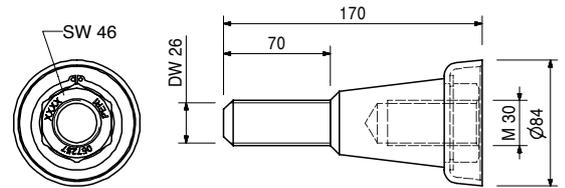
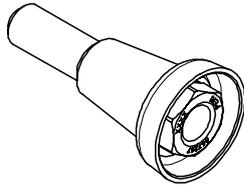
Threaded Anchor Plate DW 20 (1 pc.)

Tie Rod DW 20 Special Length (1 pc.)

Item no.	Weight kg
057257	1,810

Screw-On Cone M30/ DW 26, galv.
Anchoring system M30. For anchoring of climbing systems.

Note
Permissible load see PERI product info.

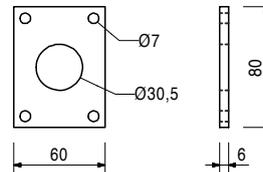


030870	1,240
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Accessories
Threaded Anchor Plate DW 26 (1 pc.)

029380	0,200
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Anchor Positioning Plate M30, galv.
For positioning the leading anchor M30 to the formlining.

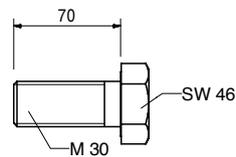
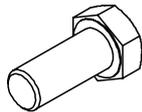


029440	0,005
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Accessories
Lag Screw DIN 571 6 x 20, galv. (4 pc.)

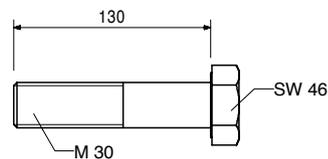
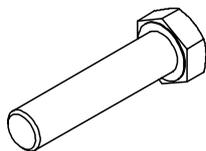
029420	0,590
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Bolt ISO 4017 M30 x 70-8.8, galv.
Bolt for anchoring climbing systems and used as advancing bolt.

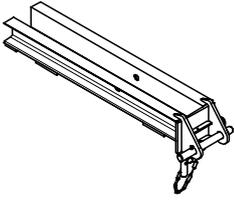
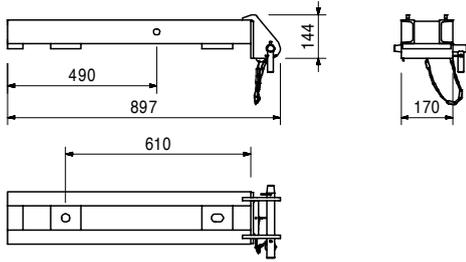


029540	0,920
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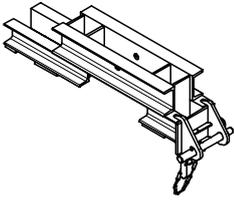
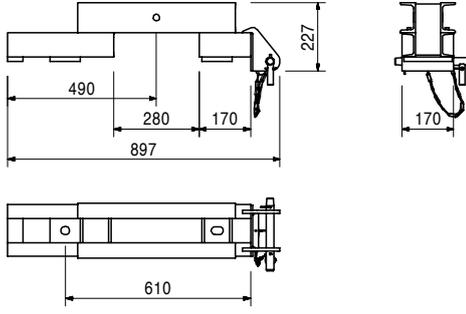
Bolt ISO 4014 M30 x 130-10.9
High strength bolt for anchoring climbing systems.



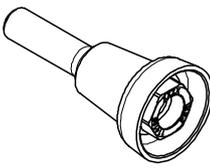
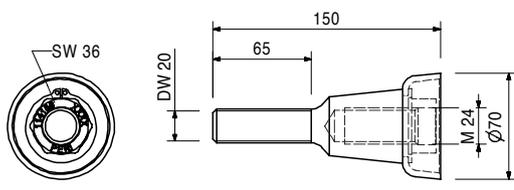
Item no.	Weight kg		
109567	20,300	Slab Shoe RCS Anchoring system M24. For anchoring the Climbing Shoe RCS to slab edges.	Complete with 1 pc. 715585 Pin \varnothing 25 x 240, SKS, galv. 1 pc. 022230 Cotter Pin 5/1, galv.

110375	30,900	Slab Shoe RCS Corner Anchoring system M24. For anchoring the Climbing Shoe RCS to corners of slab edges.	Complete with 1 pc. 715585 Pin \varnothing 25 x 240, SKS, galv. 1 pc. 022230 Cotter Pin 5/1, galv.
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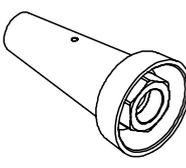
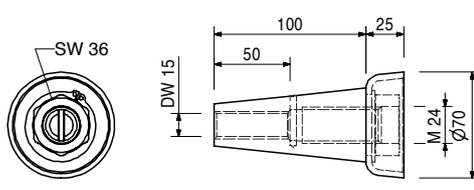



114158	1,030	Screw-On Cone-2 M24/ DW 20, galv. Anchoring system M24. For anchoring of climbing systems.	Note Permissible load see PERI product info.
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030860	0,801	Accessories Threaded Anchor Plate DW 20 (1 pc.)	
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031220	1,010	Climbing Cone-2 M24/ DW 15, galv. Anchoring system M24. For anchoring of climbing systems.	Note Permissible load see PERI product info.
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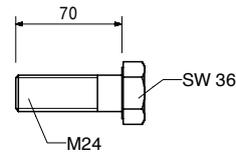
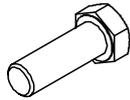



030840	0,516	Accessories Threaded Anchor Plate DW 15 (1 pc.)	
030030	1,440	Tie Rod DW 15 Special Length (1 pc.)	

Item no.	Weight kg
026430	0,334

Bolt ISO 4014 M24 x 70-10.9

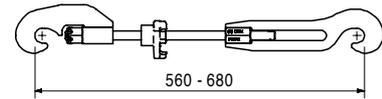
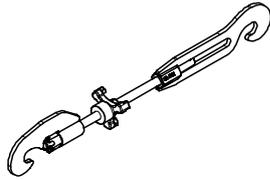
High strength bolt for anchoring climbing systems.



114317	3,210
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Guide-in Tool RCS

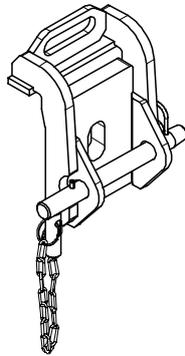
For pulling and aligning the Climbing Rail RCS to close the guiding skids of the Climbing Shoe.



113232	10,600
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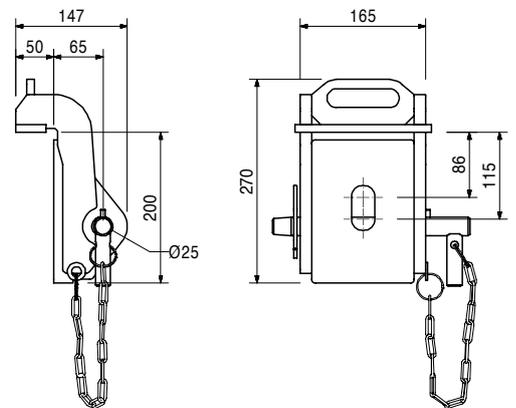
Stopend Slab Shoe RCS

For anchoring the Climbing Shoe RCS to the face of slabs. Anchoring system M30. With the Reducing Bushing \varnothing 30 - 25, item-no 1 13822, it can also be used with anchoring system M24.



Complete with

1 pc. 113247 Pin \varnothing 25 x 260, mont.
1 pc. 022230 Cotter Pin 5/1, galv.



029420	0,590
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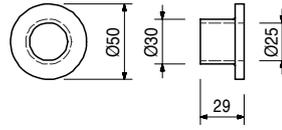
Accessories

Bolt ISO 4017 M30 x 70-8.8, galv. (1 pc.)

Item no.	Weight kg
113822	0,108

Reducing Bushing Ø 30 - 25

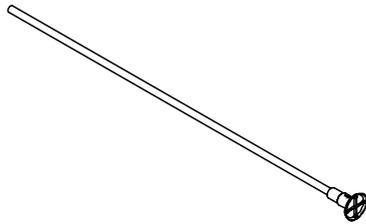
For the use of the Stopend Slab Anchor M24/20-128 with Stopend Slab Shoe RCS.



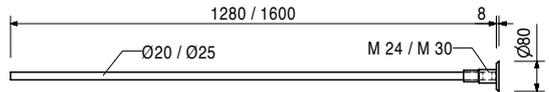
		Accessories
026430	0,334	Bolt ISO 4014 M24 x 70-10.9 (1 pc.)

113820	3,450	Stopend Slab Anchor Stopend Slab Anchor M24/20-128
113821	6,700	Stopend Slab Anchor M30/25-160

Anchoring system M24 or M30 to transfer pure tension loads into the concrete slab when used with the Stopend Slab Shoe RCS.
With positioning plate M24 (grey) or M30 (red).



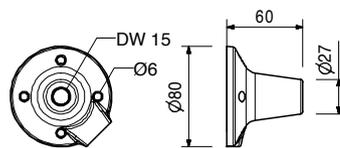
Note
Permissible load see PERI product info.



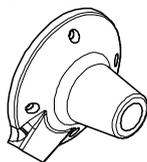
030840	0,516	Threaded Anchor Plate DW 15 For the use with Tie Rod DW 15. For anchoring into the concrete.
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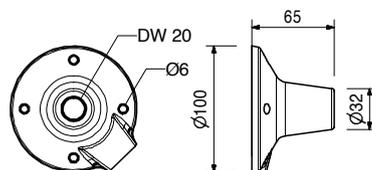
Note
Permissible load see PERI product info.



030860	0,801	Threaded Anchor Plate DW 20 For the use with Tie Rod DW 20 and Screw-On Cone M24/ DW 20. For anchoring into the concrete.
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Note
Permissible load see PERI product info.



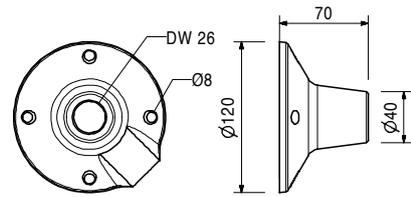
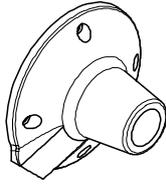
Item no.	Weight kg
030870	1,240

Threaded Anchor Plate DW 26

For the use with Tie Rod DW 26 and Screw-On Cone M30/ DW 26. For anchoring into the concrete.

Note

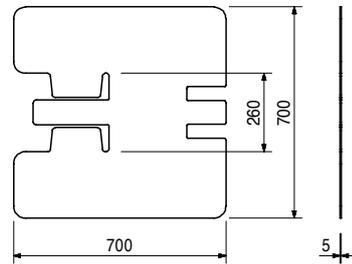
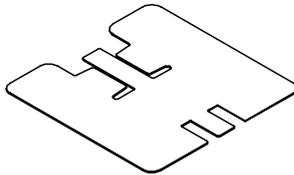
Permissible load see PERI product info.



114113	2,030
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Cover RCS 70 x 70

Elastomere cover for the area of the climbing shoes when used as climbing protection panel.



112986	153,000
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Climbing Crossbeam RCS 10 t

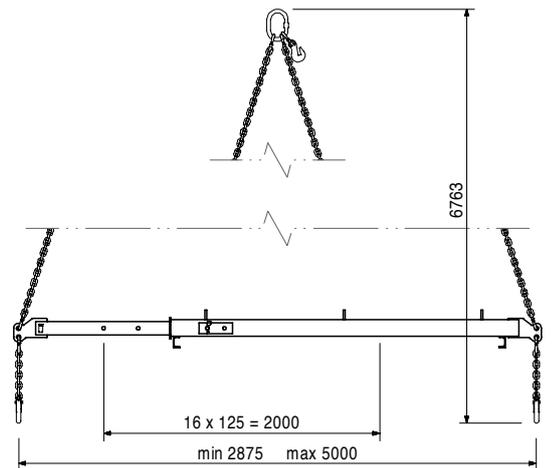
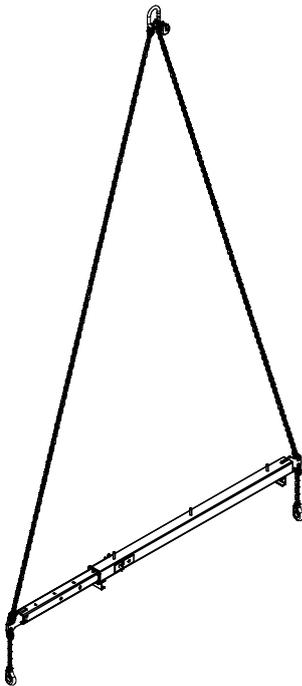
For moving RCS climbing units.

Technical Data

Permissible Load 10 t.

Safety instructions

Follow Instruction for Use.



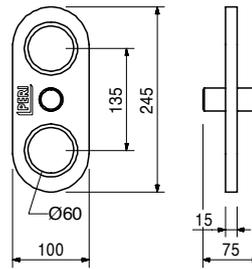
Item no.	Weight kg
105401	2,210

Lifting Eye BR 2,5 t

Crane eye point for moving climbing systems or Platform Beams BR.

Technical Data

Load-bearing point load capacity 2.5 t.



Accessories

020620	0,561
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Spacer for Platform Beam BR (1 pc.)

109765	27,000
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Climbing Device RCS 50

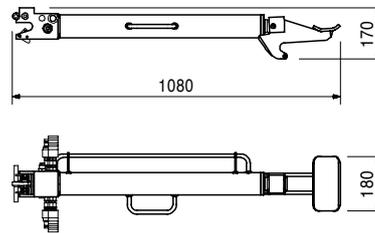
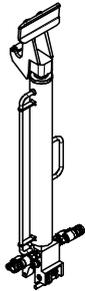
For crane-independent climbing of RCS climbing units.

Technical Data

Maximum load 50 kN.

Safety instructions

Follow Instruction for Use.



109766	109,000
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Hydraulic Pump RCS 4 x 190 bar, 380-460 V

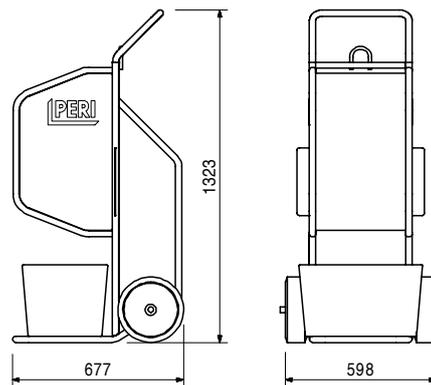
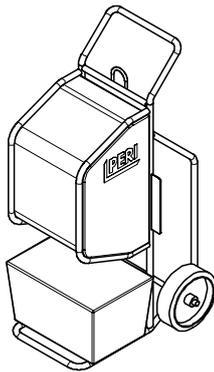
Hydraulic pump to drive the PERI Climbing Device RCS 50.

Technical Data

Technical data see product information.

Safety instructions

Follow Instruction for Use. Only use original PERI Hydraulic Fluid HV LP46.



Accessories

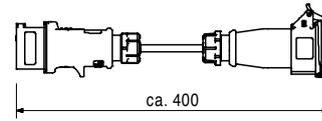
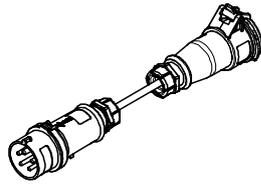
057376	17,400
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Hydraulic Fluid HV LP46 (1 pc.)

Item no.	Weight kg
110280	0,500

Adapter Cable RCS

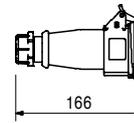
For the power supply of the Hydraulic Pump RCS with CEE - socket 400 V 16 A.



110279	0,250
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Plug Socket RCS, black

For the power supply of the Hydraulic Pump RCS with 380 - 460 V, 50 - 60 Hz.



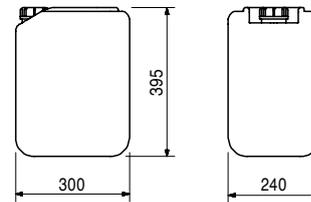
Safety instructions

Connection to the power supply only to be done by experts.

057376	17,400
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Hydraulic Fluid HV LP46, 20 L

High class, synthetic hydraulic fluid for PERI hydraulic pumps.



110069	9,000
110070	16,000

Hydraulic Twin Hose RCS

Hydraulic Twin Hose RCS 10 m

Hydraulic Twin Hose RCS 20 m

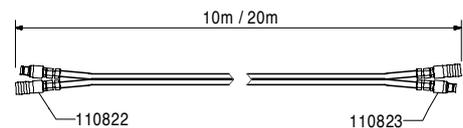
For connecting the Hydraulic Pump RCS to the Climbing Device RCS 50. With quick coupling bushings.



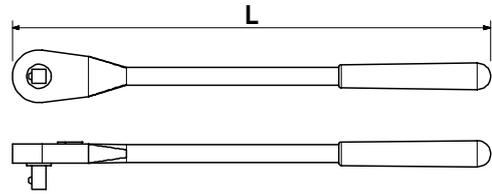
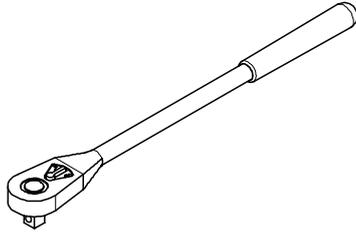
Complete with

2 pc. 110822 Quick Coupling Bushing RCS

2 pc. 110823 Quick Coupling Nipple RCS RCS

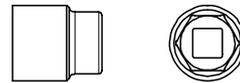
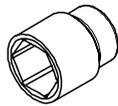


Item no.	Weight kg		L
072180	0,560	Ratchet Wrench	300
051764	2,650	Ratchet Lever 1/2"	630
029610	5,300	Ratchet Wrench 3/4"	900
		Ratchet Lever 1"	



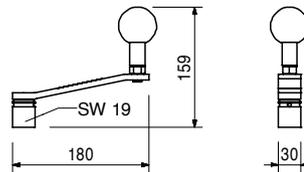
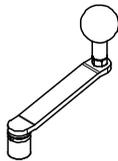
029620	0,075	Socket SW
057276	0,625	Socket SW 19-1/2"
102785	0,452	Socket SW 30-3/4"
029630	0,580	Socket SW 46-1"

For diverse use.



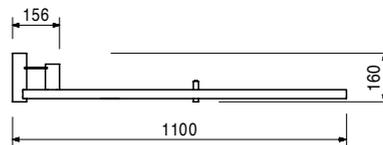
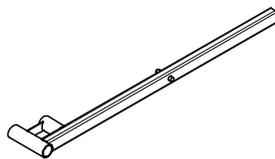
110094	1,180	Carriage Crank Lever SW 19
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For operating the Carriage RCS.



110950	4.760	Excentric Lever RCS
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For removing the Climbing Shoes RCS.



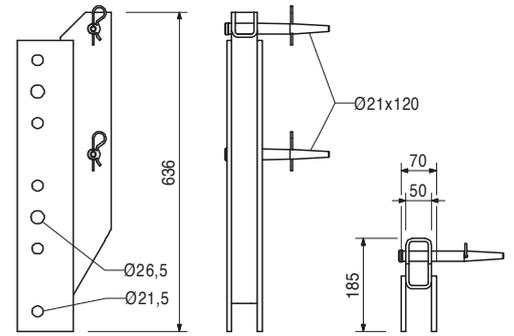
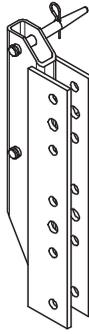
Item no.	Weight kg
115325	16,900

Strongback Adapter RCS/SRU

For attaching the Strongback SRU to the Carriage RCS when TRIO is used.

Complete with

- 2 pc. 104031 Fitting Pin \varnothing 21 x 120
- 2 pc. 104031 Fitting Pin \varnothing 21 x 120



PERI Product Range



Wall Formwork

Panel Formwork
Girder Formwork
Circular Formwork
Facade Formwork
Brace Frame



Climbing Systems

Climbing Scaffold
Self-Climbing System
Climbing Protection Panel
Platform Systems



Column Formwork

Square
Rectangular
Circular



Scaffold, Stairways, Working Platforms

Facade Scaffold
Working Platform
Weather Protection Roof
Stairway Access



Slab Formwork

Panel Formwork
Beam Grid Formwork
Girder Formwork
Slab Table
Beam Formwork



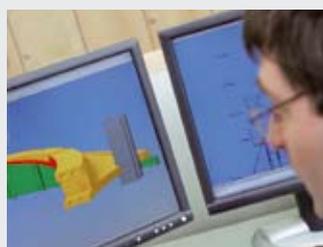
Bridge and Tunnel Formwork

Cantilevered Parapet Carriage
Cantilevered Parapet Platform
Engineer's Construction Kit



Shoring Systems

Steel Slab Props
Aluminium Slab Props
Tower Systems
Heavy-Duty Props



Services

Formwork Assembly
Cleaning / Repairs
Formwork Planning
Software
Statics
Special Constructions

Additional Systems
Plywood
Formwork Girders
Stopend Systems
Pallets
Transportation Containers



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