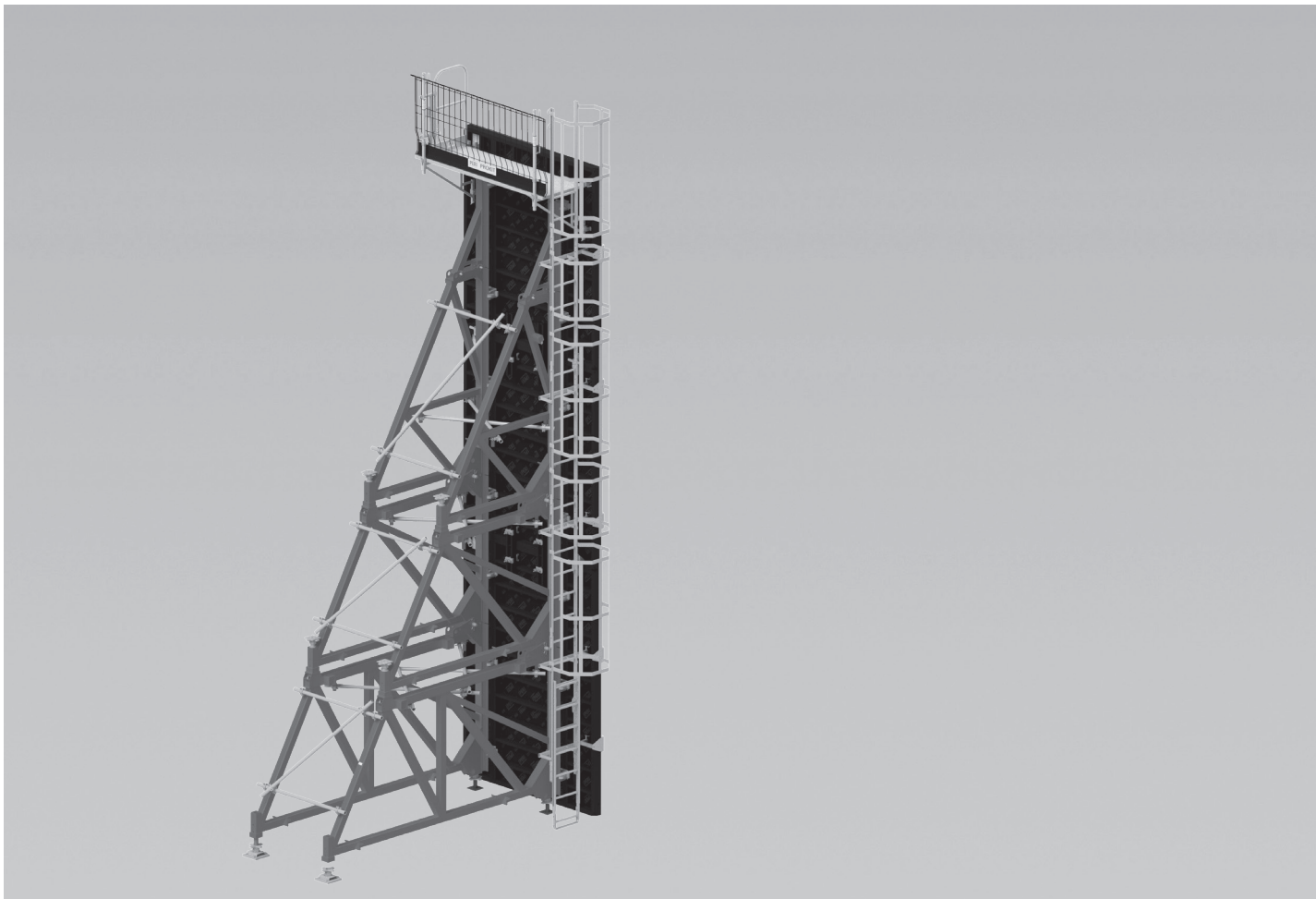
SB
Brace Frame

Instructions for Assembly and Use – standard configuration – Version 2.0



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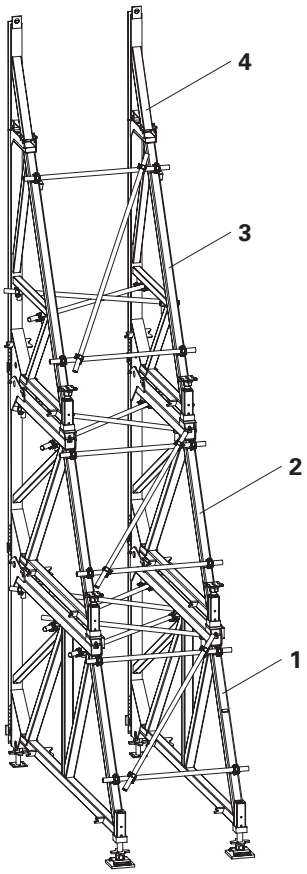
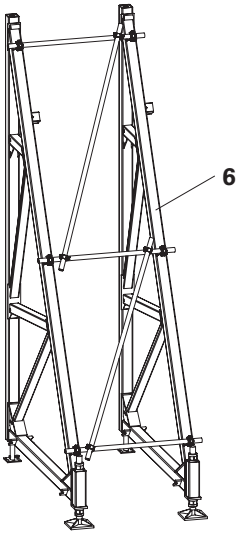
Content

Main components

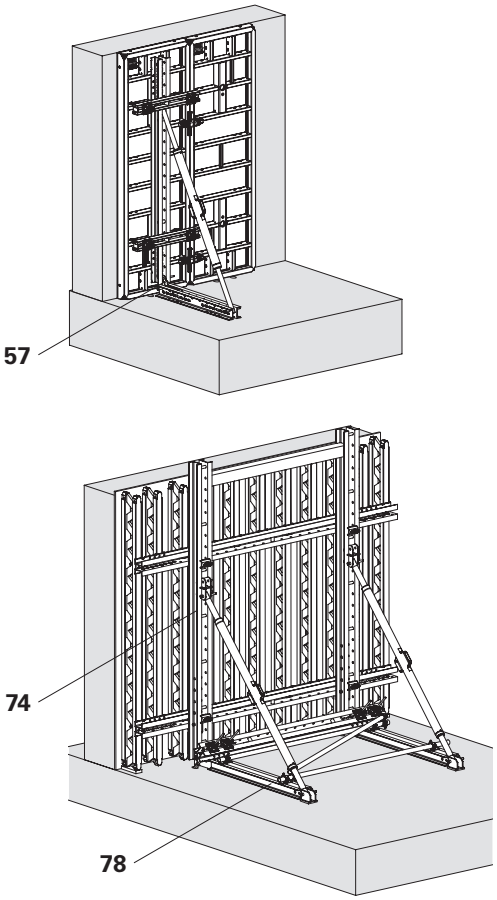
Section B1 + B3



Section C1



Section D1 + D2



B1 Pre-assembly
B3 Bracing SB-A0, A, B, C
C1 Connecting to system SB-2
D1 SB VARIOKIT
D2 SB SCS

1 Brace Frame SB-A0
2 Brace Frame SB-A
3 Brace Frame SB-B
4 Brace Frame SB-C

6 Brace Frame SB-2

57 Corner Connector VARIOKIT SRU
74 Strongback SCS 325
78 Starter Bar SCS

Key

Pictogram | Definition


Danger/Warning/Caution


Note


To be complied with


Load-bearing point


Visual inspection


Tip


Incorrect use


Safety helmet


Safety shoes


Safety gloves


Safety goggles


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


Observe additional documentation

Arrows

Arrow representing an action

Arrow representing a reaction of an action*

Arrow representing forces

* If not identical to the action arrow.

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

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

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

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

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

Format of the safety instructions

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

Dimensions
Dimensions are usually given in cm. Other measurement units, e.g. m, are shown in the illustrations.

Conventions
- Instructions are numbered with: 1. ....., 2. ....., 3. .....
- The result of an instruction is shown by: →
- Position numbers are clearly provided for the individual components and are given in the drawing, e.g. **1**, in the text in brackets, for example (**1**).
- Multiple position numbers, i.e. alternative components, are represented with a slash: e.g. **1/2**.

Notes on illustrations
The illustration on the front cover of these instructions is understood to be a system representation only. The assembly steps presented in these Instructions for Assembly and Use are shown in the form of examples with only one component size. They are valid for all component sizes contained in the standard configuration.

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

Target groups

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

Construction site co-ordinator

- is appointed by the client,
- must identify potential hazards during the planning phase,
- determines measures that provide protection against risks,
- creates a safety and health protection plan,
- coordinates the protective measures for the contractor and site personnel so that they do not endanger each other,
- monitors compliance with the protective measures.

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

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

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

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

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

Product description

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

The SB Brace Frame system is designed for single-sided forming operations on walls, rocks, sheet piling, soil, etc.

The fresh concrete pressure that occurs on the formwork surface must be transferred via a brace frame construction with corresponding anchoring into the ground.

The system consists of several units (steel constructions) that can be used individually or in combination for different heights:
- SB-A0, SB-A, SB-B, SB-C,
- SB-2,
- SB VARIOKIT, SB SCS.

The height of brace frame units is increased by means of integrated connecting parts and match truck or container loading dimensions.

Connection to PERI formwork systems is realised using corresponding connection parts.

There are three different tie systems for tensile anchoring of the occurring forces into the ground.

Use the work platforms from the relevant formwork system.

Features
Concreting heights up to

Brace Frame SB-A0, A, B, C:	8.75 m
Brace Frame SB-A, B, C:	6.75 m
Brace Frame SB-A, B:	6.00 m
Brace Frame SB-B, C:	5.00 m
Brace Frame SB-A, C:	4.00 m
Brace Frame SB-B:	4.00 m
Brace Frame SB-A:	3.00 m
Brace Frame SB-2:	6.00 m
Brace Frame SB VARIOKIT:	3.00 m
Brace Frame SB SCS:	3.95 m

Technical data
The permissible fresh concrete pressure on vertical formwork depends on the formwork system used and the formwork height.

Standard tie systems
permissible load:

DW 15	90 kN
DW 20	150 kN
DW 26	250 kN

Possibility of connection to MAXIMO, TRIO, DOMINO, RUNDFLEX, RUNDFLEX Plus-2, VARIO GT 24.

For the standard configuration, there are load tables that feature the forces, deformations and influence widths; see PERI Design Information for Brace Frame SB and PERI Design Information for Single-sided SCS Climbing System.

We recommend inclining the Brace Frames SB-A0, A, B, C forward by 2/3 of the calculated deformation.

Ladders and concreting platforms must be selected to suit the formwork system used.

Cleaning and maintenance instructions

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

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

The contractor must ensure that the personal protective equipment required for cleaning, maintenance and repair work such as

- Safety helmet,
- Safety shoes,
- Safety gloves,
- Safety goggles,

is available and used as intended.

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

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

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

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

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

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

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

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

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

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

Never clean powder-coated components, e.g. elements and accessories, with a steel brush or hard metal scraper; this ensures that the powder coating remains intact. Use spacers for reinforcement with large-sized supports or extensive areas of support; this largely avoids impressions being formed in the formlining when under load.

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

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

Do not clean components suspended on crane lifting gear.

Disposal

Carry out disposal in accordance with the relevant national regulations.

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

Additional technical documentation

- PERI Structural Design Information
  - Brace Frame SB
  - SCS Single-sided Climbing System
- Translation of Original Instructions for Use:
  - Lifting Hook MAXIMO 1.5 t
  - Lifting Hook DOMINO
  - Climbing Beam 9 t
- User information:
  - Pallets and stacking devices
- PERI Design Tables 2015 – Formwork and Shoring
- Product brochure:
  - SB Brace Frame
- Approvals
  - Tie bolt: Z-21.8-2115
  - Climbing Cone-2: Z-21.6-1767
  - Tie Rod DW: Z-12.5-96

Instructions for Use

Use in a way not intended, deviating from the standard configuration or the intended use according to the Instructions for Assembly and Use, represents a misapplication with a potential safety risk, e.g. risk of falling.

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

Changes to PERI components are not permitted.

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

Increased surface area due to the effects of icing is not considered. Snow and ice loads are not considered.

Cross-system

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

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

These Instructions for Assembly and Use can be used as a basis for the site based Risk Assessment and Method Statement (RAMS) compiled by the contractor. They are not to be considered as a substitute for the RAMS.

Observe and comply with the safety instructions and permissible loads.

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

Materials and working areas are to be inspected before each use and assembly for:

- damage,
- stability and
- functional correctness.

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

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

When on slab formwork, scaffolds and working platforms:

- do not jump,
- do not run,
- do not drop anything from or onto it.

Components provided by the contractor must comply with the characteristics stipulated in these Instructions for Assembly and Use and all applicable laws and standards. Unless otherwise indicated, the following applies in particular:

- Timber components:
  Strength class C24 for solid wood according to DIN EN 338:2016-07.
- Scaffolding tubes:
  Galvanised steel tubes with minimum dimension Ø 48.3 x 3.2 mm according to DIN EN 12811-1:2004-03 4.2.1.2.
- Scaffolding tube couplings:
  according to DIN EN 74-1:2022-09 and DIN EN 74-2:2022-09.

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

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

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

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

Before and after extraordinary events that may have damaging effects on the safety of the system, the contractor must immediately

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

Exceptional events could be:

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

Suitable measures could be:

- removing nets/tarpaulin.
- clearing snow and ice.
- reducing live loads.
- securing loose materials.

Assembly, modification and dismantling work
PERI systems may only be assembled, modified or dismantled under the supervision of a person qualified to do so and by technically suitable employees. The qualified personnel must have received appropriate training for the work to be carried out with regard to specific risks and dangers.

On the basis of the risk assessment and Instructions for Assembly and Use, the contractor must create installation instructions, in order to guarantee safe assembly, modification and dismantling of the system units.

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

is available and used as intended.

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

If personal protective equipment against falling from a height (PPE) is required or specified in local regulations, the contractor must determine appropriate attachment points on the basis of the risk assessment.
The PPE to be used to prevent falling is determined by the contractor.

The contractor must
- provide safe working areas for site personnel, which are to be reached through the provision of safe access ways. cordon off and clearly mark danger zones.
- guarantee stability during all stages of construction, in particular during assembly, modification and dismantling operations.
- ensure and demonstrate that all loads that occur are safely transferred.

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

If the system is used successively or at the same time by several contractors, the health and safety coordinator must point out any possible mutual hazards and all work must then be coordinated.

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

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

System-specific

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

When using other ties or formwork systems, the potential applications as well as stability must be checked separately by the user.
Deviations always require separate static proof.

Existing walls, shoring, rock etc. must be able to withstand the pressure exerted by the fresh concrete.

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

Only use PERI lifting accessories.

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

If a storm warning is issued, additional push-pull props are to be attached or other bracing measures are to be carried out along with implementing the details contained in the
PERI Design Tables.

Anchoring

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

Do not weld, heat or deform
DW Tie Rods that are to be used for anchoring.

Inspection of the anchoring and associated components must be carried out by the contractor (user).

Storage and transportation

General information

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

During the relocation procedure

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

Component list and tightening torques

List of components

Pos. no.	Component name	Article no.
1	Brace Frame SB-A0	025690
2	Brace Frame SB-A	025700
3	Brace Frame SB-B	025710
4	Brace Frame SB-C	025720
5	V-Tie Holder DW15	031580
6	Brace Frame SB-2	027510
7	Wingnut DW15 ga	201001
8	Double Anchor Tie Yoke DSW	027520
9	Tie Rod DW15, spec. length	201002
10	Hex-Nut DW15 SW30 108 mm ga	201022
11	Anchorage Loop DW15	030060
12	Threaded Anchor Plate DW15	030840
13	Wingnut Pivot Plate DW15 ga	201004
14	Anchor Plate SB DW26	027480
15	Anchor Waler 55 U140	027650
16	Anchor Waler 235 U140	027530
17	Wingnut DW20 ga	201020
18	Counterplate DW20 120x120x20 mm	201025
19	Anchor Waler 55 U160	109017
20	Tie Rod DW20, spec. length	201842
21	Hex-Nut DW20 SW36 110 mm weldab	201023
22	Threaded Anchor Plate DW20	030860
23	Hex-Nut DW26 SW46 80 mm ga	030970
24	Anchor Rele. Plate SB DW26 cpl	101621
25	Tie Rod DW26, spec. length	201687
26	Hex-Nut DW26 SW46 150 mm weldab	030980
27	Threaded Anchor Plate DW26	030870
28	Lead. Anchor Coupler DW15 cpl	031631
29	Spacer Tube Ø32 mm 300 rough	031627
30	Lead. Anchor Coupler DW20 cpl	031632
31	V-Tie Holder DW20	031590
32	Spacer Tube Ø42 mm 300 rough	031634
33	Lead. Anchor Coupler DW26 cpl	031633
34	V-Tie Holder DW26	031600
35	Waler Connector SB-A0,A,B,C	025760
36	Wedge K ga	024250
37	Round sling	–
38	Hook Strap SB-2 ga	027590
39	Distribution waler	–
40	Connector SB/RFP	109587
41	Connector SB-A0,A,B,C/TR,MX,D	025740
42	Pin SB/MX ga	113255
43	Sleeve SB/MX ga	114107
44	Sleeve SB/MX WDMX	114417
45	Pin SB/TR,D ga	027690
46	Scaffolding tube Ø48.3x3.2 mm	–
47	Swivel Coupler SW Ø48/48 mm ga	201412
48	Guide Roller SB-A0,A,B	025750
49	Hook Strap SB-2 asymmetric	116078
50	Connection Rail SB-2/TR,MX,D	027680
51	Board 3 x 14	–
52	Compensation Waler-3 MAR 85	124941
53	Hook Tie Head DW15	023820
54	Steel Waler SRU 247 U120	103892
55	Steel Waler SRU 122 U120	103874
56	Heavy Duty Spindle SLS 140-240	101776
57	Corner Connector VARIOKIT SRU	115623
58	Fitting Pin Ø21x120 mm	104031
59	Cotter Pin 4/1 ga	018060
60	Waler 85	023551
61	Hook Tie Head DW15 ga	023820
62	Suspension Shoe SB	106661
63	Brace Frame Adaptor SB-A0,A,B	106662
64	Climbing Cone-2 DW26 M36 ga	030940
65	Scaff. Mount. Ring M36 galv	029490
66	Screw ISO 4014-M36x130-10.9	029550
67	Brace Frame Adaptor SB-2	106663
68	Suspension Shoe SB double	111866
69	Anchor Posit. Plate M36 ga	029390
70	Screw ISO 4017-M36x070-8.8-ga	029430
71	Hex-Wood-Screw 6x20 DIN 571-ga	029440
72	Anchor Posit. Stud M36 ga	026460
73	Wire Nail 3.0x80 mm	710312
74	Strongback SCS 325	118584
75	Spindle Connector SCS Ø26/21 mm	118580
76	Height Adjusting Unit CB SCS	051030
77	Waler Fixation U100/U120	110059
78	Starter Bar SCS	118799
79	Anchor Bolt SW24 Ø14/20x130 mm	124777
80	Tie Yoke SCS Ø60 mm 200 mm	124630
81	Heavy-Duty Spindle SCS 198-250	118585
83	Heavy Duty Spindle SLS 260-360	101779
84	Spindle Adapter SLS/RCS	110477
85	Adjusting Unit SRU internal	111135

Component list and tightening torques

Pos. no.	Component name	Article no.
86	Counterplate RCS DW20	114082
87	Reducing Sleeve Ø26/Ø21 mm ga	129695

Pos. no.	Component name	Article no.
88	Fitting Pin Ø26x120 mm	111567
89	Cotter Pin 5/1 ga	022230

Tab. 01

Tool list

Tool name	Article number
Hexag. Recess Wrench SW14 long	027212
Open-End Wrench SW80 for SB	027210
Open-End Wrench SW70	027213
Open-End Wrench SW46 for SB	027211
Open-End Wrench SW36	138686
Open-End Wrench SW30	138687
Tens. Rod Spanner DW20/26 ga	031490

Tab. 02

Tightening torques

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

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

Tightening torques have been determined for the following components:

Scaffolding tube coupling	50 Nm

Tab. 03

A1 System overview

Application possibilities
The Brace Frame SB is used for vertical load transfer as standard.
Alternatively, and depending on the project in question, the Brace Frame SB can also be used for horizontal load transfer.

It is available as a single-frame SB-2 and as a modular frame system SB-A0, SB-A, SB-B and SB-C.
In addition, the Brace Frame SB VARIOKIT and Brace Frame SB SCS can also be installed using VARIOKIT and SCS components.

When concreting single-sided walls, the concrete pressure that occurs is transferred into the substructure. The SB Brace Frames can be combined with all wall formwork systems.

When concreting cantilevered slabs or pier heads, the brace frame can be used horizontally as a heavy-duty console bracket.

All of the following variants are application examples.

Variant 1:
Use as formwork with Brace Frame SB-A, B, C.
- VARIO GT 24 Girder Wall Formwork.
- Concreting platform with Scaffold Bracket GB 80.

Components

A Brace frame
B Formwork
C Anchoring
E Concreting platform

2 Brace Frame SB-A
3 Brace Frame SB-B
4 Brace Frame SB-C
35 Waler Connector SB-A0,A,B,C

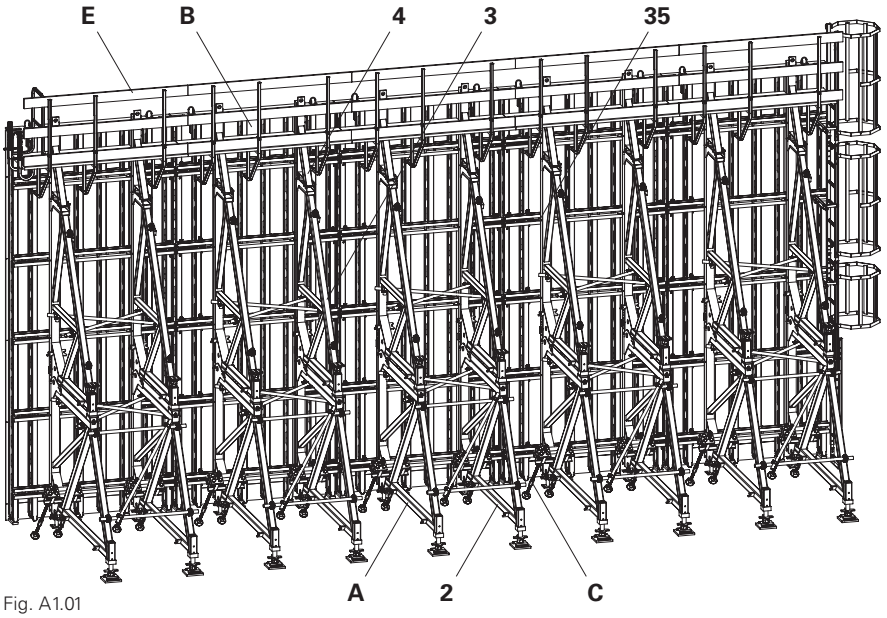


Fig. A1.01

Variant 2:
Use as formwork with Brace Frame SB-B.
- MAXIMO Panel Formwork.

Components

A Brace frame
B Formwork
C Anchoring

3 Brace Frame SB-B
41 Connector SB-A0,A,B,C/TR,MX,D

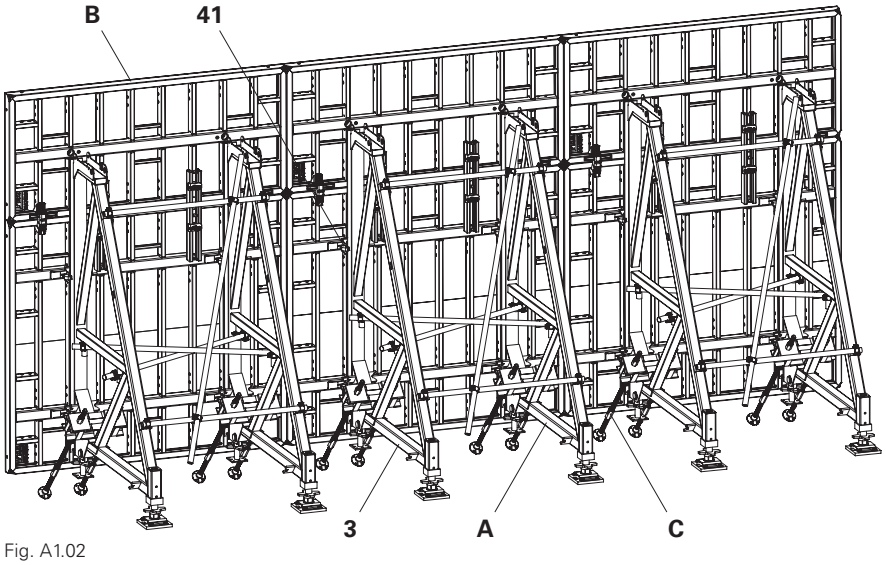


Fig. A1.02

Variant 3:
Working platform with Brace Frame SB-A0, A, B.
- Suspension Shoe SB double.
- Platform with Girder VT 20K.
- Guardrail with guardrail boards.

Components

A Brace frame
D Suspension

1 Brace Frame SB-A0
2 Brace Frame SB-A
3 Brace Frame SB-B
4 Brace Frame SB-C

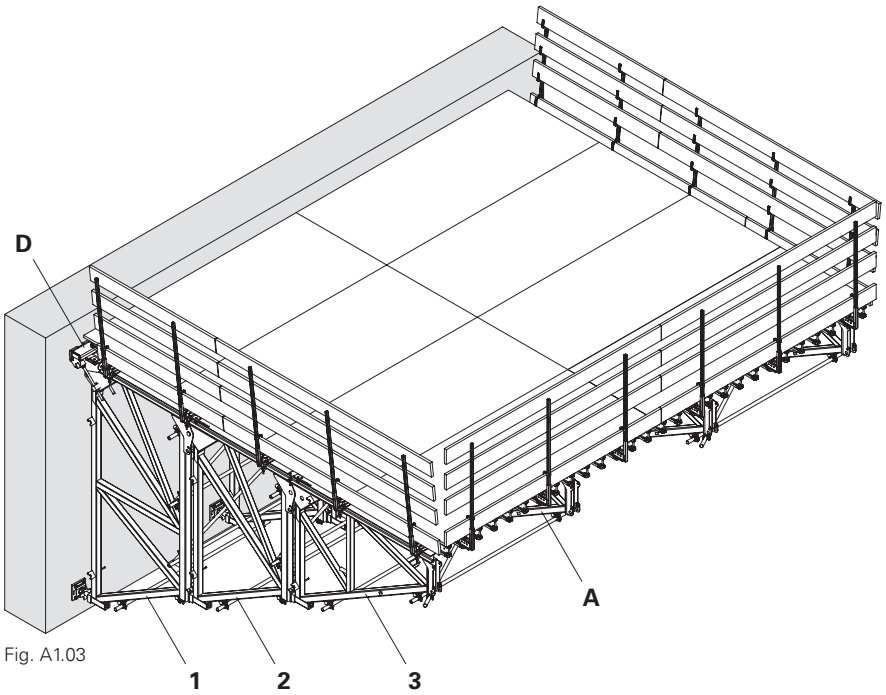


Fig. A1.03

Variant 4:
Platform for pier formwork with
Brace Frame SB-A0, A, B.

- Suspension Shoe SB double.
- VARIO GT24 Girder Wall Formwork.
- Platform with Formwork Girder GT 24 and Steel Walers SRU U120.
- Guardrail with guardrail boards.

Components

A Brace frame
B Formwork
E Concreting platform

1 Brace Frame SB-A0
2 Brace Frame SB-A
3 Brace Frame SB-B

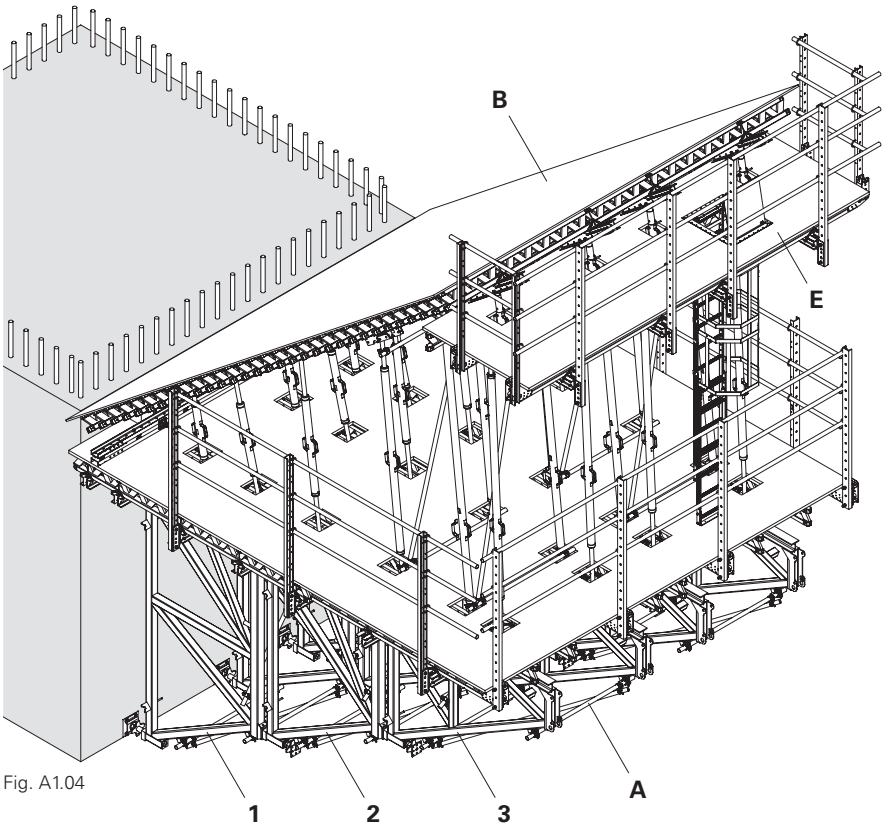


Fig. A1.04

Warning
Components may fall down!
This can lead to serious injuries or even death.
⇒ Secure or remove loose parts.
⇒ Do not stand under the suspended load.

- Refer to the user information for PERI pallets and stacking devices!
- Follow PERI packaging guidelines!
- Transportation units must be correctly stacked and secured!

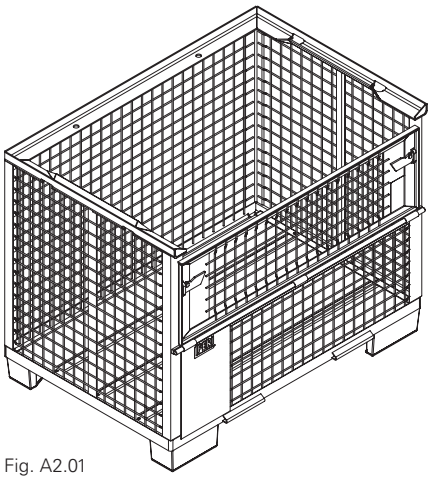


Fig. A2.01

Transportation
PERI pallets and stacking devices are suitable for lifting by crane or forklift. They can also be moved with the PERI pallet lifting trolley.
All pallets and stacking devices can be lifted using both the longitudinal and front sides.
(Fig. A2.01)

Stacking

- Only brace frame units of the same size are to be transported in one stack.
- Lash the stacking units together.
- Secure material, take country-specific regulations into consideration.

Stack height:
max. 6 units depending on the truck.
(Fig. A2.02)
10 units for Brace Frame SB-C
(not shown)

- Use integrated stacking aid (**1.1**) on the brace frame units.
  (Fig. A2.02a)
- Support tubes (**1.8**) must be at the bottom.

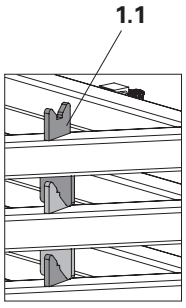


Fig. A2.02a

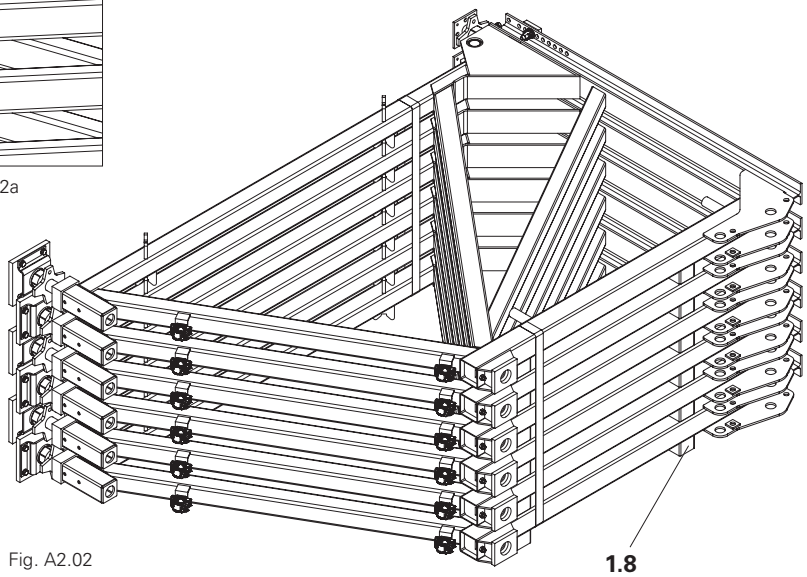


Fig. A2.02

- Have the loading process carried out and checked by the appropriate specialist departments.
- The number of stacks that can be transported depends on the respective national transport regulations.

Loading onto trucks

- Secure stacks with steel strapping.
- Secure stacks with tension belts. Use edge protection.
- Max. height of 2 stacks, each with 6 brace frames.

(Fig. A2.03)

Loading example

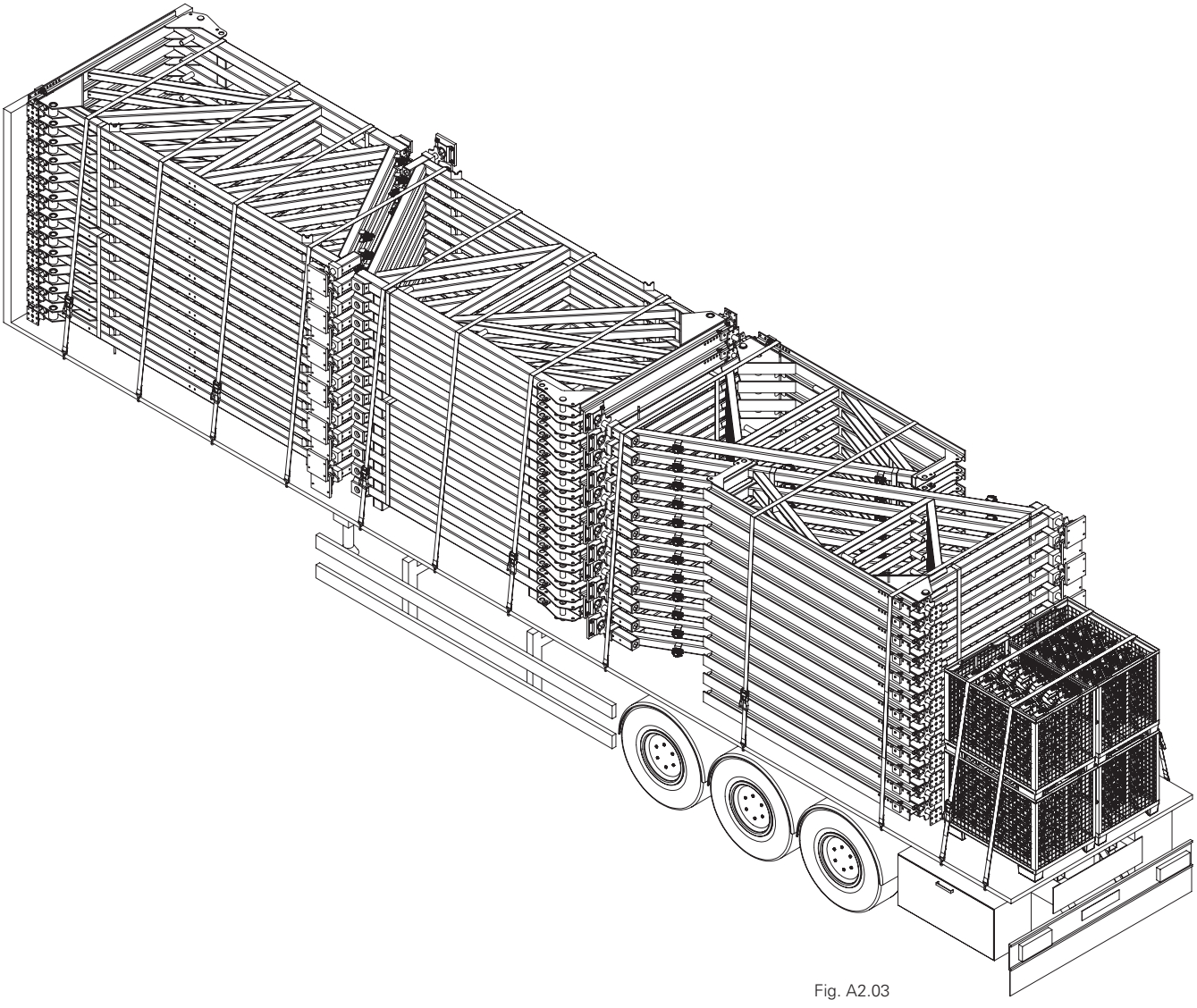


Fig. A2.03

Tie System DW 15, DW 20, DW 26

- **Other anchoring systems than those shown here require separate static proof!**
- **Dimensions in mm.**

Tie System DW 15
Version with double tie yoke
Permissible tension force 2 x 90 kN = 180 kN.

Reusable tie parts:

7	Wingnut DW15 ga	2x
8	Double Anchor Tie Yoke DSW	1x
9	Tie Rod DW15	2x
10	Hex-Nut DW15 SW30 108 mm ga	2x

Lost tie parts:

11	Anchorage Loop DW15	1x
Alternatively, see Fig. A3.03		
9	Tie Rod DW15	2x
12	Threaded Anchor Plate DW15	2x

(Fig. A3.01)

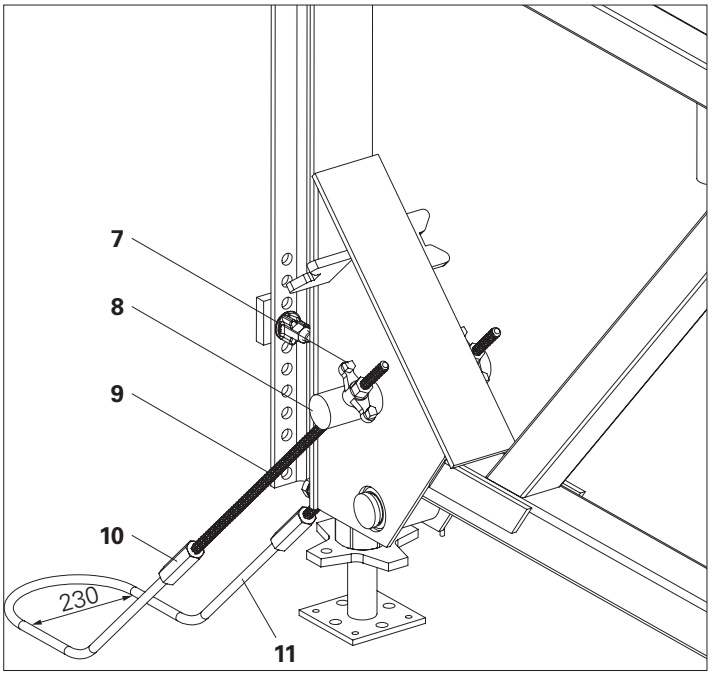


Fig. A3.01

Tie System DW 15
Version with anchor waler
Permissible tension force 2 x 90 kN = 180 kN.

Reusable tie parts:

9	Tie Rod DW15	2x
10	Hex-Nut DW15 SW30 108 mm ga	2x
13	Wingnut Pivot Plate DW15 ga	2x
14	Anchor Plate SB DW26	2x
15	Anchor Waler 55 U140	2x
or		
16	Anchor Waler 235 U140	2x

Lost tie parts:

11	Anchorage Loop DW15	1x
Alternatively, see Fig. A3.03		
9	Tie Rod DW15	2x
12	Threaded Anchor Plate DW15	2x

(Fig. A3.02)

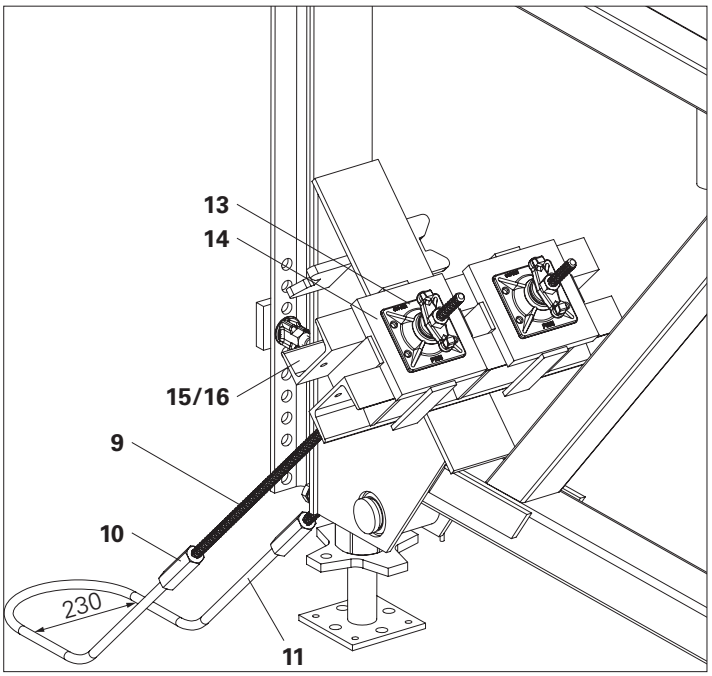


Fig. A3.02

Tie System DW 20
Version with anchor waler
Permissible tension force 2 x 150 kN = 300 kN.

Reusable tie parts:

14	Anchor Plate SB DW26	2x
17	Wingnut DW20 ga	2x
18	Counterplate DW20 120x120x20 mm	2x
19	Anchor Waler 55 U160	2x
20a	Tie Rod DW20	2x
21	Hex-Nut DW20 SW46 110 mm ga	2x

Lost tie parts:

20b	Tie Rod DW20	2x
22	Threaded Anchor Plate DW20	2x
31	V-Tie Holder DW20	2x

(Fig. A3.03)

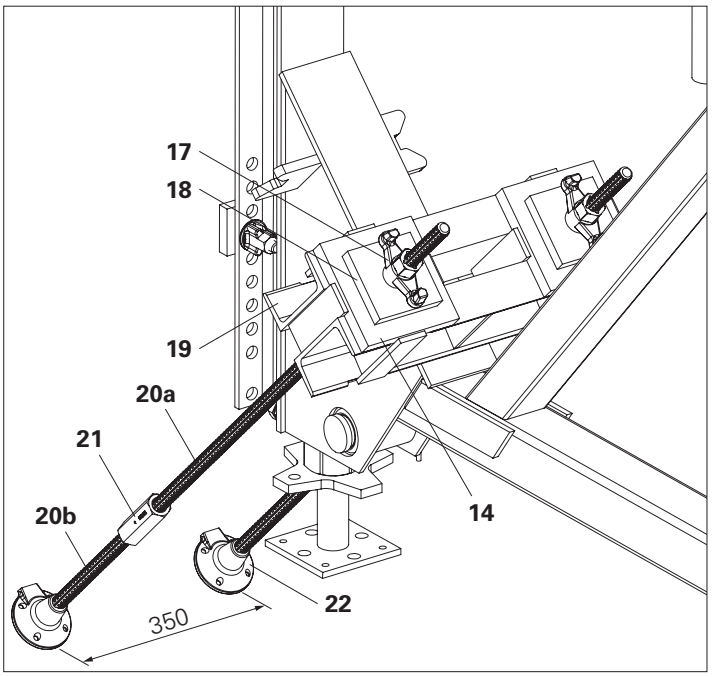


Fig. A3.03

- Structure for DW 15 same as corresponding components.
- Spacing 230 mm.
- Permissible tension force 2 x 90 kN = 180 kN.

Tie System DW 26
Version with anchor waler
Permissible tension force 2 x 250 kN = 500 kN.

Reusable tie parts:

19	Anchor Waler 55 U160	2x
23	Hex-Nut DW26 SW46 80 mm ga	2x
24	Anchor Rele. Plate SB DW26	2x
25a	Tie Rod DW26	2x
26	Hex-Nut DW26 SW46 150 mm ga	2x

Lost tie parts:

25b	Tie Rod DW26	2x
27	Threaded Anchor Plate DW26	2x
34	V-Tie Holder DW26	2x

(Fig. A3.04)

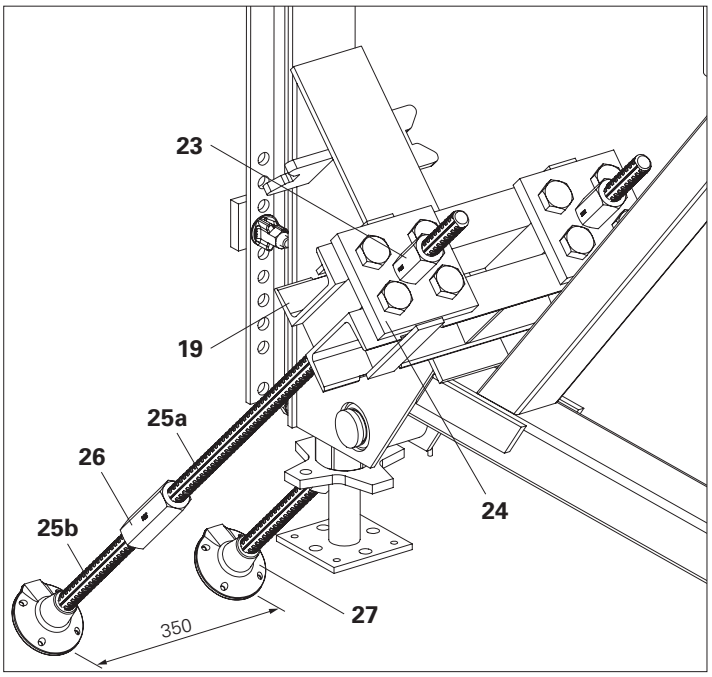


Fig. A3.04

Version with anchor waler

Brace Frame SB-A0, A, B
in accordance with the DW tie system
(Fig. A3.05a – Fig. A3.05c)

The given dimensions x and y are ideal values. If the ideal dimension x is adhered to, the anchoring is in the interference-free area behind the formwork.
If x becomes larger, y must become smaller. Project-specific planning required.
y ≤ 315 mm
All dimensions given in mm.

Framed formwork panel

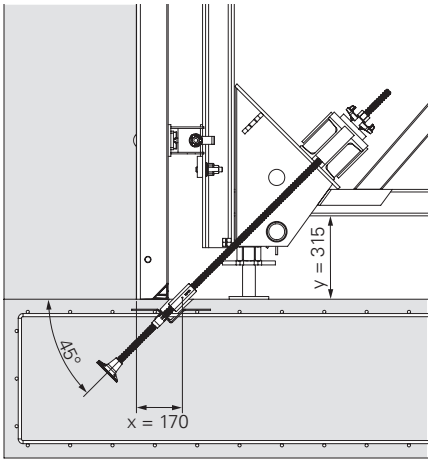


Fig. A3.05a

Girder formwork

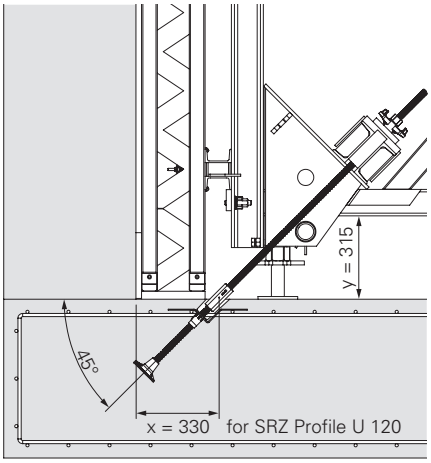


Fig. A3.05b

Girder circular formwork

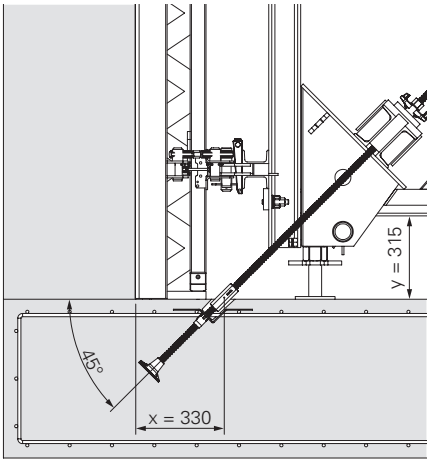


Fig. A3.05c

Brace Frame SB-2
in accordance with the DW tie system
(Fig. A3.06a – Fig. A3.06c)

Framed formwork panel

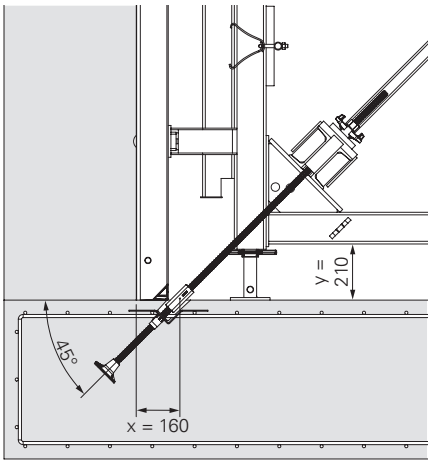


Fig. A3.06a

Girder formwork

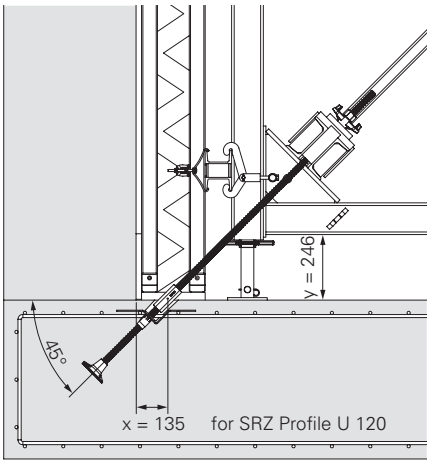


Fig. A3.06b

Girder circular formwork

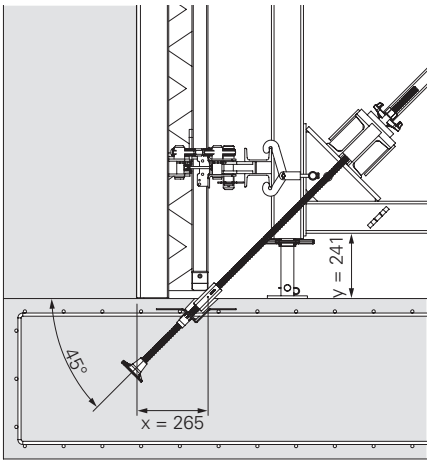


Fig. A3.06c

Version with Double Anchor Tie Yoke DSW

Brace Frame SB-B
in accordance with the DW tie system
(Fig. A3.07a – Fig. A3.07c)

The given dimensions x and y are ideal values. If the ideal dimension x is adhered to, the anchoring is in the interference-free area behind the formwork.
If x becomes larger, y must become smaller. Project-specific planning required.
y ≤ 315 mm
All dimensions given in mm.

Framed formwork panel

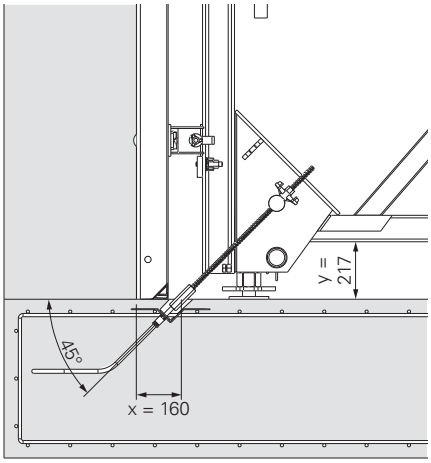


Fig. A3.07a

Girder formwork

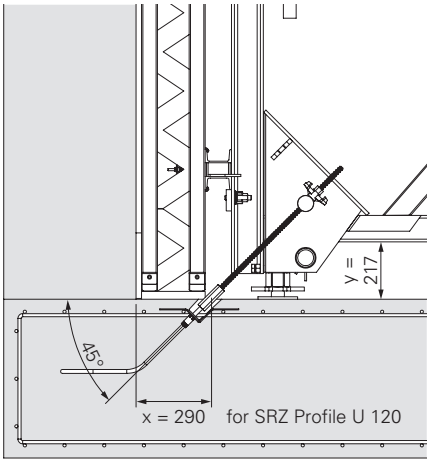


Fig. A3.07b

Girder circular formwork

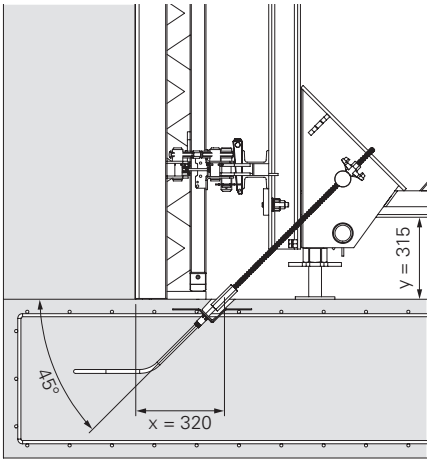


Fig. A3.07c

Standard configurations for civil engineering

Brace Frame SB VARIOKIT / SCS
(Fig. A3.08a – Fig. A3.08c)

The specified dimension x must be determined on a project-specific basis for anchoring in the interference-free area.
The value changes depending on the formwork selected.

SB VARIOKIT

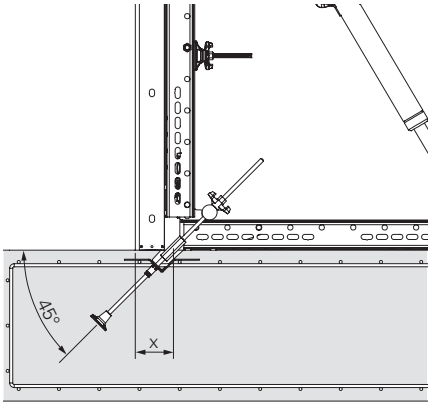


Fig. A3.08a

SB SCS with anchor tie yoke

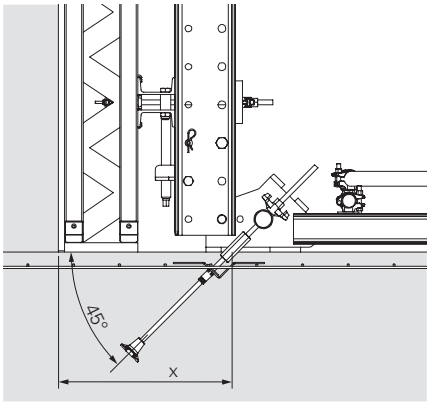


Fig. A3.08b

SB SCS with Steel Waler SRU

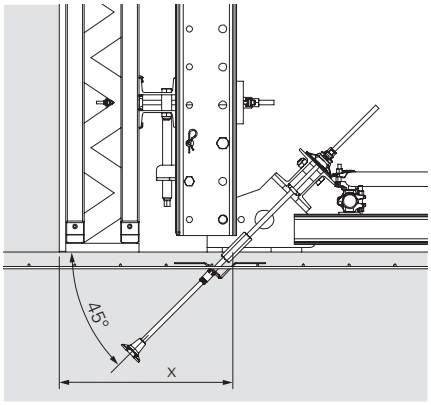


Fig. A3.08c

Standard configuration for Expansion Shell

Observe the relevant Installation Instructions

Project-specific planning required,
y ≤ 315 mm.
All dimensions given in mm.

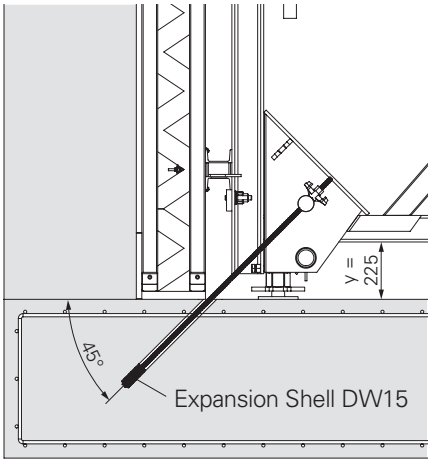


Fig. A3.09

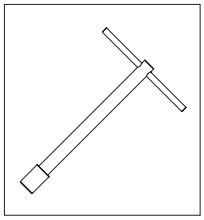
Tie installation with V-Tie Holder for DW 15, 20, 26

With the V-tie holder and leading tie coupler, accurate assembly of the tension tie under 45° is possible.

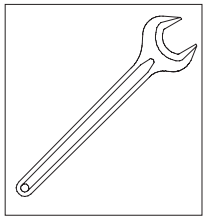
Seal leading tie couplers with suitable means.

Verification of the safe transfer of the bearing reactions into the building and subsequently into the ground is the responsibility of the contractor – determining the anchoring depth.

Tools required



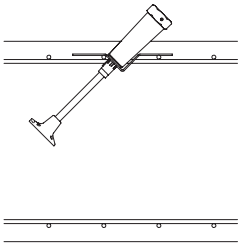
Tens. Rod Spanner DW20/26 ga



Spanner AF 30, 36, 46, 70

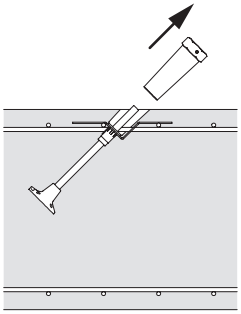
Work sequence for lost tie rod

Installation in reinforcement



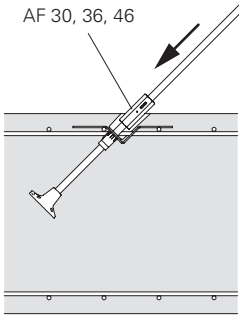
Installation of the V-tie holder and leading tie coupler, for example with tie wire. Concreting.

After concreting



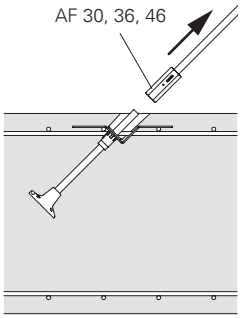
Removal of leading tie coupler with spanner AF 70.
Check tie rod to ensure it is firmly in place.

Connection to SB



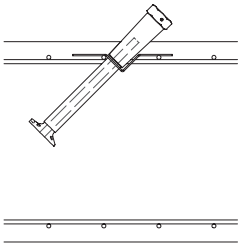
Untighten the hex. nut and tie rod using the spanner.

Dismantling SB

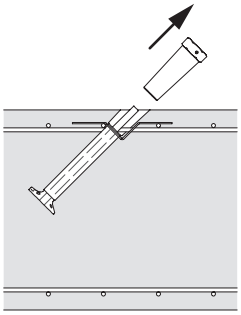


Unscrew the tie rod and hex. nut using the spanner.
Fill hole.

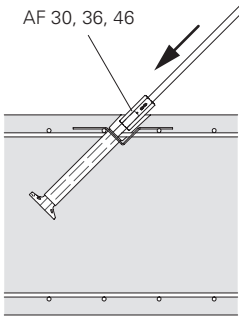
Work sequence for re-usable tie rods



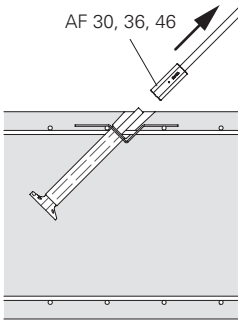
Installation of the V-tie holder and leading tie coupler. Fix in place, for example with tie wire. Concreting.



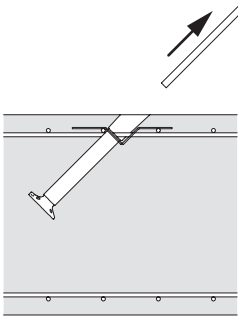
Removal of leading tie coupler with spanner AF 70.
Check tie rod to ensure it is firmly in place.



Untighten the hex. nut and tie rod using the spanner.



Unscrew the tie rod and hex. nut using the spanner.



Unscrew the tie rod with the tension rod spanner.
Fill hole.

Tie System DW 15
Version with tie rod

Reusable tie parts:

9 Tie Rod DW15
28 Leading Anchor Coupler DW15

Lost tie parts:

5 V-Tie Holder DW15
12 Threaded Anchor Plate DW15
29 Tube Ø32 mm rough

(Fig. A3.10a)

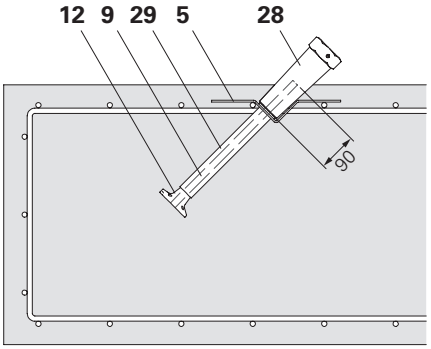


Fig. A3.10a

Tie System DW 15
Version with anchorage loop

Reusable tie parts:

28 Leading Anchor Coupler DW15

Lost tie parts:

5 V-Tie Holder DW15
11 Anchorage Loop DW15

(Fig. A3.10b)

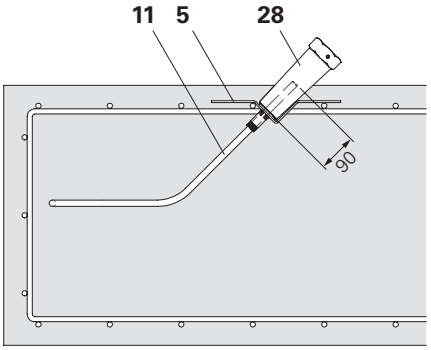


Fig. A3.10b

Tie System DW 20

Reusable tie parts:

20 Tie Rod DW20
30 Leading Anchor Coupler DW20

Lost tie parts:

22 Threaded Anchor Plate DW20
31 V-Tie Holder DW20
32 Tube Ø42 mm rough

(Fig. A3.10c)

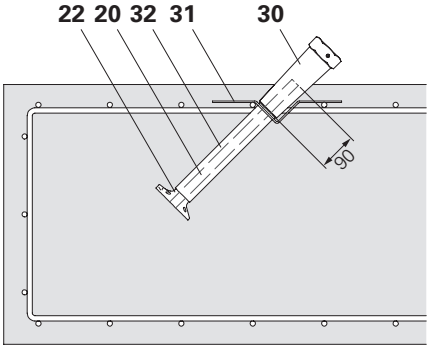


Fig. A3.10c

Tie System DW 26

Reusable tie parts:

25 Tie Rod DW26
33 Leading Anchor Coupler DW26

Lost tie parts:

27 Threaded Anchor Plate DW26
32 Tube Ø42 mm rough
34 V-Tie Holder DW26

(Fig. A3.10d)

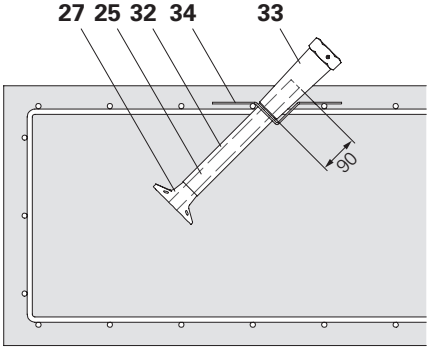


Fig. A3.10d

Assembling SB-A0, A, B, C

Height combinations (examples)
(Fig. B1.01)

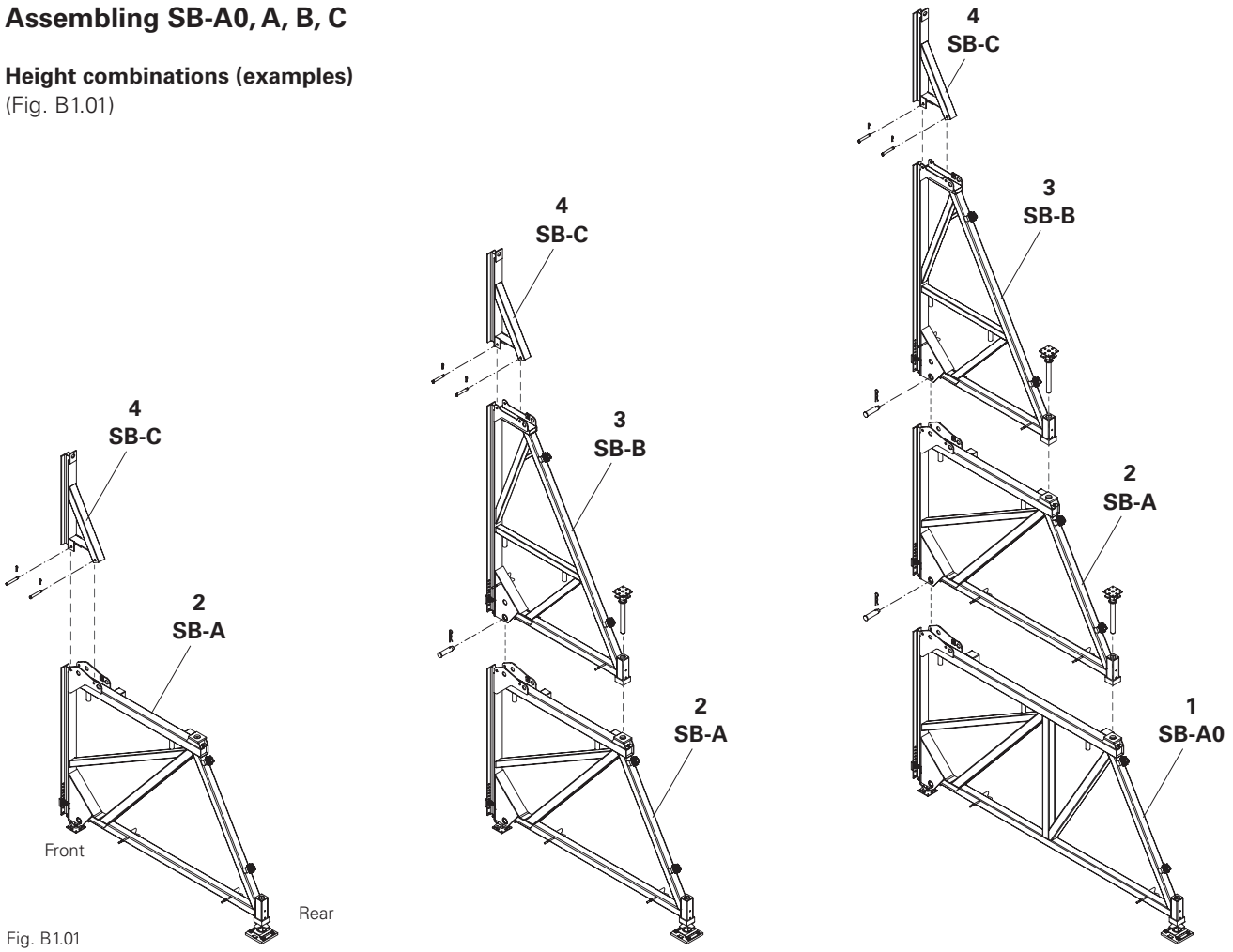


Fig. B1.01

Assemble brace frames on clean, level and sufficiently load-bearing surfaces!

Assembly
Assembly is to take place horizontally and with the crane.

1. Place all required individual brace frames (SB-A0, A, B, C) on squared timber in sequence.

(Fig. B1.02)

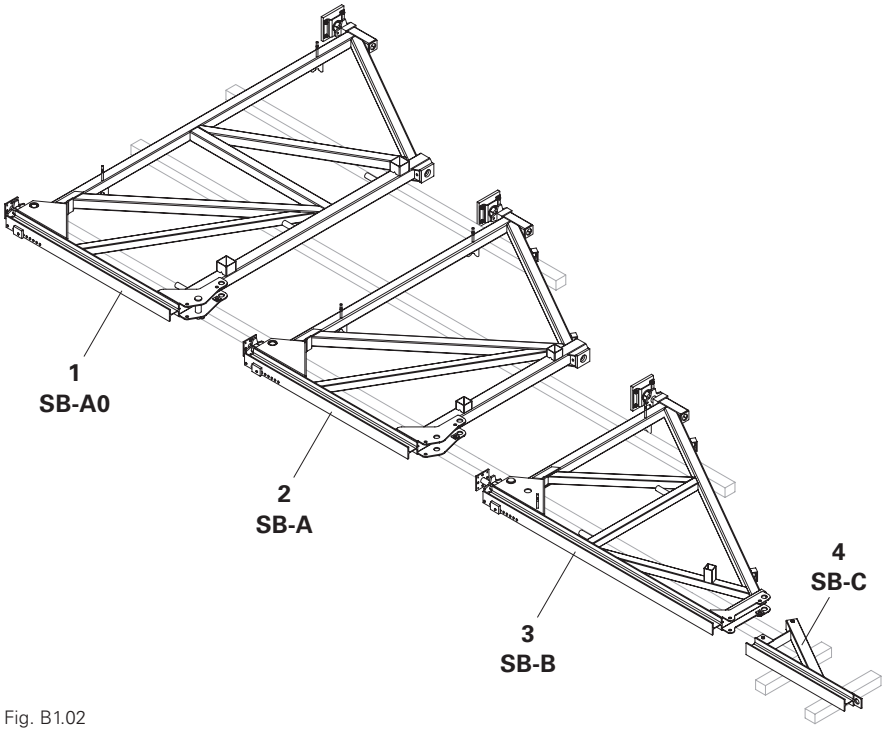


Fig. B1.02

Connecting SB-A0 to SB-A

2. Remove the spindles from Brace Frame SB-A (**2**).
   Front: Spindle Base SB (**2.2**) and Adjusting Nut SB (**2.3**).
   Rear: Waler Jack TR 60 x 9/43 (**2.4**).
3. Push the brace frames (**1 + 2**) together.
4. Connect the brace frames (**1 + 2**) at the front with bolts Ø50x150 mm (**1.5**) and cotter pin 8 (**1.6**).
5. Connect the brace frame at the rear with Spindle Base SB (**2.2**) and Adjusting Nut SB (**2.3**).

(Fig. B1.03a + Fig. B1.03b)

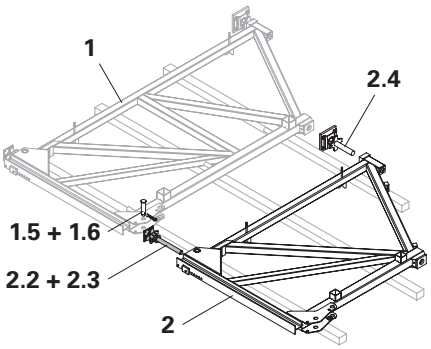


Fig. B1.03a

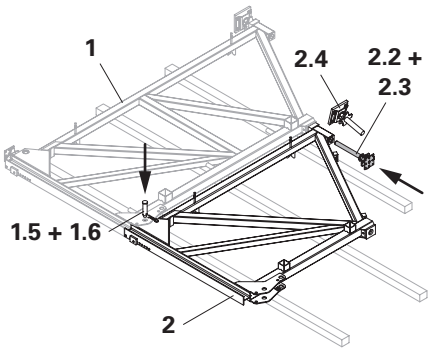


Fig. B1.03b

Connecting SB-A to SB-B

2. Remove the spindles from the brace frame. Front: Spindle Base SB (**3.2**) and Adjusting Nut SB (**3.3**).
   Rear: Waler Jack TR 60 x 9/43 (**3.4**).

(Fig. B1.04a)

3. Push the brace frames (**2 + 3**) together.
4. Connect the brace frames (**2 + 3**) at the front with bolts Ø50x150 (**3.5**) and cotter pin 8 (**3.6**).
5. Connect the brace frame at the rear with Spindle Base SB (**3.2**) and Adjusting Nut SB (**3.3**).

(Fig. B1.04b)

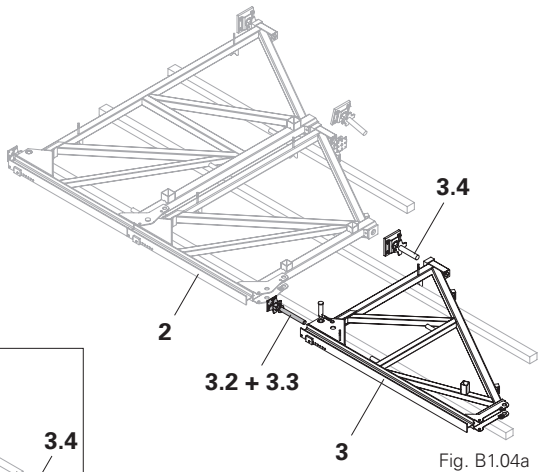


Fig. B1.04a

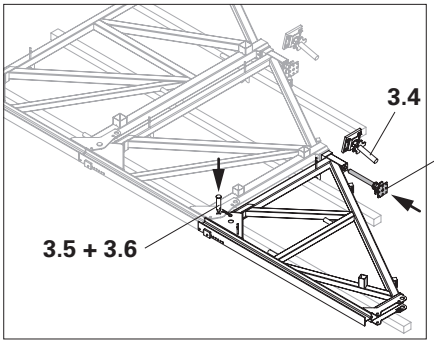


Fig. B1.04b

Connecting to SB-C

Example involving SB-B

6. Remove bolt Ø25x180 with clamping sleeve Ø6 (**4.1**) and Cotter Pin 4/1 ga (**4.2**) from Brace Frame SB-C (**4**).

(Fig. B1.05)

7. Push the brace frames (**3 + 4**) together and connect them with bolt Ø25x180 mm, clamping sleeve Ø6 (**4.1**) and Cotter Pin 4/1 ga (**4.2**).

(Fig. B1.05a)

Load transfer

Adjust the formwork support (**1.7**) to suit the formwork used in accordance with the project plan.

(Fig. B1.05b)

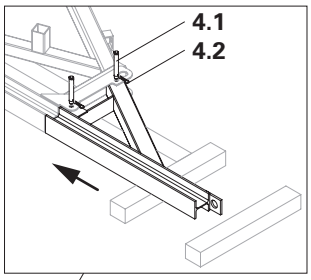


Fig. B1.05a

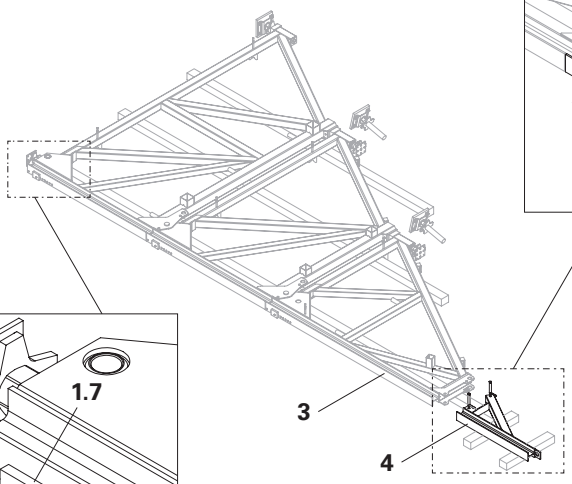


Fig. B1.05

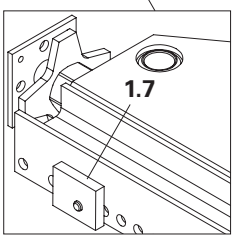


Fig. B1.05b

General information

Danger

Incorrect anchoring results in the static system of the formwork unit being changed which could lead to large deformations; even breakage in extreme cases!
This could result in serious injuries or even death.

⇒ The support (connection) for the elements must always be established at the point where the tie rod is installed for normal use (double-sided).
⇒ Check the structural integrity of the formwork unit.
⇒ When extending the formwork, take into account the information provided by PERI for the respective system.
⇒ After each concreting or relocation operation, check the fasteners / wedges and ensure that they are permanently secured, if necessary.

Girder Formwork VARIO GT 24, RUNDFLEX and RUNDFLEX Plus-2

- Assembly is to take place horizontally and with the crane.
- Place the formwork unit on a clean, level and sufficiently load-bearing surface. Place squared timbers underneath.
- Depending on where the top edge of the brace frame lies, it may only be possible to construct the concreting platform using individual brackets, guardrail posts and decking and guardrail boards provided by the contractor.
- Take into account permissible influence widths; see PERI Design Information for Brace Frame SB. If no influence widths are available, these must be determined on a project-specific basis.

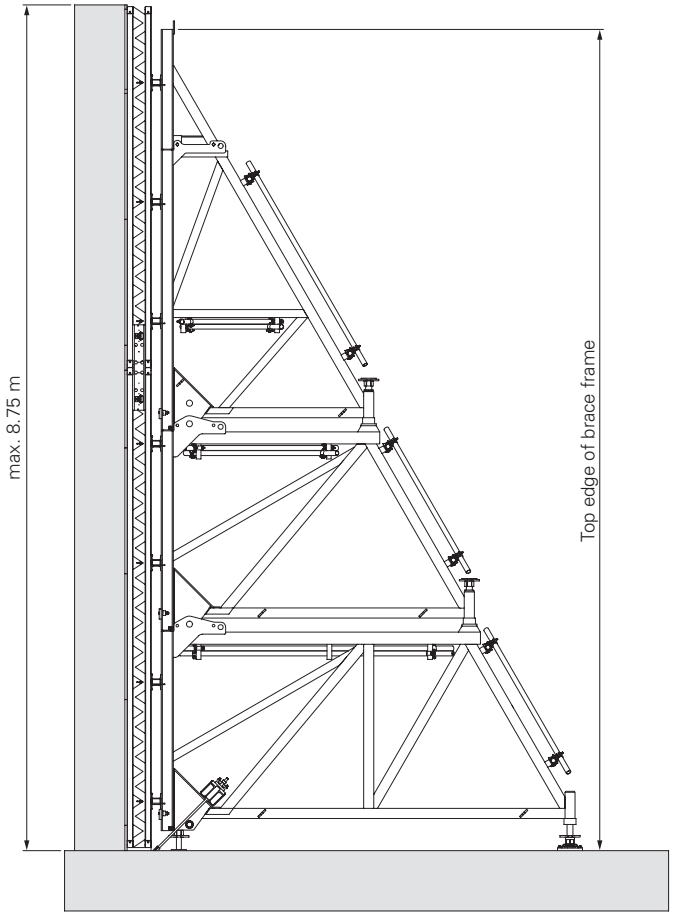


Fig. B2.01

Combination table

Standard configuration with VARIO GT 24 Girder Wall Formwork										
Formwork height	Girder 1	Girder 2	Girder 3 (Overlap girders)	Tie position 1	Tie position 2	Tie position 3	Tie position 4	Tie position 5	Tie position 6	Tie position 7
240	240			49.0	118.4					
240	240			49.0	118.4					
270	270			49.0	148.0					
270	270			49.0	148.0					
270	270			49.0	177.6					
300	300			49.0	148.0					
300	300			49.0	177.6					
300	300			49.0	177.6					
330	330			49.0	118.4	118.4				
330	330			49.0	118.4	118.4				
360	360			49.0	118.4	118.4				
360	360			49.0	118.4	118.4				
390	390			49.0	118.4	118.4				
390	390			49.0	118.4	148.0				
390	390			49.0	118.4	148.0				
390	390			49.0	118.4	148.0				
420	420			49.0	118.4	118.4	118.4			
420	420			49.0	118.4	118.4	118.4			
450	450			49.0	118.4	118.4	118.4			
450	450			49.0	118.4	118.4	118.4			
480	480			49.0	118.4	118.4	118.4			
480	480			49.0	118.4	118.4	118.4			
510	510			49.0	118.4	118.4	148.0			
540	540			49.0	118.4	148.0	148.0			
540	540			49.0	118.4	118.4	118.4	118.4		
570	570			49.0	118.4	118.4	118.4	118.4		
600	600			49.0	118.4	118.4	118.4	118.4		
630	240	390		49.0	118.4	121.8	118.4	148.0		
660	240	420		49.0	118.4	121.8	148.0	148.0		
690	240	450		49.0	118.4	121.8	118.4	118.4	118.4	
720	240	480		49.0	118.4	121.8	118.4	118.4	118.4	
750	240	510		49.0	118.4	121.8	118.4	118.4	148.0	
780	240	540		49.0	118.4	121.8	118.4	118.4	118.4	118.4
810	480	330	540	49.0	118.4	118.4	118.4	118.4	118.4	118.4
840	600	240	450	49.0	118.4	118.4	118.4	118.4	118.4	118.4
870	600	270	480	49.0	118.4	118.4	118.4	118.4	118.4	148.0

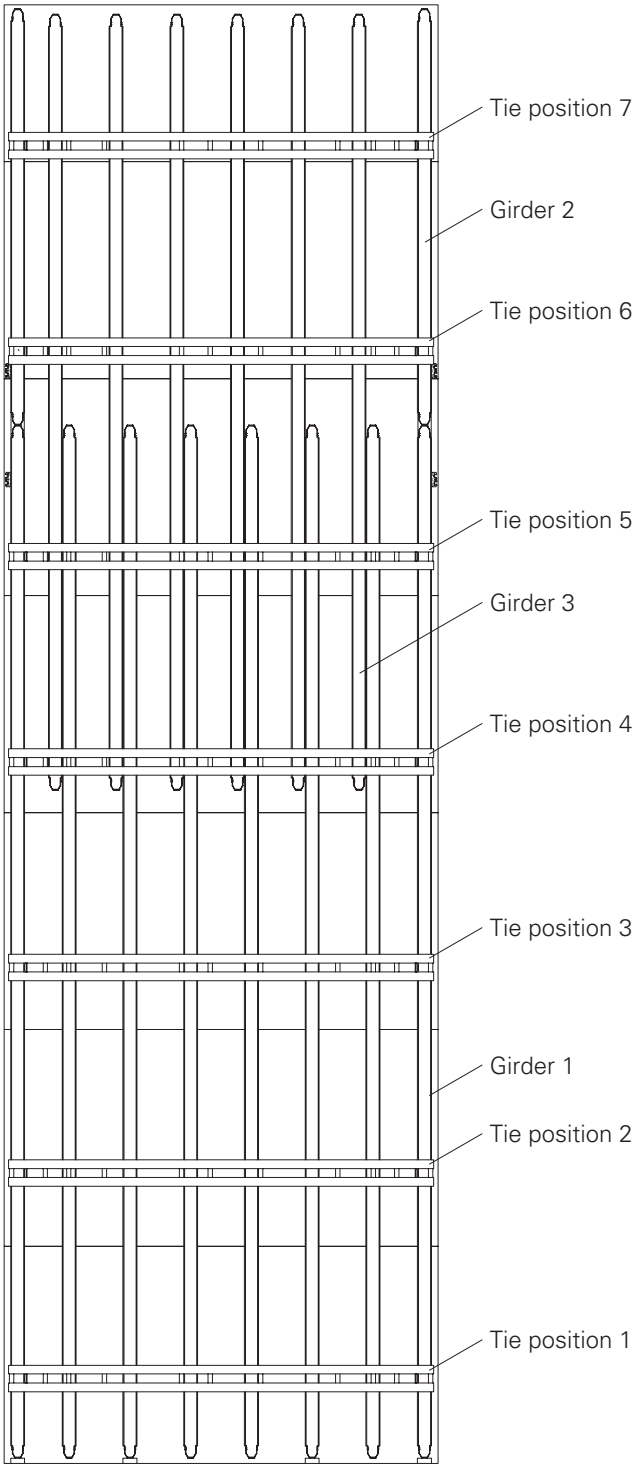
All dimensions in cm.

Tab. B2.01

B2 Connecting to systems SB-A0, A, B, C

SB-A0	SB-A	SB-B	SB-C	Standard configuration
	X			SB A
		X		SB B
	X			SB A
		X		SB B
	X		X	SB A + C
	X			SB A
		X		SB B
	X		X	SB A + C
		X		SB B
	X		X	SB A + C
		X		SB B
	X		X	SB A + C
		X		SB B
	X		X	SB A + C
		X	X	SB B + C
	X	X		SB A + B
		X	X	SB B + C
	X	X		SB A + B
		X	X	SB B + C
	X	X		SB A + B
		X	X	SB B + C
	X	X		SB A + B
	X	X		SB A + B
	X	X		SB A + B
	X	X	X	SB A + B + C
	X	X	X	SB A + B + C
	X	X	X	SB A + B + C
	X	X	X	SB A+B+C
	X	X	X	SB A+B+C
X	X	X	(X)	SB A0 + A + B + (C)
X	X	X	(X)	SB A0 + A + B + (C)
X	X	X	(X)	SB A0 + A + B + (C)
X	X	X	X	SB A0 + A + B + C
X	X	X	X	SB A0 + A + B + C
X	X	X	X	SB A0 + A + B + C
X	X	X	X	SB A0 + A + B + C

Refer to the Instructions for Assembly and Use for the formwork system used.



B2 Connecting to systems SB-A0, A, B, C

Installation on horizontal VARIO GT 24.
Max. concreting height h = 8.75 m.
Refer to the Instructions for Assembly and Use for the system.

Required components per ledger section:

35 Waler Connector SB-A0, A, B, C	1x
36 Wedge K ga	1x
Alternatively	
38 Hook Strap SB-2 ga	1x

Leave the brace frame attached to the crane until it is mounted.

Connecting with Waler Connector SB-A, B, C

1. Prepare the installation site, for example with squared timbers.
2. Set the formwork down at the installation site.
3. Swing the brace frame into position with the crane.
4. Slide the required number of waler connectors SB-A0, A, B, C (**35**) onto the profile of the brace frame - number depends on the length of the waler.
5. Adjust the formwork support (**1.7**) to the required height (stop).
6. Lower the brace frame, and push the waler connectors through the steel walers. The bottom steel waler lies against the formwork support.
7. Fix Waler Connectors SB-A0, A, B, C (**35**) in place with Wedge K ga (**36**) starting from the bottom.

(Fig. B2.02 – Fig. B2.02b)

8. Fit the second brace frame.
9. Brace the brace frames with scaffolding tubes (horizontal and vertical)See Section "B3 Bracing SB-A0, A, B, C" on page 49.

(Fig. B2.03)

9. Check all fixing points to ensure they are secure.
10. Remove crane lifting gear.
11. Adjust the height of the movable unit with the spindles.

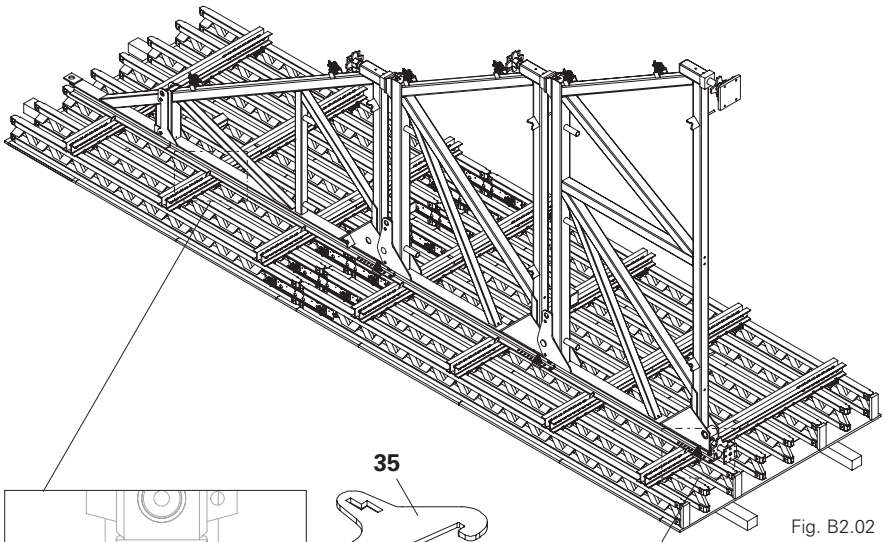


Fig. B2.02

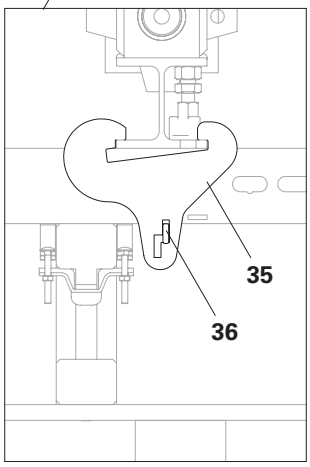


Fig. B2.02a

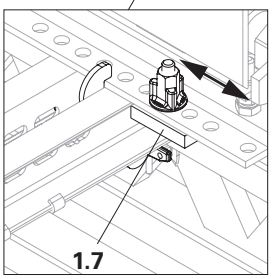


Fig. B2.02b

B2 Connecting to systems SB-A0, A, B, C

Erection
Erect, move, align and anchor the moveable unit with the crane by the load-bearing pointsSee Section “B4 Moving” on page 50.

Platforms
Do not mount concreting platforms until after erection.

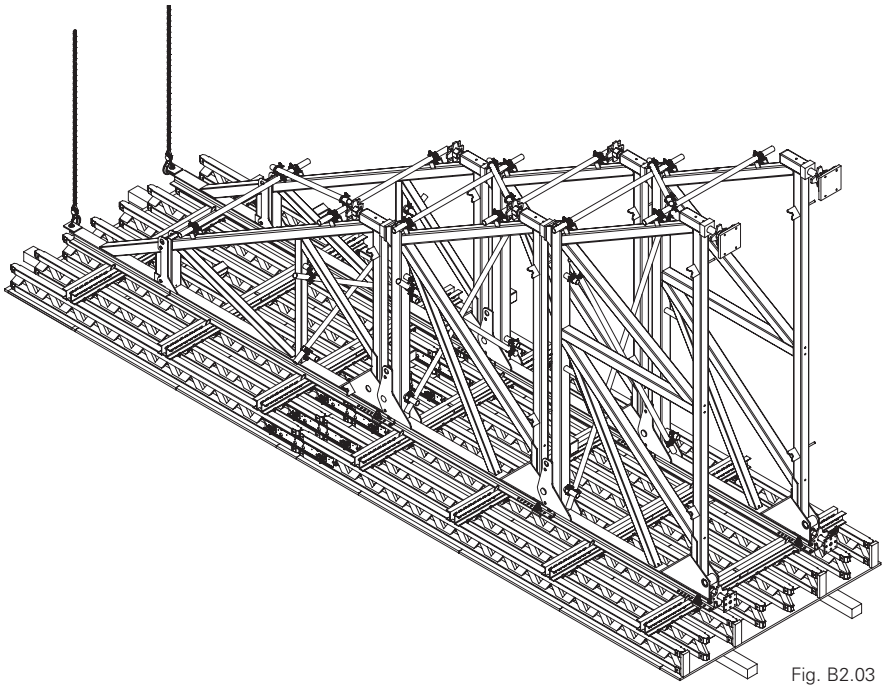


Fig. B2.03

B2 Connecting to systems SB-A0, A, B, C

Installation on horizontal RUNDFLEX. Max. concreting height h = 8.40 m. Refer to the Instructions for Assembly and Use for the system.

Required components per ledger section:

35	Waler Connector SB-A0,A,B,C	1x
36	Wedge K ga	1x

- When planning, make sure that the ends of the brace frames do not touch (high elements, inner radius min. 6.0 m).
- The elements are adjusted to suit the radius.
- Leave the brace frame attached to the crane until it is mounted.

Connecting with Waler Connector SB-A, B, C

1. Prepare the installation site, for example with squared timbers.
2. Set the formwork down at the installation site.
3. Swing the brace frame into position with the crane.
4. Slide the required number of Waler Connectors SB-A0,A,B,C (**35**) onto the profile of the brace frame - number depends on the length of the waler.
5. Adjust the formwork support (**1.7**) to the required height (stop).
6. Lower the brace frame and push the Waler Connectors SB-A0,A,B,C (**35**) through the distribution walers (**39**). The bottom distribution waler (**39**) lies against the formwork support.
7. Fix Waler Connectors SB-A0,A,B,C (**35**) in place with Wedge K ga (**36**) starting from the bottom.

(Fig. B2.05 – Fig. B2.05b)

8. For further work steps, see Section See Section "B2 Connecting to systems SB-A0, A, B, C" on page 31 from action step 6.

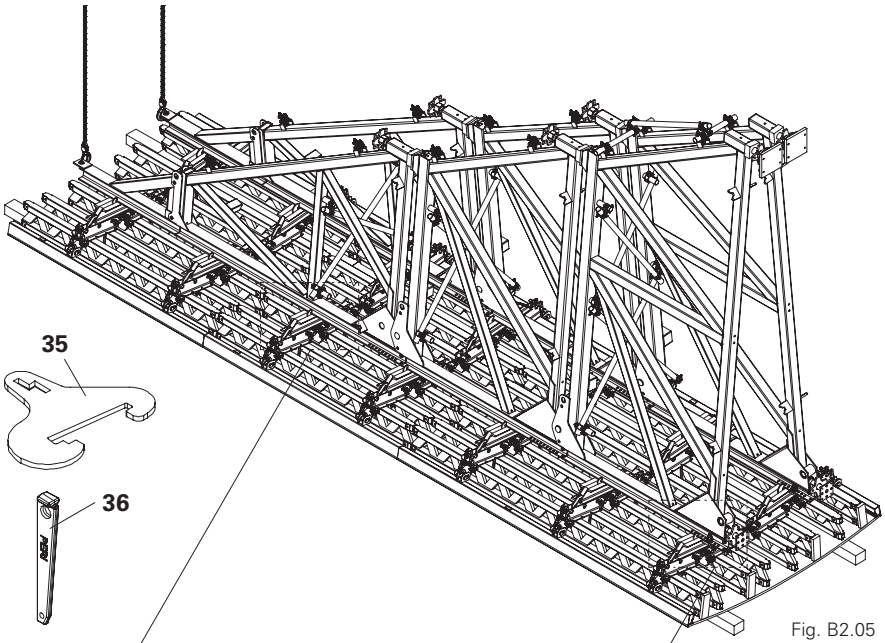


Fig. B2.05

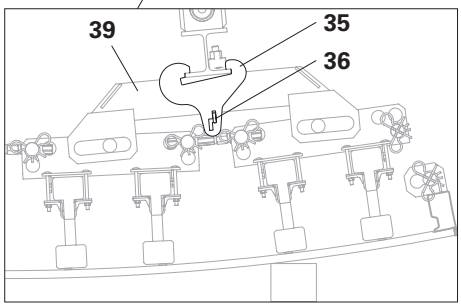


Fig. B2.05a

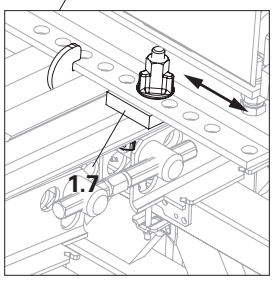


Fig. B2.05b

Assembly on vertical element VARIO GT 24 and RUNDFLEX

1. Erect, move and align the formwork unit and temporarily secure with push-pull props. (not shown)
2. With the crane, lift the brace frame in behind the steel walers/distribution walers. Use a guide rope.

(Fig. B2.06a)

3. Slide Waler Connectors SB-A0,A,B,C (**35**) onto the profiles of the brace frames, insert into the steel walers/ distribution walers, and secure with Wedge K ga (**36**).
   (Fig. B2.05a + Fig. B2.06b)
   The steel waler/distribution waler lies against the formwork support (**1.7**).
   (Fig. B2.06b)
4. For further work steps, see Section See Section "B2 Connecting to systems SB-A0, A, B, C" on page 31 from action step 6.

Example: VARIO, lifting in the brace frame

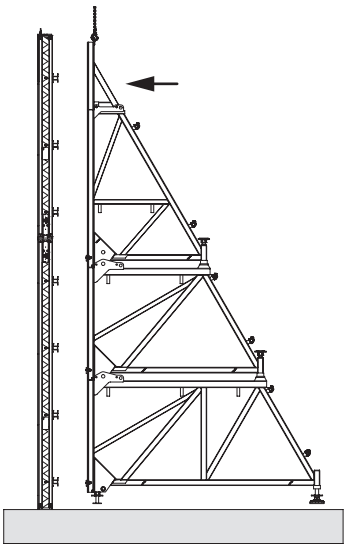


Fig. B2.06a

Example: RUNDFLEX mounted

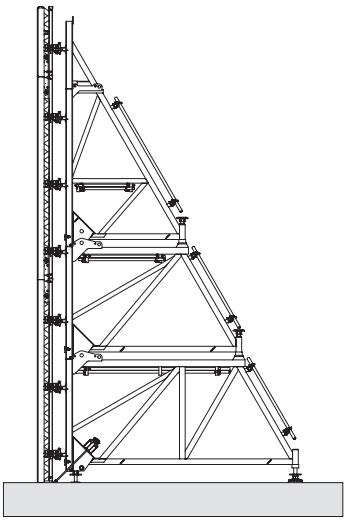


Fig. B2.06b

Installation on horizontal RUNDFLEX Plus-2.
Max. concreting height h = 8.40 m.
Refer to the Instructions for Assembly and Use for the system.

Required components per ledger section:

40 Connector SB/RFP	1x

- When planning, make sure that the ends of the brace frames do not touch (high elements, inner radius min. 6.0 m).
- The elements are adjusted to suit the radius.
- Leave the brace frame attached to the crane until it is mounted.

Connection with Brace Frame Connector RFP

1. Fix the Brace Frame Connectors SB/RFP (**40**) to the brace connectors of the outer trapezoidal profiles, AF 24.
2. Adjust the formwork support (**1.7**) to the required height (stop).
3. Lift the brace frame into the open Brace Frame Connectors SB/RFP (**40**) with the crane.
4. Close the Brace Frame Connectors SB/RFP (**40**) and hammer the wedges into place. (Fig. B2.07 – Fig. B2.07b)
5. For further work steps, see Section See Section "B2 Connecting to systems SB-A0, A, B, C" on page 31 from action step 6.

Assembly on vertical element
Preparing the element:

1. Fix the Brace Frame Connectors SB/RFP (**40**) to the brace connectors of the outer trapezoidal profiles, AF 24.
2. Mount the concreting platform: see Instructions for Assembly and Use of the formwork system.
3. Fix temporary push-pull prop and kicker to the central trapezoidal profile.
4. Erect unit, move to place of use, align and anchor.

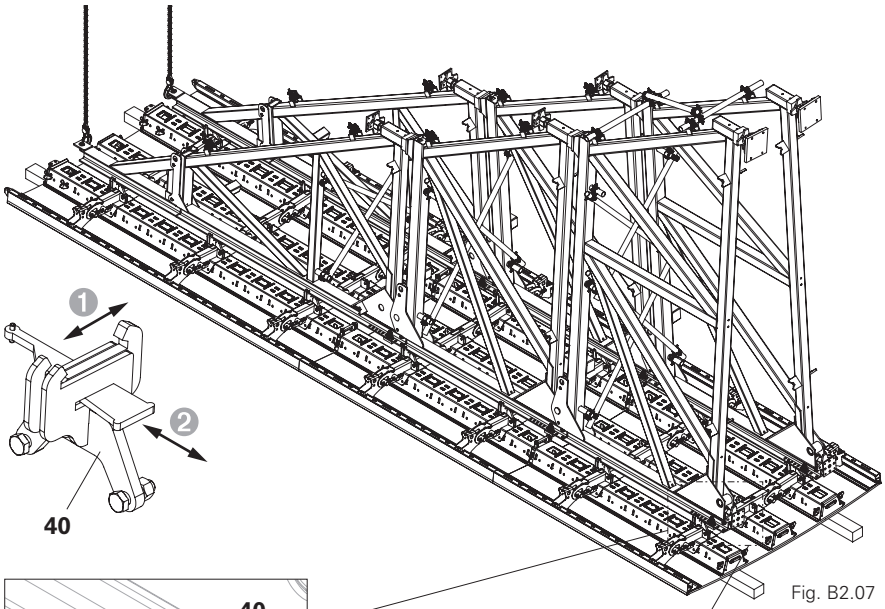


Fig. B2.07

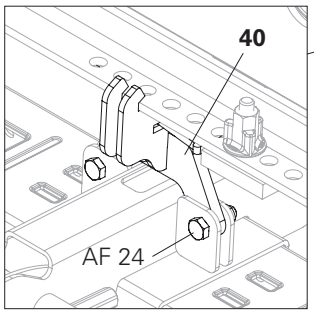


Fig. B2.07a

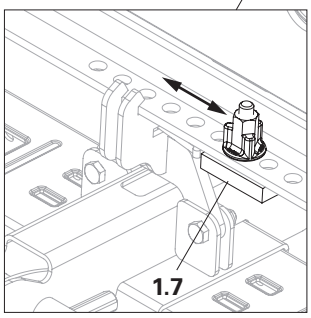


Fig. B2.07b

Assembly of brace frame:

5. Lift the brace frames into the open Brace Frame Connectors SB/RFP (**40**) with the crane. Secure the wedges. Formwork support rests against these. (Fig. B2.08)
6. For further work steps, see Section See Section "B2 Connecting to systems SB-A0, A, B, C" on page 31 from action step 6.
7. Remove temporary push-pull prop and kicker.

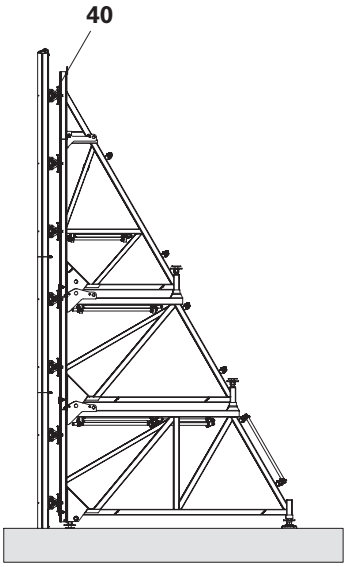
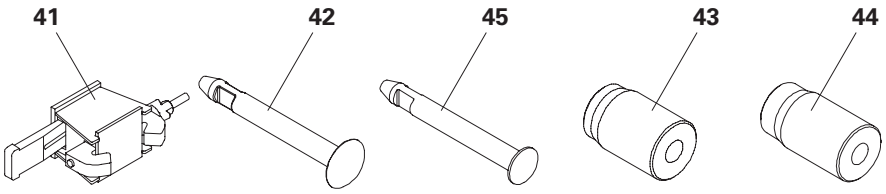


Fig. B2.08

Panel formwork MAXIMO, TRIO, DOMINO



Item no.: 025740 | 113255 | 027690 | 114107 | 114417

- Assembly is to take place horizontally and with the crane.
- Place the formwork unit on a clean, level and sufficiently load-bearing surface. Place squared timbers underneath.
- Depending on where the top edge of the brace frame lies, it may only be possible to construct the concreting platform using individual brackets, guardrail posts and decking and guardrail boards provided by the contractor.
- Take into account permissible influence widths; see PERI Design Information for Brace Frame SB.
- Mount platforms at a later stage.
- Definitions:
  - vertical: vertical tie profile
  - horizontal: horizontal tie profile
- Leave the brace frame attached to the crane until it is mounted.

Max. concreting height:
Vertical elements h = 8.70 m
(Fig. B2.09)
Horizontal elements h = 8.10 m

Refer to the Instructions for Assembly and Use for the system.

Required components per tie point: MAXIMO

41	Connection SB-A0,A,B,C/ MX,TR,D	1x
42	Pin SB/MX ga	1x
43	Sleeve SB/MX ga	1x
44	Sleeve SB/MX WDMX*	1x

*with removable sealing

Required components per tie point: TRIO, DOMINO

41	Connection SB-A0,A,B,C/ MX,TR,D	1x
45	Pin SB/TR,D ga	1x

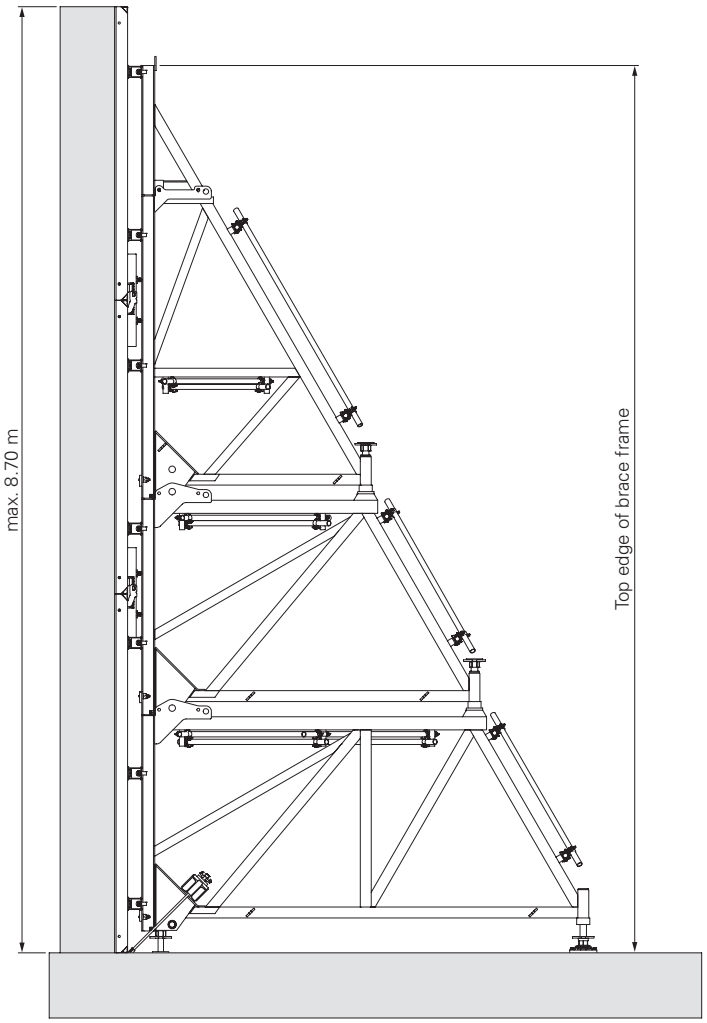


Fig. B2.09

Assembly

Connecting Connector SB-A0,A,B,C/ TR,MX,D to element

Preparation

1. Position the elements or element unit on trestles.
2. Insert Sleeves SB/MX (**43 / 44**) into the tie holes; for MAXIMO only.
3. Insert Bolt SB (**42 / 45**) from below.
4. Place Connector SB-A0,A,B,C/ MX,TR,D (**41**) on the tie hole and fix in place with wedge.
5. Fit additional Connectors SB-A0,A,B,C/ MX,TR,D (**41**) to the tie holes.
   (Fig. B2.10)

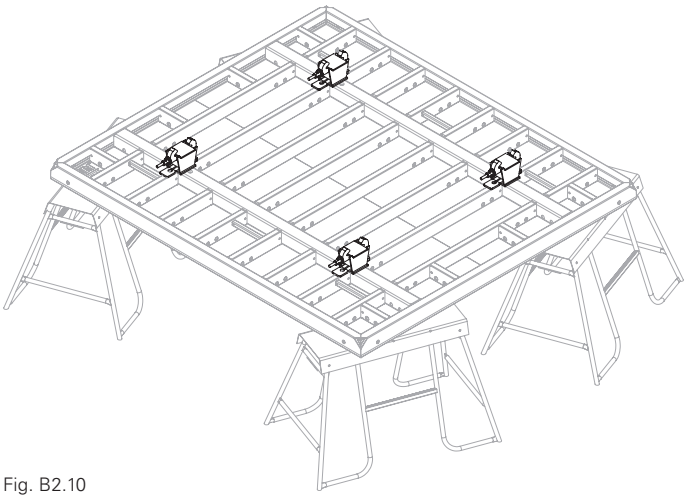
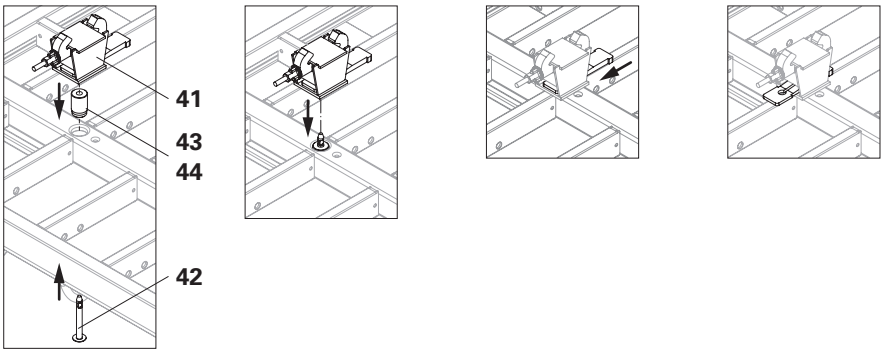
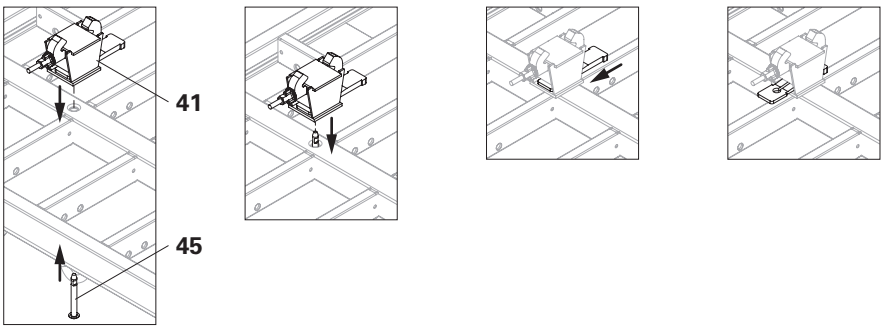


Fig. B2.10

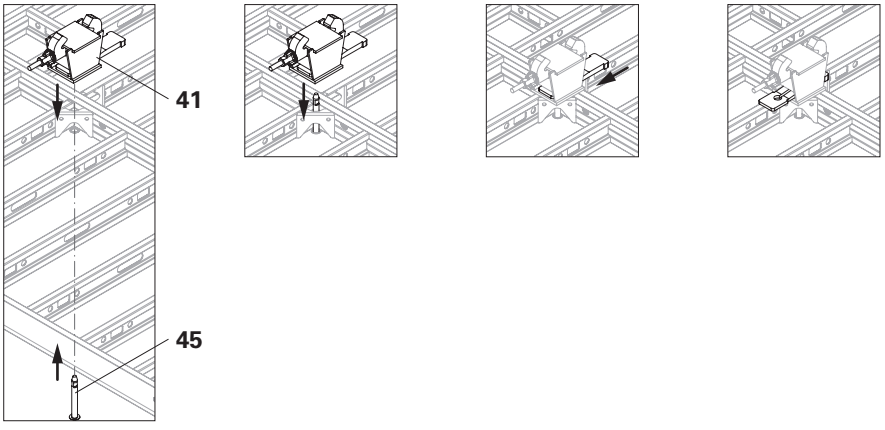
MAXIMO



TRIO



DOMINO



Leave the brace frame attached to the crane until it is mounted.

Mounting the brace frame

1. Position the elements or element unit on squared timber.
2. Adjust the formwork support (**1.7**) to the required height (stop).
3. Open the hook on the right (**41.1**).
4. Lift the brace frame into the open Connectors SB-A0,A,B,C/MX,TR,D (**41**) with the crane.
   The bottom Connector SB lies against the formwork support.
4. Close the hook on the right (**41.1**) with the cam nut, starting from the bottom.

(Fig. B2.11 – Fig. B2.12)

For further work steps, see Section B2 VARIO GT 24 from Point 6.

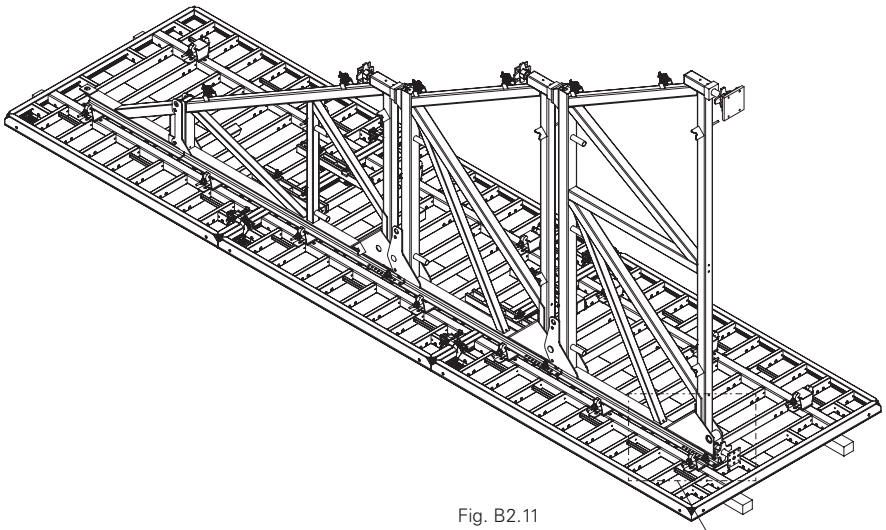


Fig. B2.11

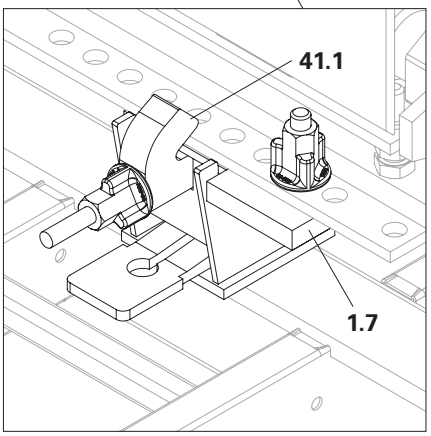


Fig. B2.11a

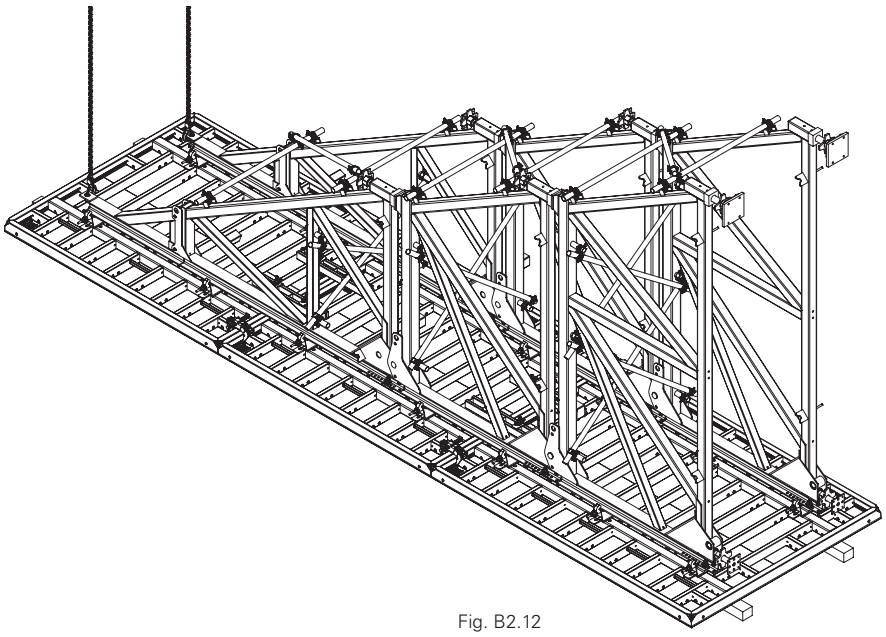


Fig. B2.12

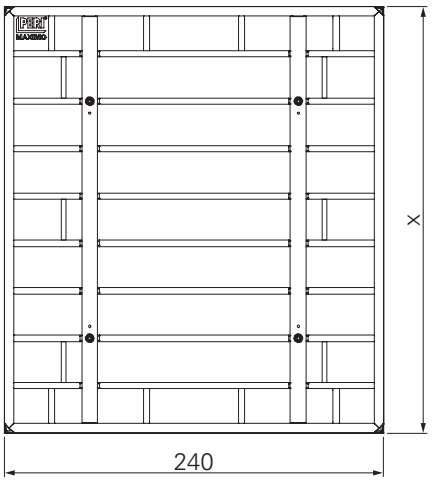
MAXIMO combination table

Standard configuration with MAXIMO Panel Formwork (vertical), W = 240

Formwork height	Element 1	Element 2	Element 3	Element 4	SB-A0	SB-A	SB-B	SB-C	Standard configuration
240	120	120				X			SB A
270	270						X		SB B
300	270	30					X		SB B
330	270	60				X		X	SB A + C
330	330						X		SB B
360	270	90				X		X	SB A + C
360	330	30					X	X	SB B + C
390	270	120				X		X	SB A + C
390	330	60					X	X	SB B + C
420	270	120	30				X	X	SB B + C
420	330	90					X	X	SB B + C
450	270	120	60			X		X	SB A + B
450	330	120					X		SB B + C
480	270	120	90			X	X		SB A + B
480	330	120	30			X	X		SB A + B
510	270	120	120			X	X		SB A + B
510	330	120	60			X	X		SB A + B
540	270	270				X	X		SB A + B
540	330	120	90			X	X	X	SB A + B + C
570	270	270	30			X	X	X	SB A + B + C
570	330	120	120			X	X	X	SB A + B + C
600	270	270	60			X	X	X	SB A + B + C
600	330	120	120	30		X	X	X	SB A + B + C
600	330	270				X	X	X	SB A + B + C
630	270	270	90			X	X	X	SB A + B + C
630	330	120	120	60		X	X	X	SB A + B + C
630	330	270	30		X	X	X		SB A0 + A + B
660	270	270	120			X	X	X	SB A + B + C
660	330	330			X	X	X		SB A0 + A + B
690	270	270	120	30	X	X	X		SB A0 + A + B
690	330	270	90		X	X	X		SB A0 + A + B
690	330	330	30		X	X	X		SB A0 + A + B
720	270	270	120	60	X	X	X		SB A0 + A + B
720	330	270	120		X	X	X		SB A0 + A + B
720	330	330	60		X	X	X		SB A0 + A + B
750	270	270	120	90	X	X	X	X	SB A0 + A + B + C
750	330	330	90		X	X	X	X	SB A0 + A + B + C
780	270	270	120	120	X	X	X	X	SB A0 + A + B + C
780	330	330	120		X	X	X	X	SB A0 + A + B + C
810	270	270	270		X	X	X	X	SB A0 + A + B + C
810	330	330	120	30	X	X	X	X	SB A0 + A + B + C
840	330	330	120	60	X	X	X	X	SB A0 + A + B + C
840	330	270	120	120	X	X	X	X	SB A0 + A + B + C
870	330	270	270		X	X	X	X	SB A0 + A + B + C

All dimensions in cm.

Tab. B2.02



Elements

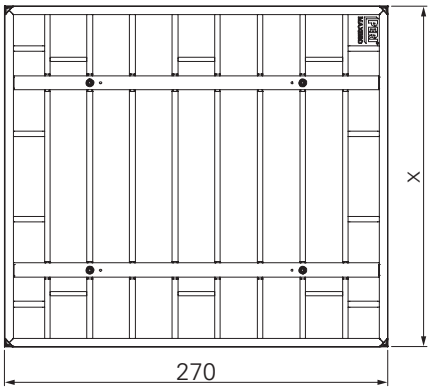
Element MX 330 x 240	114426
Element MX 270 x 240	112006
Element MX 120 x 240	112104
Element MX 90 x 240	112115
Element MX 60 x 240	112126
Element MX 30 x 240	112133

Standard configuration with MAXIMO Panel Formwork (horizontal), W = 270

Formwork height	Element 1	Element 2	Element 3	Element 4	SB-A0	SB-A	SB-B	SB-C	Standard configuration
240	240					X			SB A
270	240	30					X		SB B
300	240	60					X		SB B
330	240	90					X		SB B
330	330						X		SB B
360	240	120				X		X	SB A + C
360	330	30					X	X	SB B + C
390	240	120	30				X	X	SB B + C
390	330	60					X	X	SB B + C
420	240	120	60				X	X	SB B + C
420	330	90					X	X	SB B + C
450	240	120	90				X	X	SB B + C
450	330	120					X	X	SB B + C
480	240	240				X	X		SB A + B
480	330	120	30			X	X		SB A + B
510	240	240	30			X	X	X	SB A + B + C
510	330	120	60			X	X		SB A + B
540	240	240	60			X	X	X	SB A + B + C
540	330	120	90			X	X	X	SB A + B + C
570	240	240	90			X	X	X	SB A + B + C
570	330	240				X	X	X	SB A + B + C
600	240	240	120			X	X	X	SB A + B + C
600	330	240	30			X	X	X	SB A + B + C
630	240	240	120	30	X	X	X		SB A0 + A + B
630	330	240	60		X	X	X		SB A0 + A + B
660	240	240	120	60	X	X	X		SB A0 + A + B
660	330	330			X	X	X		SB A0 + A + B
690	240	240	120	90	X	X	X		SB A0 + A + B
690	330	240	120		X	X	X		SB A0 + A + B
720	240	240	240		X	X	X		SB A0 + A + B
720	330	330	60		X	X	X		SB A0 + A + B
750	240	240	240	30	X	X	X	X	SB A0 + A + B + C
750	330	330	90		X	X	X	X	SB A0 + A + B + C
780	240	240	240	60	X	X	X	X	SB A0 + A + B + C
780	330	330	120		X	X	X	X	SB A0 + A + B + C
810	240	240	240	90	X	X	X	X	SB A0 + A + B + C
810	330	240	240		X	X	X	X	SB A0 + A + B + C
840	240	240	240	120	X	X	X	X	SB A0 + A + B + C
840	330	330	120	60	X	X	X	X	SB A0 + A + B + C

- All dimensions in cm.
- Elements MX 330 x 270 and Elements MX 18, 330 x 270 are set up vertically.

Tab. B2.03



Elements

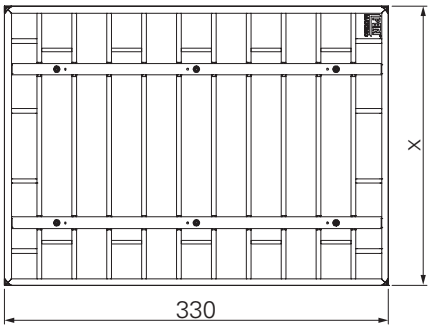
Element MX 330 x 270	116454
Element MX 270 x 240	112006
Element MX 270 x 120	112022
Element MX 270 x 90	112045
Element MX 270 x 60	112200
Element MX 270 x 30	112090

Standard configuration with MAXIMO Panel Formwork (horizontal), W = 330

Formwork height	Element 1	Element 2	Element 3	Element 4	SB-A0	SB-A	SB-B	SB-C	Standard configuration
240	240					X			SB A
270	240	30					X		SB B
270	270						X		SB B
300	240	60					X		SB B
300	270	30					X		SB B
330	240	90					X		SB B
330	270	60				X		X	SB A + C
360	240	120				X		X	SB A + C
360	270	90				X		X	SB A + C
390	240	120	30				X	X	SB B + C
390	270	120					X	X	SB B + C
420	240	120	60				X	X	SB B + C
420	270	120	30				X	X	SB B + C
450	240	120	90				X	X	SB B + C
450	270	120	60			X	X		SB A + B
480	240	240				X	X		SB A + B
480	270	120	90			X	X		SB A + B
510	240	240	30			X	X	X	SB A + B + C
510	270	240				X	X		SB A + B
540	240	240	60			X	X	X	SB A + B + C
540	270	270				X	X		SB A + B
570	240	240	90			X	X	X	SB A + B + C
570	270	270	30			X	X	X	SB A + B + C
600	240	240	120			X	X	X	SB A + B + C
600	270	270	60			X	X	X	SB A + B + C
630	240	240	120	30	X	X	X		SB A0 + A + B
630	270	270	90		X	X	X		SB A0 + A + B
660	240	240	120	60	X	X	X		SB A0 + A + B
660	270	270	120		X	X	X		SB A0 + A + B
690	240	240	120	90	X	X	X		SB A0 + A + B
690	270	270	120	30	X	X	X		SB A0 + A + B
720	240	240	240		X	X	X		SB A0 + A + B
720	270	270	120	60	X	X	X		SB A0 + A + B
750	240	240	240	30	X	X	X	X	SB A0 + A + B + C
750	270	240	240		X	X	X	X	SB A0 + A + B + C
780	240	240	240	60	X	X	X	X	SB A0 + A + B + C
780	270	270	240		X	X	X	X	SB A0 + A + B + C
810	240	240	240	90	X	X	X	X	SB A0 + A + B + C
810	270	270	270		X	X	X	X	SB A0 + A + B + C
840	240	240	240	120	X	X	X	X	SB A0 + A + B + C
840	270	270	240	60	X	X	X	X	SB A0 + A + B + C

All dimensions in cm.

Tab. B2.04



Elements

Element MX 330 x 270	116454
Element MX 330 x 240	114426
Element MX 330 x 120	114248
Element MX 330 x 90	114258
Element MX 330 x 60	114445
Element MX 330 x 30	114457

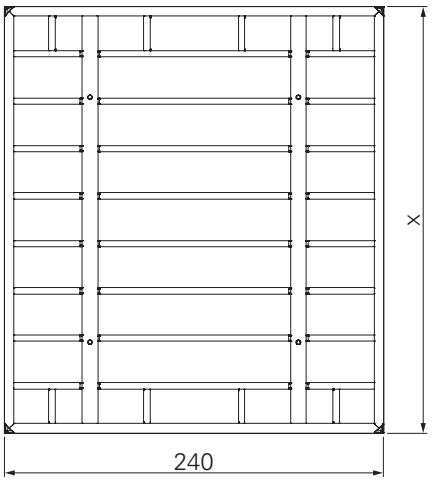
TRIO combination table

Standard configuration with TRIO Panel Formwork (vertical), W = 240

Formwork height	Element 1	Element 2	Element 3	Element 4	Element 5	SB-A0	SB-A	SB-B	SB-C	Standard configuration
240	120	120						X		SB B
270	270							X		SB B
300	270	30						X		SB B
330	330							X		SB B
360	120	120	120					X	X	SB B + C
360	330	30						X		SB B
390	270	120						X	X	SB B + C
420	270	120	30					X	X	SB B + C
450	330	120					X	X		SB A + B
480	330	120	30				X	X		SB A + B
510	270	120	120				X	X		SB A + B
540	270	270					X	X		SB A + B
570	270	270	30				X	X		SB A + B
570	330	120	120				X	X	X	SB A + B + C
600	330	120	120	30			X	X	X	SB A + B + C
600	330	270					X	X	X	SB A + B + C
630	330	270	30				X	X	X	SB A + B + C
660	270	270	120			X	X	X		SB A0 + A + B
660	330	330					X	X	X	SB A + B + C
690	270	270	120	30		X	X	X		SB A0 + A + B
690	330	330	30			X	X	X		SB A0 + A + B
720	330	120	120	120	30	X	X	X		SB A0 + A + B
720	330	270	120			X	X	X	X	SB A0 + A + B + C
750	270	120	120	120	120	X	X	X	X	SB A0 + A + B + C
750	330	270	120	30		X	X	X	X	SB A0 + A + B + C
780	270	270	120	120		X	X	X	X	SB A0 + A + B + C
780	330	330	120			X	X	X	X	SB A0 + A + B + C
810	270	270	270			X	X	X	X	SB A0 + A + B + C
810	330	330	120	30		X	X	X	X	SB A0 + A + B + C
840	270	270	270	30		X	X	X	X	SB A0 + A + B + C
870	330	270	270			X	X	X	X	SB A0 + A + B + C

- All dimensions in cm.
- Vertical element H = 30 consists of 2x Elements TR 30 x 120.
- Only ever use Elements TR 30 x 120 as the top extension element!

Tab. B2.05



Elements

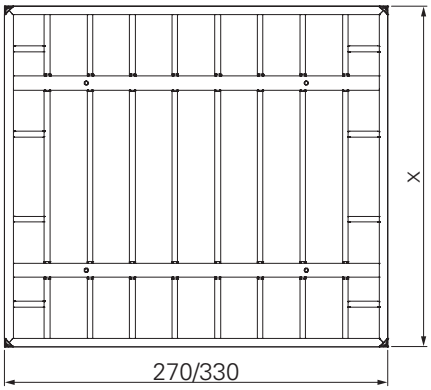
Element TR/4 330 x 240	054304
Element TR 270 x 240	022570
Element TR 120 x 240	022514
Element TR 30 x 120	022650

Standard configuration with TRIO Panel Formwork (horizontal), W = 270 / 330

Formwork height	Element 1	Element 2	Element 3	Element 4	SB-A0	SB-A	SB-B	SB-C	Standard configuration
240	240					X			SB A
270	240	30					X		SB B
300	240	60				X		X	SB A + C
330	240	90				X		X	SB A + C
360	240	120					X	X	SB B + C
390	240	120	30				X	X	SB B + C
420	240	120	60			X	X		SB A + B
450	240	120	90			X	X		SB A + B
480	240	240				X	X		SB A + B
510	240	240	30			X	X		SB A + B
540	240	240	60			X	X	X	SB A + B + C
570	240	240	90			X	X	X	SB A + B + C
600	240	240	120			X	X	X	SB A + B + C
630	240	240	120	30		X	X	X	SB A + B + C
660	240	240	120	60	X	X	X		SB A0 + A + B
690	240	240	120	90	X	X	X		SB A0 + A + B
720	240	240	240		X	X	X		SB A0 + A + B
750	240	240	240	30	X	X	X	X	SB A0 + A + B + C
780	240	240	240	60	X	X	X	X	SB A0 + A + B + C
810	240	240	240	90	X	X	X	X	SB A0 + A + B + C

All dimensions in cm.

Tab. B2.06



Elements 270

Element TR 270 x 240	022570
Element TR 270 x 120	022510
Element TR 270 x 90	022520
Element TR 270 x 60	022550
Element TR 270 x 30	022560

Elements 330

Element TR/4 330 x 240	054304
Element TR/4 330 x 120	054314
Element TR/4 330 x 90	054324
Element TR/4 330 x 60	054354
Element TR/4 330 x 30	054364

Diagonal bracing

- Diagonal bracing is required when moving and aligning the formwork unit with the crane.
- Diagonal bracing is sometimes required, depending on the brace frame combination in use.
- Values for the individual brace frame combinations depend on height, permissible influence width and fresh concrete pressure: see PERI Design Information for the Brace Frame SB.
- The illustrations are examples only and show the diagonal bracing required when moving brace frames.
- In the case of horizontal assembly, install diagonal bracing before the erection process begins.

(Fig. B3.02)

Required components:

46	Scaffolding tube Ø48.3x3.2 mm
46a	Optional scaffolding tube
47	Swivel Couplers SW Ø48/48 mm ga

Concreting heights
(Fig. B3.01a – Fig. B3.01i)

Assembly

Assembly from bottom to top.

1. Fix horizontal scaffolding tubes to the existing couplings.
2. Fix diagonal scaffolding tubes to the horizontal scaffolding tubes or coupling tubes with the swivel couplings.
3. Depending on the respective influence width of the brace frames, optional scaffolding tubes can be left out or mounted during concreting and/or moving: see PERI Design Information for Brace Frame SB.

h = 2.50 – 3.00 m

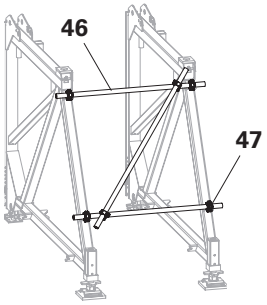


Fig. B3.01a

h = 2.50 – 4.00 m

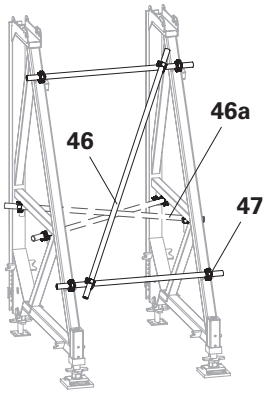


Fig. B3.01b

h = 2.75 – 4.00 m

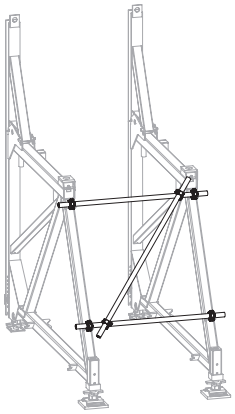


Fig. B3.01c

h = 3.75 – 5.00 m

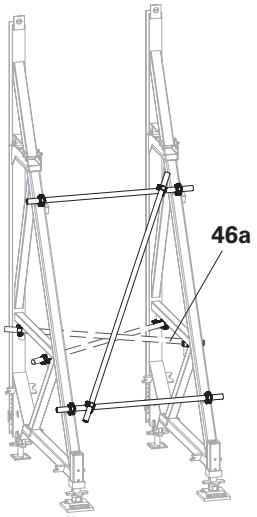


Fig. B3.01d

h = 3.75 – 6.00 m

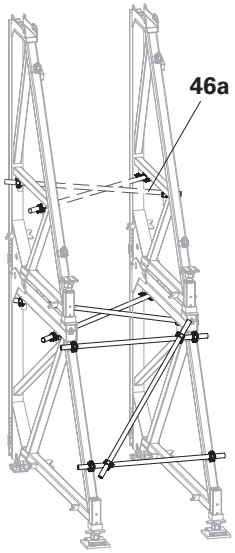


Fig. B3.01e

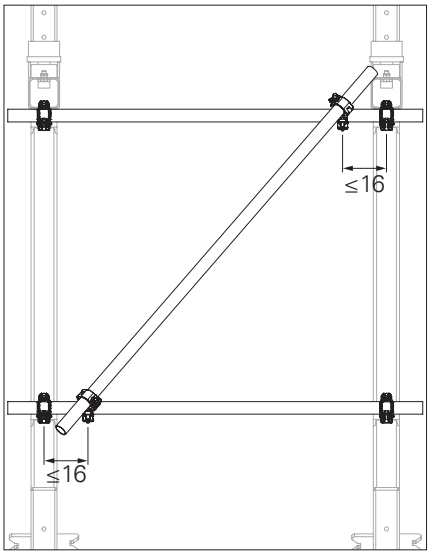


Fig. B3.01f

h = 5.50 – 6.75 m

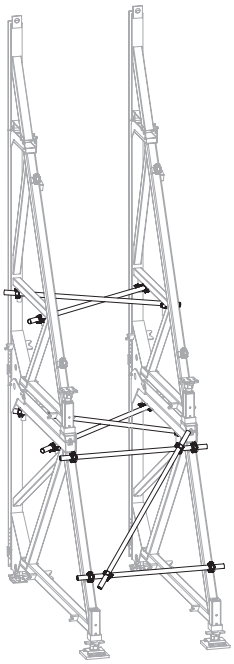


Fig. B3.01g

h = 6.75 – 8.75 m

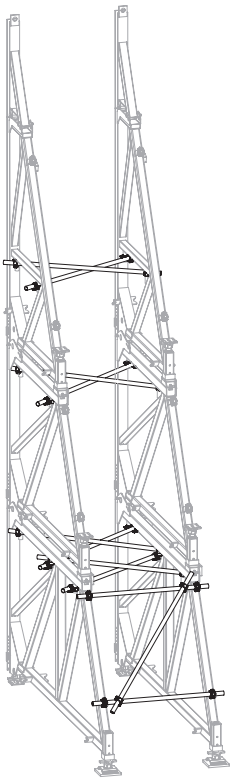


Fig. B3.01h

h = 8.75 m

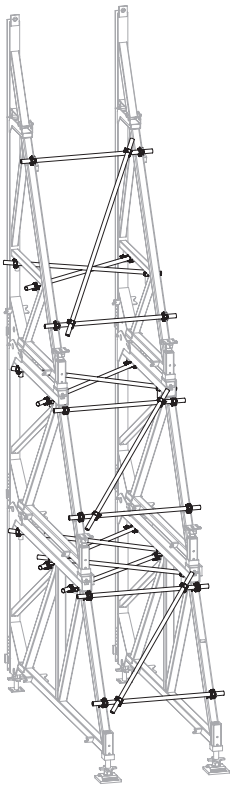


Fig. B3.01i

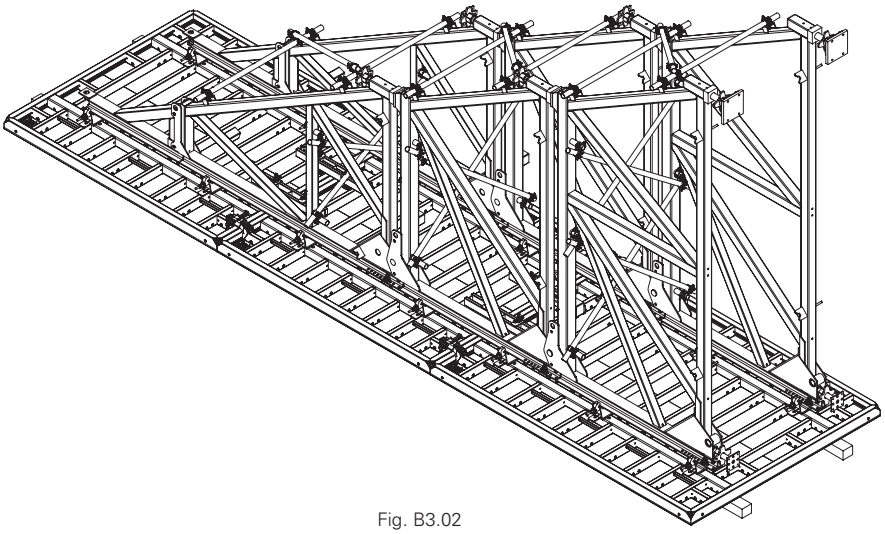


Fig. B3.02

With a crane

- **For transport, always attach the movable units to the brace frame at the load-bearing points provided for this purpose!**
- **Observe the permitted load-bearing capacity!**
- **Do not use a crane to release the movable unit from concrete!**
- **The fastenings/wedges must be checked before all moving procedures. Where necessary, secure wedges using cotter pins or bolts.**
- **Minimum load-bearing capacity of the textile strap: 2.0 t.**

Technical data
Permissible load-bearing capacity of load-bearing point SB-C
- 1.5 t with a lifting chain angle ≤ 15°.
- 2.5 t when lifting vertically.

Attachment
- Always attach brace frame combinations involving Brace Frame SB-C to SB-C.

(Fig. B4.01 + Fig. B4.03)
- Wrap textile strap around brace frame combinations without Brace Frame SB-C and attach to the crane.

(Fig. B4.02)

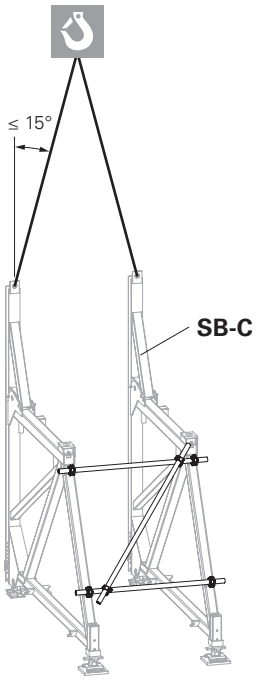


Fig. B4.01

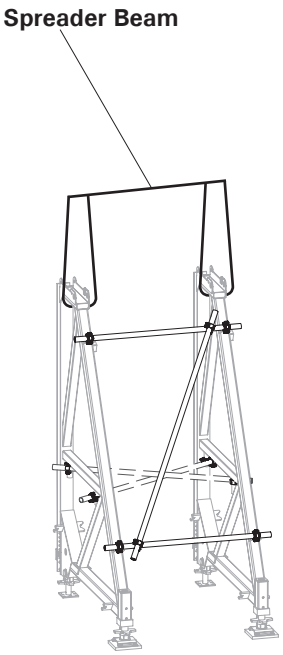


Fig. B4.02

Fig. B4.03

Tables
Determining the weight of the movable units

The movable unit consists of:
2 x brace frames including diagonal bracing without anchoring.

The weight of the formwork and the connecting components must be added to the weight of the movable unit in question.
(Tab. B4.01 + Tab. B4.02)

Brace Frame combination	Weight / movable unit
SB-A0	925 kg
SB-A	700 kg
SB-B	625 kg
SB-A, C	800 kg
SB-A, B	1330 kg
SB-B, C	725 kg
SB-A, B, C	1400 kg
SB-A0, A, B	2175 kg
SB-A0, A, B, C	2275 kg

Tab. B4.01

Formwork	Weight per m²
VARIO GT 24	60 kg
MAXIMO	75 kg
TRIO	75 kg
DOMINO Steel	60 kg
DOMINO Alu	30 kg
RUNDFLEX	Project-specific
RUNDFLEX Plus-2	Project-specific

Tab. B4.02

With Guide Roller SB-A0,A,B

Required components:

48 Guide Roller SB-A0,A,B	4x

Ensure stability!

Preparation
- Determine the centre of gravity of the dead weight (formwork and brace frame).
- Determine the overall centre of gravity S.
- Use an unfavourable wind load to determine the stability.
- Plan the overall centre of gravity S in such a way that it lies between the castors. (Fig. B4.05)
- If necessary, take additional ballast into account. (Fig. B4.06)

Assembly
1. To fit the Guide Roller SB-A0,A,B (**48**), the brace frame must be raised using the crane or using the spindles (**1.2 + 1.4**) on the brace frame.
2. Push the wedge back (**48.1**).
3. Slide the guide roller (**48**) over the profile tube from below and secure it with a wedge.
   – Front castor (**48**) between the inclines of the brace frame. (Fig. B4.04a)
   – Rear castor (**48**) as far back as possible. (Fig. B4.04b)

(Fig. B4.04)

Concreting

For concreting, the castor should be spindled free of load. Load transfer takes place via the spindles on the brace frame.

Moving
Move the unit slowly and without the help of any power-operated traction means.

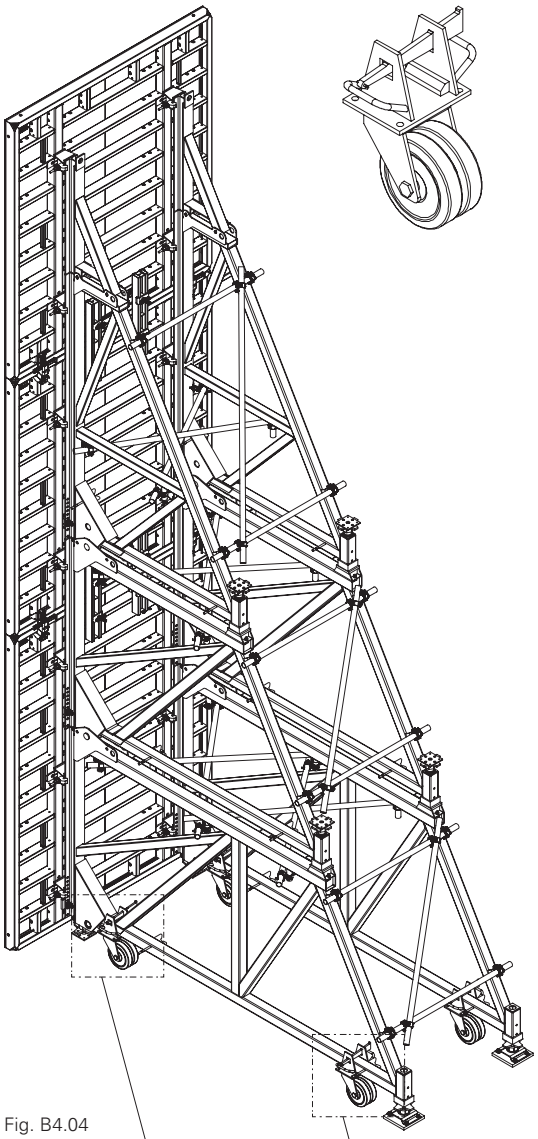


Fig. B4.04

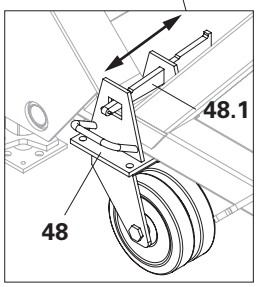


Fig. B4.04a

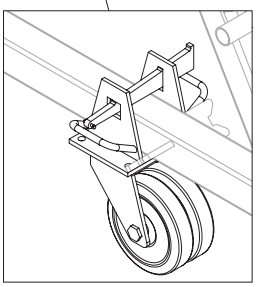


Fig. B4.04b

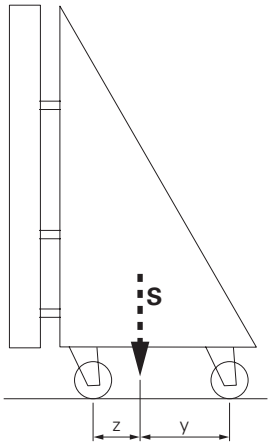


Fig. B4.05

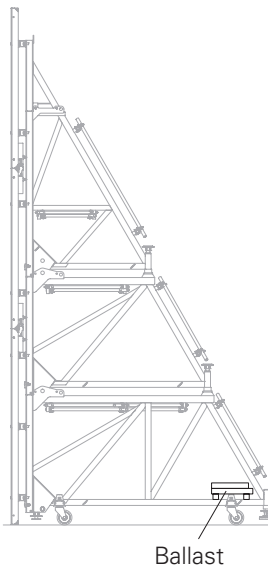


Fig. B4.06

C1 Connecting to system SB-2

General information

- **The support (connection) for the elements must always be established at the point where the tie rod is installed for normal use (double-sided). Failure to do so results in the static system of the formwork unit being changed which could lead to large deformations; even breakage in extreme cases! Check the structural integrity of the formwork unit!**
- **When extending the formwork, take into account the information about the respective system.**
- **After each concreting or relocation operation, check the fasteners / wedges and ensure that they are permanently secured, if necessary.**

Girder formwork VARIO GT 24, RUNDFLEX

- Fit the Brace Frame SB-2 horizontally and with a crane.
- Place the formwork unit on a clean, level and sufficiently load-bearing surface. Place squared timbers underneath.
- Depending on where the top edge of the brace frame lies, it may only be possible to construct the concreting platform using individual brackets, guardrail posts and decking and guardrail boards provided by the contractor.
- Take into account the permissible influence width; see PERI Design Information for Brace Frame SB.

VARIO GT

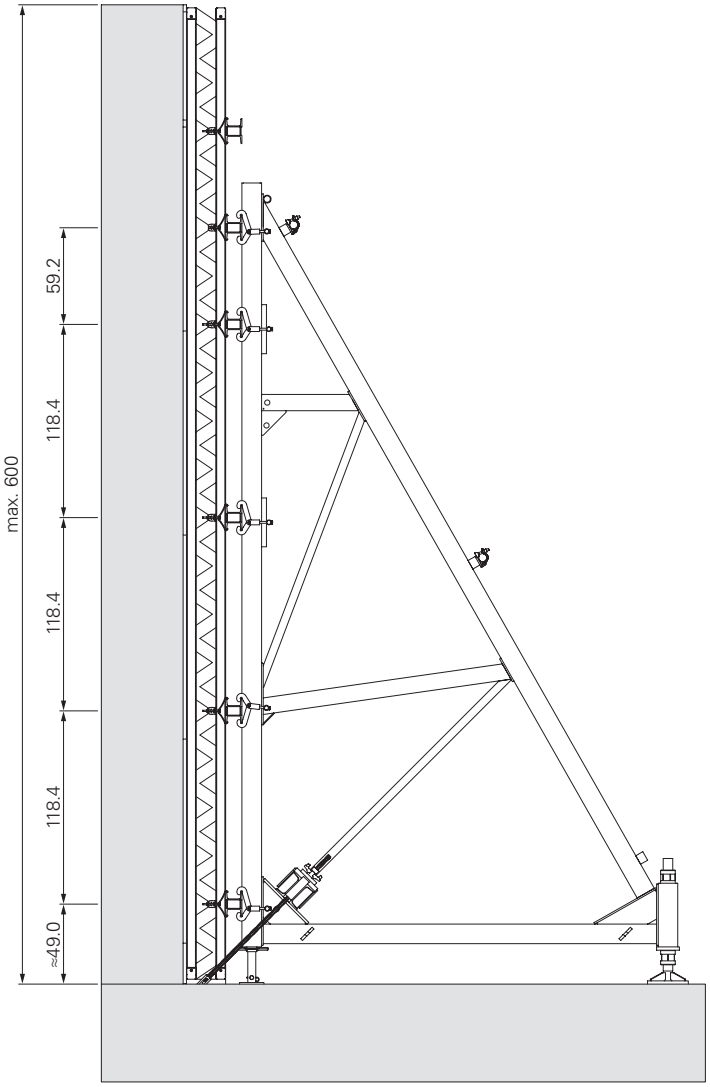
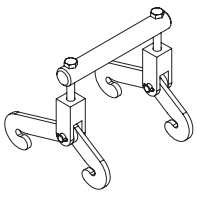


Fig. C1.01



C1 Connecting to system SB-2

Connecting to VARIO GT 24.
Max. concreting height h = 6.00 m.

Connecting to RUNDFLEX.
Max. concreting height h = 5.40 m.

Refer to the Instructions for Assembly and Use for the system.

Leave the brace frame attached to the crane until it is mounted.

Required components per ledger section:

49 Hook Strap SB-2 asymmetrical	1x
Alternatively:	
32 Hook Strap SB-2 ga	1x

Connecting with Hook Strap SB-2 ga

1. Swivel in the brace frame with the crane and place it on the steel waler/ distribution waler.
2. Release one bolt, AF 19, on the hook strap and push the bolt through the hole on the brace frame. Tighten the bolt.
3. Attach the hook to the steel waler/ distribution waler and tighten.
4. Attach hook straps to all steel walers/ distribution walers.

(Fig. C1.04a, C1.05a, C1.04b, C1.05b)

5. Remove crane lifting gear.
6. Fit the second brace frame.
7. Brace the brace frames with scaffolding tubes (**46**) (horizontal and vertical).
8. Adjust the height of the movable unit with the spindles.

Erection

Erect, move, align and anchor the movable unit with textile straps and the crane, see See Section "C2 Repositioning with the crane" on page 58.

Platforms

Do not mount concreting platforms until after erection.

VARIO GT

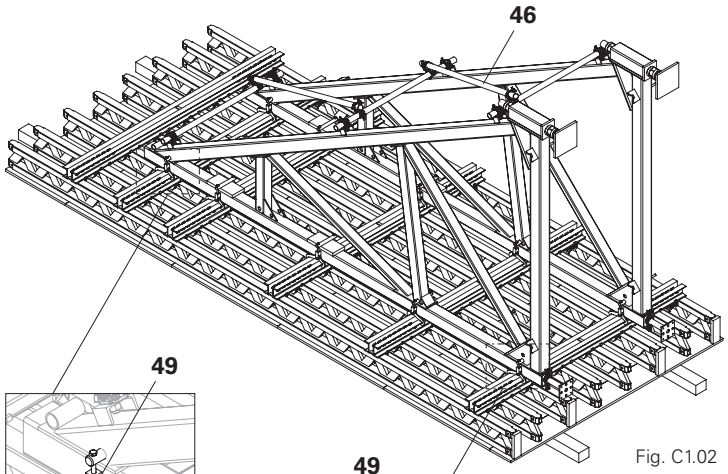


Fig. C1.02

Fig. C1.02a

Fig. C1.02b

RUNDFLEX

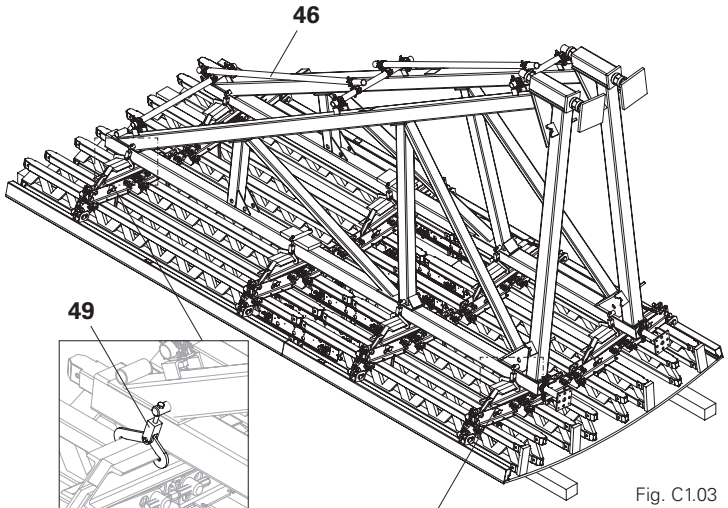


Fig. C1.03

Fig. C1.03a

Fig. C1.03b

MAXIMO, TRIO, DOMINO

- Assembly can take place horizontally and with the crane.
- Place the formwork unit on a clean, level and sufficiently load-bearing surface. Place squared timbers underneath.
- Depending on the distance from the top edge of the brace frame to the top edge of the formwork, it may only be possible to construct the concreting platform with individual brackets, guardrail posts and decking and guardrail boards provided by the customer.
- Take into account the permissible influence widths; see PERI Design Information for Brace Frame SB.

Max. concreting height:
Vertical elements h = 5.40 m.
Horizontal elements h = 4.80 m.
Extended elements h = 6.00 m.
Refer to the Instructions for Assembly and Use for the system.

Required components for each connecting bar in the case of MAXIMO:

38 Hook Strap SB-2 ga	2x
42 Pin SB/MX ga	2x
43 Sleeve SB/MX ga	2x
44 Sleeve SB/MX WDMX*	2x
50 Connection Rail SB-2/TR,MX,D	1x

*with removable sealing

Required components for each connecting bar in the case of TRIO, DOMINO:

38 Hook Strap SB-2 ga	2x
45 Pin SB/TR,D ga	2x
50 Connection Rail SB-2/TR,MX,D	1x
Alternatively:	
49 Hook Strap SB-2 asymmetrical	1x

MAXIMO, TRIO, DOMINO element

Vertical

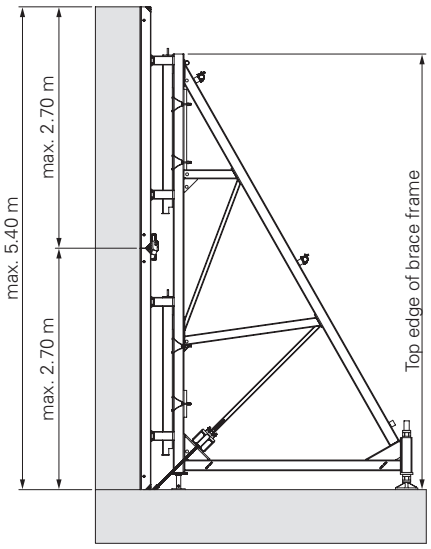


Fig. C1.04

Horizontal

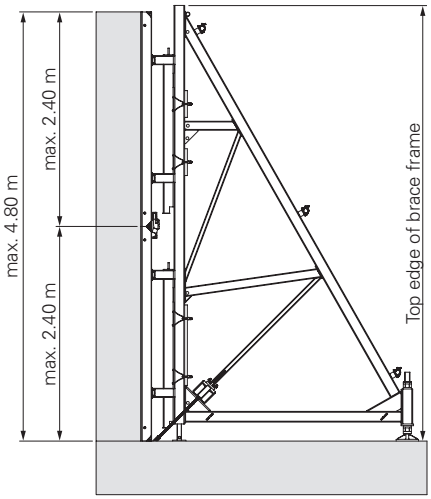


Fig. C1.05

C1 Connecting to system SB-2

Additional components for each brace frame in the case of height extension:

9	Tie Rod DW15	4x
13	Wingnut Pivot Plate DW15 ga	4x
50	Connection Rail SB-2/TR,MX,D	1x
51	Board 3 x 14	1x
52	Compensation Waler-3 MAR 85	2x
53	Hook Tie Head DW15 ga	4x

MAXIMO, TRIO, DOMINO elements extended

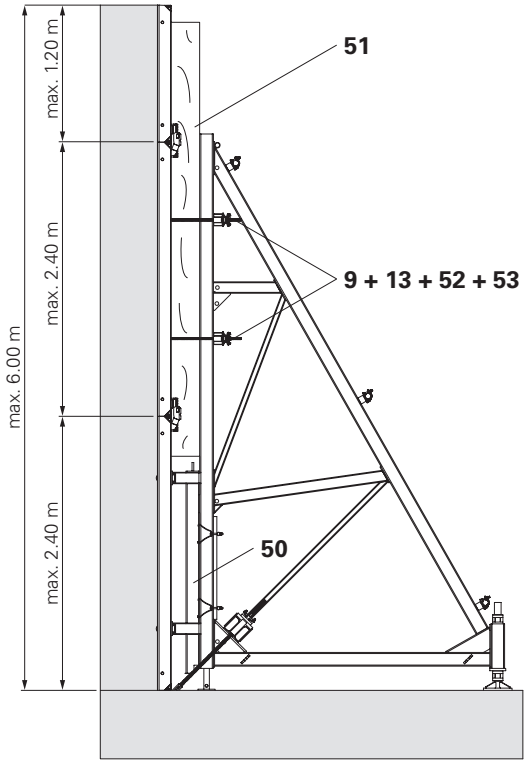


Fig. C1.06

C1 Connecting to system SB-2

Connecting a Connection Rail SB-2/ TR,MX,D to an element

Refer to the Instructions for Assembly and Use for the formwork system used.

Preparation

1. Position the elements or element unit on trestles. Element connections: see Instructions for Assembly and Use of the system.
2. Insert sleeves (**43/44**) into the tie holes of the element; only for MAXIMO.
3. Set the Connection Rail SB-2/ TR,MX,D (**50**) down with its connections on the tie holes.
4. Insert Pin SB/MX ga (**42**) or Pin SB-TR.D (**45**) from below.
5. Fix Connection Rail SB-2/TR,MX,D (**50**) to both tie holes with wedges (**50.1**).
6. Fix an additional Connection Rail SB-2/TR,MX,D (**50**) to the tie holes. (Fig. C1.07 + Fig. C1.07a)

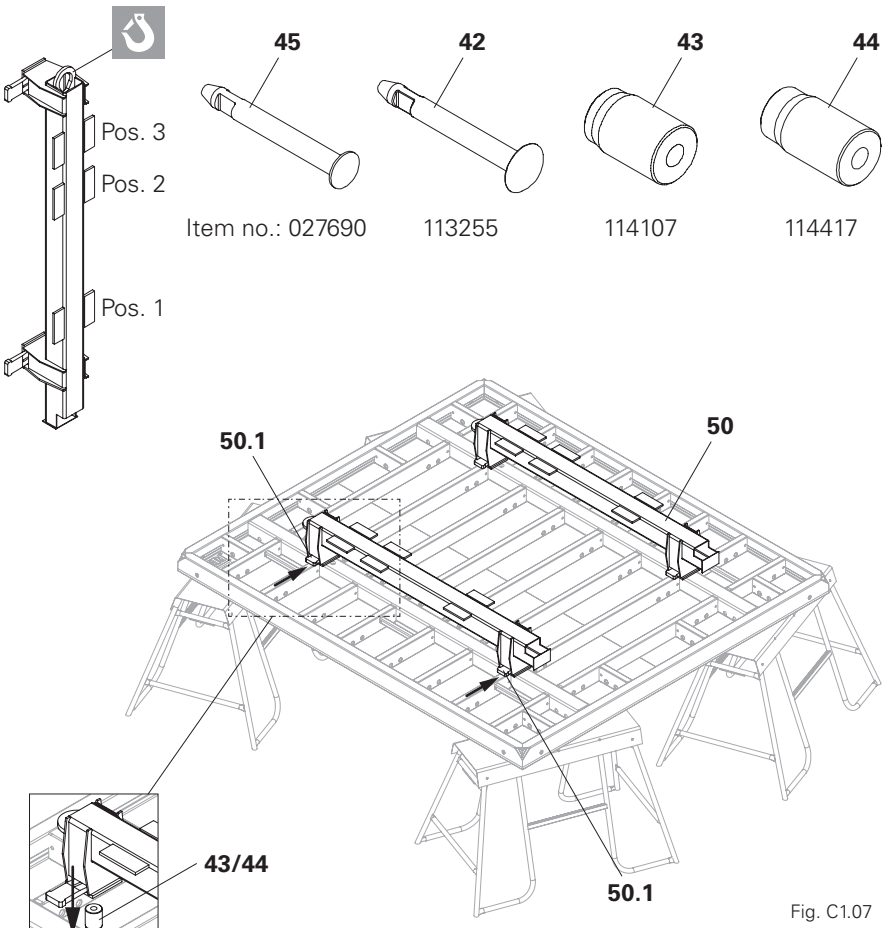


Fig. C1.07

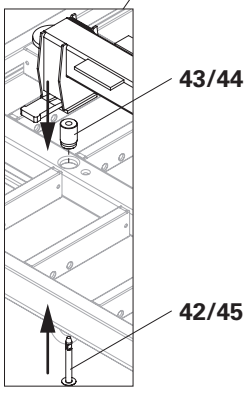


Fig. C1.07a

MAXIMO, TRIO, DOMINO

Mounting the brace frame

1. Position the elements or element unit on squared timber.
2. Swing the brace frame into position with the crane and set it down on the Connection Rail SB-2/TR,MX,D (**50**). Top edge of brace frame = top edge of Connection Rail SB.
3. Attach two Hook Straps SB-2 ga (**38**) to the lugs (pos. 2 + pos. 3) of the Connection Rail SB-2/TR,MX,D (**50**) and secure with nuts. Place a board underneath to prevent slipping. (Fig. C1.08a)
4. Remove crane lifting gear.
5. Fit the second brace frame.
6. Brace the brace frames with scaffolding tubes (**46**) (horizontal and vertical). (Fig. C1.08)
7. Mount concreting platforms.
8. Adjust the height of the movable unit with the spindles.

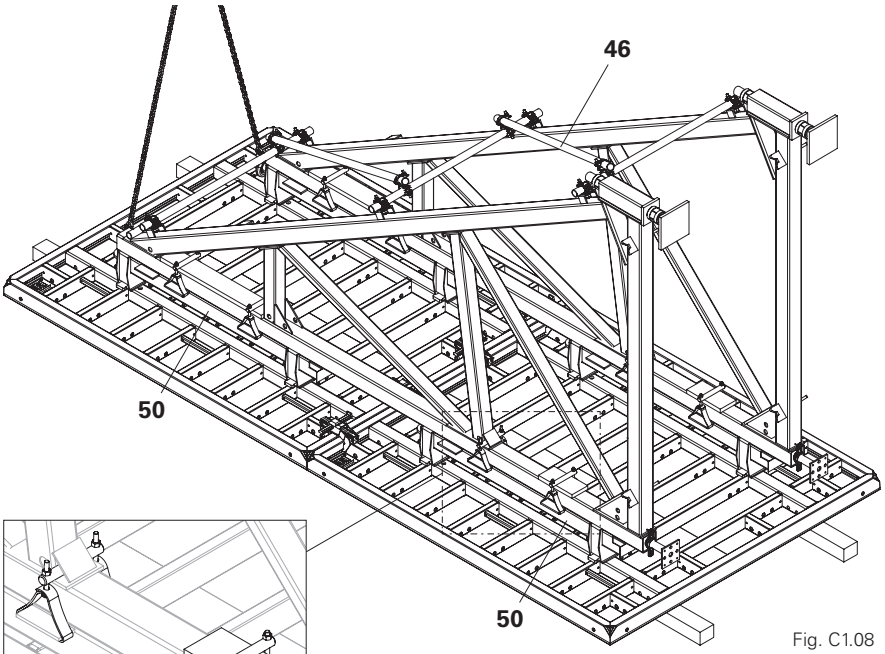


Fig. C1.08

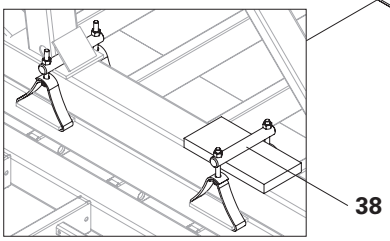


Fig. C1.08a

Erection

Permissible load-bearing capacity of load-bearing point: 1.0 t with a crane sling angle of ≤ 15°.

Erect, move, align and anchor the movable unit with the crane by the load-bearing points.

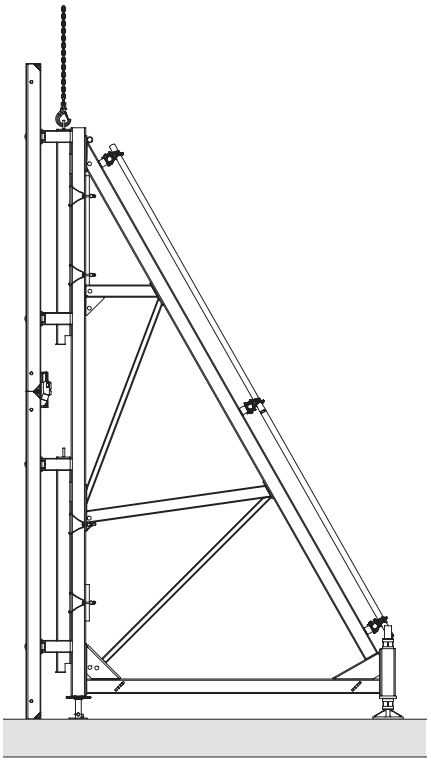


Fig. C1.09

C2 Repositioning with the crane

- **Always transport the movable units on the intended load bearing points!**
- **Observe the permitted load-bearing capacity!**
- **Do not use a crane to release the movable unit from concrete!**
- **The fastenings/wedges must be checked before all transport movements. Where necessary, secure wedges using cotter pins or bolts!**

- Remove the concreting platform before moving.
- Only attach the unit to the attachment points provided.

Technical data
- Permissible load-bearing capacity of the Connection Rail SB-2/TR,MX,D: 1.0 t.
- Minimum load-bearing capacity of the round sling: 1.0 t.

Attachment
Movable unit with Brace Frame SB-2 and Connection Rail SB-2/TR,MX,D:
Always attach to the Connection Rail SB-2/TR,MX,D (**50**). (Fig. C2.01)

Movable unit with Brace Frame SB-2 and Hook Strap SB-2 asymmetric / SB-2:
Wrap textile strap (**37**) around the brace frame and attach to the crane. (Fig. C2.02)

Tables
Determining the weight of the movable units

The movable unit consists of:
2 x brace frames including diagonal bracing without anchoring.

The weight of the formwork and the connecting components must be added to the weight of the movable unit in question.
(Tab. C2.01 + Tab. C2.02)

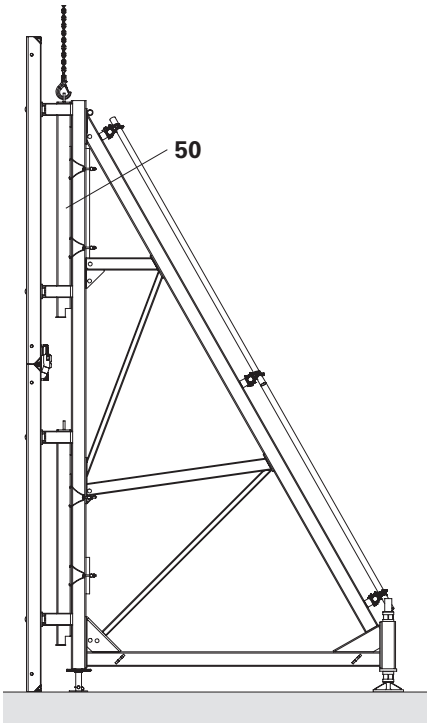


Fig. C2.01

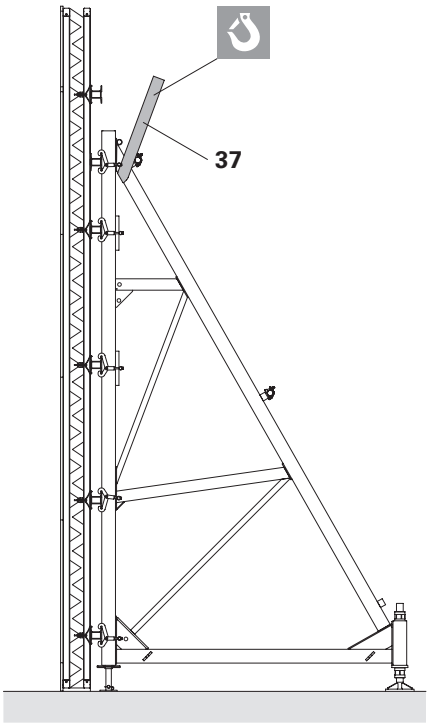


Fig. C2.02

Brace Frame combination	Weight / movable unit
SB-2	800 kg

Tab. C2.01

Formwork	Weight per m²
VARIO GT 24	60 kg
MAXIMO	75 kg
TRIO	75 kg
DOMINO Steel	60 kg
DOMINO Alu	30 kg
RUNDFLEX	Project-specific
RUNDFLEX Plus-2	Project-specific

Tab. C2.02

Pre-assembly

The Brace Frame SB VARIOKIT is used for single-sided forming of walls up to 3.00 m.
It is assembled on site using VARIOKIT components.

- Permissible influence widths must be determined on a project-specific basis.
- Refer to the Instructions for Assembly and Use for the formwork system used.

Required components for each brace frame:

54	Steel Waler SRU 247 U120	1x
55	Steel Waler SRU 122 U120	1x
56	Heavy Duty Spindle SLS 140-240	1x
57	Corner Connector VARIOKIT SRU	1x
58	Fitting Pin Ø21x120 mm	5x
59	Cotter Pin 4/1 ga	5x

Mounting the brace frame

1. Set the Steel Waler SRU 122 U120 (**55**) down with the row of holes facing upwards.
2. Fix the Corner Connector VARIOKIT SRU (**57**) to the first and third hole of the Steel Waler SRU 122 U120 (**55**) with 2x Fitting Pins Ø21x120 mm (**58**) and Cotter Pin 4/1 ga (**59**). (Fig. D1.01b)
3. Fix Steel Waler SRU 247 U120 (**54**) to the lowest hole of the Corner Connector VARIOKIT SRU (**57**) with Fitting Pin Ø21x120 mm (**58**) and Cotter Pin 4/1 ga (**59**), with the slots facing the element. (Fig. D1.01b)
4. Secure the components with the crane to prevent them from falling over.

MAXIMO, TRIO

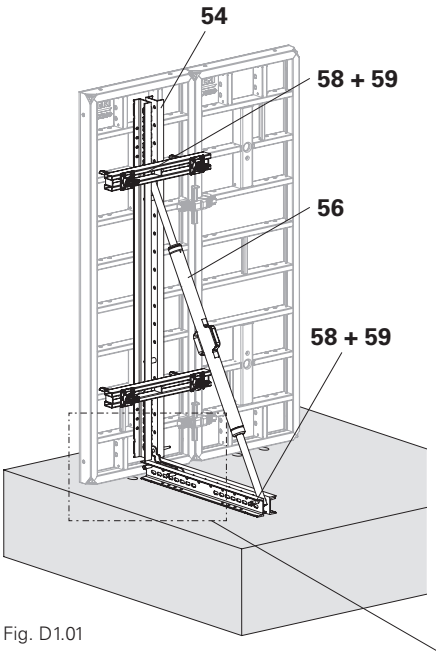


Fig. D1.01

Top view

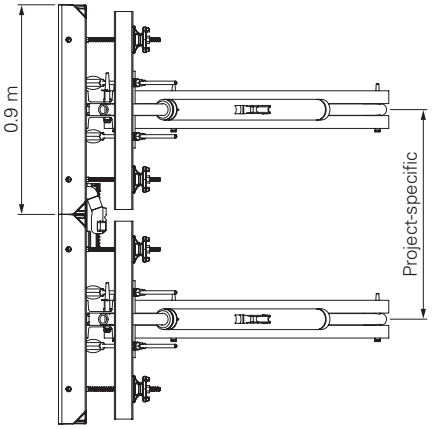


Fig. D1.01a

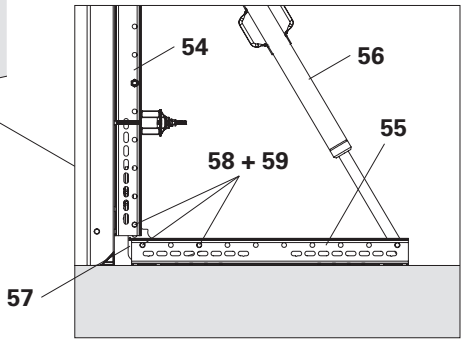


Fig. D1.01b

5. Unspindle the Heavy Duty Spindle SLS 140-240 (**56**) and fix it to the Steel Waler SRU 247 U120 (**54**) and Steel Waler SRU 122 U120 (**55**) with Fitting Pin Ø21x120 mm (**58**) and Cotter Pin 4/1 ga (**59**). (Fig. D1.01 – Fig. D1.02b)
6. Spindle the Steel Waler SRU 247 U120 (**54**) vertically.
7. Attach the brace frame to the secured element.

DOMINO

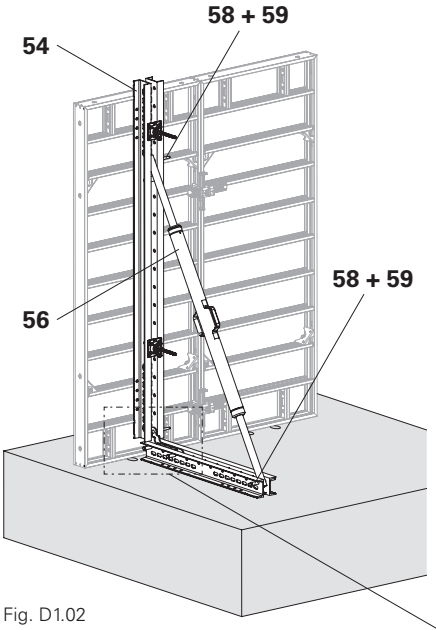


Fig. D1.02

Top view

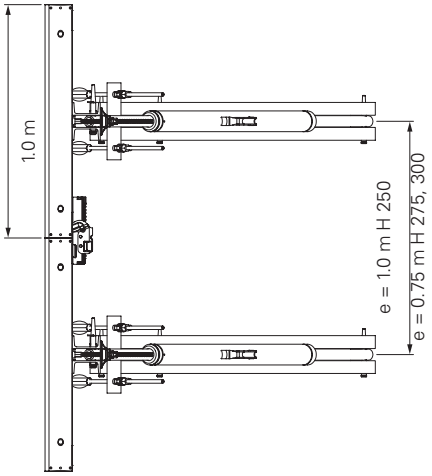


Fig. D1.02a

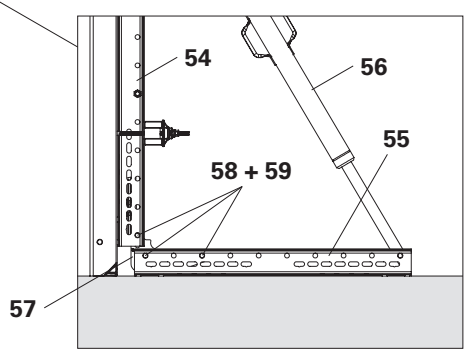


Fig. D1.02b

Assembling the formwork

Panel Formwork MAXIMO, TRIO

Required components for each brace frame:

13 Wingnut Pivot Plate DW15 ga	4x
60 Waler 85	2x
61 Hook Tie Head DW15 ga	4x

Connecting with tie bracket and corner connector

1. Lay Waler 85 (**60**) over Steel Waler SRU 247 U120 (**54**).
2. Push two Hook Tie Heads DW15 ga (**61**) through Waler 85 (**60**) and hook them into the element.
3. Secure with Wingnut Pivot Plates DW15 ga (**13**).
4. Fix the second Waler 85 (**60**) into place in the same way.

(Fig. D1.03)

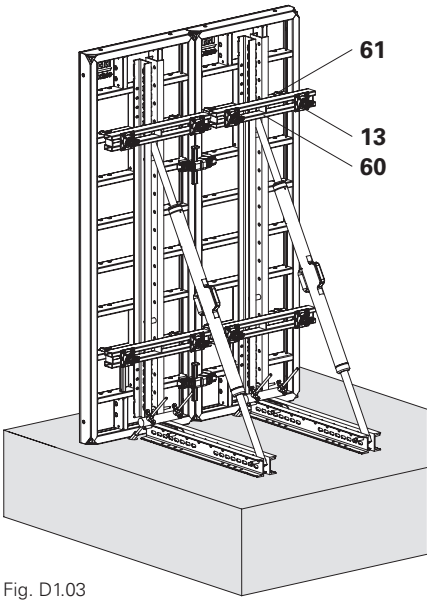


Fig. D1.03

DOMINO Panel Formwork

Required components for each brace frame:

13	Wingnut Pivot Plate DW15 ga	4x
61	Hook Tie Head DW15 ga	4x

Connecting with tie bracket and corner connector

1. Push Hook Tie Head DW15 ga (**61**) through Steel Waler SRU 247 U120 (**54**) and hook it into the element.
2. Secure with Wingnut Pivot Plates DW15 ga (**13**).
3. Fix the second Hook Tie Head DW15 ga (**61**) into place in the same way.

(Fig. D1.04)

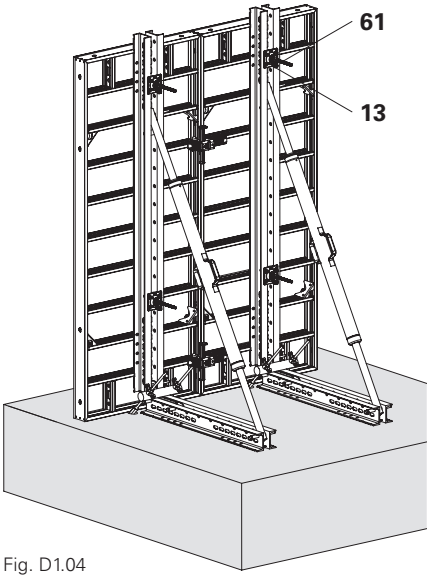


Fig. D1.04

Anchoring

Other anchoring systems than those shown here require separate static proof!

Version with Double Anchor Tie Yoke DSW
Permissible tension force 2 x 90 kN = 180 kN.

Load table: see PERI Design Information for SB Brace Frame.

Reusable tie parts:

7	Wingnut DW15 ga	2x
8	Double Anchor Tie Yoke DSW	1x
9a	Tie Rod DW15	2x
10	Hex-Nut DW15 SW30 108 mm ga	2x

Lost tie parts:

5	V-Tie Holder DW15	2x
9b	Tie Rod DW15	2x
11	Anchorage Loop DW15	1x
12	Threaded Anchor Plate DW15	2x

(Fig. D1.05 + Fig. D1.06)

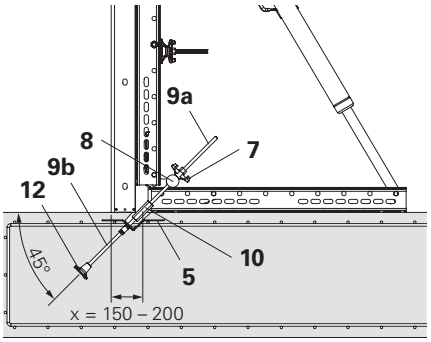


Fig. D1.05

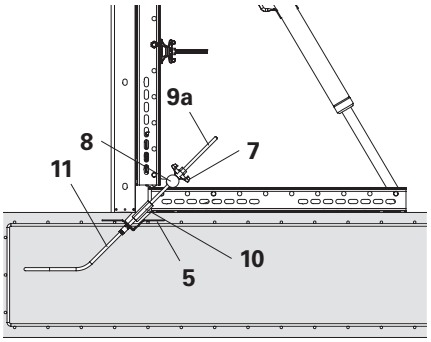


Fig. D1.06

Moving

When moving, always separate the brace frame from the formwork unit, and move them separately.

Disassembly

1. Remove anchoring. (Fig. D1.07a)
2. Temporary secure elements with push-pull props to prevent tipping over.
3. Remove Waler 85 (**60**), Hook Tie Head DW15 ga (**61**) and Wingnut Pivot Plates DW15 ga (**13**). (Fig. D1.07)
4. Move the Brace Frame VARIOKIT with round sling (**37**).
5. Move the formwork unit with the lifting hook of the respective system - take into account Instructions for Use

(Fig. D1.07 + Fig. D1.07a)

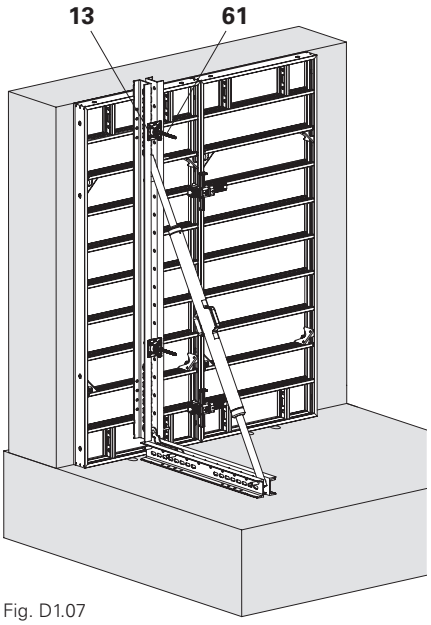


Fig. D1.07

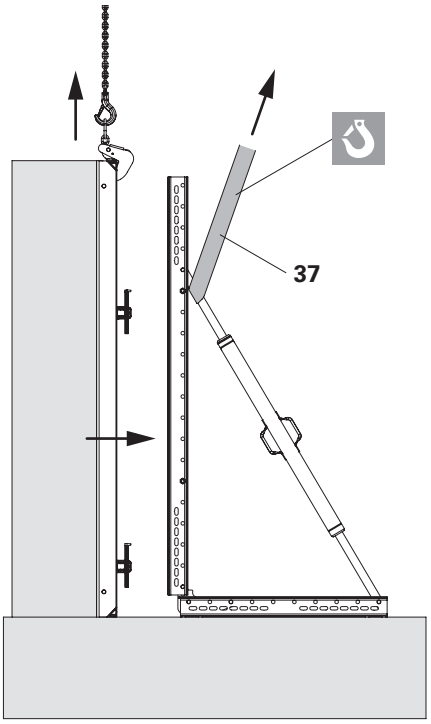


Fig. D1.07a

Application

DOMINO 250
DOMINO 275
DOMINO 300
(Fig. D1.08)

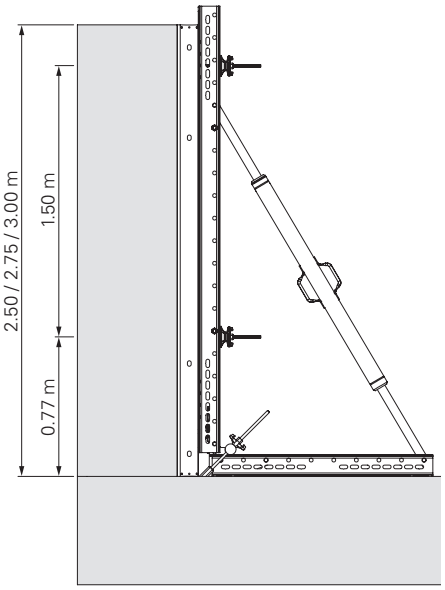


Fig. D1.08

MAXIMO 270
TRIO 270
(Fig. D1.09)

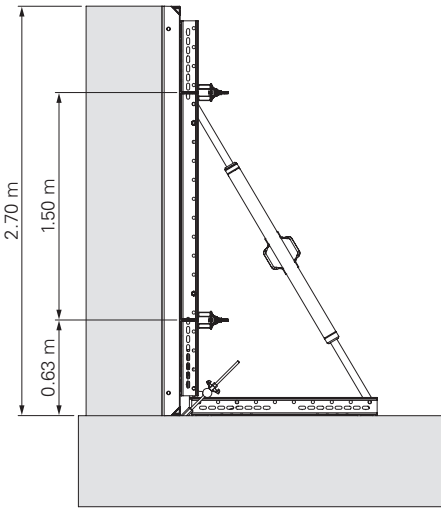


Fig. D1.09

Pre-assembly

The Brace Frame SB SCS is used for single-sided forming of walls up to 3.90 m.
It is assembled on site using SCS components.

- Take into account the permissible influence widths "e"; see PERI Design Information for Single-sided SCS Climbing System.
- Refer to the Instructions for Assembly and Use for the formwork system used.

Required components for each brace frame:

74	Strongback SCS 325	1x
75	Spindle Connector SCS Ø26/21 mm	1x
76	Height Adjusting Unit CB SCS	1x
77	Waler Fixation U100/U120	2x
78	Starter Bar SCS	1x
81	Heavy Duty Spindle SCS 198-250	1x

Mounting the brace frame

1. Position Starter Bar SCS (**78**).
2. Fit Strongback SCS 325 (**74**) onto Starter Bar SCS (**78**) with Fitting Pin Ø26x120 mm (**78.1**) and Cotter Pin 5/1 ga (**78.2**).
3. Adjust the length of the Heavy Duty Spindle SCS 198-250 (**81**).
4. Fit Heavy Duty Spindles SCS 198-250 (**81**) with 1x Fitting Pin Ø26x120 mm (**81.1**) and Cotter Pin 5/1 ga (**81.2**) in each case:
   – to Spindle Connector SCS Ø26/21 mm (**75**),
   – to Starter Bar SCS (**78**).

Assembling the formwork

1. Lay Strongback SCS 325 (**74**) on the steel walers of the VARIO GT 24 element in accordance with "e".
2. Fit Waler Fixation U100/U120 (**77**) and secure in position by tightening the quick jack nut.

VARIO GT 24

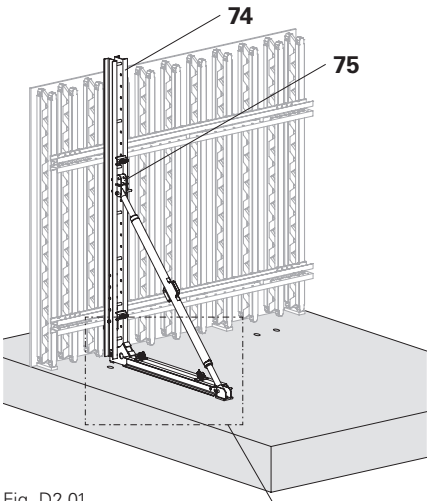


Fig. D2.01

Top view

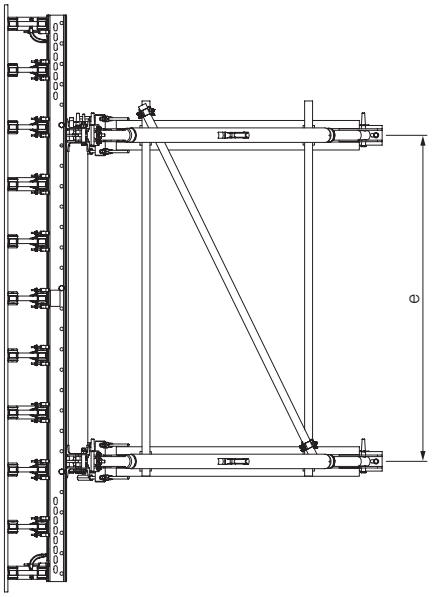


Fig. D2.01a

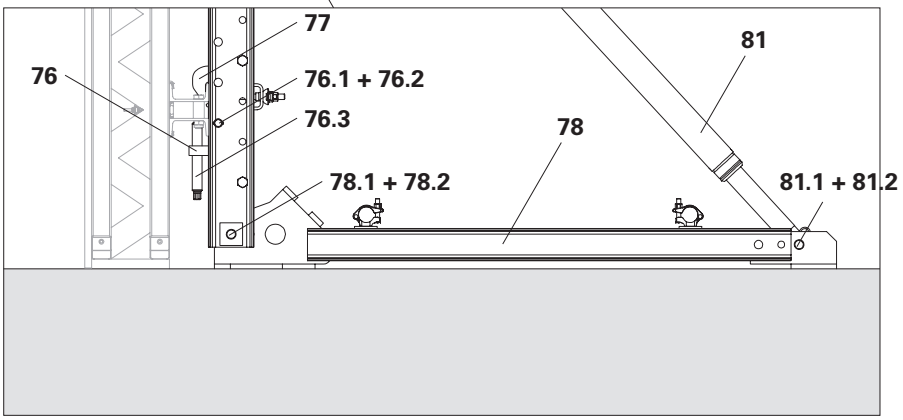


Fig. D2.02

3. Secure the Height Adjusting Unit CB SCS (**76**) on Strongback SCS 325 (**74**) with bolt Ø25x180 mm (**76.1**) and Cotter Pin 5/1 ga (**76.2**). (Fig. D2.02)
4. Turn the spindle (**76.3**) of the Height Adjusting Unit CB SCS (**76**) against the formwork waler.
5. Erect the unit and position it in the intended location.

Anchoring

Other anchoring systems than those shown here require separate static proof!

Load table: see
PERI Design Information for
SB Brace Frame.

Version with Double Anchor Tie Yoke DSW

- Permissible tension force 2 x 90 kN = 180 kN.
- Tie spacing = 20 cm.

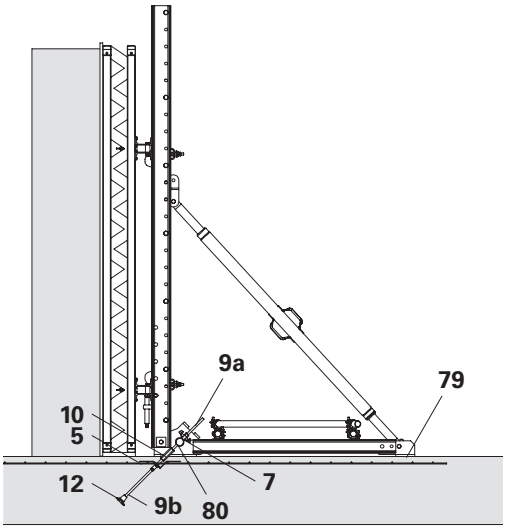


Fig. D2.03

Reusable tie parts:

7	Wingnut DW15 ga	2x
9a	Tie Rod DW15	2x
10	Hex-Nut DW15 SW30 108 mm ga	2x
79	Anchor Bolt SW24 Ø14/20x130 mm	1x
80	Tie Yoke SCS Ø60 mm 200 mm	1x

Lost tie parts:

5	V-Tie Holder DW15	2x
9b	Tie Rod DW15	2x
12	Threaded Anchor Plate DW15	2x

Version with Steel Waler SRU

- Permissible tension force 2 x 90 kN = 180 kN.
- Max. tie spacing = 35 cm.

The tie must not be fitted in the slotted hole area of the Steel Waler SRU otherwise the force will be reduced to 70 kN per Tie Rod DW 15.

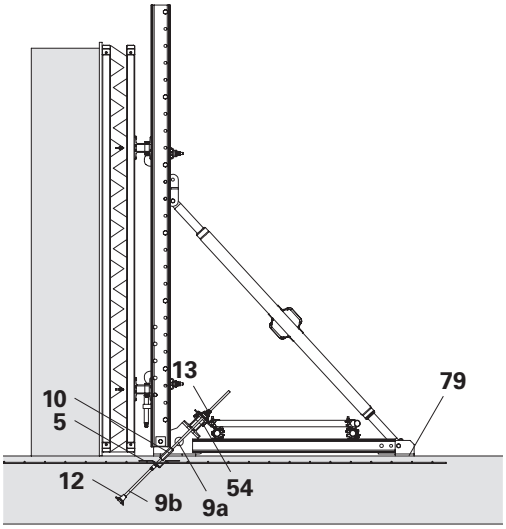


Fig. D2.04

Reusable tie parts:

9a	Tie Rod DW15	2x
10	Hex-Nut DW15 SW30 108 mm ga	2x
13	Wingnut Pivot Plate DW15 ga	2x
79	Anchor Bolt SW24 Ø14/20x130 mm	1x
54	Steel Waler SRU 247 U120	1x

Lost tie parts:

5	V-Tie Holder DW15	2x
9b	Tie Rod DW15	2x
12	Threaded Anchor Plate DW15	2x

Moving

Pick up units by the spacer in the steel waler.
(Fig. D2.05 + Fig. D2.05a)

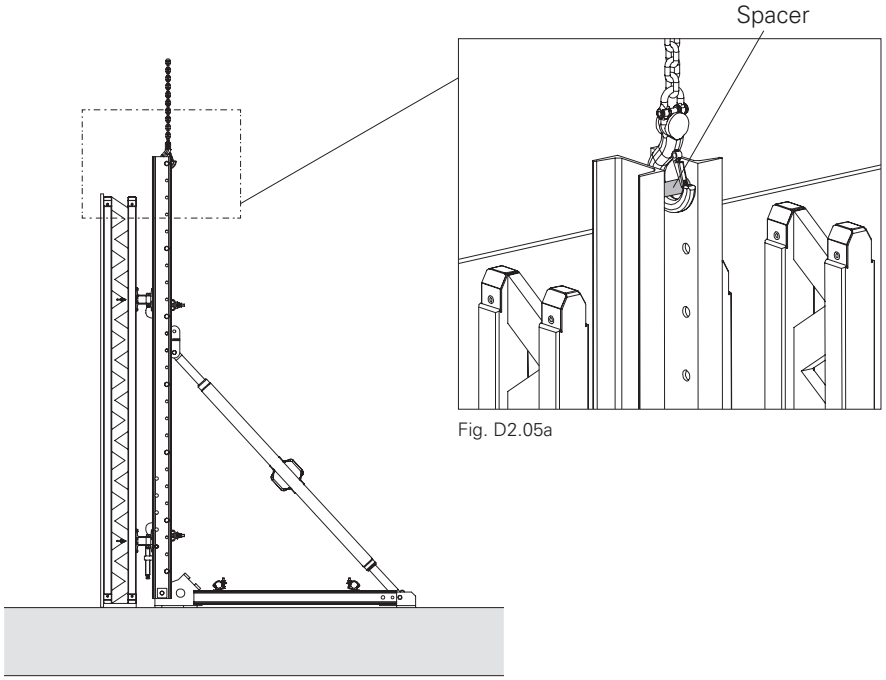


Fig. D2.05a

Fig. D2.05

Application

VARIO GT 24 with double tie yoke
(Fig. D2.06)

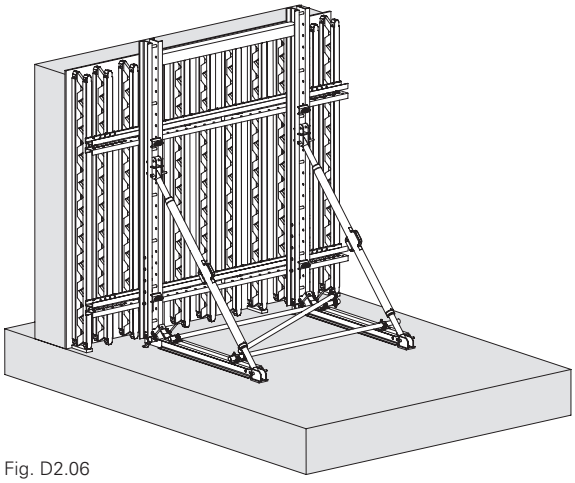


Fig. D2.06

VARIO GT 24 with Steel Waler Universal SRU U 120
(Fig. D2.07)

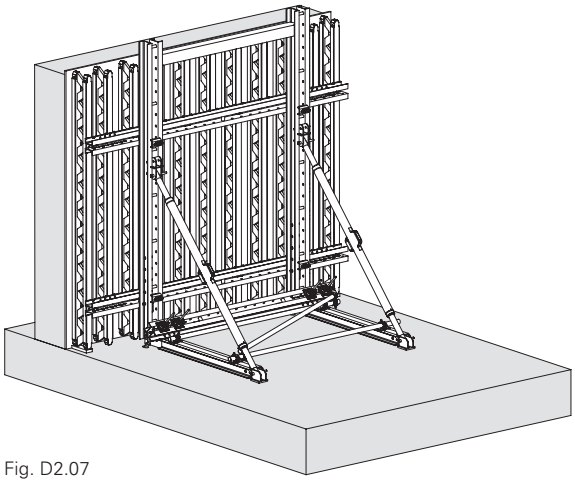


Fig. D2.07

- **Always attach movable units to the brace frame when transporting.**
- **Always use the available load-bearing points as well as textile straps!**
- **Observe the permissible load-bearing capacities!**
- **The fastenings/wedges must be checked before all transport movements. Where necessary, secure wedges using cotter pins or bolts!**

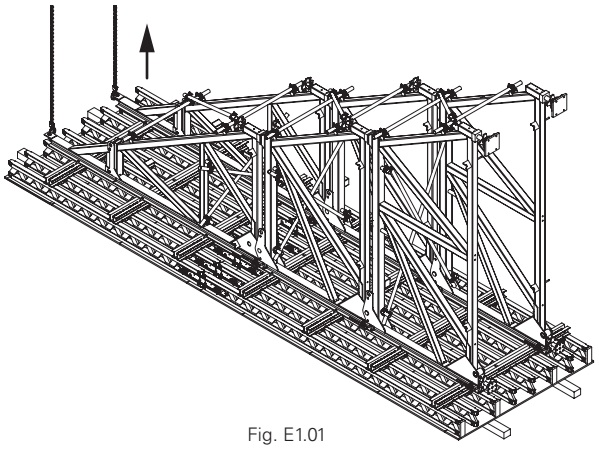


Fig. E1.01

Procedure

1. Attach the movable unit to the crane (Fig. E1.01).
2. Set it upright, taking care not to damage the lower edge of the formlining.
3. Place the movable unit on a sufficiently load-bearing surface, and align using the spindles (**1.2 + 1.4**).
4. Ensure stability and release the crane slings from a safe workplace.
5. Position additional movable units.
6. Fit panel connections between the movable units: see the Instructions for Assembly and Use for the formwork system, e.g. VARIO GT 24 Coupling VKZ 99.
7. Fit brace frames to the tie components in the substrate using recoverable tie componentsSee Section "A3 Tie technology" on page 27. (Fig. E1.02 + Fig. E1.02a)

Are the element connections and tie components firmly connected?

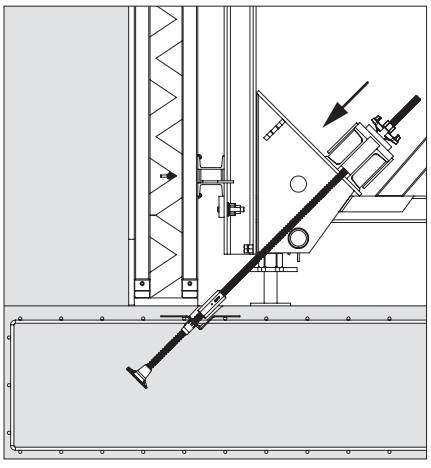


Fig. E1.02a

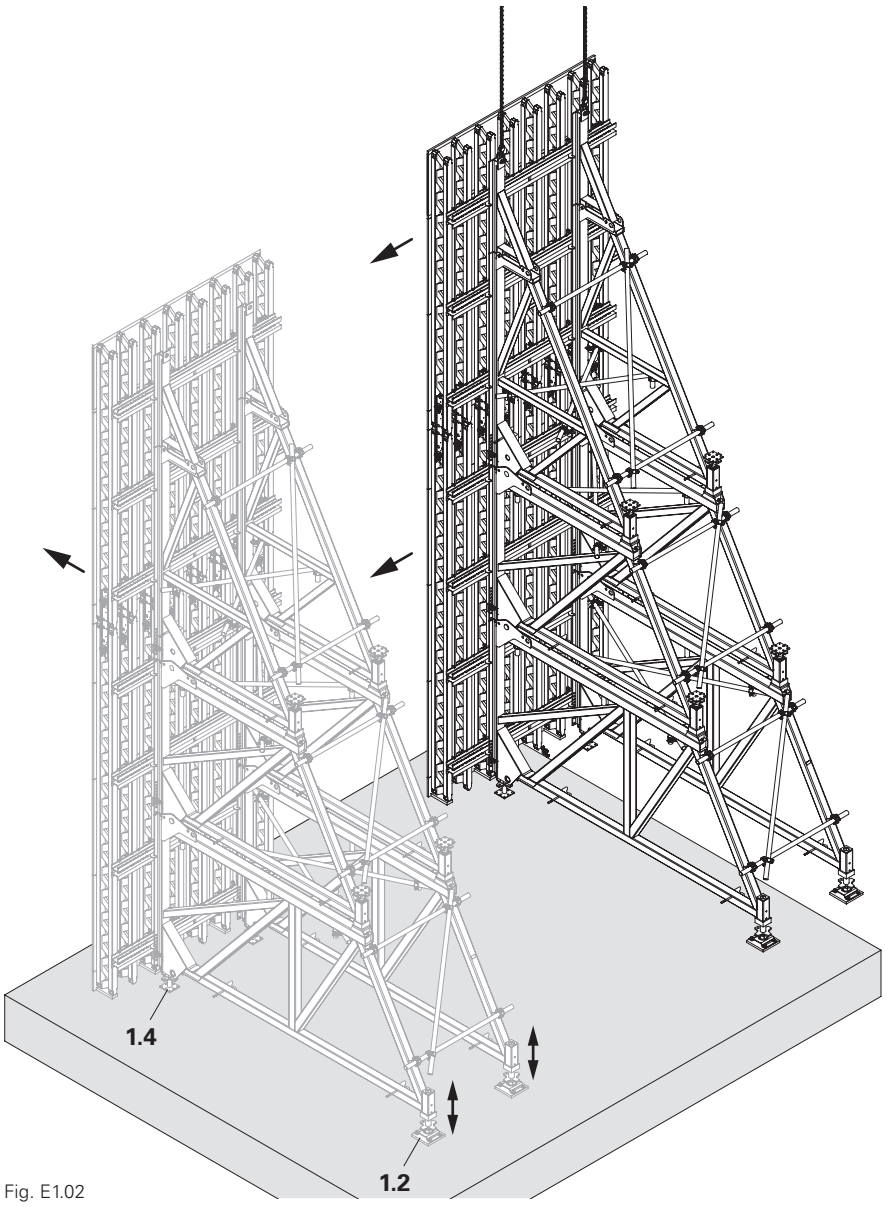


Fig. E1.02

Releasing Tie System DW 15

With Double Anchor Tie Yoke DSW

Releasing
1. Unscrew Wingnut DW15 ga (**7**).
2. Unscrew Hex-Nut DW15 SW30 108 mm ga (**10**).
3. Remove Wingnut DW15 ga (**7**), Tie Rod DW15 (**9**) and Hex-Nut DW15 SW30 108 mm ga (**10**).
4. Remove Double Anchor Tie Yoke DSW (**8**).

(Fig. E2.01)

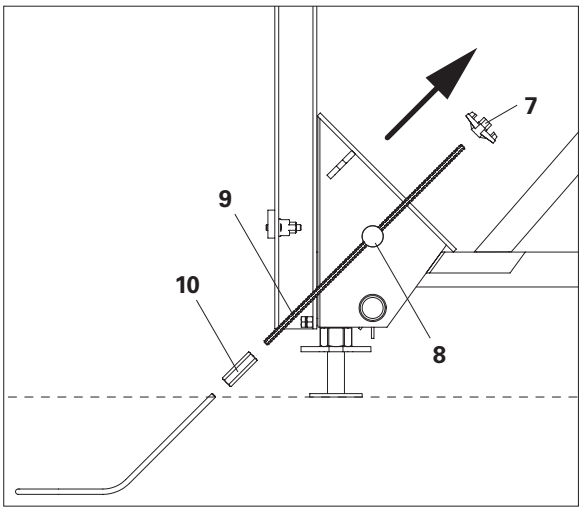


Fig. E2.01

With Anchor Waler U140

Releasing
1. Unscrew Wingnut Pivot Plate DW15 ga (**13**).
2. Remove Anchor Plate SB DW26 (**14**) and Anchor Waler U140 (**15 / 16**).
3. Unscrew Hex-Nut DW15 SW30 108 mm ga (**10**).
4. Remove Hex-Nut DW15 SW30 108 mm ga (**10**) and Tie Rod DW15 (**9**).

(Fig. E2.02)

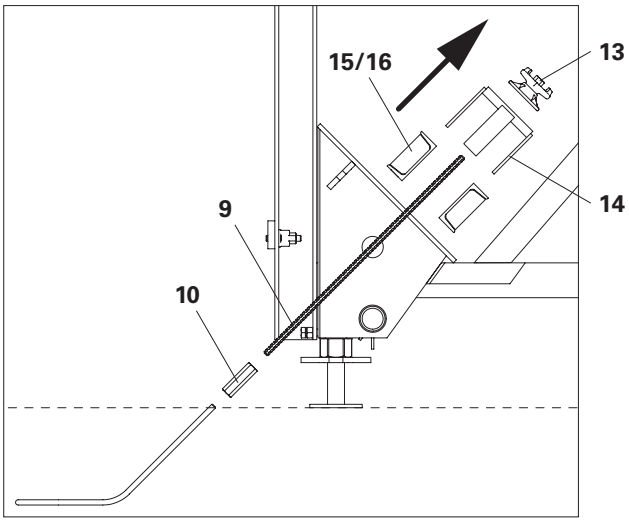


Fig. E2.02

Releasing Tie System DW 20

With Anchor Waler U160

Releasing
1. Unscrew Wingnut DW20 ga (**17**).
2. Remove Anchor Plate SB DW26 (**14**), Counterplate DW20 120x120x20 mm (**18**) and Anchor Waler 55 U160 (**19**).
3. Unscrew Hex-Nut DW20 SW36 110 mm ga (**21**).
4. Remove Hex-Nut DW20 SW36 110 mm ga (**21**) and Tie Rod DW20 (**20**).

(Fig. E2.03)

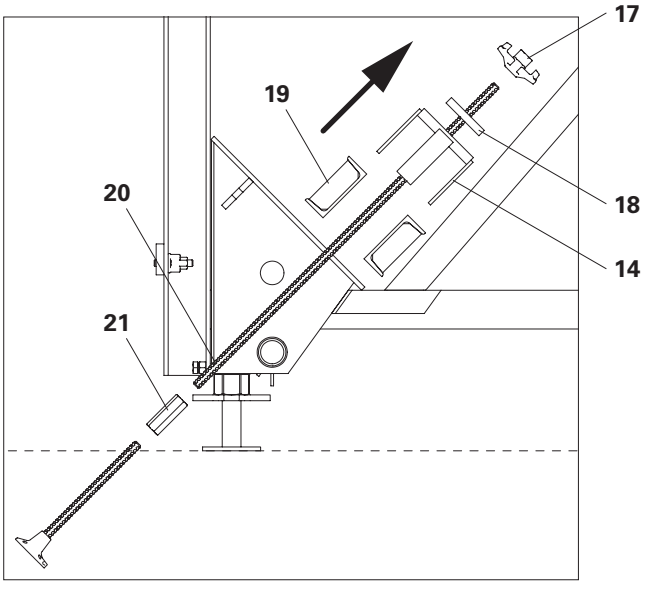


Fig. E2.03

Releasing Tie System DW 26

With Anchor Waler U160

Releasing

1. Turn bolt ISO 4017-M30x050-8.8 (**24.1**) counterclockwise (AF 46).
   → Hex. Nut DW26 SW46 80 mm (**23**) is loosened.

(Fig. E2.04 – Fig. E2.05a)

2. Unscrew Hex-Nut DW26 SW46 80 mm ga (**23**).
3. Remove Anchor Rele. Plate SB DW26 cpl (**24**), Hex-Nut DW26 SW46 80 mm ga (**23**) and Anchor Waler 55 U160 (**19**).
4. Unscrew Hex-Nut DW26 SW46 150 mm ga (**26**).
5. Remove Hex-Nut DW26 SW46 150 mm ga (**26**) and Tie Rod DW26 (**25**).

(Fig. E2.06)

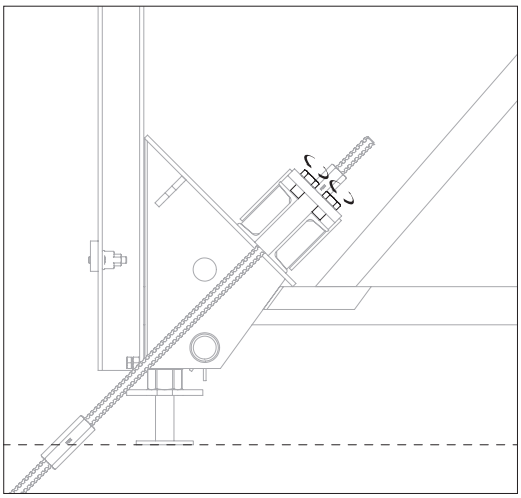


Fig. E2.04

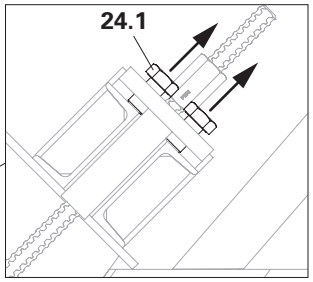


Fig. E2.05a

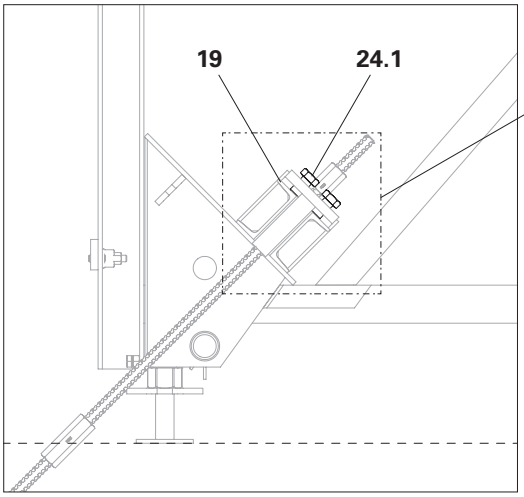


Fig. E2.05

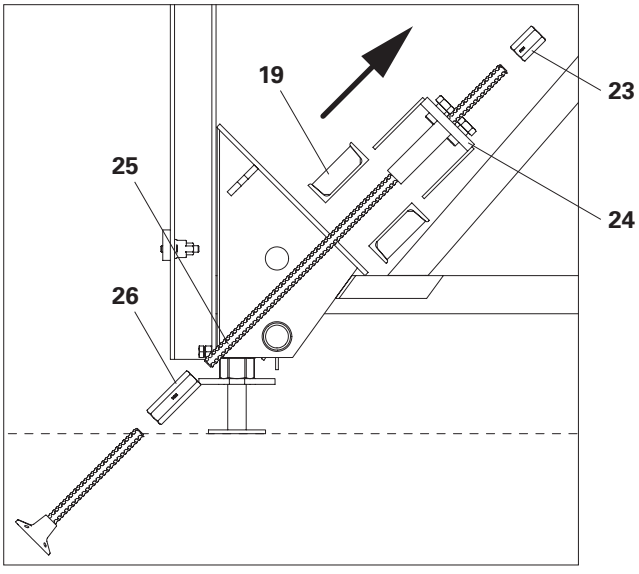


Fig. E2.06

Moving the unit

- **Always attach movable units to the brace frame when transporting.**
- **Always use the available load-bearing points as well as textile straps!**
- **Observe the permissible load-bearing capacities!**
- **The fastenings/wedges must be checked before all transport movements. Where necessary, secure wedges using cotter pins or bolts!**
- **Do not use a crane to release the movable unit from concrete!**

Procedure

1. Release element connections between the movable units: see Instructions for Assembly and Use for the formwork system.
2. Remove recoverable tie components. (Fig. E2.07a)
3. Take the load off the brace frame.
   - SB-A0, A, B: with Spindle Base SB-A0/A/B (**1.2**). (Fig. E2.07)
   - SB-2: with Adjusting Unit SB-2 (**6.1**). (not shown)
4. Remove any concreting platforms that have been installed.
5. Attach the movable unit (element with brace frame) to the crane and move it.
6. Clean the movable unit and move it to a new place of use.

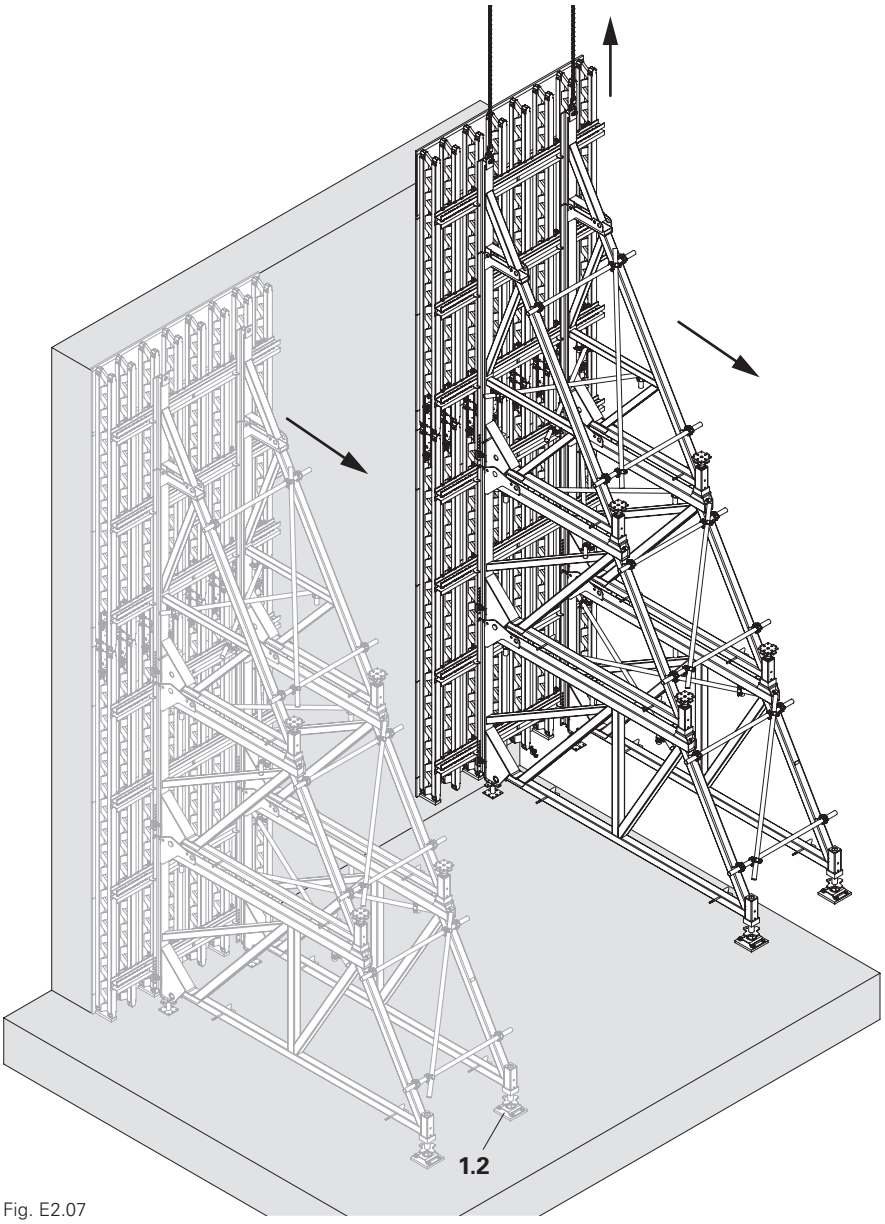


Fig. E2.07

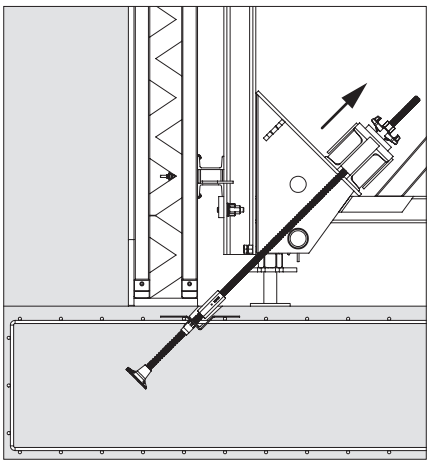


Fig. E2.07a

SB-A0, A, B, C

- **Always attach movable units to the brace frame when transporting.**
- **Always use the available load-bearing points as well as textile straps!**
- **Observe the permissible load-bearing capacities!**
- **The fastenings/wedges must be checked each and every time before they are set aside. Where necessary, secure wedges using cotter pins or bolts!**

- Secure the brace frames to prevent them from tipping over.
- Remove concreting and work platforms before starting the attachment procedure.

Dismantling
Girder and panel formwork

1. Dismantle the work platform and means of access.
2. Set the unit down on squared timbers.
   (Fig. E3.01)
3. Remove bracing.
4. Loosen or remove the connections (**35 + 36 / 38 / 40 / 41**) to the system.
5. Release the brace frames from the formwork one by one and set them down with the crane.
6. Remove the connections (**35 + 36 / 38 / 40 / 41**) on the brace frame or formwork.
   (Fig. E3.02 + Fig. E3.03)

Dismantling the brace frame

Starting at SB-C

1. Loosen the connecting bolts (**1.5 + 1.6 / 3.5 + 3.6 / 4.1 + 4.2**) between the brace frames and bolt them back into the upper brace frame.
2. Fit spindles (**1.2 / 1.4 / 2.2 / 2.4 / 3.2 / 3.4**) back into the brace frames.
3. Stack brace frames of the same size and secure with steel strapsSee Section "A2 Storage and transportation" on page 20.
   (Fig. E3.04)

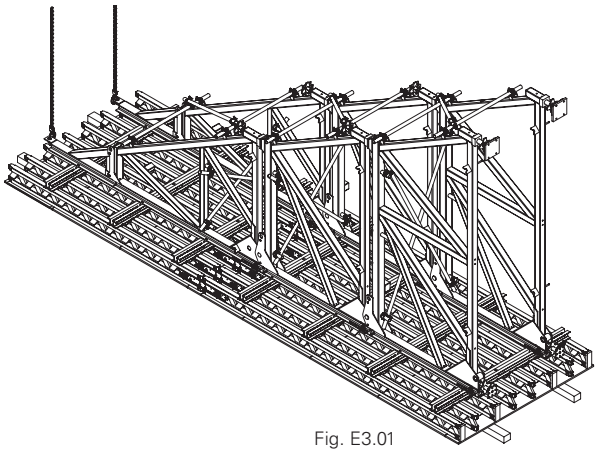


Fig. E3.01

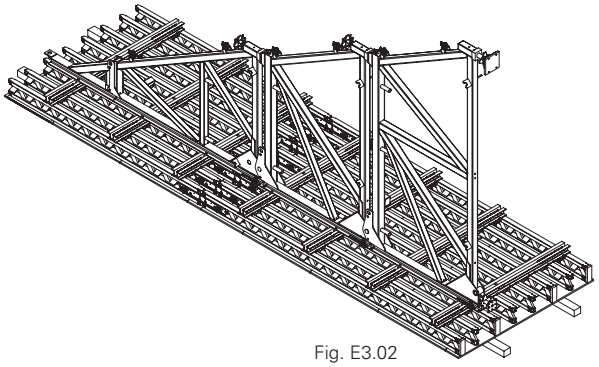


Fig. E3.02

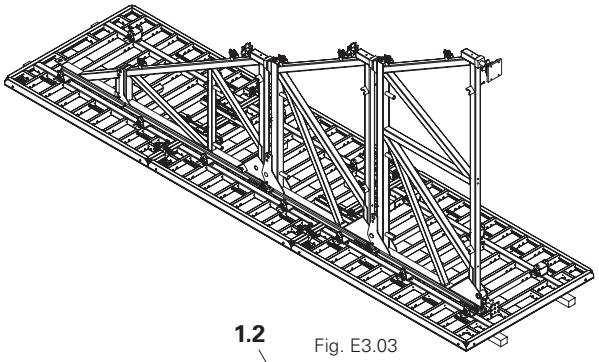


Fig. E3.03

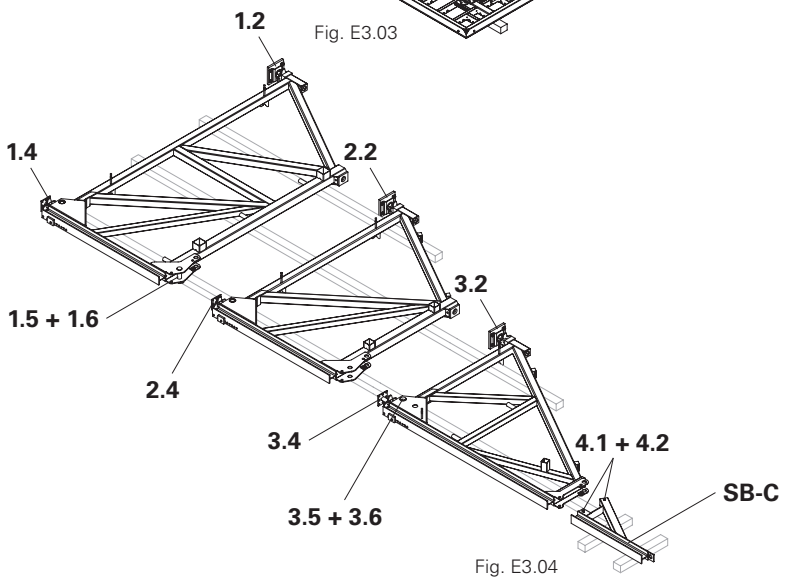
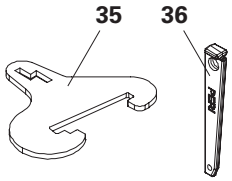
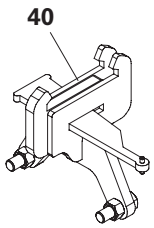
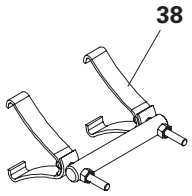
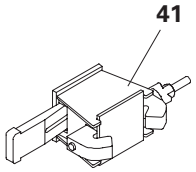


Fig. E3.04









SB-2

- **Always attach movable units to the brace frame when transporting.**
- **Always use the available load-bearing points as well as textile straps!**
- **Observe the permissible load-bearing capacities!**
- **The fastenings/wedges must be checked each and every time before they are set aside. Where necessary, secure wedges using cotter pins or bolts!**

- Secure the brace frames to prevent them from tipping over.
- Remove concreting and work platforms before starting the attachment procedure.

Dismantling
Girder and panel formwork

1. Dismantle the work platform and means of access.
2. Set the unit down on squared timbers.
3. Remove bracing.
4. Loosen or remove connections to the system (**49**).
5. Release the brace frames from the formwork one by one and set them down with the crane. (Fig. E3.05 + Fig. E3.06)
6. Remove Connection Rail SB-2/ TR,MX,D (**50**) from the formwork unit:
   – Loosen the wedge and remove Bolt SB and Sleeve SB.
   (Fig. E3.07)

When transporting

1. Remove adjustment unit-2 (**6.2**) and pack separately for return transport.
2. Stack brace frames and secure with steel strapsSee Section "A2 Storage and transportation" on page 20. (Fig. E3.06)

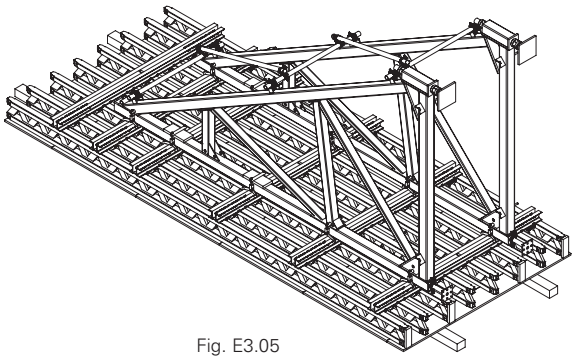
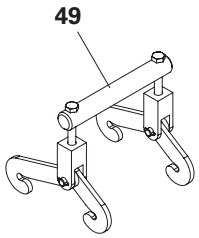


Fig. E3.05



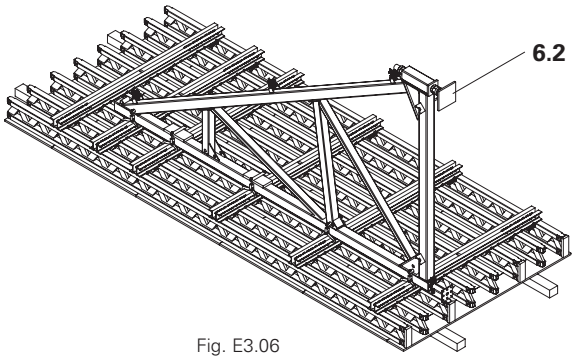


Fig. E3.06

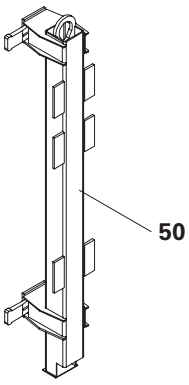


Fig. E3.07

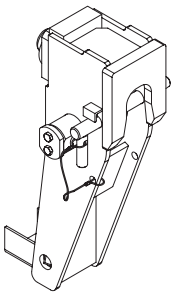
F1 Inside corners

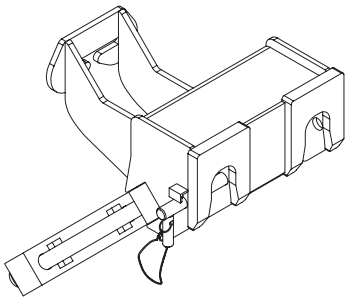
Application

The application is project-specific! Consult PERI before planning single-sided inside corners!

F2 Use as horizontal heavy-duty console bracket

PERI Brace Frames SB can also be used as heavy-duty console brackets. This application makes it possible to have larger work platforms (b ≤ 8.17 m + cantilever) while at the same time absorbing high shear forces. This form of use is always specific to the project at hand.





There are two variants:
- Single suspension
- Double suspension

- **Horizontal use should always be planned separately, facilitated by a project-related structural calculation!**
- **Structural verification should always be provided for the (horizontal) brace frame!**
- **Separate structural verification is required for the introduction of forces into the concrete and their absorption by the structural component!**
- **Required concrete strengths, edge distances and wall thicknesses according to structural requirements!**

The contractor commissioned to install the anchoring or their representative is responsible for carrying out installation correctly in accordance with the intended use. They shall also arrange for the delivery and correct installation of any additional reinforcement required.
A record must be kept of the verification of the actual concrete strength, the inspection of single components, proper assembly and the anchoring depth.
If different installation lengths of a cone type are used on a construction site, each anchoring point must be checked before concreting takes place. Proof must be provided that all load transfers in the building are distributed into the ground. Divergent conditions necessitate separate structural verification in accordance with the applicable regulations.

F2 Use as horizontal heavy-duty console bracket

Fitting the leading tie

Preparation
Measure the position of the leading tie on the ground plan and in terms of height and mark it on the formwork surface.

Standard: M36 screw

- Ensure there is sufficient distance to the formwork girder. (Fig. F2.01a)
- If the distance is insufficient, the anchor positioning stud must be used.
- Check all tie components, assembly and position before concreting takes place.
- Before deshuttering the formwork, always loosen the positioning screws first!
- The sealing required for removing the climbing cones must be determined in advance.

Components per climbing tie

25	Tie Rod DW26	1x
27	Threaded Anchor Plate DW26	1x
64	Climbing Cone-2 DW26 M36 ga	1x
69	Anchor Posit. Plate M36 ga	1x
70	Screw ISO 4017-M36x070-8.8-ga	1x
71	Hex wood screw 6x20 DIN 571	4x

Assembly
1. Drill a suitable hole in the formlining. (M30 = bore Ø 32 mm)
2. Attach Anchor Posit. Plate M36 ga (**69**) to the rear side of the formlining in line with the hole using 4x Hex-Wood-Screw 6x20 DIN 571-ga (**71**).
3. Insert the Screw ISO 4017-M36x070-8.8-ga (**70**) through the hole from the rear side.
4. Screw the Climbing Cone-2 DW26 M36 ga (**64**) onto the Screw ISO 4017-M36x070-8.8-ga (**70**) from the front side.
5. Screw Tie Rod DW26 (**25**) onto the Climbing Cone-2 DW26 M36 (**64**).
6. Screw Threaded Anchor Plate DW26 (**27**) onto Tie Rod DW26 (**25**).

(Fig. F2.01 + Fig. F2.01a)

Danger

If the anchoring is installed incorrectly, the platform may collapse!
Collapsing platforms can cause serious injuries or even death.
⇒ Loosening or removing the anchoring must only be possible from the load transfer side.
⇒ Do not install two cones against each other. (Fig. F2.01b)
⇒ The anchoring depth must not be corrected by reducing the screw-in depth.
⇒ Make sure there are suitable windows in the reinforcement for closing the formwork. Do not unscrew the threaded anchor plate!
⇒ Check all anchoring points for correct screw-in depth and integrity before concreting begins.

To ensure that the climbing cone can be recovered later, carefully grease the surfaces that are in contact with the concrete and the internal thread for the tie rod. Seal the joint between the tie rod and the thread of the climbing cone with a sealing compound, e.g. grease.

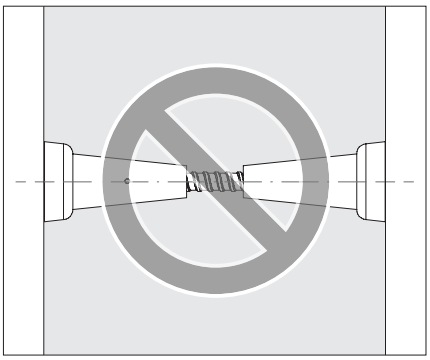


Fig. F2.01b

Precise alignment of the anchoring points in all 3 axes is essential if the climbing unit is to function correctly.
- Measure the anchoring points precisely (plumb line, chalk line) and fit them securely in their positions.
- To secure the position, fasten the Threaded Anchor Plate DW26 (**27**) to the reinforcement, for example with wire.
- To this end, tie in additional reinforcement bars both vertically and horizontally, if necessary.

Lateral view

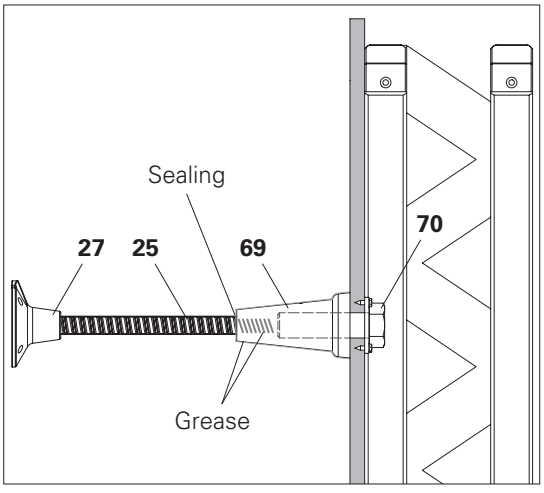


Fig. F2.01

Front view

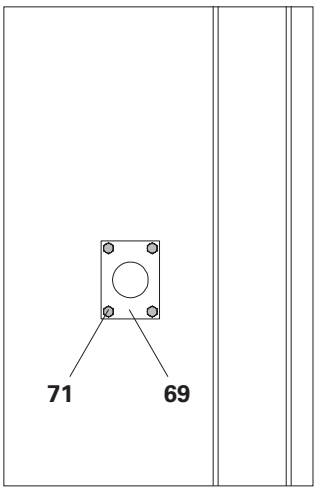


Fig. F2.01a

Alternatively: Anchor positioning stud

Caution

Possibility of getting caught on protruding nails!
Risk of injury!
⇒ Cover protruding nails, but do not bend them.

- Fix the Threaded Anchor Plate DW 26 (**27**) to the reinforcement with wire to secure the position. If necessary, close the formwork from the other side.
- Check all tie parts, the assembly and positioning before concreting, especially if the anchoring depth of the anchoring points is significant.
- If possible, use the fixing with the positioning screw as the connection is more stable.
- When deshuttering the formwork, the nails must be pulled through the formlining. So, do not bend the nails.
- To ensure that the climbing cone can be recovered later, carefully grease the surfaces that are in contact with the concrete and the internal thread for the tie rod. Seal the joint between the tie rod and the thread of the climbing cone with a sealing compound, e.g. grease.

Components per climbing tie

25	Tie Rod DW26	1x
27	Threaded Anchor Plate DW26	1x
64	Climbing Cone-2 DW26 M36 ga	1x
72	Anchor Posit. Stud M36 ga	1x
73	Wire nail 3.0x80 mm	6x

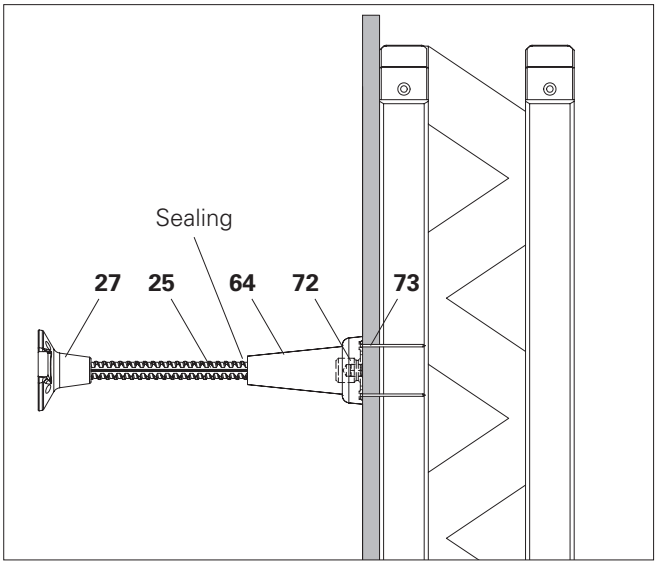


Fig. F2.02

Possible suspensions for brace frame combinations

Brace Frame	Single suspension Suspension Shoe SB (106661)	Double suspension Suspension Shoe SB double (111866)
SB A0 + A + B + C	X	X
SB A0 + A + B	X	X
SB A + B + C	X	X
SB A + B	X	X
SB B + C	X	X
SB B	X	X
SB-2	X	

Tab. F2.01

Assembly

1. Nail the Anchor Posit. Stud M36 (**72**) to the front side of the formlining using 6x wire nails 3.0x80 mm (**73**).
2. Screw Climbing Cone-2 DW26 M36 ga (**64**) onto the Anchor Posit. Stud M36 ga (**72**).
3. Screw Tie Rod DW26 (**25**) onto the Climbing Cone-2 DW26 M36 (**64**).
4. Screw Threaded Anchor Plate DW26 (**27**) onto Tie Rod DW26 (**25**).

(Fig. F2.02)

Single suspension with Suspension Shoe SB

Brace Frame SB-A0, A, B, C
Suspension shoe load combinations are project-specific.

Required components for each brace frame:

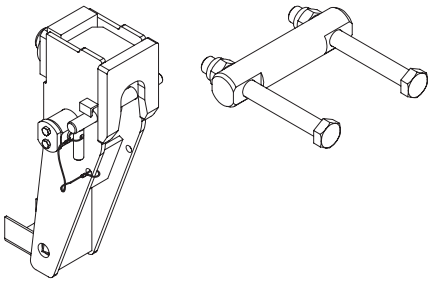
62	Suspension Shoe SB	1x
63	Brace Frame Adaptor SB-A0,A,B Tie point	1x
25	Tie Rod DW26	1x
27	Threaded Anchor Plate DW26	1x
64	Climbing Cone-2 DW26 M36 ga	1x
65	Scaff. Mount. Ring M36 galv	1x
66	Screw ISO 4014-M36x130-10.9	1x

Assembly
1. Pre-assemble brace frames and remove front spindle, see B1.
2. Loosen both nuts (**63.1**) on the Brace Frame Adaptor SB-A0,A,B (**63**), AF 36.
3. Push the brace frame adaptor through the hole in the brace frame.
4. Place Suspension Shoe SB (**62**) on the brace frame, insert bolts through the right and left holes as well as through the holes in the brace frame adaptor.
5. Secure the Suspension Shoe SB (**62**) to the brace frame with bolts.

(Fig. F2.04)

Creating a work platform
- Create a work platform according to the plan.
- Brace the work platform with diagonals and make open building edges secure.
- Ensure stability.

Mounting the work platform
1. Gently loosen the Climbing Cones-2 DW26 M36 ga (**64**) that are set in concrete and tighten them again, AF 55.
2. Screw the Scaff. Mount. Ring M36 galv (**65**) into the Climbing Cones-2 DW26 M36 ga (**64**) using screws ISO 4014-M36x130-10.9 (**66**).



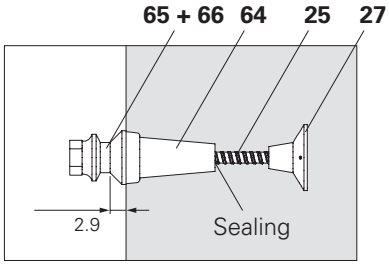


Fig. F2.03

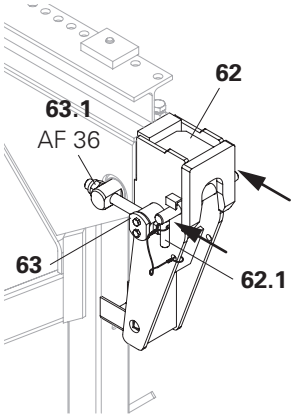


Fig. F2.04

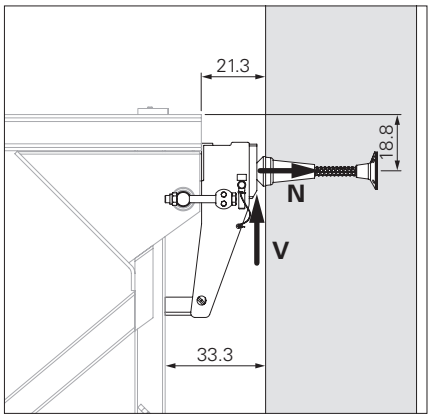


Fig. F2.05

3. Remove bolts (**62.1**) from the suspension shoes.
4. Attach the work platform to the crane (textile strap) and move it.
5. Attach the work platform to the mounting rings using the suspension shoes and secure with bolts.
(Fig. F2.05 + Fig. F2.06)

Have all suspension shoes been mounted and secured?

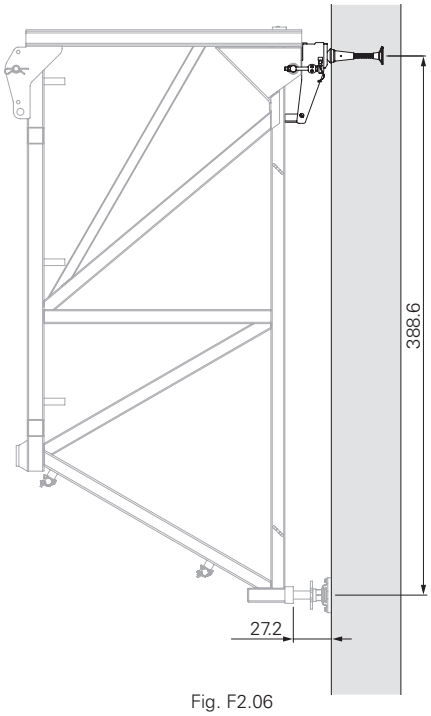
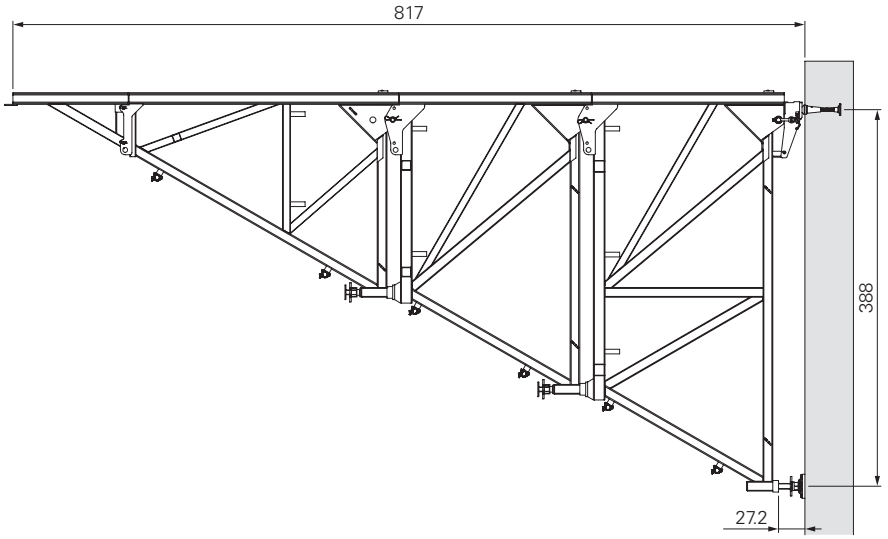


Fig. F2.06

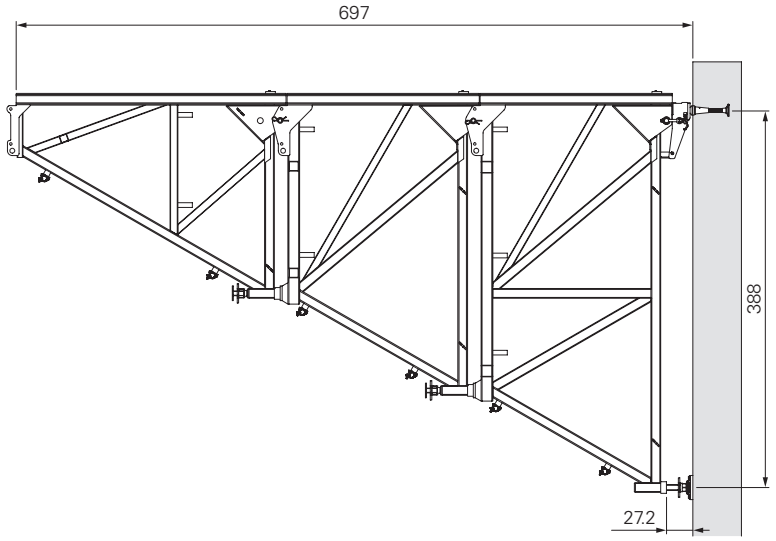
F2 Use as horizontal heavy-duty console bracket

The platform cantilever calculations must be carried out on a project-specific basis.

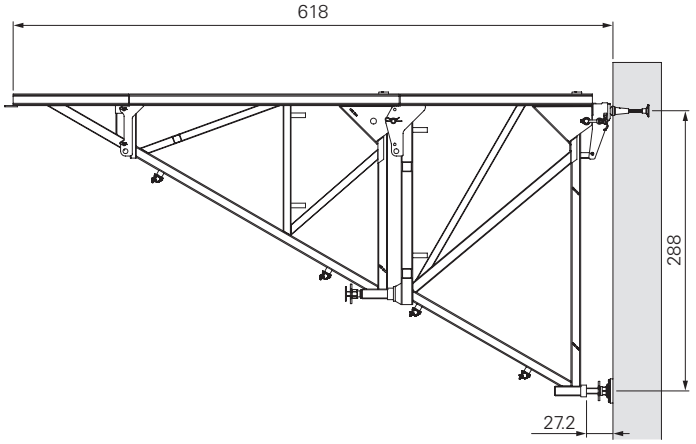
Combination SB-A0, A, B, C



Combination SB-A0, A, B



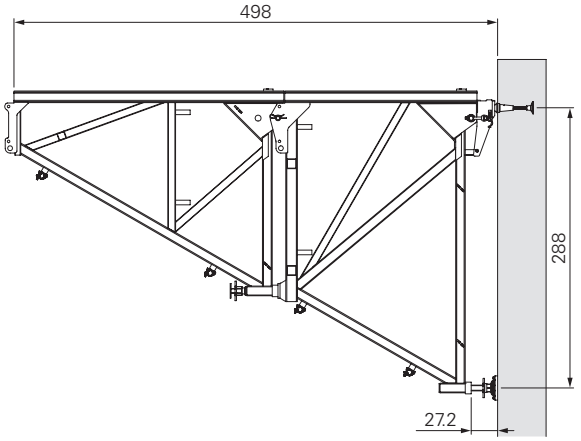
Combination SB-A, B, C



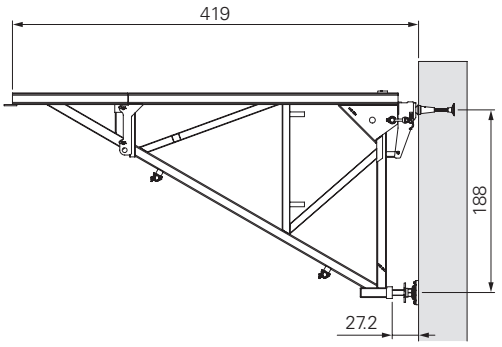
F2 Use as horizontal heavy-duty console bracket

The platform cantilever calculations must be carried out on a project-specific basis.

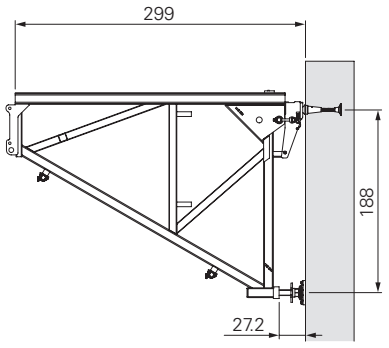
Combination SB-A, B



Combination SB-B, C



Combination SB-B

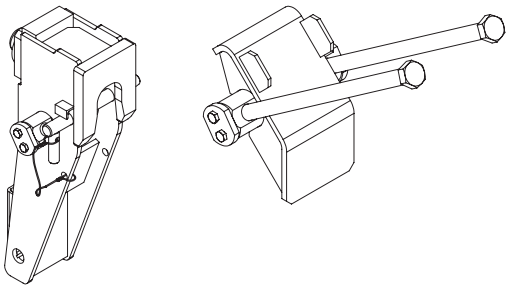


F2 Use as horizontal heavy-duty console bracket

Brace Frame SB-2
Work platform b ≤ 4.80 m
Suspension shoe load combinations are project-specific.

Required components for each brace frame:

62	Suspension Shoe SB	1x
67	Brace Frame Adaptor SB-2 Tie point	1x
25	Tie Rod DW26	1x
27	Threaded Anchor Plate DW26	1x
64	Climbing Cone-2 DW26 M36 ga	1x
65	Scaff. Mount. Ring M36 galv	1x
66	Screw ISO 4014-M36x130-10.9	1x



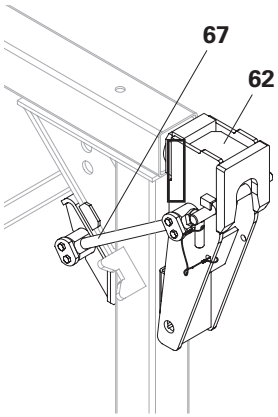


Fig. F2.07

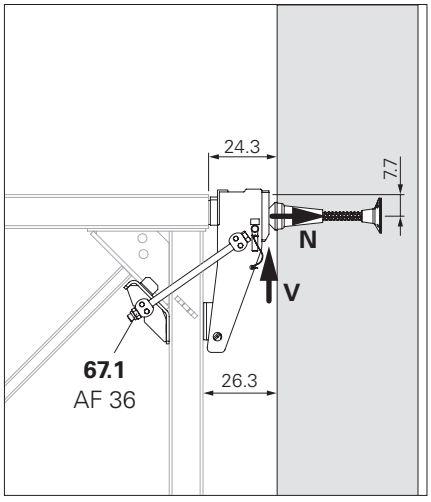


Fig. F2.08

Assembly
1. Pre-assemble brace frames and remove front spindle, see B1.
2. Loosen both nuts (**67.1**) on the Brace Frame Adaptor SB-2 (**67**), AF 36.
3. Place the brace frame adaptor on the brace frame.
4. Place Suspension Shoe SB (**62**) on the brace frame, insert bolts through the right and left holes as well as through the holes in the brace frame adaptor.
5. Secure the suspension shoe on the brace frame with screws and nuts.

(Fig. F2.07 + Fig. F2.08)

Creating a work platform
- Create a work platform according to the plan.
- Brace the work platform with diagonals and make open building edges secure.
- Ensure stability.

Mounting the work platform
(Fig. F2.08)
To fit Brace Frame SB-2, See Section "Single suspension with Suspension Shoe SB" on page 78.

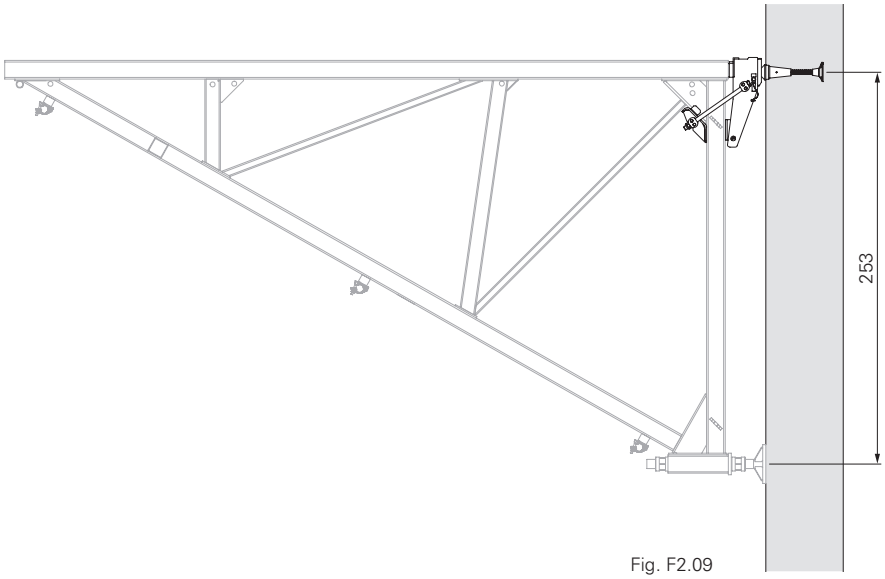


Fig. F2.09

F2 Use as horizontal heavy-duty console bracket

Double suspension with Suspension Shoe SB double

Brace Frame SB-A0, A, B, C
Suspension shoe load combinations are project-specific.

Required components for each brace frame:

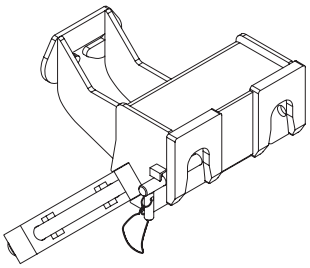
68	Suspension Shoe SB double Tie point	1x
25	Tie Rod DW26	2x
27	Threaded Anchor Plate DW26	2x
64	Climbing Cone-2 M36/DW 26	2x
65	Scaff. Mount. Ring M36 galv	2x
66	Bolt ISO 4014 M36 x 130-10.9	2x

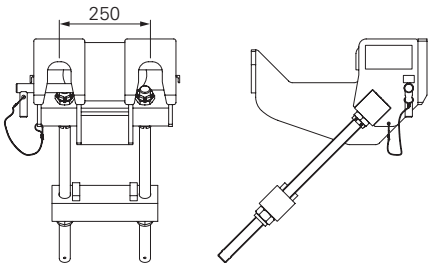
Assembly
1. Pre-assemble brace frames and remove front spindle, see B1.
2. Loosen the nuts (**68.2**) on the threaded rods (**68.1**), AF 46 and remove the counterholder (**68.3**).
3. Push the Suspension Shoe SB double (**68**) onto the HEB Beam as far as it will go.
4. Slide the counterholder onto the threaded rods and clamp it to the brace frame with nuts.

(Fig. F2.10 + Fig. F2.11)

Creating a work platform
- Create a work platform according to the plan.
- Brace the work platform with diagonals and make open building edges secure.
- Ensure stability.

Mounting the work platform
(Fig. F2.11)
See single suspension for
Brace Frame SB-A0, A, B.





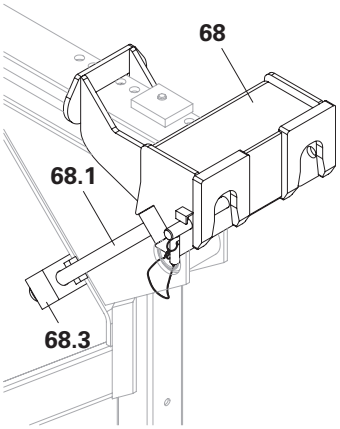


Fig. F2.10

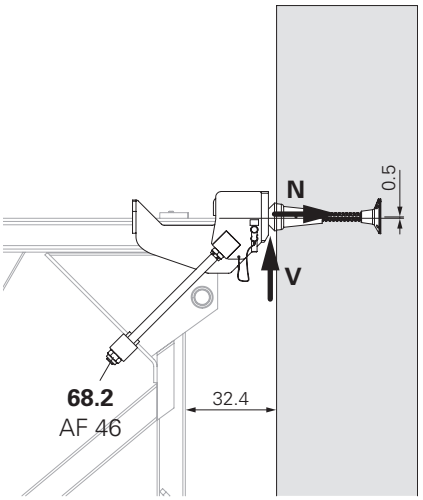


Fig. F2.11

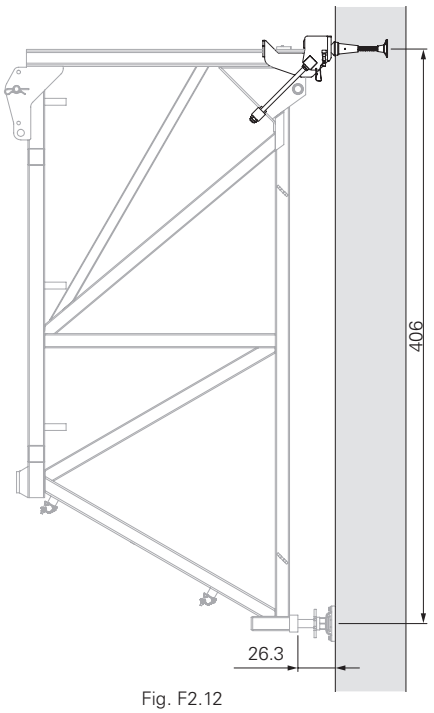
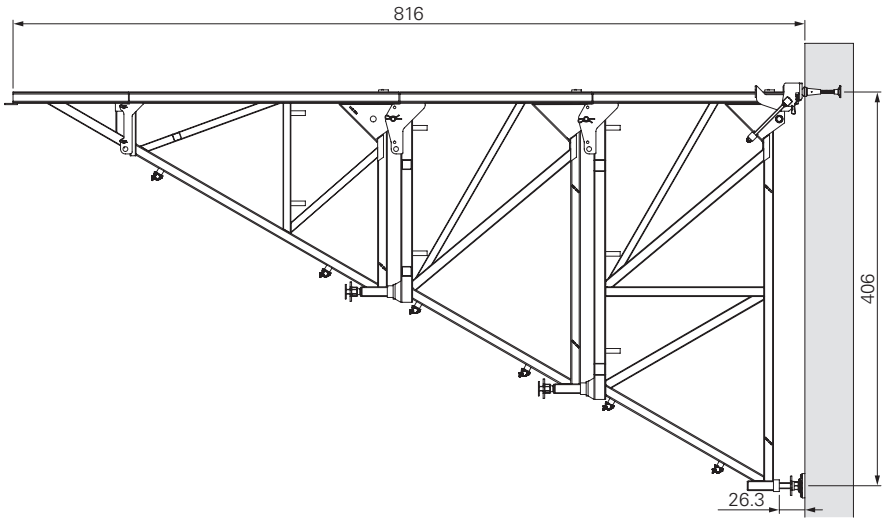


Fig. F2.12

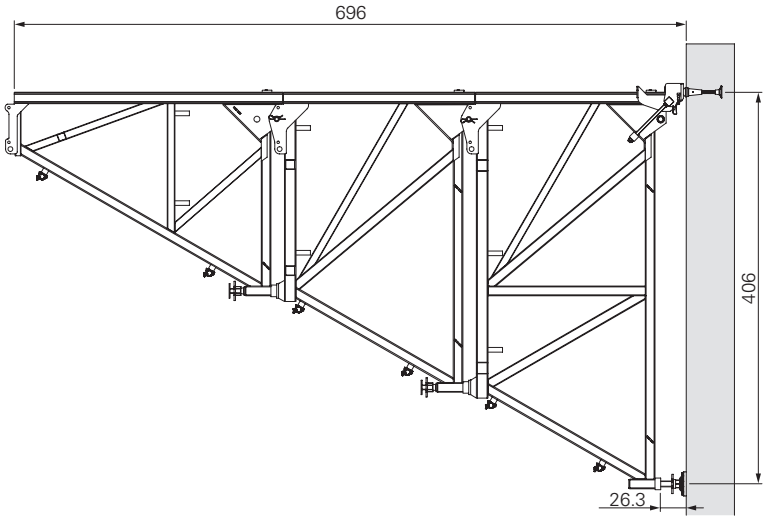
F2 Use as horizontal heavy-duty console bracket

The platform cantilever calculations must be carried out on a project-specific basis.

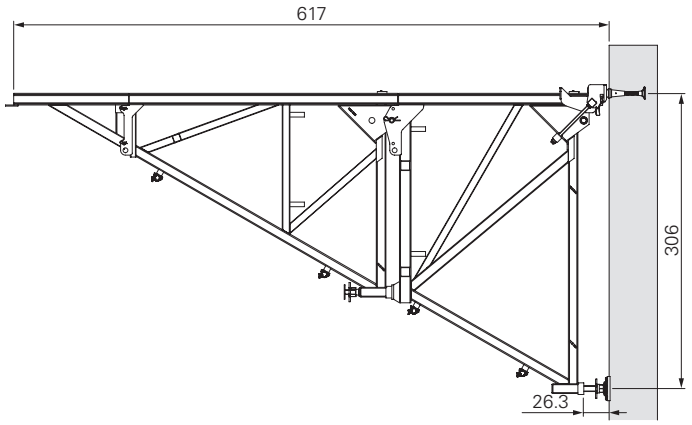
Combination SB-A0, A, B, C



Combination SB-A0, A, B



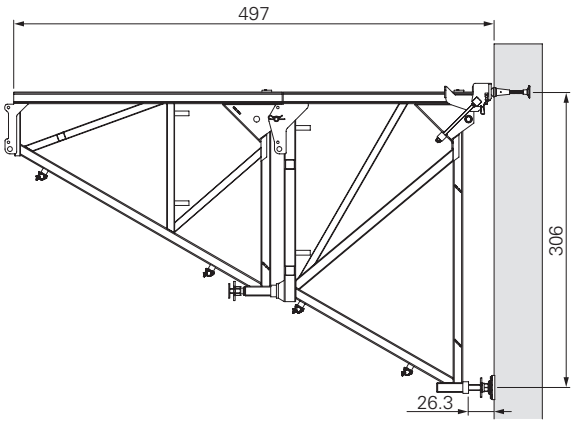
Combination SB-A, B, C



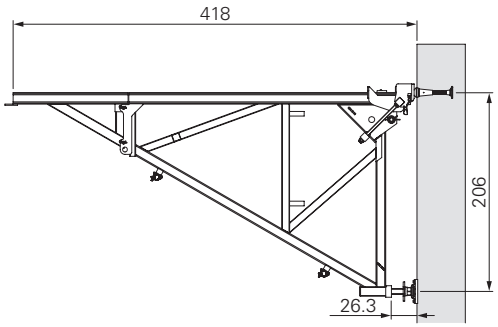
F2 Use as horizontal heavy-duty console bracket

The platform cantilever calculations must be carried out on a project-specific basis.

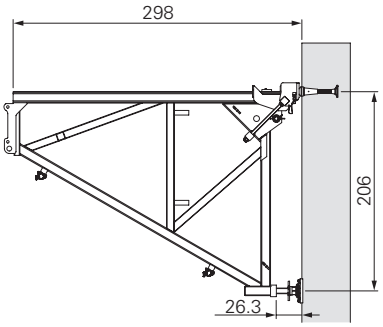
Combination SB-A, B



Combination SB-B, C



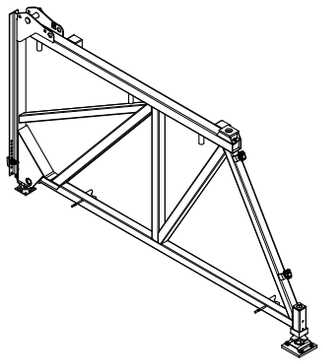
Combination SB-B

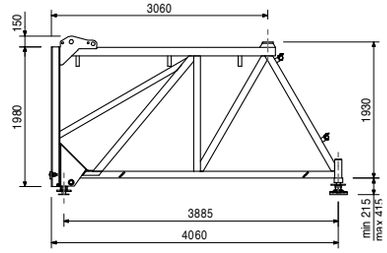


Item no.	Weight kg	
025690	412,000	**Brace Frame SB-A0** For forming single-sided walls and special applications.

Complete with
1 pc. 710545 Bolt Ø 50 x 150, galv.
1 pc. 710618 Cotter Pin 8, galv.
2 pc. 017040 Screw-On Coupler AK 48, galv.

Additional items
1 pc. 201070 Rear Base Spindle for SB
1 pc. 201071 Adjusting Nut SB-A0/A/B
1 pc. 025730 Spindle TR 60 x 9/43
1 pc. 201072 Adapter
1 pc. 201073 Cam Nut DW 15, galv.





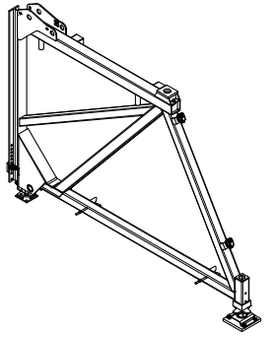
Accessories

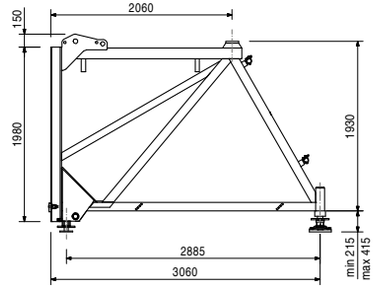
027210	3,300	**Spanner SW 80, for SB**

025700	324,000	**Brace Frame SB-A** For forming single-sided walls and special applications.

Complete with
2 pc. 017040 Screw-On Coupler AK 48, galv.

Additional items
1 pc. 201070 Rear Base Spindle for SB
1 pc. 201071 Adjusting Nut SB-A0/A/B
1 pc. 025730 Spindle TR 60 x 9/43
1 pc. 201072 Adapter
1 pc. 201073 Cam Nut DW 15, galv.





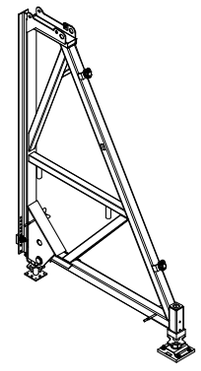
Accessories

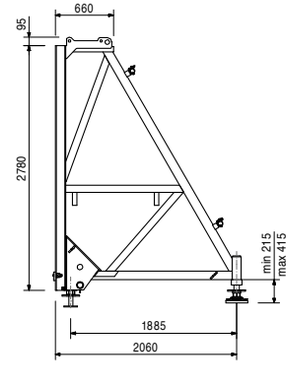
027210	3,300	**Spanner SW 80, for SB**

Item no.	Weight kg	
025710	275,000	**Brace Frame SB-B** For forming single-sided walls and special applications.

Complete with
1 pc. 710545 Bolt Ø 50 x 150, galv.
1 pc. 710618 Cotter Pin 8, galv.
2 pc. 017040 Screw-On Coupler AK 48, galv.

Additional items
1 pc. 201070 Rear Base Spindle for SB
1 pc. 201071 Adjusting Nut SB-A0/A/B
1 pc. 025730 Spindle TR 60 x 9/43
1 pc. 201072 Adapter
1 pc. 201073 Cam Nut DW 15, galv.





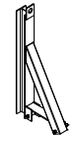
Accessories

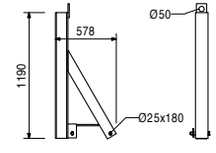
027210	3,300	**Spanner SW 80, for SB**

025720	49,900	**Brace Frame SB-C** For forming single-sided walls and special applications.

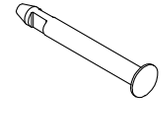
Complete with
2 pc. 715936 Pin Ø 25 x 180, incl. dowel pin Ø 6
2 pc. 018060 Cotter Pin 4/1, galv.

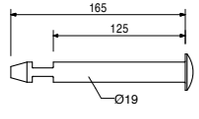
Technical Data
Permissible load-bearing point capacity
1.5 t with crane sling angle ≤ 15°,
2.5 t with vertical lift.





027690	0,368	**Bolt SB-TRIO/DOMINO, galv.** For panel formwork with 12 cm overall thickness.

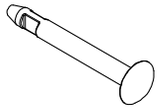


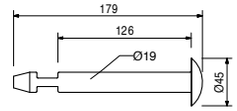


Accessories

114107	1,190	**Sleeve SB-MAXIMO, galv.**
114417	1,400	**Sleeve SB-MAXIMO WDMX**

Item no.	Weight kg	
113255	0,414	**Bolt SB-MAXIMO, galv.** For connecting MAXIMO panels with Brace Frame SB.



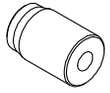


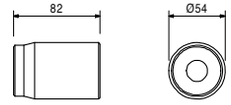
Accessories

114107	1,190	**Sleeve SB-MAXIMO, galv.**
114417	1,400	**Sleeve SB-MAXIMO WDMX**

114107	1,190	**Sleeve SB-MAXIMO, galv.** For connecting MAXIMO panels with Brace Frame SB.

Note
For use with Sealing Sleeve MX Ø 16 item-no. 112342 and Nut Sealing Sleeve MX Ø 16 item-no. 112338.



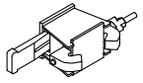


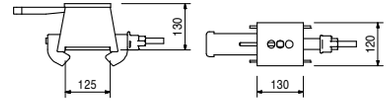
Accessories

113255	0,414	**Bolt SB-MAXIMO, galv.**
114417	1,400	**Sleeve SB-MAXIMO WDMX**

025740	9,140	**Connector SB-A, B, C - MX/TR/D** For connecting MAXIMO, TRIO and DOMINO panels with Brace Frames SB-A0, A, B, C.

Note
1 piece per anchor point.

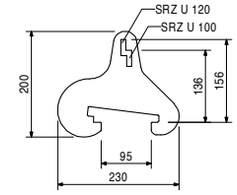




Accessories

027690	0,368	**Bolt SB-TRIO/DOMINO, galv.**
113255	0,414	**Bolt SB-MAXIMO, galv.**
114107	1,190	**Sleeve SB-MAXIMO, galv.**
114417	1,400	**Sleeve SB-MAXIMO WDMX**

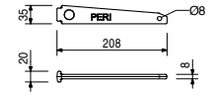
025760	1,300	**Waler Connector SB-A, B, C** For connecting Steel Walers SRZ and SRU, Profile U100 respectively U120 to SB-A0, A, B, C.



Accessories

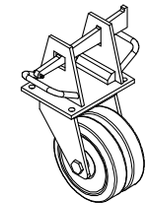
024250	0,331	**Wedge K, galv.**

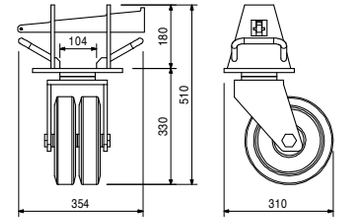
Item no.	Weight kg	
024250	0,331	**Wedge K, galv.** For coupling Compression Plate KDP, Wedge Head Piece SRZ/SRU and Waler Connector SB-A, B, C.



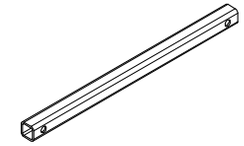
025750	28,700	**Guide Roller SB-A, B** For moving SB-A0, SB-A and SB-B brace frame units.

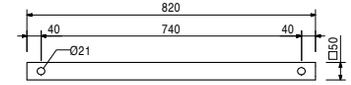
Technical Data
Permissible load-bearing capacity 1.2 t.



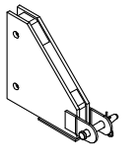


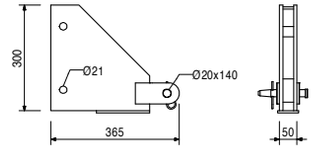
100901	5,370	**SB-L Tension Strut, l = 740 mm** For Brace Frame SB-L. For forming single-sided walls.





Item no.	Weight kg		
100903	12,000	**SB-L Anchor Bracket** For Brace Frame SB-L. For forming single-sided walls.	**Complete with** 1 pc. 105400 Pin Ø 20 x 140, galv. 1 pc. 018060 Cotter Pin 4/1, galv.

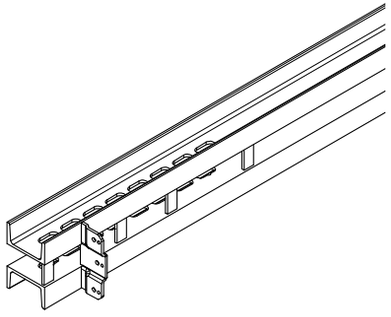


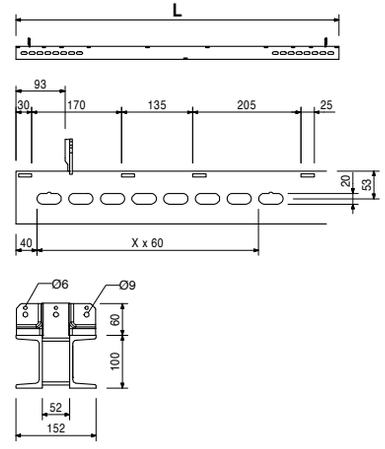


Accessories

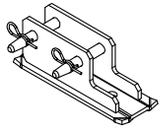
024910	0,303	**Bolt ISO 4014 M20 x 100-8.8, galv.**
710334	0,064	**Nut ISO 4032 M20-8, galv.**
024180	0,126	**Compensation Washer 20, galv.**

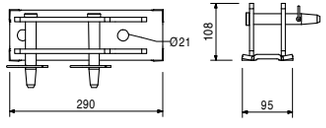
010050	51,600	**Steel Waler SRZ U100, l = 2.45 m** Steel waler for VARIO GT 24 panels and special applications.	**Note** Special lengths and other profile sizes on request. **Technical Data** U100: Wy = 82.4 cm³, Iy = 412 cm⁴



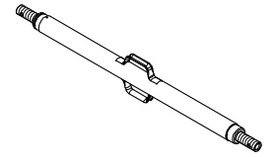


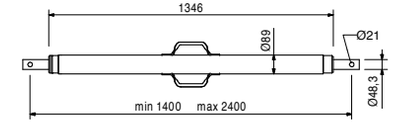
102018	4,880	**Base Plate-2 for RS 1000/1400, galv.** For assembly of RS 210, 260, 300, 450, 650, 1000, 1400 push-pull props and Heavy Duty Spindles.	**Complete with** 2 pc. 105400 Pin Ø 20 x 140, galv. 2 pc. 018060 Cotter Pin 4/1, galv.



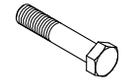


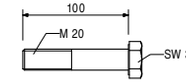
Item no.	Weight kg		
101776	24,200	**Heavy Duty Spindle SLS 140/240** As adjustable spindle in lattice frameworks with SRU Steel Walers and RCS Climbing Rails.	



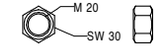


024910	0,303	**Bolt ISO 4014 M20 x 100-8.8, galv.**

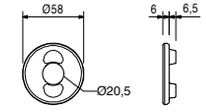




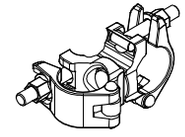
710334	0,064	**Nut ISO 4032 M20-8, galv.**

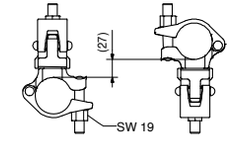


024180	0,126	**Compensation Washer 20, galv.**



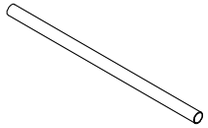
017010	1,400	**Swivel Coupling DK 48/48, galv.** For Scaffold Tubes Ø 48 mm.	



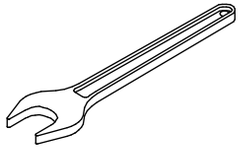


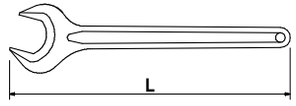
PERI

Item no.	Weight kg		L
201410	21,600	**Scaffold Tubes Steel Ø 48.3 x 4.0** **Scaff. Tube Steel Ø 48.3 x 4.0, l = 6.4 m**	6400

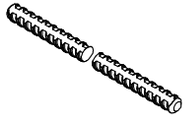


			L
		Spanners SW for SB	
027210	3,300	**Spanner SW 80, for SB**	645
027213	2,300	**Spanner SW 70, for SB**	570
027211	0,760	**Spanner SW 46, for SB**	380
		For different applications.	

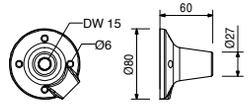




		Tie Rods DW 15	
201002	8,640	**Tie Rod DW 15, l = 6.00 m**	**Note** Non-weldable! Take official approval into consideration! **Technical Data** Permissible tension force 90 kN.

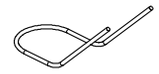


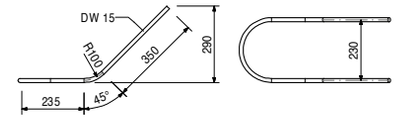
030840	0,516	**Threaded Anchor Plate DW 15** For use with Tie Rod DW 15 or B 15. For anchoring in concrete.	**Note** Lost anchor part.



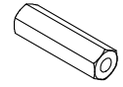
PERI

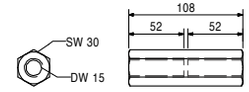
Item no.	Weight kg		
030060	2,130	**Brace Frame Double Anchor DW 15** Non-weldable! Take approval into consideration!	**Technical Data** Permissible load 2 x 90 kN. Dependent on concrete strength and installation depth.



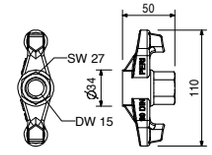


201022	0,402	**DW 15 Hex. Coupler** For coupling Tie Rod DW 15 and B 15.	**Technical Data** Permissible load 90 kN.

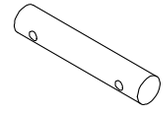


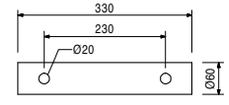


201001	0,439	**DW 15 Wingnut, galv.** For anchoring with Tie Rod DW 15 and B 15.	**Technical Data** Permissible load 90 kN.

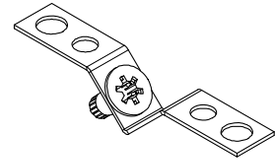


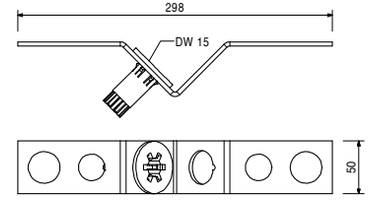
027520	7,030	**Double Anchor Tie Yoke DSW** For anchoring with Tie Rod DW 15.	**Technical Data** Permissible load 2 x 90 kN.



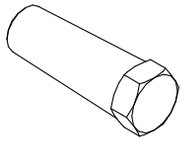


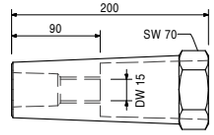
031580	0,440	**V-Tie Holder DW 15** For easy installation of DW 15 Tie Rods at 45° inclinations.



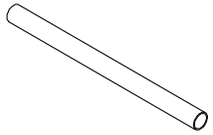


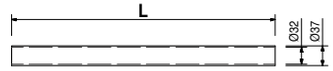
Item no.	Weight kg	
031631	0,345	**Leading Anchor Coupler DW 15, compl.** For easy installation of DW 15 Tie Rods at 45° inclinations.



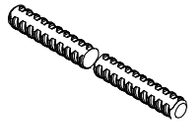


031627	0,967	**Spacer Tube rough DR 32, l = 3.00 m** Plastic spacer tube for DW 26.

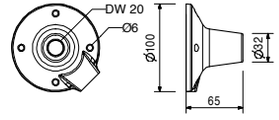




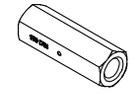
201842	15,360	**Tie Rods DW 20** **DW 20 Tie Rod l = 6.00 m**	**Note** Non-weldable! Take official approval into consideration! **Technical Data** Permissible tension force 150 kN.

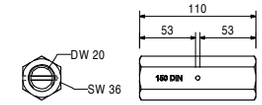


030860	0,801	**Threaded Anchor Plate DW 20** For use with Tie Rod DW 20, B 20 or Screw-On Cone-2 M24/DW 20. For anchoring in concrete.	**Note** Lost anchor part.

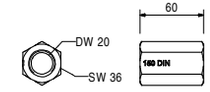


Item no.	Weight kg		
201023	0,685	**DW 20 Hex. Coupler** For coupling Tie Rod DW 20 and B 20.	**Note** Weldable! **Technical Data** Permissible load 150 kN.

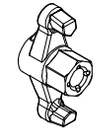


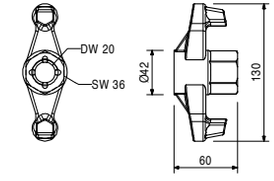


030580	0,371	**Hex. Nut DW 20 SW 36/60, weldable** For anchoring with Tie Rod DW 20 and B 20.	**Note** Weldable! **Technical Data** Permissible load 150 kN.

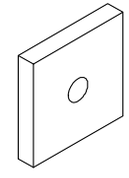


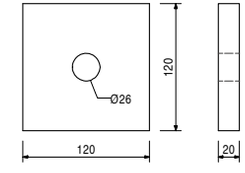
201020	0,786	**DW 20 Wingnut, galv.** For anchoring with Tie Rod DW 20 and B 20.	**Technical Data** Permissible load 150 kN.



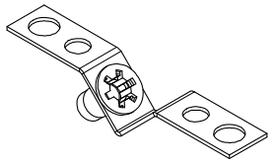


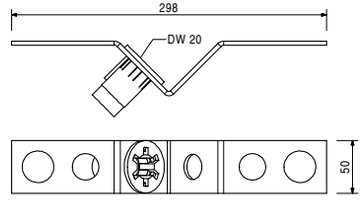
201025	2,180	**Counterplate DW 20, 120 x 120 x 20** For anchoring with Tie Rod DW 20 and B 20.	**Technical Data** Permissible load 150 kN.



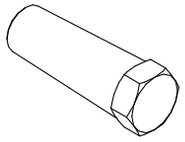


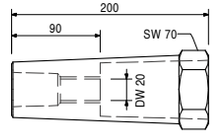
Item no.	Weight kg	
031590	0,420	**V-Tie Holder DW 20** For easy installation of DW 20 Tie Rods at 45° inclinations.



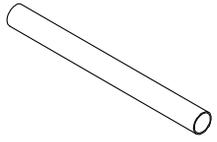


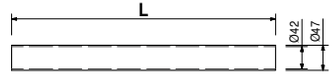
031632	0,355	**Leading Anchor Coupler DW 20** For easy installation of DW 20 Tie Rods at 45° inclinations.





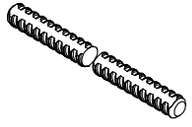
031634	1,250	**Spacer Tube rough DR 42, l = 3.00 m** Plastic spacer tube for DW 20, 26.

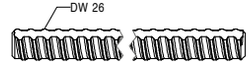




		Tie Rods DW 26
201688	2,240	**DW 26 Tie Rod l = 0.50 m**
201689	4,480	**DW 26 Tie Rod l = 1.50 m**
201687	26,880	**DW 26 Tie Rod l = 6.00 m**

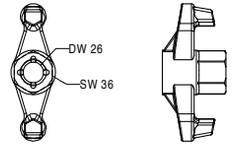
Note
Non-weldable! Take official approval into consideration!
Technical Data
Permissible tension force 250 kN.





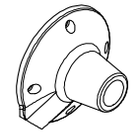
201684	0,786	**DW 26 Wingnut** For anchoring with Tie Rod DW 26.

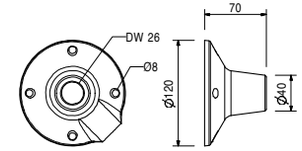
Technical Data
Permissible load 250 kN.



Item no.	Weight kg	
030870	1,240	**Threaded Anchor Plate DW 26** For use with Tie Rod DW 26 or Screw-On Cone M36/DW 26. For anchoring in concrete.

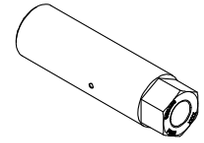
Note
Lost anchor part.

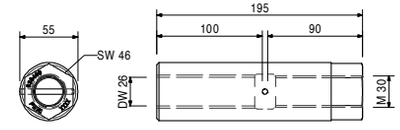




030400	2,620	**Coupling Nut M 30/DW 26, galv.** For coupling Tension Rod and Tie Rod DW 26.

Technical Data
Permissible load 250 kN.

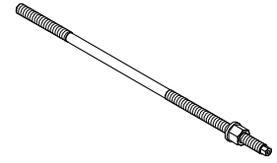


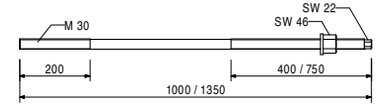


		Tension Rods M30 with Nut
027540	5,170	**Tension Rod with Nut 100/M30**
027230	6,810	**Tension Rod with Nut 135/M30**

For anchoring the Brace Frame SB.

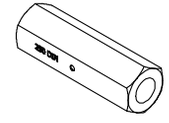
Technical Data
Permissible load 250 kN.

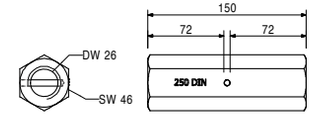




030980	1,540	**Hex. Coupler DW 26 SW 46/150, weldable** For coupling Tie Rod DW 26.

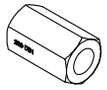
Note
Weldable!
Technical Data
Permissible load 250 kN.

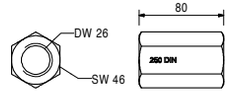




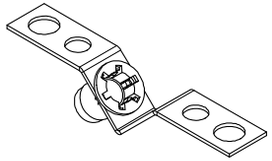
PERI

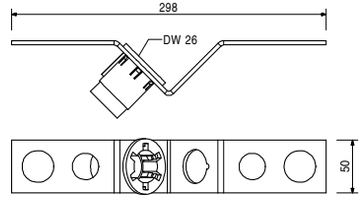
Item no.	Weight kg		
030970	0,800	**Hex. Coupler DW 26 SW 46/80, weldable** For anchoring with Tie Rod DW 26.	**Note** Weldable! **Technical Data** Permissible load 250 kN.



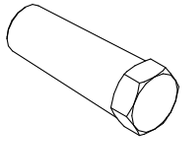


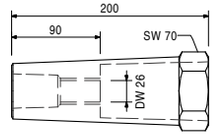
031600	0,430	**V-Tie Holder DW 26** For easy installation of DW 26 Tie Rods at 45° inclinations.	



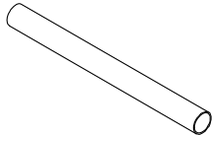


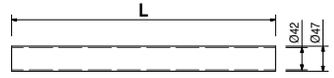
031633	0,365	**Leading Anchor Coupler DW 26** For easy installation of DW 26 Tie Rods at 45° inclinations.	





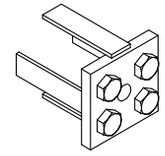
031634	1,250	**Spacer Tube rough DR 42, l = 3.00 m** Plastic spacer tube for DW 20, 26.	

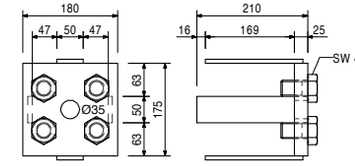




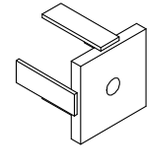
PERI

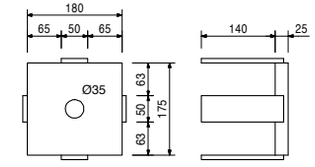
Item no.	Weight kg		
101621	10,100	**Tension Release Plate SB DW 26** For anchoring of Brace Frame SB. Allows easy release of higher tensile loads. In connection with Anchor Waler 55 or 235. Turn bolt to working position before shuttering.	**Complete with** 4 pc. 724563 Hex. Bolt ISO 4017 M30 x 50-8.8, galv. **Technical Data** Permissible load 250 kN.



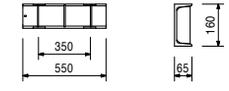


027480	7,960	**Anchor Plate SB - DW 26** For anchoring of Brace Frame SB.	**Technical Data** Permissible load 250 kN.

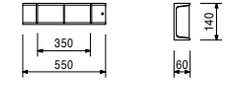




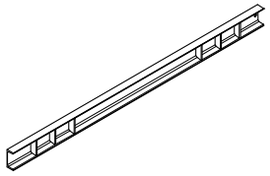
109017	11,600	**Anchor Waler U160, l = 0.55 m** For anchoring of Brace Frame SB.	**Technical Data** Permissible load 2 x 250 kN.



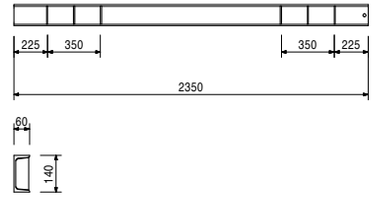
027650	9,940	**Anchor Waler U140, l = 0.55 m** For anchoring of Brace Frame SB.	**Technical Data** Permissible load 2 x 135 kN.



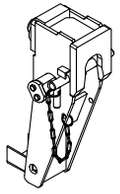
Item no.	Weight kg	
027530	39,800	**Anchor Waler U140, l = 2.35 m** For anchoring of Brace Frame SB.

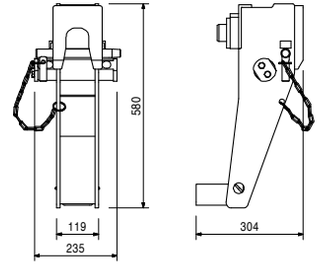


Technical Data
Permissible load 4 x 135 kN.



106661	32,000	**Brace Frame Wall Scaffold Hinge** For hoizontal use of PERI Brace Frames SB-A0, A, B and SB-2 as climbing brackets.

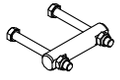




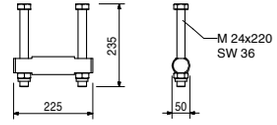
Accessories

106662	4,870	**Brace Frame Adaptor SB A0, A, B**
106663	13,900	**Brace Frame Adaptor SB-2**

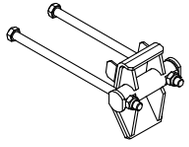
106662	4,870	**Brace Frame Adaptor SB A0, A, B** For mounting the brace frame wall scaffold hinge to the Brace Frame SB-A0, A or B.



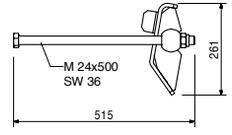
Complete with
2 pc. 106803 Nuts ISO 7042 M24-10, galv.
2 pc. 106797 Bolt ISO 4014 M24 x 220-10.9, galv.

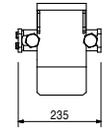


106663	13,900	**Brace Frame Adaptor SB-2** For mounting of Brace Frame Wall Scaffold Hinge to the Brace Frame SB-2.

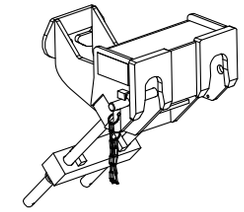


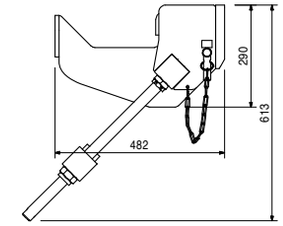
Complete with
2 pc. 106798 Bolt ISO 4014 M24 x 500-10,9, galv.
2 pc. 106803 Nuts ISO 7042 M24-10, galv.

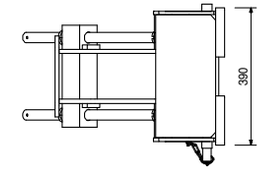




Item no.	Weight kg	
111866	64,600	**Wall Scaffold Hinge SB double** For hoizontal use of PERI Brace Frames SB-A0, A, B as climbing bracket.

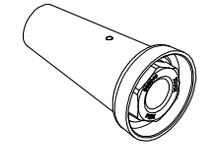


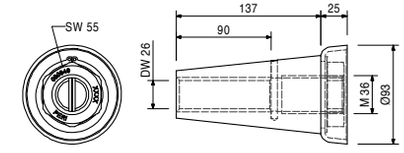




030940	3,040	**Climbing Cone-2 M36/DW 26, galv.** Tie System M36. For anchoring of climbing systems.

Note
Separate design information on request.

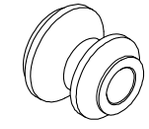


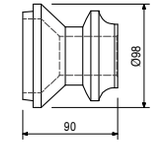


Accessories

030870	1,240	**Threaded Anchor Plate DW 26**
030340	4,480	**Tie Rod DW 26, Spec. Length**

029490	1,770	**Scaffold Mounting Ring M36, galv.** Tie System M36. For anchoring of climbing systems.

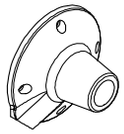


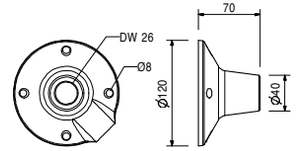


Accessories

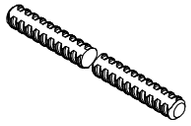
029550	1,400	**Bolt ISO 4014 M36 x 130-10.9, galv.**

Item no.	Weight kg		
030870	1,240	**Threaded Anchor Plate DW 26** For use with Tie Rod DW 26 or Screw-On Cone M36/DW 26. For anchoring in concrete.	**Note** Lost anchor part.

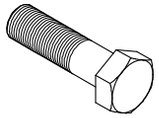


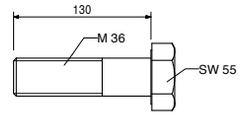


		Tie Rod DW 26	**Note** Non-weldable! Take official approval into consideration! **Technical Data** Permissible tension force 250 kN.
030340	4,480	**Tie Rod DW 26, spec. length**	
030500	0,000	**Cutting Cost Tie Rod DW 26**	

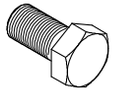


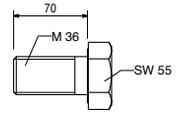
029550	1,400	**Bolt ISO 4014 M36 x 130-10.9, galv.** High-strength bolt for anchoring of climbing systems.	



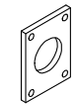


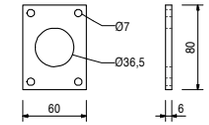
029430	0,930	**Bolt ISO 4017 M36 x 70-8.8, galv.** Bolt for anchoring of climbing systems and as advancing bolt.	





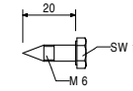
Item no.	Weight kg		
029390	0,170	**Anchor Positioning Plate M36, galv.** For fixing the M36 anchor system if the plywood formlining is drilled through.	



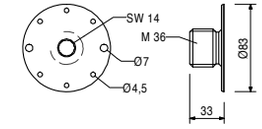


		Accessories	
029440	0,005	**Lag Screw DIN 571 6 x 20, galv.**	

029440	0,005	**Lag Screw DIN 571 6 x 20, galv.**	

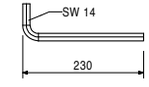


026460	0,308	**Anchor Positioning Stud M36, galv.** For fixing the M36 anchor system if the plywood formlining is not drilled through.	



		Accessories	
027212	0,445	**Allen Key SW 14, long**	
710312	0,005	**Nail 3 x 80**	

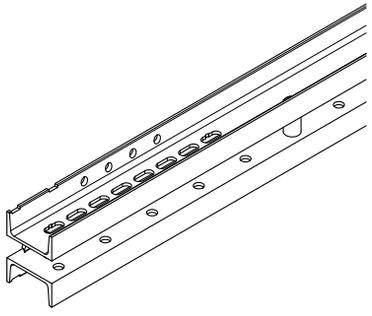
027212	0,445	**Allen Key SW 14, long** Fits to PERI Anchor Positioning Studs and Allen Key Bolts M16.	

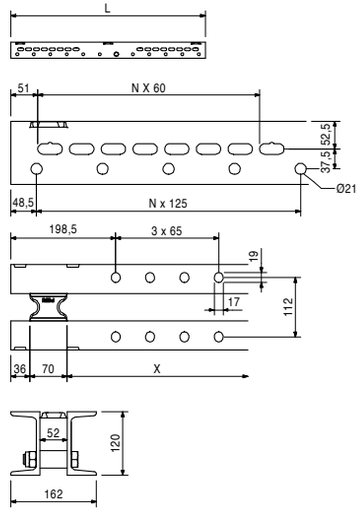


Item no.	Weight kg	Steel Walers Universal SRU	L
103868	18,100	**Steel Waler Universal SRU U120, l = 0.72 m**	722
103871	24,200	**Steel Waler Universal SRU U120, l = 0.97 m**	972
103874	30,900	**Steel Waler Universal SRU U120, l = 1.22 m**	1222
103877	38,100	**Steel Waler Universal SRU U120, l = 1.47 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	135,000	**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

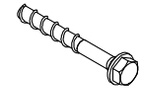
Universal steel waler profile U120 used as waling for girder wall formwork and for diverse special applications. With adjustable spacers.

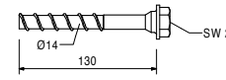
Note
Permissible load: see PERI Design Tables.
Technical Data
U120: Wy = 121.4 cm³, Iy = 728 cm⁴.



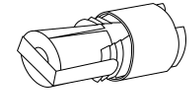


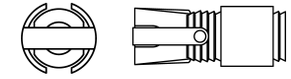
124777	0.210	**PERI anchor bolt 14/20 x 130** For temporary attachment to reinforced concrete components.	**Note** Take the PERI Data Sheet into consideration!Hole Ø 14 mm.





201146	0,450	**DW 15 Rock Anchor** For subsequent anchoring with DW 15 tie rods.	**Note** Follow Instructions for Use! **Technical Data** Permissible load 90 kN.





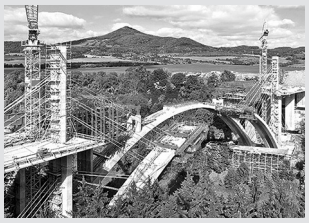
The optimal system for every project and any requirement

Wall formwork

Column formwork

Slab formwork

Climbing systems



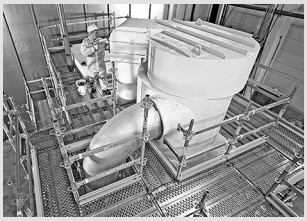
Bridge formwork

Tunnel formwork

Shoring

Working scaffolds for construction

Working scaffolds for facades



Working scaffolds for industry

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