999804302 - 07/2025
en-GB

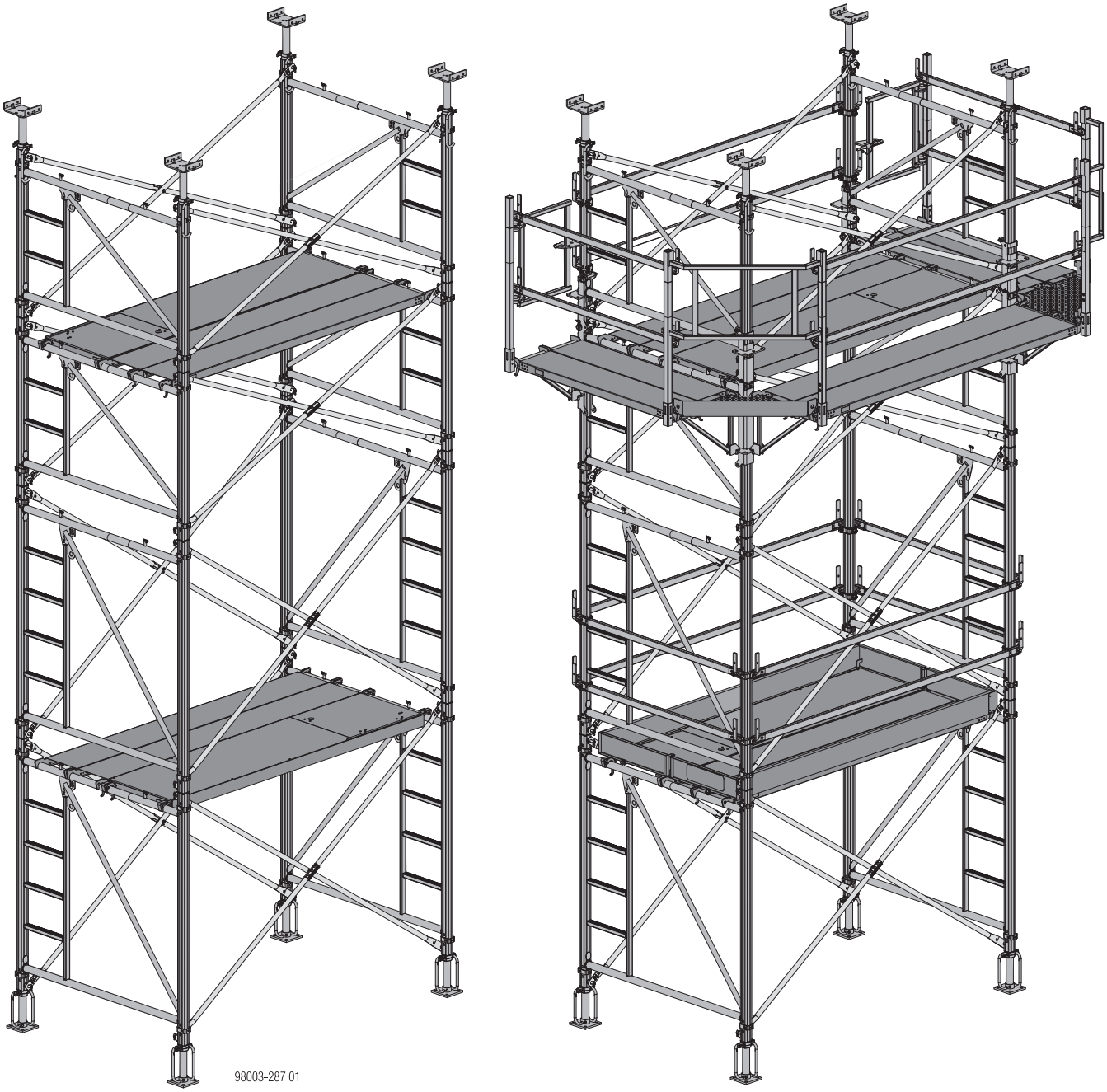
Formwork & Scaffolding.
We make it work.

Load-bearing tower Staxo 100

with brief design as per Eurocode

User Information

Instructions for assembly and use (Method statement)



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Contents

Introduction

Elementary safety warnings

User target groups

- This booklet is aimed at all persons who will be working with the Doka product or system that it describes. It contains information on the standard design for setting up this system, and on correct, compliant utilisation of the system.
- All persons working with the product described herein must be familiar with the contents of this booklet and with all the safety instructions it contains.
- Persons who are incapable of reading and understanding this booklet, or who can do so only with difficulty, must be instructed and trained by the customer.
- The customer is to ensure that the information materials provided by Doka (e.g. User Information booklets, Instructions for Assembly and Use, Operating Instruction manuals, plans etc.) are up to date and available to all users, and that they have been made aware of them and have easy access to them at the usage location.
- In the relevant technical documentation and formwork utilisation plans, Doka shows the workplace safety precautions that are necessary in order to use the Doka products safely in the usage situations shown.
  In all cases, users are obliged to ensure compliance with national laws, standards and regulations throughout the entire project and to take appropriate additional or alternative workplace safety precautions where necessary.

Hazard assessment

- The customer is responsible for drawing up, documenting, implementing and continually updating a hazard assessment at every job-site.
  This booklet serves as the basis for the site-specific hazard assessment, and for the instructions given to users on how to prepare and utilise the system. It does not substitute for these, however.

Remarks on this booklet

- This document can be used as general Instructions for Assembly and Use (Method Statement) or be incorporated into site-specific Instructions for Assembly and Use (Method Statement).
- **The graphics, animations and videos in this document or app sometimes depict partially assembled assemblies and may require additional safety equipment and/or measures to comply with safety regulations.**
  The customer must ensure all applicable regulations are complied with, even if they are not shown or implied in the graphics, animations and videos provided.
- **Individual sections contain further safety instructions and/or special warnings as applicable.**

Planning

- Provide safe workplaces for those using the formwork (e.g. for when it is being erected/dismantled, modified or repositioned etc). It must be possible to get to and from these workplaces via safe access routes!
- **If you are considering any deviation from the details and instructions given in this booklet, or any application which goes beyond those described in the booklet, then revised static calculations must be produced for checking, as well as supplementary assembly instructions.**

Regulations; industrial safety

- All laws, Standards, industrial safety regulations and other safety rules applying to the utilisation of our products in the country and/or region in which you are operating must be observed at all times.
- If a person or object falls against, or into, the sideguard component and/or any of its accessories, the component affected may only continue in use after it has been inspected and passed by an expert.

Rules applying during all phases of the assignment

- The customer must ensure that this product is erected and dismantled, reset and generally used for its intended purpose in accordance with the applicable laws, standards and rules, under the direction and supervision of suitably skilled persons.
  These persons' mental and physical capacity must not in any way be impaired by alcohol, medicines or drugs.
- Doka products are technical working appliances which are intended for industrial / commercial use only, always in accordance with the respective Doka User Information booklets or other technical documentation authored by Doka.
- The stability and load-bearing capacity of all components and units must be ensured during all phases of the construction work!
- Do not step on or apply strain to cantilevers, closures, etc. until suitable measures to ensure their stability have been correctly implemented (e.g. by tie-backs).
- Strict attention to and compliance with the functional instructions, safety instructions and load specifications are required. Non-compliance can cause accidents and severe injury (risk of fatality) and considerable damage to property.
- Sources of fire in the vicinity of the formwork are prohibited. Heaters are permissible only when used correctly and situated a correspondingly safe distance from the formwork.
- Customer must give due consideration to any and all effects of the weather on the equipment and regards both its use and storage (e.g. slippery surfaces, risk of slipping, effects of the wind, etc.) and implement appropriate precautionary measures to secure the equipment and surrounding areas and to protect workers.
- All connections must be checked at regular intervals to ensure that they are secure and in full working order.
  In particular threaded connections and wedged connections have to be checked and retightened as necessary in accordance with activity on the jobsite and especially after out-of-the-ordinary occurrences (e.g. after a storm).
- It is strictly forbidden to weld Doka products – in particular anchoring/tying components, suspension components, connector components and castings etc. – or otherwise subject them to heating.
  Welding causes serious change in the microstructure of the materials from which these components are made. This leads to a dramatic drop in the failure load, representing a very great risk to safety.
  It is permissible to cut individual tie rods to length with metal cutting discs (introduction of heat at the end of the rod only), but it is important to ensure that flying sparks do not heat and thus damage other tie rods.
  The only articles which are allowed to be welded are those for which the Doka literature expressly points out that welding is permitted.

Assembly

- The equipment/system must be inspected by the customer before use, to ensure that it is in an acceptable condition. Steps must be taken to exclude components that are damaged, deformed, or weakened due to wear, corrosion or rot (e.g. fungal decay).
- Using our safety and formwork systems together with those of other manufacturers can create risks that may lead to injury and damage to property. This requires separate verification by the user.
- The equipment/system must be assembled and erected in accordance with the applicable laws, standards and rules by trained customer personnel whilst maintaining any applicable safety inspections that may be required.
- It is not permitted to modify Doka products; such modifications constitute a safety risk.

Closing the formwork

- Doka products and systems must be set up so that all loads acting upon them are safely transferred!

Pouring

- Do not exceed the permitted fresh-concrete pressures. Over-high pouring rates overload the formwork, cause greater deflection and risk breakage.

Stripping the formwork

- Do not strip out the formwork until the concrete has reached sufficient strength and the person in charge has given the order for the formwork to be stripped out!
- When stripping out the formwork, never use the crane to break concrete cohesion. Use suitable tools such as timber wedges, special pry-bars or system features such as Framax stripping corners.
- When stripping out the formwork, do not endanger the stability of any part of the structure, or of any scaffolding, platforms or formwork that is still in place!

Transporting, stacking and storing

- Observe all country-specific regulations applying to the handling of formwork and scaffolding. For system formwork the Doka slinging means stated in this booklet must be used – this is a mandatory requirement.
  If the type of sling is not specified in this document, the customer must use slinging means that are suitable for the application envisaged and that comply with the regulations.
- When lifting, always make sure that the unit to be lifted and its individual parts can absorb the forces that occur.
- Remove loose parts or secure them so that they cannot slip out of position and drop.
- When lifting formwork or formwork accessories with a crane, no persons must be carried along, e.g. on working platforms or in multi-trip packaging.
- All components must be stored safely, following all the special Doka instructions given in the relevant sections of this document!

Maintenance

- Only original Doka components may be used as spare parts. Repairs may only be carried out by the manufacturer or authorised facilities.

Miscellaneous

The weights as stated are averages for new material; actual weights can differ, depending on material tolerances. Dirt accretions, moisture saturation, etc. can also affect weight.
We reserve the right to make alterations in the interests of technical progress.

Eurocodes at Doka

The permissible values stated in Doka documents (e.g. F_{perm} = 70 kN) **are not design values** (e.g. F_{Rd} = 105 kN), unless specified**!**

- It is essential to avoid confusing permissible values with design values!
- Doka documents will continue to state the permissible values.

Allowance has been made for the following partial factors:

- γ_F = 1.5
- $\gamma_{M,\ timber}$ = 1.3
- $\gamma_{M,\ steel}$ = 1.1
- k_{mod} = 0.9

Consequently, all the design values for an EC design calculation can be determined from the permissible values.

Symbols used

The following symbols are used in this document:

DANGER
This is a notifier drawing attention to an extremely dangerous situation in which non-compliance with this notifier will lead to death or severe, irreversible injury.

WARNING
This is a notifier drawing attention to a dangerous situation in which non-compliance with this notifier can lead to death or severe, irreversible injury.

CAUTION
This is a notifier drawing attention to a dangerous situation in which non-compliance with this notifier can lead to slight, reversible injury.

NOTICE
This is a notifier drawing attention to a situation in which non-compliance with this notifier can lead to malfunctions or damage to property.

Instruction
Indicates that actions have to be performed by the user.

Sight-check
Indicates that you need to do a sight-check to make sure that necessary actions have been carried out.

Tip
Points out useful practical tips.

Reference
Cross-references other documents.

Intended use

The Load-bearing tower Staxo 100 serves as a shoring tower in building construction and civil engineering and is designed for high loads.It is repositioned using traveller units, a crane or a forklift truck.

Boundary conditions for use:

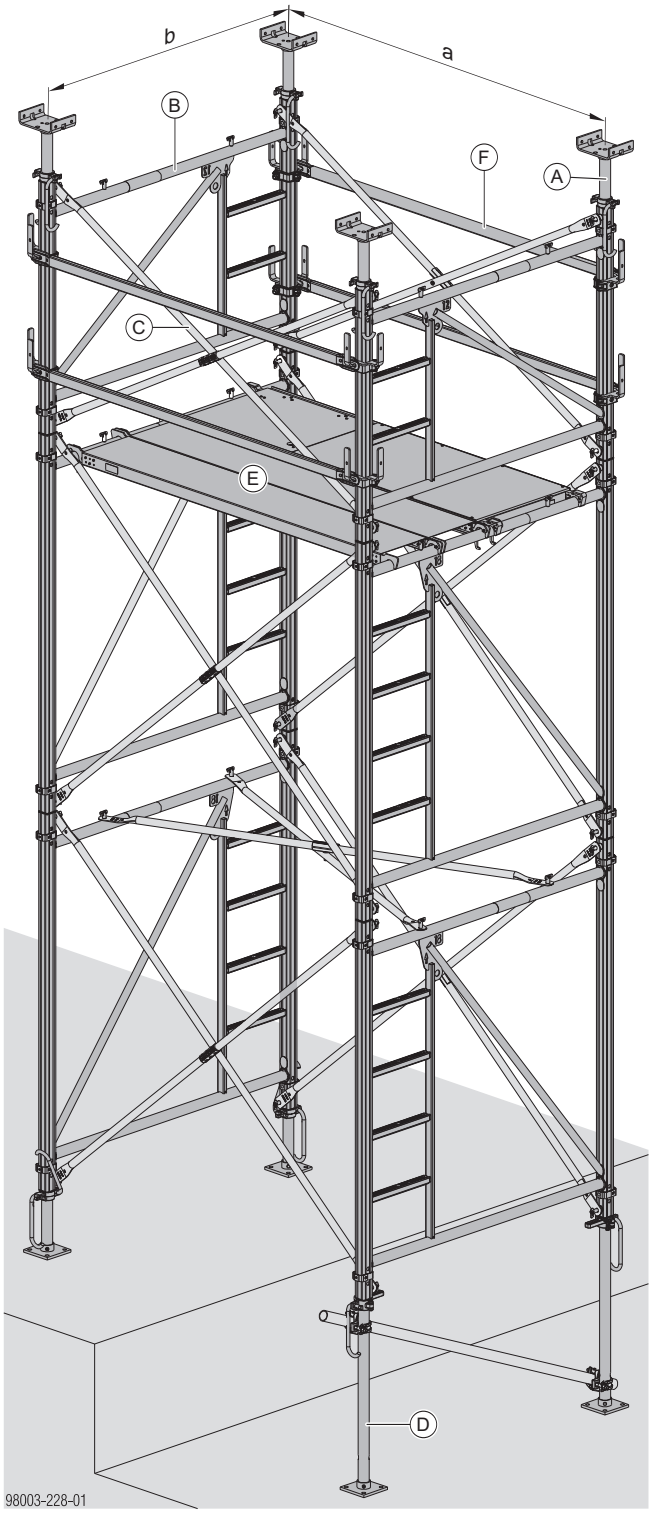
- Permitted load-bearing capacity per leg: 100 kN

In special cases, boundary conditions can vary. The relevant information in the Doka technical documents must be observed.

Other use or use not in conformity with that stated above is non-intended use and requires the prior written approval of the Doka company!

System description

System overview



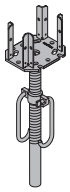
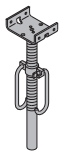
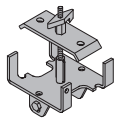
a ... inter-frame spacing = 60* / 100 / 150 / 175 / 200 / 250 / 300 cm
b ... frame width = 152 cm
* only for 1.20 and 0.90m frames

A	Head unit
B	Staxo 100 frame
C	Diagonal cross
D	Base unit
E	Scaffold planking
F	Edge protection

The Staxo 100 system components

see also Article list

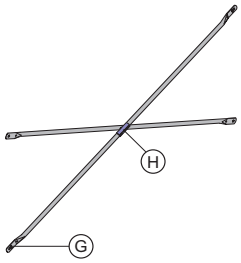
Head units (A)

4-way screw-jack head	Screw jack U-head	Heavy-duty screw jack 70 top + Split nut B	U-head D
			
Top height-adjustment spindle for load-bearing towers. For holding the superstructure and adjusting its height.			Rotatable, but with no height adjustment.
May be used with either one or two Doka H20 beams.	For holding the main beams (e.g. multi-purpose walings, steel girders).		For holding the main beams (e.g. multi-purpose walings WS10 or double H20 beams).
The primary beams are fixed to prevent overturning.			

Staxo 100 frames (B)

Staxo 100 frame 1.80m	Staxo 100 frame 1.20m	Staxo 100 frame 0.90m
		
Hot-dip galvanised steel frames. Connectors for upward stacking of the frames are captively integrated into each frame.		

Diagonal crosses (C)

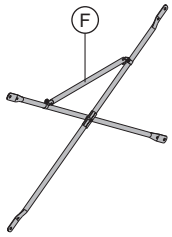


Drop-in steel-tube bracing crosses between the frames.

Identified by:

- Embossed marking **(G)** e.g. 18.250
  - 18 = frame height 1.80 m
  - 250 = inter-frame spacing 250 cm
- Notched, colour-coded clips **(H)** (see table)

Designation	Colour-coded clip	Notches
Diagonal cross 9.060	Black	—
Diagonal cross 9.100	Green	—
Diagonal cross 9.150	Red	—
Diagonal cross 9.175	Light green	—
Diagonal cross 9.200	Blue	—
Diagonal cross 9.250	Yellow	—
Diagonal cross 9.300	Orange	—
Diagonal cross 12.060	Black	1
Diagonal cross 12.100	Green	1
Diagonal cross 12.150	Red	1
Diagonal cross 12.175	Light green	1
Diagonal cross 12.200	Blue	1
Diagonal cross 12.250	Yellow	1
Diagonal cross 12.300	Orange	1
Diagonal cross 18.100	Green	3
Diagonal cross 18.150	Red	3
Diagonal cross 18.175	Light green	3
Diagonal cross 18.200	Blue	3
Diagonal cross 18.250	Yellow	3
Diagonal cross 18.300	Orange	3



These function in the same way as standard diagonal crosses, but also have a permanently installed waist-level guardrail strut **(F)** . This strut can also be retro-fitted to standard diagonal crosses.

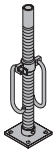
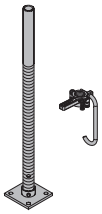
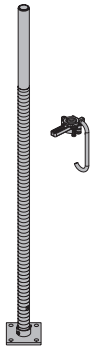
Designation	Colour-coded clip	Notches
Diagonal cross H 9.100	Green	—
Diagonal cross H 9.150	Red	—
Diagonal cross H 9.200	Blue	—
Diagonal cross H 9.250	Yellow	—
Diagonal cross H 12.100	Green	1
Diagonal cross H 12.150	Red	1
Diagonal cross H 12.200	Blue	1
Diagonal cross H 12.250	Yellow	1

Note:

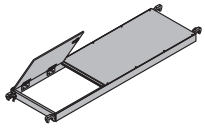
For **horizontal** bracing of the frames, always use **Diagonal crosses 9.xxx**.

In levels in which scaffold planking units are installed, horizontal bracing with diagonal crosses is no longer needed. This only applies, of course, if the scaffold planking units are left in place in this ‘storey’ until the very end of the assignment (assembly, pouring etc.).

Base units (D)

Screw jack foot	Heavy-duty screw jack 70 + Split nut B	Heavy-duty screw jack 130 + Split nut B
		
Bottom height-adjustment spindle for load-bearing towers.		
	The Split nut B can be swung apart, meaning that it does not need to be turned through the full length of the threaded spindle.	
		Specially for height mismatches such as on steps. Otherwise identical to Heavy-duty screw jack 70. See the section headed Structural design for details.

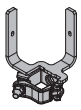
Scaffold planking units (E)

Scaffold planking 30/...cm	Scaffold planking 60/...cm with manhole
	
Steel scaffold planking units for making safe assembly decks.	Aluminium/timber scaffold planking units with self-closing cover, for making safe assembly decks.
Integral anti-liftout guard	
Width: 30 cm	Width: 60 cm
Lengths: 100 / 150 / 175 / 200 / 250 / 300 cm	

Permissible service load: 1.5 kN/m² (150 kg/m²)

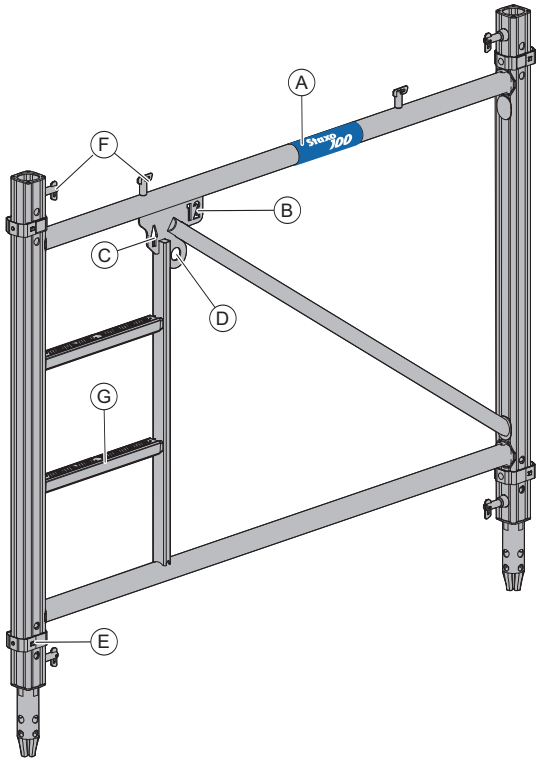
Load Class 2 to EN 12811-1

Edge protection (F)

Railing coupler	Railing strut 2.50m
	
For fixing the railing struts to the Staxo 100 tube.	For making an edge protection railing on the Staxo 100 tower.

Railing strut 1.00m	Railing strut 1.50m	Railing strut 2.00m
		

The Staxo 100 frame in detail



A	'Staxo 100' sticker
B	Stamped-in type designation: 18, 12 or 9
C	Arrow to make clear where 'top and bottom' are (arrow pointing up = frame is in correct position)
D	Attachment point for personal fall-arrest system (PFAS)
E	Integral interconnection system
F	Safety catch
G	Climbing aid

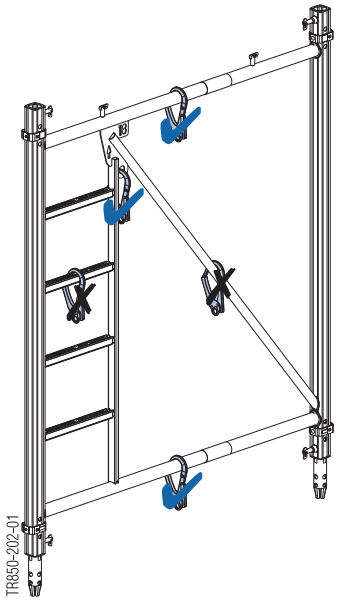
Anchorage points for personal fall arrest systems (PFAS)

NOTICE

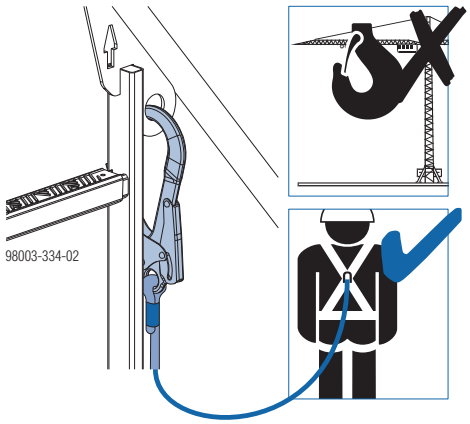
- An emergency and rescue plan must be in place for the tasks of assembly, modification and disassembly of the load-bearing towers!
- If falling hazards cannot be sufficiently minimised by technical or organisational measures, the use of a personal fall-arrest system (PFAS) is required!

WARNING

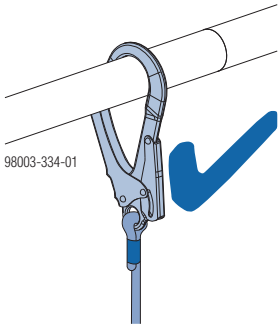
➤ Make sure that the attachment point is at or above the required minimum height, as otherwise there will not be sufficient room to arrest a fall.

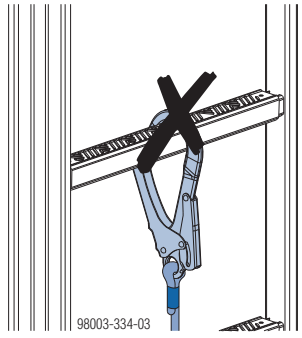
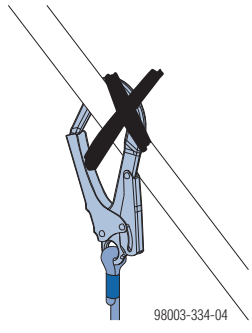


Attachment point only for PFAS.
Do not crane lift on this point.



Connection to horizontal tube: allowed.

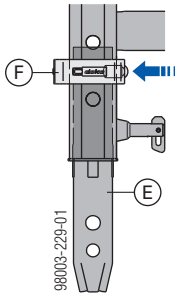
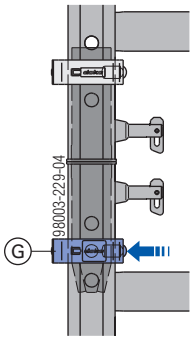


To ladder rungs: prohibited.	To diagonal tube: prohibited.
	

Integral interconnection system

- The crane-handling-safe link between the frames uses a **captive locking spring** plus built-in safety bolt. It can be locked or released in an instant - **with no need for any tools**.

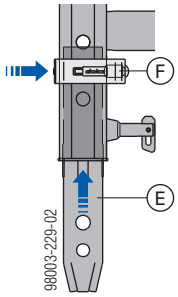
Mode of functioning for upward stacking

Yellow locking spring pushed toward the outside = connection sleeve fixed	Blue locking spring pushed toward the outside = frames linked in crane-handling-safe manner
	

E Connection sleeve
F Yellow locking spring
G Blue locking spring

Mode of functioning for fitting the base units

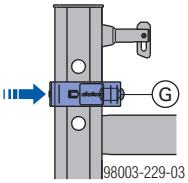
Yellow locking spring pushed toward the inside = connection sleeve unfixed.



E Connection sleeve
F Yellow locking spring

Mode of functioning for fitting the head units

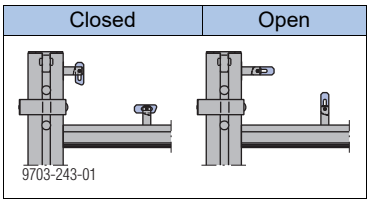
Blue locking spring is pushed toward the inside.



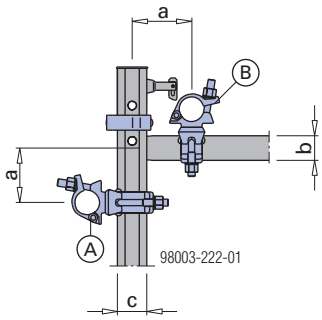
G Blue locking spring

Safety catch

- tried-and-tested interconnection system (captive)
- secures the diagonal crosses
- two defined positions (closed – open)



Connecting the couplers

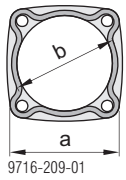


a ... max. 16 cm (exception: where tubes are being connected for constructional design purposes)
b ... diameter 48 mm
c ... diameter 75 mm

A Transition swivel coupler 48/76mm.
This is not an EN 74 compliant connection. No loads may be introduced parallel to the Staxo tubes.
B Swivel coupler 48mm or Normal coupler 48mm

Profile form

- low weight paired with high load-bearing strength
- robust



a ... 57.8 mm
b ... Ø 56.2 mm

Profile seal

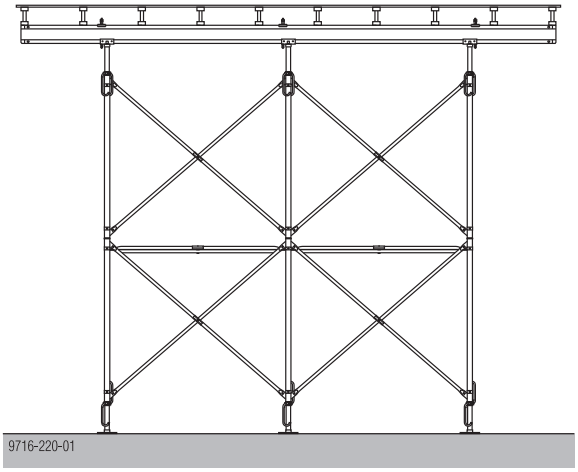
- prevents connection sleeve falling out
- protects against damage
- sliding contact surface for nuts

Practical examples

Tableforms and tower frames are both assembled from the same system components.

Tableform units

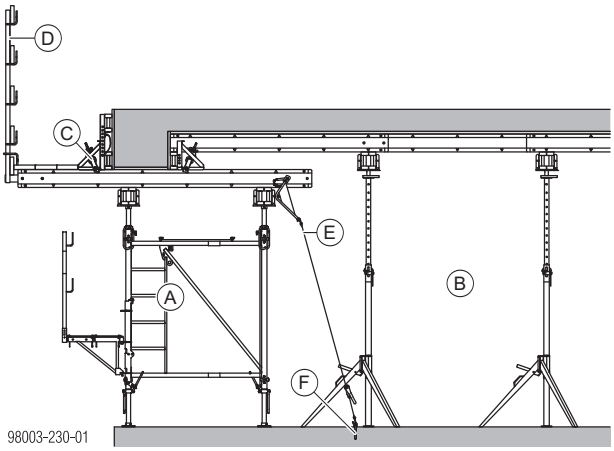
- For repetitive use, the load-bearing tower can be assembled into complete tableforms.



Combined with Dokaflex

For downstand beams, the **load-bearing towers and beam-forming supports** can be combined very effectively with Dokaflex.

Edge floor-beam



A	Load-bearing tower
B	Dokaflex
C	Beam forming support 20
D	Handrail post T 1.80m (optionally with Toeboard holder T 1.80m), Xsafe edge protection XP, Handrail clamp S or Handrail post 1.50m
E	Lashing strap 5.00m
F	Doka express anchor 16x125mm and Doka coil 16mm

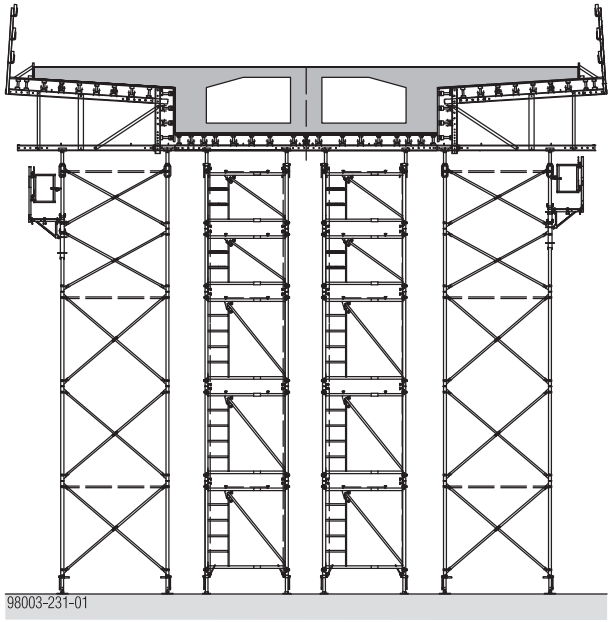
Tower frames

With a load-bearing capacity of up to 97 kN per leg, Staxo 100 is an extremely strong load-bearing tower system.

It safely withstands horizontal forces such as wind loads.

The wide frames make for high stability right from the word 'go'.

Close inter-frame spacing is possible, for transferring high loads.



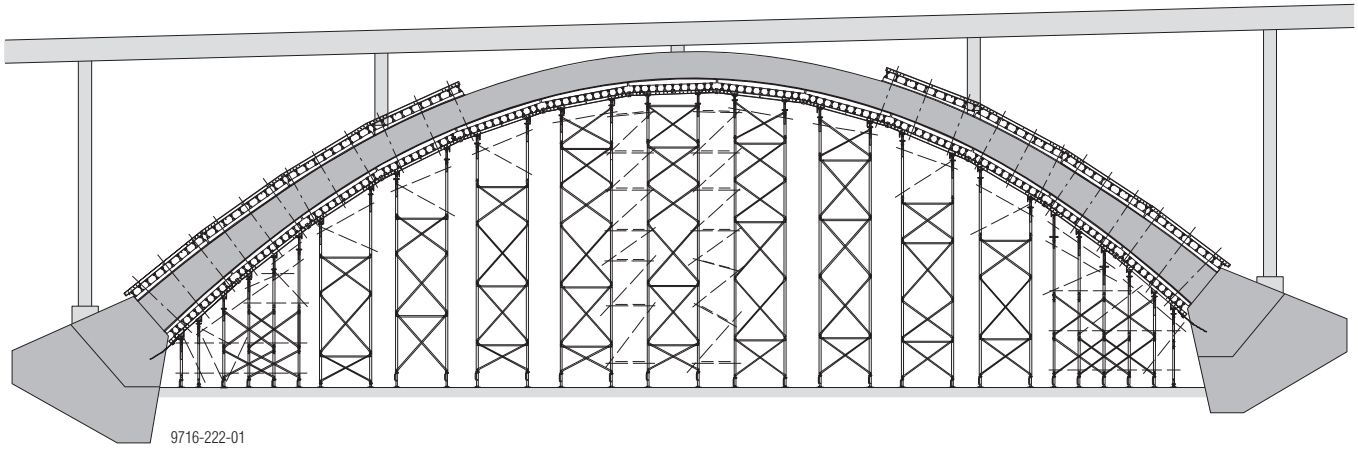
The Universal dismantling tool makes it easier to turn the Split nut B - even when it is under higher loads.

Shoring load-bearing structures

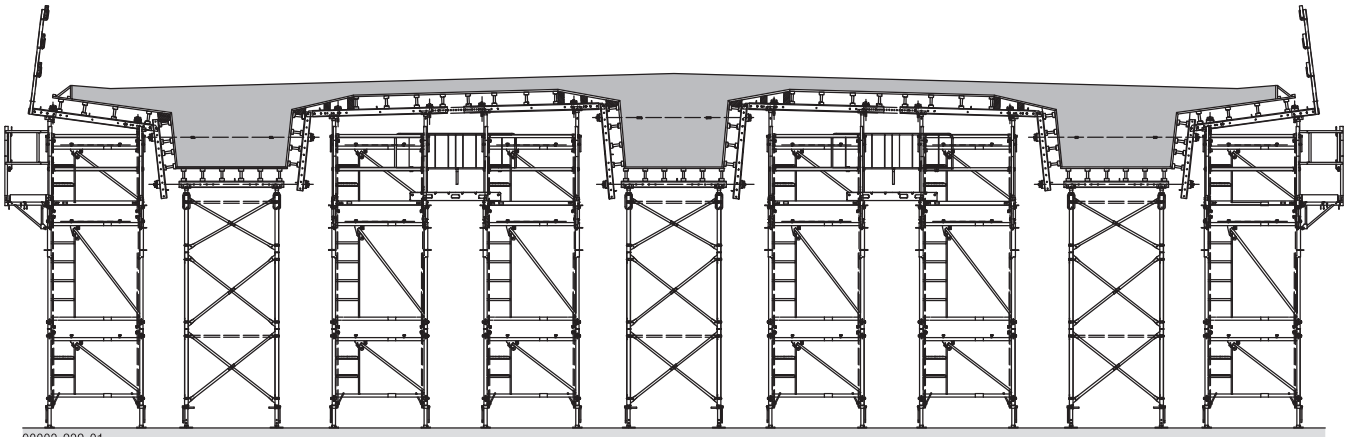
For bridges, underpasses and industrial structures, the load-bearing towers also combine perfectly with Doka large-area formwork Top 50.

Even complicated structures can be formed cost-effectively in this way, with standard parts used extensively.

Propping an arched bridge



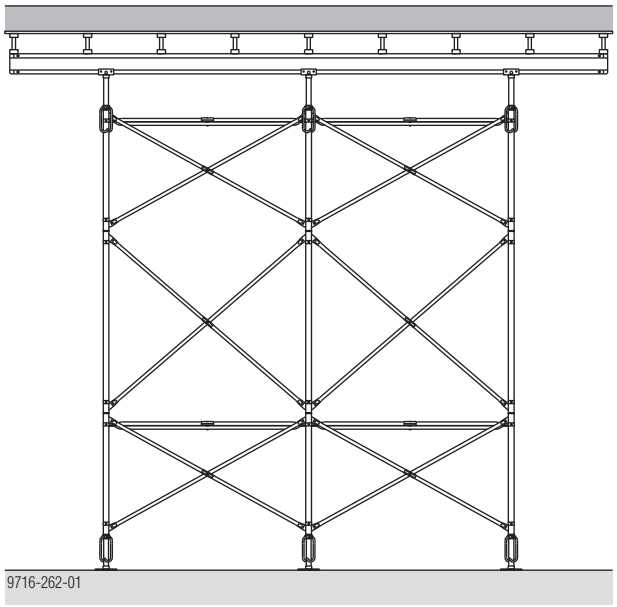
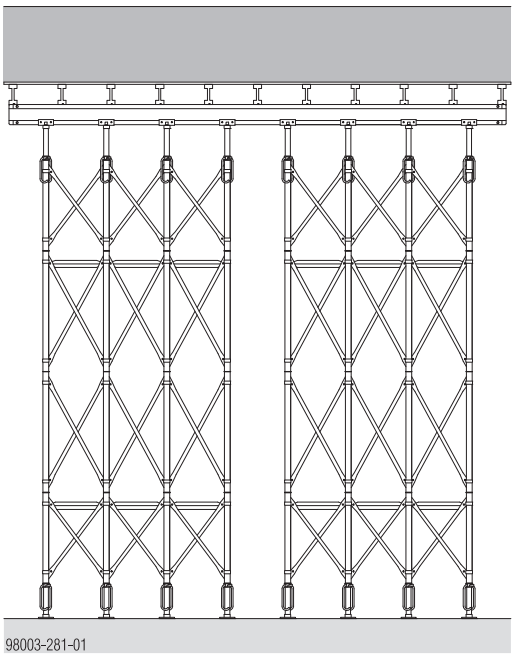
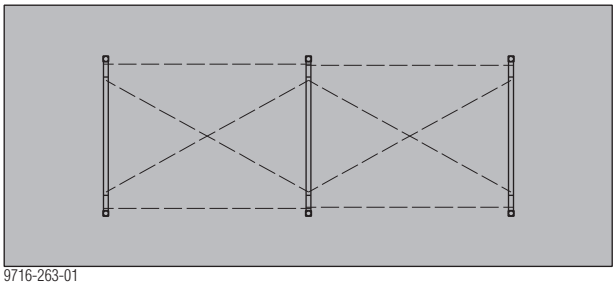
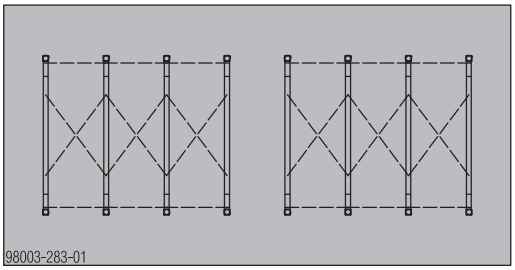
Typical section - propping a superstructure formwork



Adapts to different ground plans, heights, floor shapes and loads

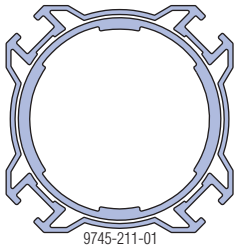
Variable inter-frame spacing means that the individual frames can be spaced closer together or farther apart, depending on the load.

In this way, only as much equipment is used as is really needed.

e.g. light loads – frames spaced further apart	e.g. heavy loads – frames spaced close together
 9716-262-01	 98003-281-01
Plan view	Plan view
 9716-263-01	 98003-283-01

Adaptation to building layout with Floor prop Eurex 60 550

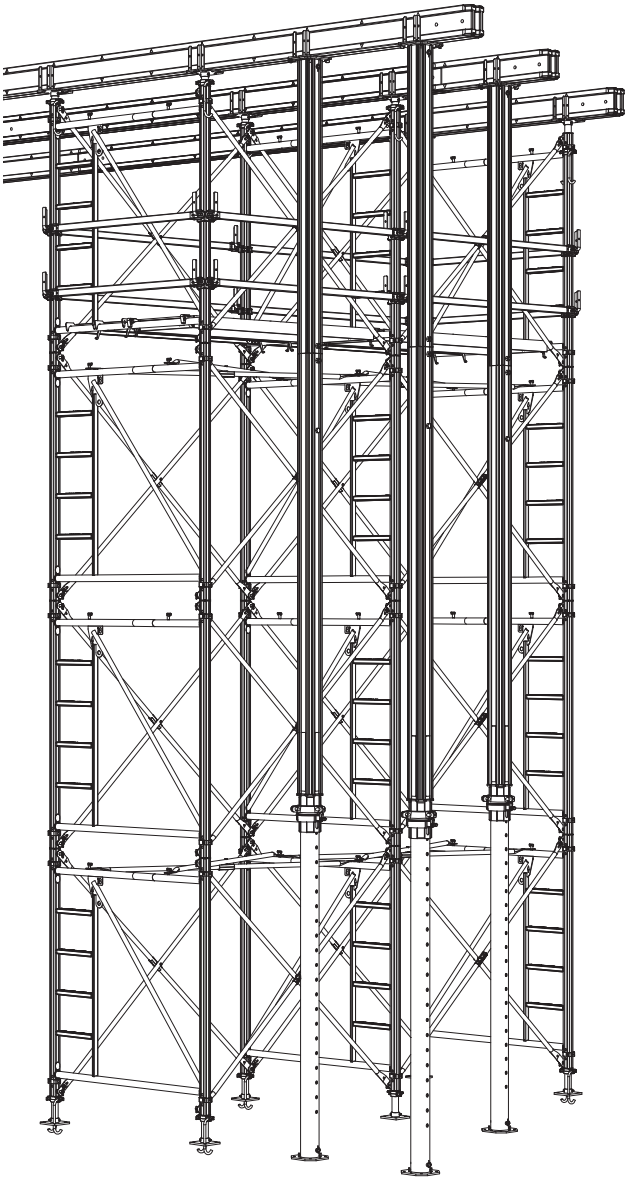
- The perfect complement to all Doka load-bearing towers.
- Transfers loads economically, also in confined spaces.
- Extension length: 3.50 to 5.50 m
- For even greater heights, the prop can be lengthened to 7.50 m or 11.0 m. In this case, allow for the reduction in load-bearing capacity as shown in the graph!
- Meets DIBT - German Institute for Construction Engineering - approvals criteria.
- Special aluminium profile tubes give the prop its low weight of only 47.0 kg.



9745-211-01

- Can be telescoped in 10 cm increments, with continuous fine adjustment.
- All parts are captively integrated - telescopic tube has anti-dropout safeguard.

Follow the directions in the 'Eurex 60 550' User Information booklet!



98003-314-02

Adapting to different heights

- The 3 different heights of frame 0.90 m, 1.20 m and 1.80 m enable coarse adjustment to within 30 cm.
- Fine adjustment, down to the last millimetre, is done using the various head and base units.

NOTICE

The structural design of the load-bearing tower may make it necessary to plan for shorter extension lengths. See the section headed Structural design for details.

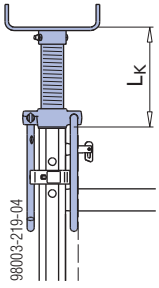
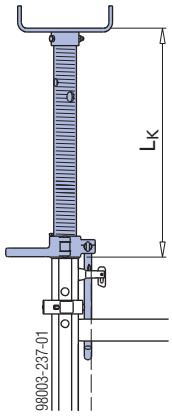
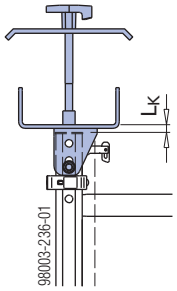
System dimensions

on multi-storey towers

- Use **Table A** in the section headed Height ranges and materials schedule of the relevant use case.
- Ensure sufficient stripping clearance!
  The values L_K min. and L_F min. do not take account of the stripping clearance!

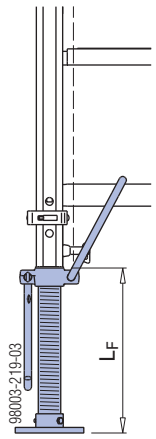
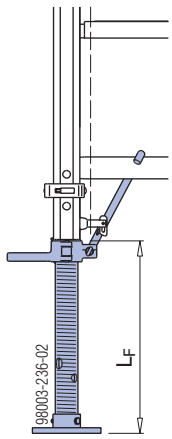
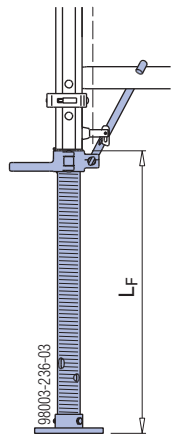
Note:

Table B: Head zone

	Screw jack U-head and 4-way screw-jack head	Heavy-duty screw jack 70 top			U-head D
					
		Frames in the top 'storey'			
	1.80 / 1.20 / 0.90m	1.80m	1.20m	0.90m	1.80 / 1.20 / 0.90m
L_K max.	45.8	71.2	71.2	71.2	1.6
L_K min.	7.8	8.4	8.4	24.9	1.6

Values in cm
Min. values with no stripping clearance

Table C: Base zone

	Screw jack foot			Heavy-duty screw jack 70 + Split nut B			Heavy-duty screw jack 130 + Split nut B		
									
				Frames in the base 'storey'					
	1.80m	1.20m	0.90m	1.80m	1.20m	0.90m	1.80m	1.20m	0.90m
L_F max.	46.2	46.2	46.2	71.2	71.2	71.2	131.2	131.2	--
L_F min.	8.2	8.2	26.3	8.8	28.2	58.1	40.0	100.0	--

Values in cm
Min. values with no stripping clearance

on single-storey towers

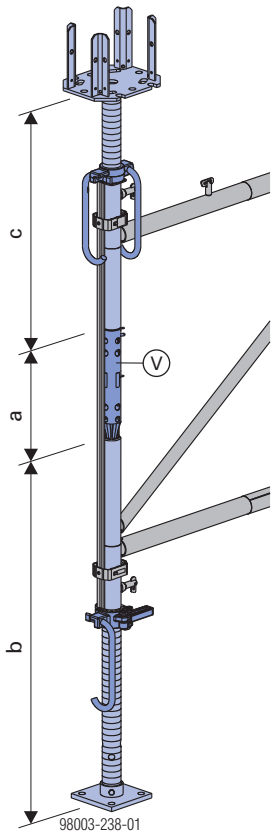
Note:

For towers consisting of one 'storey' only, the min. values L_K and L_F stated for the screwjack head and base units in the Tables B and C will often not be reached.

Reason: The lengths of the screwjack head and base units and the integrated connection sleeve in the frame add up to a larger dimension than the height of the frame.

These constraint points have already been allowed for in the operational height data given in Table A.

Close-up: Sectional view of frame tube



	a	b	c
Connection sleeve	30.5	--	--
Screw jack foot	--	69.2	--
Heavy-duty screw jack 70	--	101.2	--
Heavy-duty screw jack 130	--	173.0	--
Screw jack U-head	--	--	68.8
4-way screw-jack head	--	--	68.8
Heavy-duty screw jack 70 top	--	--	100.9
U-head D	--	--	10.0

V Connection sleeve

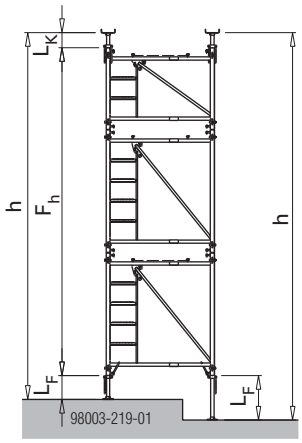
Height ranges and materials schedule

NOTICE

- The minimum values $h_{min.}$ given in Table A are only applicable if the biggest possible frame is always used in the base 'storey'.
- Note minimum lowering distance (head + foot)! (U-head: 6 cm, 4-way head: 16 cm)
  - The **lowering distance of 6 cm** is already allowed for in Table A!
- L_K and L_F are in accordance with the structural design. In some cases, the structural design will permit greater extension lengths - see Tables B and C in the section headed System dimensions.
- Choose the right **diagonal crosses** for the distance between the frames.
- The schedule of materials **does not include scaffold planking units**.
  - The scaffold planking units have to be planned separately for each set-up configuration. Provided they are located in the same level, they replace the Diagonal crosses 9.xxx needed for horizontal bracing. This reduction in the number of diagonal crosses needed must be allowed for in the schedule of materials.

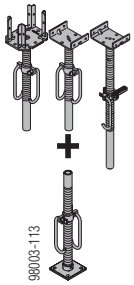
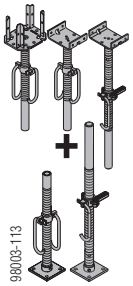
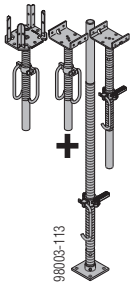
Frame-sizes up to 1.80 m

Note:
Also comply with the section headed Structural design!



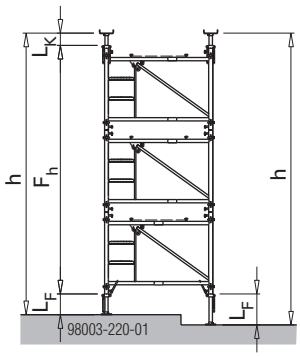
1.80m, 1.20m and 0.90m frames are possible here.

Table A

Fixed height of frame F_h [m]	Variant 1 L_K = max. 30 cm L_F = max. 30 cm			Variant 2 L_K = max. 45 cm L_F = max. 70 cm			Variant 3 L_K = max. 45 cm L_F = max. 130 cm			Basic items					
	 h [m] min. - max.	4-way screw-jack head, Screw jack U-head or Heavy-duty screw jack 70 top	Screw jack foot	 h [m] min. - max.	4-way screw-jack head, Screw jack U-head or Heavy-duty screw jack 70 top	Screw jack foot or Heavy-duty screw jack 70 + Split nut B	 h [m] min. - max.	4-way screw-jack head, Screw jack U-head or Heavy-duty screw jack 70 top	Heavy-duty screw jack 130 + Split nut B	Staxo 100 frame 0.90m	Staxo 100 frame 1.20m	Staxo 100 frame 1.80m	Diagonal cross 9.xxx	Diagonal cross 12.xxx	Diagonal cross 18.xxx
1.20	1.75 - 1.80	4	4	2.06 - 2.35	4	4	2.78 - 2.95	4	4	-	2	-	1	2	-
1.80	2.02 - 2.40	4	4	2.06 - 2.95	4	4	2.78 - 3.55	4	4	-	-	2	1	-	2
1.80	2.20 - 2.40	4	4	2.52 - 2.95	4	4	---	4	4	4	-	-	5	-	-
2.10	2.32 - 2.70	4	4	2.52 - 3.25	4	4	3.24 - 3.85	4	4	2	2	-	3	2	-
2.40	2.62 - 3.00	4	4	2.82 - 3.55	4	4	3.54 - 4.15	4	4	-	4	-	1	4	-
2.70	2.92 - 3.30	4	4	2.92 - 3.85	4	4	3.24 - 4.45	4	4	2	-	2	3	-	2
3.00	3.22 - 3.60	4	4	3.22 - 4.15	4	4	3.54 - 4.75	4	4	-	2	2	1	2	2
3.30	3.52 - 3.90	4	4	3.52 - 4.45	4	4	4.44 - 5.05	4	4	2	4	-	4	4	-
3.60	3.82 - 4.20	4	4	3.82 - 4.75	4	4	4.14 - 5.35	4	4	-	-	4	1	-	4
3.90	4.12 - 4.50	4	4	4.12 - 5.05	4	4	4.44 - 5.65	4	4	2	2	2	4	2	2
4.20	4.42 - 4.80	4	4	4.42 - 5.35	4	4	4.74 - 5.95	4	4	-	4	2	2	4	2
4.50	4.72 - 5.10	4	4	4.72 - 5.65	4	4	5.04 - 6.25	4	4	2	-	4	4	-	4
4.80	5.02 - 5.40	4	4	5.02 - 5.95	4	4	5.34 - 6.55	4	4	-	2	4	2	2	4
5.10	5.32 - 5.70	4	4	5.32 -6.25	4	4	5.64 - 6.85	4	4	2	4	2	4	4	2
5.40	5.62 - 6.00	4	4	5.62 - 6.55	4	4	5.94 - 7.15	4	4	-	-	6	2	-	6
5.70	5.92 - 6.30	4	4	5.92 - 6.85	4	4	6.24 - 7.45	4	4	2	2	4	4	2	4
6.00	6.22 - 6.60	4	4	6.22 - 7.15	4	4	6.54 - 7.75	4	4	-	4	4	2	4	4
6.30	6.52 - 6.90	4	4	6.52 - 7.45	4	4	6.84 - 8.05	4	4	2	-	6	4	-	6
6.60	6.82 - 7.20	4	4	6.82 - 7.75	4	4	7.14 - 8.35	4	4	-	2	6	2	2	6
6.90	7.12 - 7.50	4	4	7.12 - 8.05	4	4	7.44 - 8.65	4	4	2	4	4	4	4	4
7.20	7.42 - 7.80	4	4	7.42 - 8.35	4	4	7.74 - 8.95	4	4	-	-	8	2	-	8
7.50	7.72 - 8.10	4	4	7.72 - 8.65	4	4	8.04 - 9.25	4	4	2	2	6	4	2	6
7.80	8.02 - 8.40	4	4	8.02 - 8.95	4	4	8.34 - 9.55	4	4	-	4	6	2	4	6
8.10	8.32 - 8.70	4	4	8.32 - 9.12	4	4	8.64 - 9.85	4	4	2	-	8	4	-	8
8.40	8.62 - 9.00	4	4	8.62 - 9.55	4	4	8.94 - 10.15	4	4	-	2	8	2	2	8
8.70	8.92 - 9.30	4	4	8.92 - 9.85	4	4	9.24 - 10.45	4	4	2	4	6	4	4	6
9.00	9.22 - 9.60	4	4	9.22 - 10.15	4	4	9.54 - 10.75	4	4	-	-	10	2	-	10
9.30	9.52 - 9.90	4	4	9.52 - 10.45	4	4	9.84 - 11.05	4	4	2	2	8	4	2	8

Frame-sizes up to 1.20 m

Note:
Also comply with the section headed Structural design!

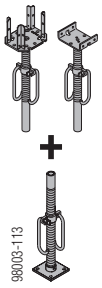


1.20m and 0.90m frames are possible here.

NOTICE

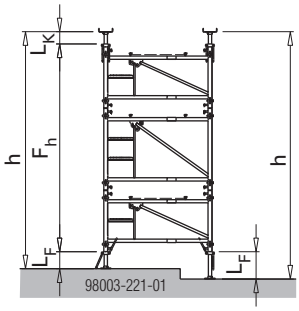
- Greater extension lengths are possible (up to max. 45 cm) if the head units and/or base units are given suitable scaffold-tube bracing.
- In principle, it is possible to use Heavy-duty screw jacks 70 and Heavy-duty screw jacks 70 top. However, when these are combined with the small frames, you must observe the limitations given in Tables B and C of the section headed Adapting to different heights.

Table A

Fixed height of frame F_h [m]	L_K = max. 30 cm L_F = max. 30 cm  h [m] min. - max.	4-way screw-jack head or Screw jack U-head	Screw jack foot	Basic items Staxo 100 frame 0.90m	Staxo 100 frame 1.20m	Diagonal cross 9.xxx	Diagonal cross 12.xxx
1.20	1.75 - 1.80	4	4	-	2	1	2
1.80	2.18 - 2.40	4	4	4	-	5	-
2.10	2.32 - 2.70	4	4	2	2	3	2
2.40	2.62 - 3.00	4	4	-	4	1	4
2.70	3.10 - 3.30	4	4	6	-	8	-
3.00	3.22 - 3.60	4	4	4	2	6	2
3.30	3.52 - 3.90	4	4	2	4	4	4
3.60	3.82 - 4.20	4	4	-	6	2	6
3.90	4.12 - 4.50	4	4	6	2	8	2
4.20	4.42 - 4.80	4	4	4	4	6	4
4.50	4.72 - 5.10	4	4	2	6	4	6
4.80	5.02 - 5.40	4	4	-	8	2	8
5.10	5.32 - 5.70	4	4	6	4	8	4
5.40	5.62 - 6.00	4	4	4	6	6	6
5.70	5.92 - 6.30	4	4	2	8	4	8
6.00	6.22 - 6.60	4	4	-	10	2	10
6.30	6.52 - 6.90	4	4	6	6	8	6
6.60	6.82 - 7.20	4	4	4	8	6	8
6.90	7.12 - 7.50	4	4	2	10	4	10
7.20	7.42 - 7.80	4	4	-	12	2	12
7.50	7.72 - 8.10	4	4	6	8	8	8
7.80	8.02 - 8.40	4	4	4	10	6	10
8.10	8.32 - 8.70	4	4	2	12	4	12
8.40	8.62 - 9.00	4	4	-	14	2	14
8.70	8.92 - 9.30	4	4	6	10	8	10
9.00	9.22 - 9.60	4	4	4	12	6	12
9.30	9.52 - 9.90	4	4	2	14	4	14

Frame-sizes up to 1.20 m (with 0.90 m frames in the top and bottom 'storeys')

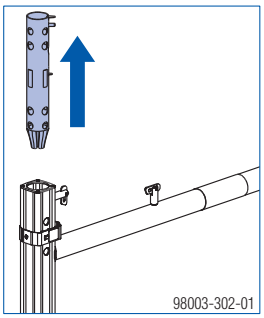
Note:
Also comply with the section headed Structural design!



1.20m and 0.90m frames are possible here.

NOTICE

- The minimum values given in the table can only be obtained if the integrated connection sleeve is removed from the frame.
  See the section headed Removing and refitting the connection sleeve.

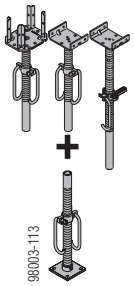


- In the top and bottom 'storeys', 0.90m frames must be used.
- Greater extension lengths up to max. 40 cm are possible with reduced capacity or when the head units and base units have appropriate scaffold-tube bracing.
- In principle, it is possible to use Heavy-duty screw jacks 70 and Heavy-duty screw jacks 70 top. However, when these are combined with the small frames, you must observe the limitations given in Tables B and C of the section headed Adapting to different heights.

WARNING
No edge protection for working beneath the superstructure!
When Staxo frames 0.90m are used in the topmost 'storey', it is not possible to install edge protection compliant with legal requirements.
➤ Use a personal fall-arrest system!

For suitable attachment points for the PFAS see the section headed The Staxo 100 frame in detail!

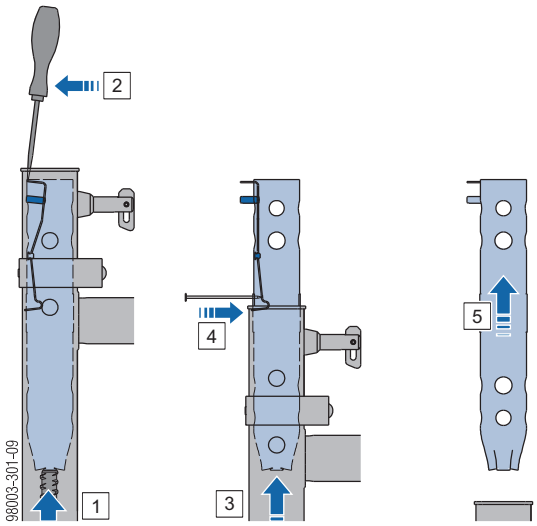
Table A

Fixed height of frame F_h [m]	L_K = max. 25 cm L_F = max. 25 cm  h [m] min. - max.	4-way screw-jack head or Screw jack U-head	Screw jack foot	Basic items Staxo 100 frame 0.90m	Staxo 100 frame 1.20m	Diagonal cross 9.xxx	Diagonal cross 12.xxx
1.80	2.18 - 2.30	4	4	4	-	5	-
2.70	3.08 - 3.20	4	4	6	-	8	-
3.00	3.38 - 3.50	4	4	4	2	6	2
3.60	3.98 - 4.10	4	4	8	-	10	-
3.90	4.28 - 4.40	4	4	6	2	8	2
4.20	4.58 - 4.70	4	4	4	4	6	4
4.50	4.88 - 5.00	4	4	10	-	15	0
4.80	5.18 - 5.30	4	4	8	2	13	2
5.10	5.48 - 5.60	4	4	6	4	11	4
5.40	5.78 - 5.90	4	4	4	6	9	6
5.70	6.08 - 6.20	4	4	10	2	15	2
6.00	6.38 - 6.50	4	4	8	4	13	4
6.30	6.52 - 6.80	4	4	6	6	11	6
6.60	6.82 - 7.10	4	4	4	8	9	8
6.90	7.12 - 7.40	4	4	10	4	16	4
7.20	7.42 - 7.70	4	4	8	6	14	6
7.50	7.72 - 8.00	4	4	6	8	12	8
7.80	8.02 - 8.30	4	4	4	10	10	10
8.10	8.32 - 8.60	4	4	10	6	16	6
8.40	8.62 - 8.90	4	4	8	8	14	8
8.70	8.92 - 9.20	4	4	6	10	12	10
9.00	9.22 - 9.50	4	4	4	12	10	12
9.30	9.52 - 9.80	4	4	10	8	17	8

Removing and refitting the connection sleeve

Removing

1) Using a tie rod, push the connection sleeve upwards until it hits the stop.
2) Use a screwdriver to press the spring out of the way.
3) Pull out the connection sleeve as far as the stop.
4) Stick a pointed object (e.g. a nail) into the hole in the connection sleeve until the spring no longer reaches over the stop.
5) Completely pull out the connection sleeve.



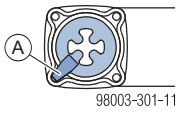
Safely stow away the loose connection sleeve so that it can be reinstalled in the Staxo 100 frame when work is finished.

Animation:
https://player.vimeo.com/video/267754531

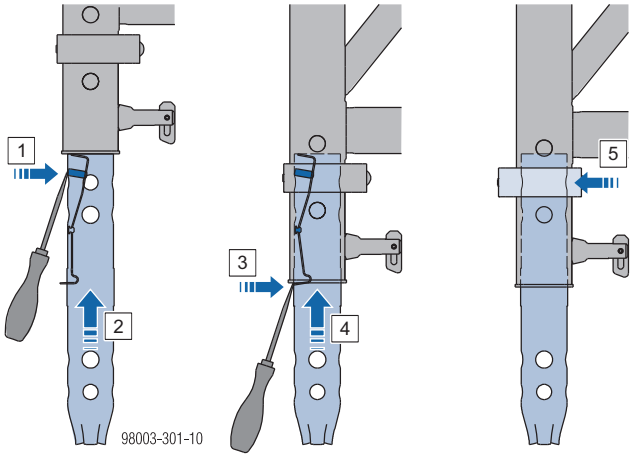
Installation

1) Use a screwdriver to press the spring out of the way.
2) Push the connection sleeve into the frame tube from below, until it hits the stop.

Make sure that the spring **(A)** is correctly positioned.



3) Use a screwdriver to press the rear stop out of the way.
4) Keep pushing in the connection sleeve until the spring snaps into place.
5) Press the yellow locking spring towards the outside. This fixes the connection sleeve in the frame.



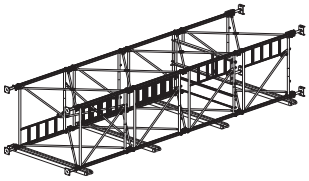
The Staxo 100 frame is now back in its as-delivered condition.

Animation:
https://player.vimeo.com/video/267754843

Assembly

Set-up configurations

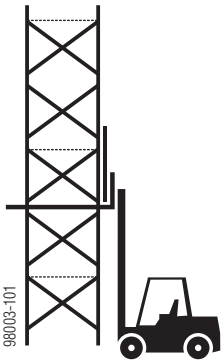
Horizontal assembly (Standard set-up)



98003-213-01

Assembling in the upright

with Fork lift shifting device TG



98003-101

by hand

98003-294-01

General instructions for site-erection

WARNING

Risk of falling at open edges!

- After removal of the fall protection, a personal fall-arrest system must be used.
- Suitable attachment points must be defined by an approved person appointed by the contractor.
- As part of a risk assessment, evaluate the use of a personal fall-arrest system. Check the stability of the load-bearing tower.

For suitable attachment points for the PFAS see the section headed The Staxo 100 frame in detail!

A fall arrester such as the FreeFalcon provides a mobile attachment point for the PFAS.

WARNING

Danger from falling objects!

- During all operations, ensure that no other persons are allowed anywhere near the area where assembly is being carried out!
- Mark or cordon off the area concerned.
- It is forbidden to enter, pass through or be in the danger zone underneath a suspended load.
- Secure all parts (e.g. with ropes, etc.) so that they cannot drop.

WARNING

Risk of tipping over!

If loads (e.g. primary beams, secondary beams, formwork sheets) are not centred, stability can be impaired!!

- Always centre all loads.
- Make sure that the structure is sufficiently stable.
- Consider the loads from slab stop-ends.

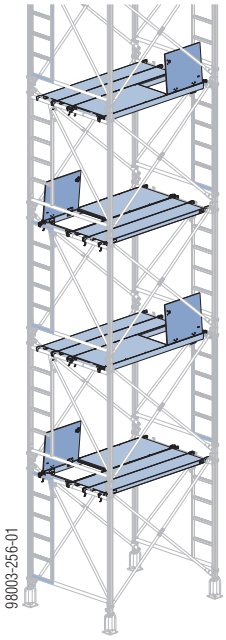
Note:

- The terms 'vertical', 'horizontal', ‘top’ or ‘bottom’ are always used here with reference to their installation situation in the finished, upright tower.
- In horizontal assembly, do not pre-assemble units taller than 10 m.
- In vertical assembly, load-bearing towers taller than 6 m must be back-stayed or connected to other towers.
- The job of erecting the load-bearing tower begins with the bottom (i.e. first) 'storey'.
- Erect the load-bearing tower in the vertical on ground that is statically capable of supporting the load.
- Fitting scaffold planking units in the topmost or the next 'storey' down, makes it easier to complete assembly work on the tower-frame superstructure.

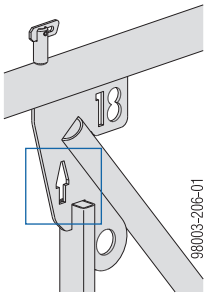
Note:

When erecting the tower, make sure that the frames are in the correct position.

- Make sure that the climbing rungs are in the correct position relative to the scaffold planking units. Seen from outside, the ladder must always be on the left-hand side.



- Arrow on the frame must point up.
  (= yellow locking spring down)



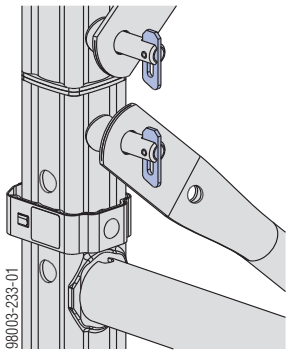
NOTICE

The geometry has to be ensured by **horizontal bracing** with diagonal crosses whenever scaffold planking is not installed or if the scaffold planking is to be removed prior to final deployment:

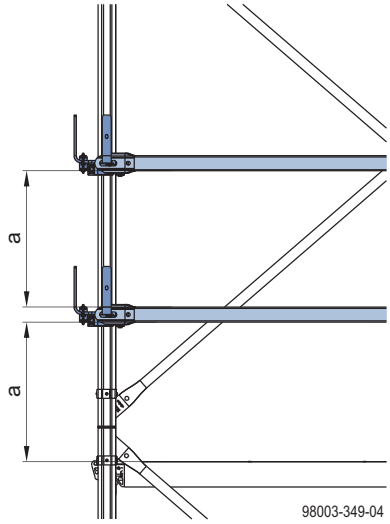
- in the 1st and last-but-one or last 'storey', and every 10 m
- if there is a horizontal restraint for the tower (even a temporary one)
- if local loads need to be transferred (e.g. from attaching the tower to the crane after it has been ground-assembled in the horizontal)

For detailed design-load information, see the type test.

- Slide the diagonal cross onto the safety-catch bolt and immediately secure it with the safety catch.



- Make sure that installation height of the railings complies with applicable regulations!



a ... e.g. installation height ≤ 47 cm (to EN 12811-2)

Horizontal assembly

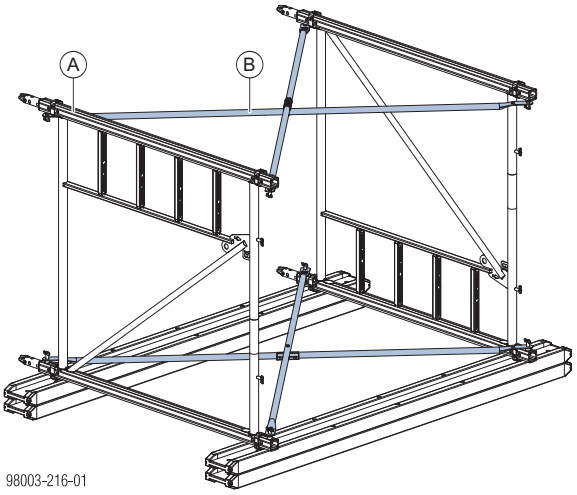
Follow the instructions in the section headed General instructions for site-erection!

Erecting the first storey

Bracing the frames

➤ Stand Staxo 100 frames on their side on supporting timbers.

➤ Slot diagonal crosses onto the safety-catch bolts of the **vertical** frame tube and fix them in place.



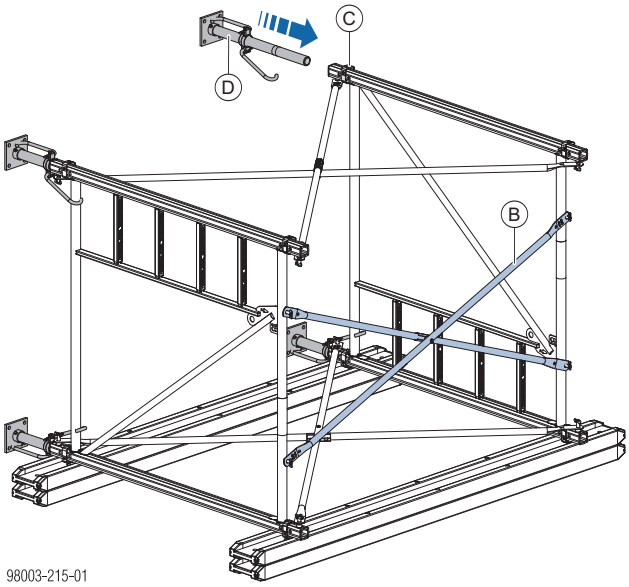
A Staxo 100 frame
B Diagonal cross

➤ Slot diagonal crosses onto the safety-catch bolts of the **horizontal** frame tubes, and fix them in place.

Installing screw jack feet

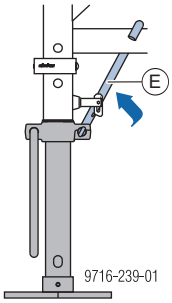
➤ Press the yellow locking springs on the frame inwards (to open) – the connection sleeves can now be moved freely.

➤ Push in the screw-jack foot.



B Diagonal cross
C Locking spring (yellow)
D Screw jack foot

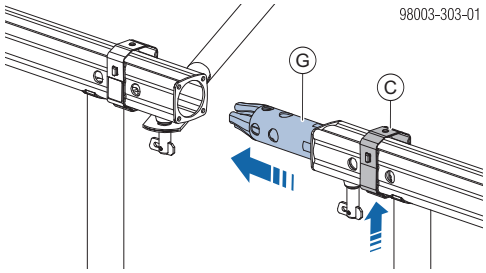
➤ Slot the fixing handle of the screw jack foot into the cross tube of the frame.



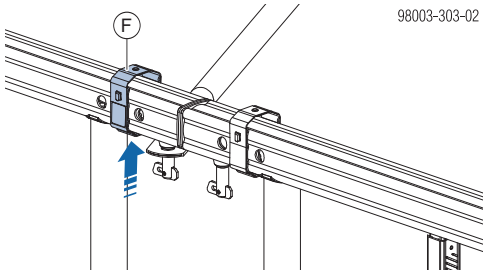
E Fixing handle

Erecting further storeys

➤ Lock the connection sleeves on the frames that you are about to add, by pressing the yellow locking springs towards the outside.



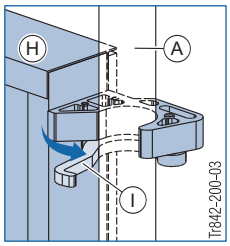
➤ Place this frame onto the finished section and push the blue locking spring of the bottom frame outward (to join the frames).



C Locking spring (yellow)
F Locking spring (blue)
G Connection sleeve

➤ Fit and secure diagonal crosses in the same way as in the first 'storey'.

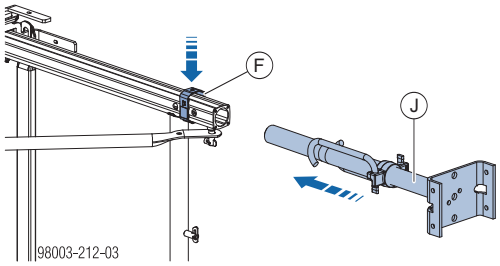
➤ Install scaffold planking units where needed and close the anti-liftout guard.



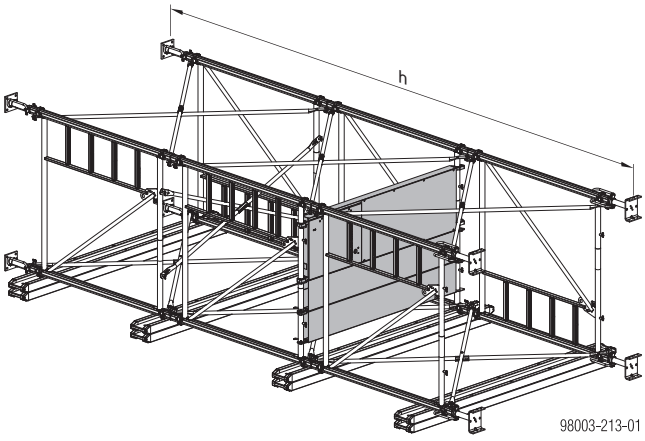
A Staxo 100 frame
H Scaffold planking
I Anti-liftout guard, scaffold planking

Installing screw jack U-heads

➤ Press the blue locking springs of the top frames towards the inside (to open them).
➤ Insert the screw-jack U-head.



G Locking spring (blue)
J Screw jack U-head



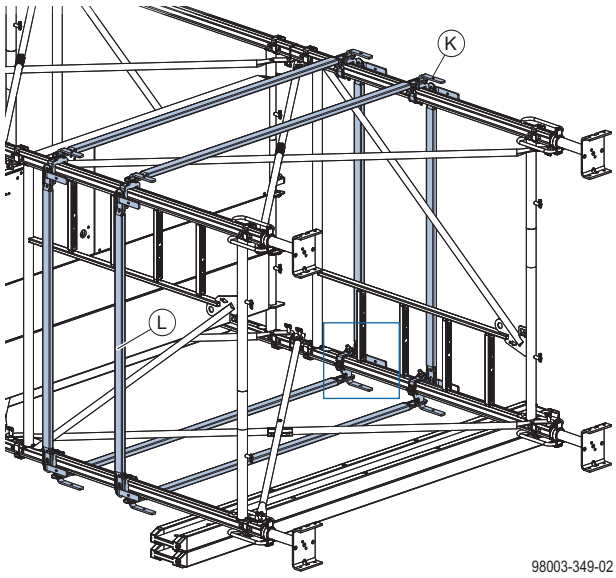
h ... max. 10 m

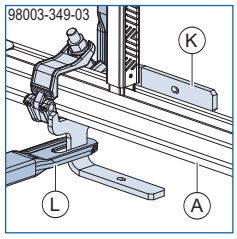
Mounting the railing

➤ Install Staxo 100 railing couplers on Staxo 100 frames.

Tightening torque of the clamping bolt of the Staxo 100 railing coupler: **50 Nm**

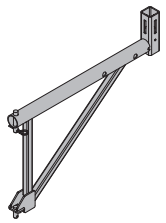
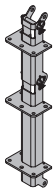
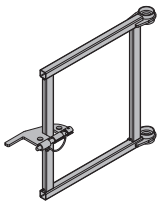
➤ Engage Staxo 100 railing struts in Staxo 100 railing couplers.

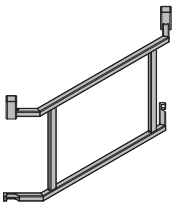
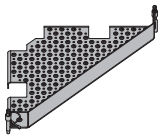




A Staxo 100 frame
K Staxo 100 railing coupler
This is not an EN 74 compliant connection
L Staxo 100 railing strut

Extension with brackets

Bracket 60cm	Bracket adapter	Front railing Bracket 60cm
		
For making a platform on the Staxo 100 tower.	For fixing the Bracket 60cm to the Staxo 100 tower.	For making an end-of-platform side-guard.

Corner railing	Corner plank
	
For making an outer railing at the corner of the tower.	For making a platform in the corner area of the tower.

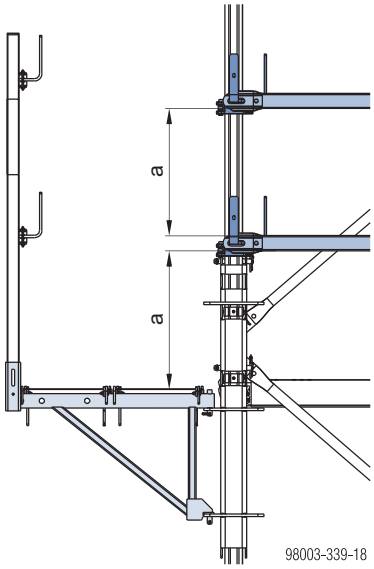
Permitted service load: 1.5 kN/m² (150 kg/m²) with influence width of **max. 2.0 m**
Load Class 2 to EN 12811-1

NOTICE

- The transfer of concrete loads into the bracket is not permitted!
- It is not permissible for service loads to be transferred into the bracket during pouring!
- Installation is possible only on Staxo 100 frames 1.20m and 1.80m!

NOTICE

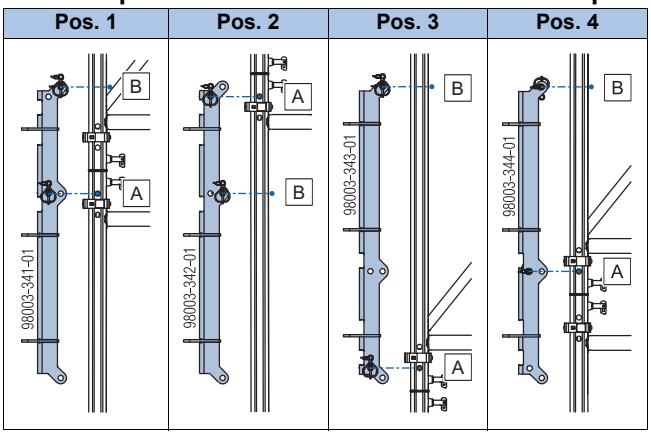
Make sure that installation heights comply with applicable regulations!



a ... e.g. installation height ≤ 47 cm (to EN 12811-2)

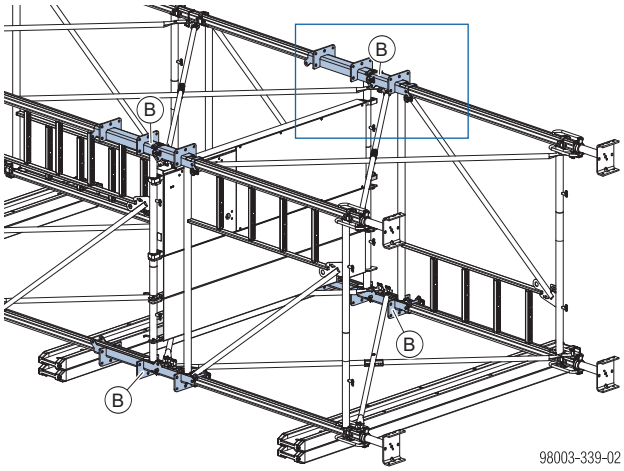
Installing bracket adapters

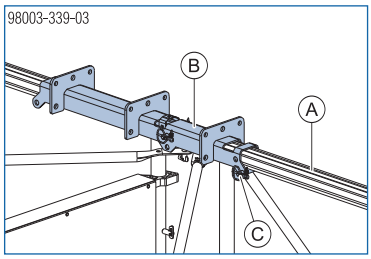
Possible positions of the Staxo 100 bracket adapter



A ... For fixing to the Staxo 100 frame
B ... For securing to the Staxo 100 frame

➤ In the area of the frame joint, fix the Staxo 100 bracket adapter with a Pin D16/130 and linch pin and secure it with a second Pin D16/130 and linch pin.

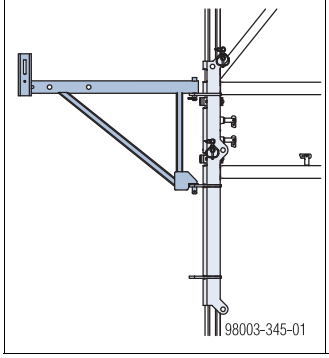
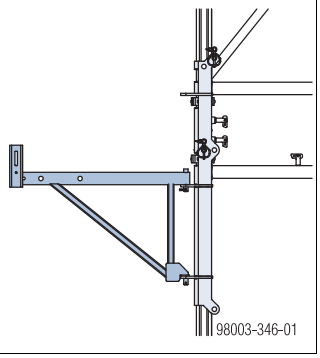




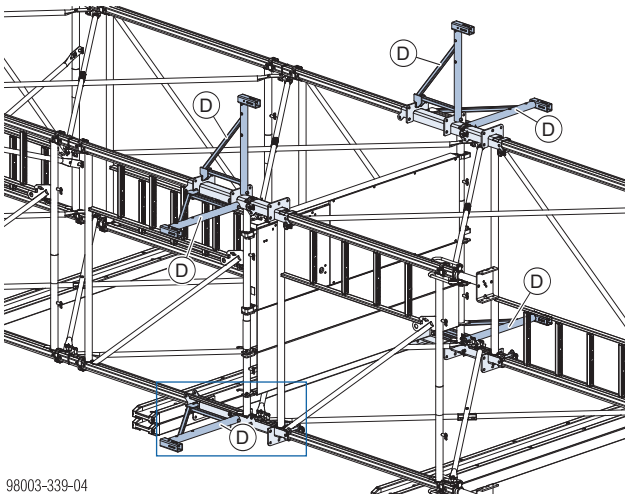
A	Staxo 100 frame
B	Staxo 100 bracket adapter
C	Pin D16/130 + linch pin

Installing the bracket

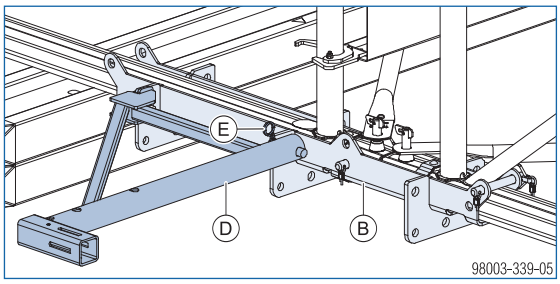
Possible positions of the Staxo 100 bracket 60cm

Pos. 1	Pos. 2
 98003-345-01	 98003-346-01

➤ Engage a Staxo 100 bracket 60cm in the bracket adapter and secure with Spring cotter D3.



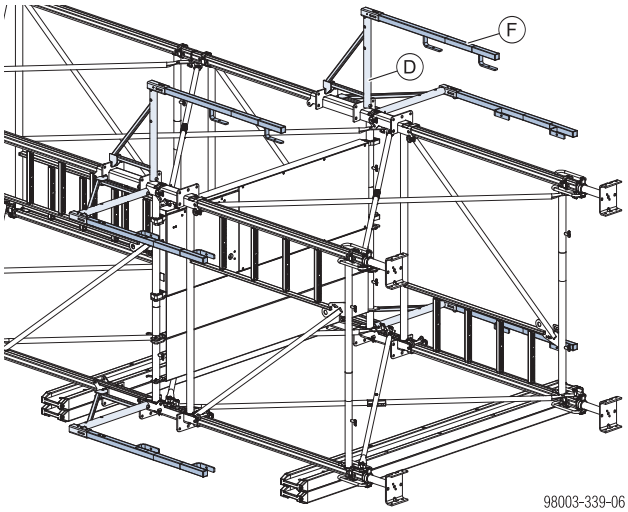
98003-339-04



98003-339-05

B Staxo 100 bracket adapter
D Staxo 100 bracket 60cm
E Spring cotter D3 with double eye

➤ Push on the Handrail post XP 1.20m until it locks ('Easy-Click' function).



98003-339-06

D Staxo 100 bracket 60cm
F Handrail post XP 1.20m

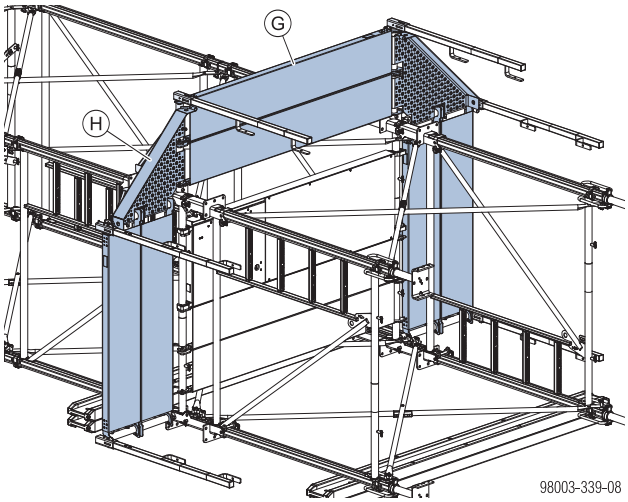
Follow the directions in the 'Xsafe edge protection XP' User Information booklet.

- The locking mechanism must engage.
- The railing shackles must be facing towards the inside of the building.

Mounting the scaffold planking units

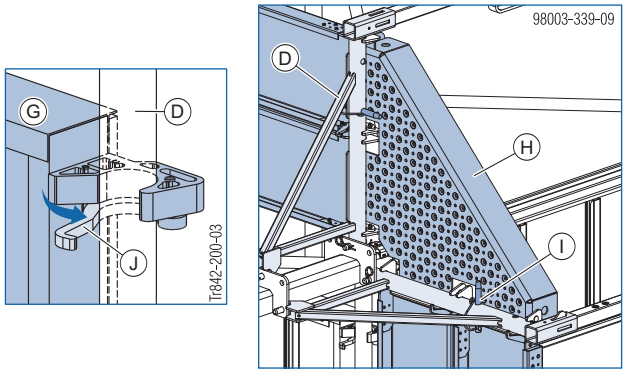
➤ Install 30 cm wide scaffold planking units and close the anti-liftout guard.

➤ Lay Staxo 100 corner planks in the brackets and secure against liftout with Spring locked connecting pins 16mm.



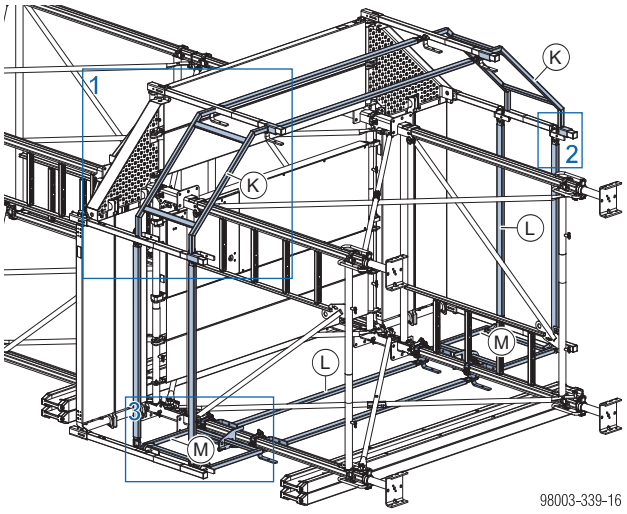
98003-339-08

Close-ups of underside:



D	Staxo 100 bracket 60cm
G	Scaffold planking 30cm
H	Staxo 100 corner plank
I	Spring locked connecting pin 16mm
J	Anti-liftout guard, scaffold planking

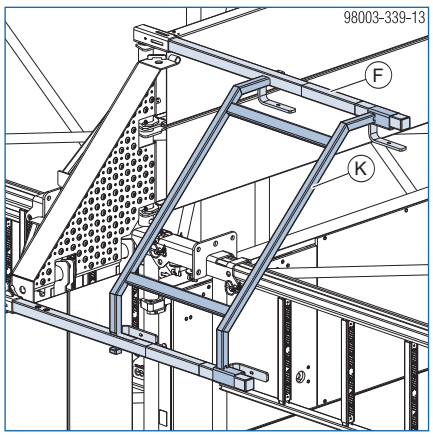
Mounting the railing



K	Staxo 100 corner railing
L	Staxo 100 railing strut
M	Staxo 100 front railing bracket 60cm

➤ Install Staxo 100 corner railings on Handrail posts XP.

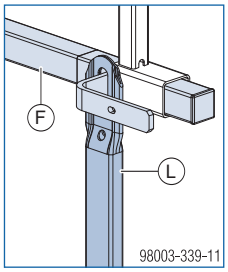
Close-up 1: Corner railing



F	Handrail post XP 1.20m
K	Staxo 100 corner railing

➤ Install Staxo 100 railing struts on Handrail posts XP.

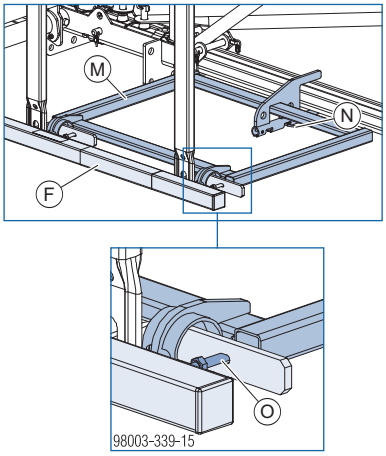
Close-up 2: Railing strut



F	Handrail post XP 1.20m
L	Staxo 100 railing strut

➤ Install the Staxo 100 front railing bracket 60cm on the Handrail post XP and secure against accidental liftout by inserting a bolt in the hook of the Handrail post XP.

Close-up 3: Front railing bracket



F	Handrail post XP 1.20m
M	Staxo 100 front railing bracket 60cm
N	Spring locked connecting pin 16mm
O	Hexagon bolt M8x60 + hexagon nut M8

The Spring locked connecting pin 16mm of the front railing must be on the outside.

For instructions on railing installation on the side without brackets, see the section headed Mounting the railing.

Lifting into the upright by crane

➤ Check before attaching the crane lifting tackle:

- All locking springs must be closed = pushed outwards (to link the frames).
- All safety catches must be closed.
- All base units must be secured.

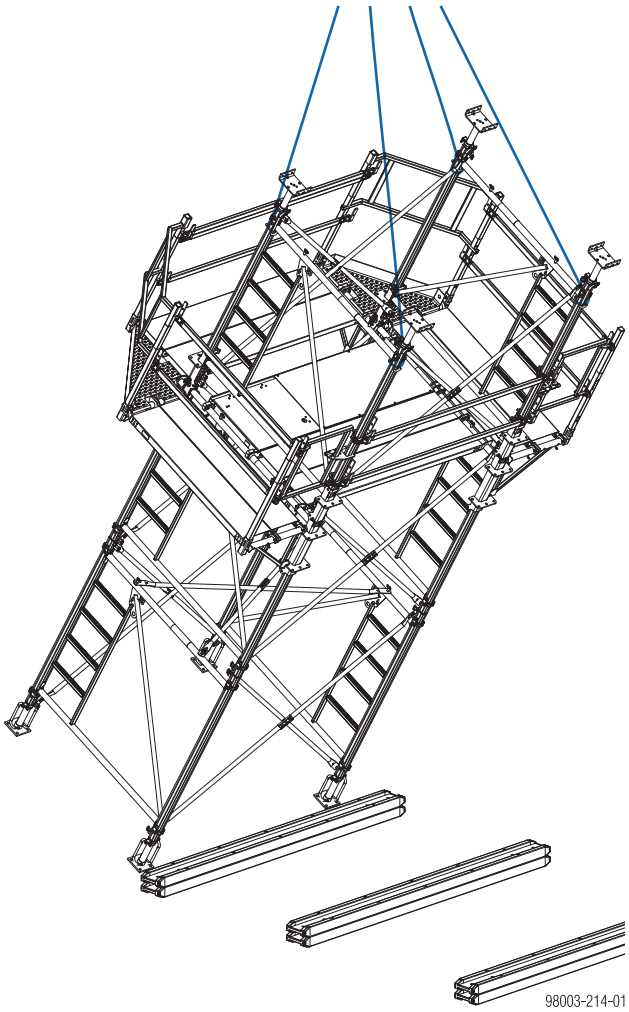
NOTICE

Max. extension length of the base units when the tower is being lifted into the upright: 30 cm!

NOTICE

- Erect the load-bearing tower in the vertical on ground that is statically capable of supporting the load.
- If the load-bearing tower is over 6 m high, brace it or combine it with other towers.

➤ Attach the crane lifting tackle to the frames of the top section and lift the entire tower into the upright.



When the tower is standing in the upright, check once again to make sure that all the safety catches are closed.

For lifting the tower into the upright, make sure that the crane suspension tackle can be detached safely by helpers positioned on the neighbouring towers or adjoining slabs.

Detaching the crane lifting tackle near ground level:

This method must not be used for **placing the tower back on its side**!

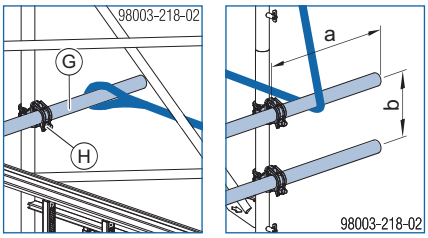
Items needed:

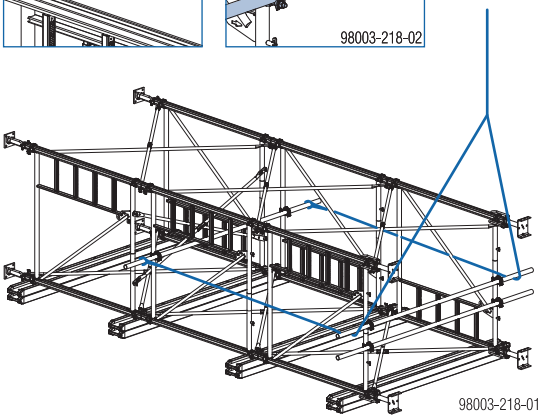
- 3 x Scaffold tube 48.3mm **(G)**
  - Minimum length: inter-frame space + 1.00 m
- 6 x Normal or Swivel couplers 48mm **(H)**

➤ Attach scaffold tubes:
- one between the bottom frames
- two between the top frames

➤ Attach two cables, chains or lifting straps to the bottom scaffold tube.

➤ Lead the cables, chains or lifting straps along the outside of the tower and between the top scaffold tubes.





a ... min. 0.5 m
b ... max. 0.2 m

After the tower has been lifted into the upright, the cables, chains or lifting straps are detached by a crewman working from ground level.

Assembling towers in the upright by hand

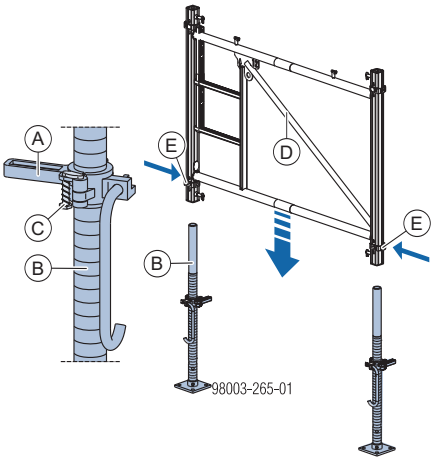
Follow the instructions in the section headed General instructions for site-erection!

Erecting the first storey

Installing screw jack feet

➤ Press the yellow locking springs on the frame inwards (to open) – the connection sleeves can now be moved freely.

➤ Push in the screw jack foot.

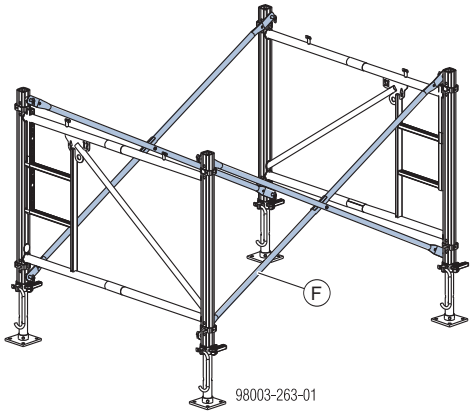


A	Split nut B
B	Screw jack foot (e.g. Heavy-duty screw jack 70)
C	Spring locking pin
D	Staxo 100 frame
E	Yellow locking spring

➤ Connect the frames together with diagonal crosses.

Bracing the frames

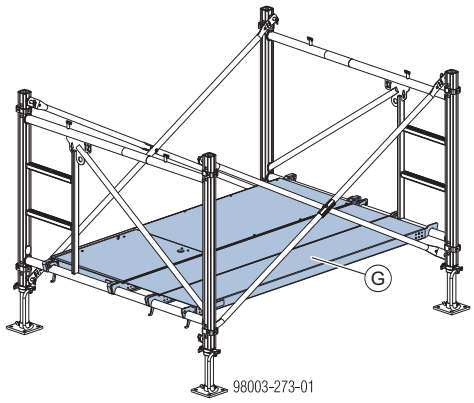
➤ Slot diagonal crosses onto the safety-catch bolts of the **vertical** frame tube and fix them in place.



F	Diagonal cross

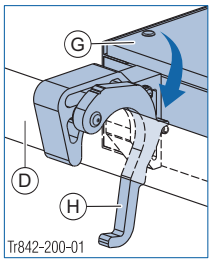
Mounting the scaffold planking units

➤ Place scaffold planking onto the bottom level.



G	Scaffold planking

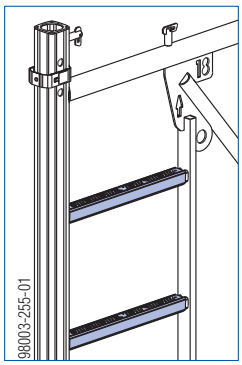
➤ Close the anti-liftout guard.



D	Staxo 100 frame
G	Scaffold planking
H	Anti-liftout guard, scaffold planking

Vertical access system

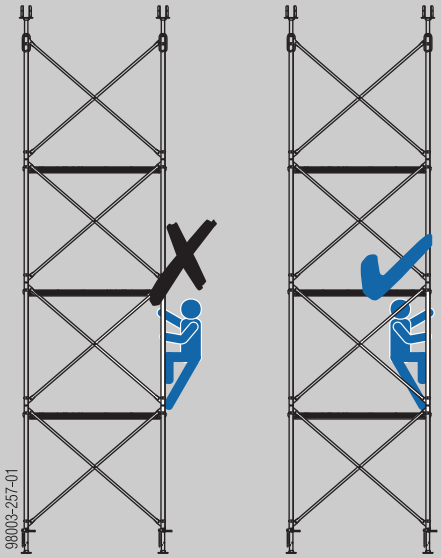
- integrated ladder
- good gripping possibility for transport by hand



WARNING

Never climb up or down the outside of the tower! You risk falling and/or causing the tower to tip over!

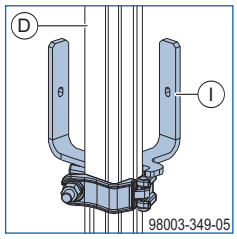
➤ Only ever climb up the inside of the tower. When doing this, make sure that the scaffold planking units are in the correct positions (as intermediate landings)!



Erecting further storeys

➤ Where a frame is going to be added, install Staxo 100 railing couplers.

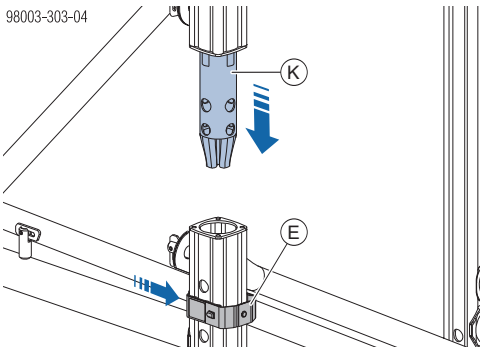
Tightening torque of the clamping bolt of the Staxo 100 railing coupler: **50 Nm**



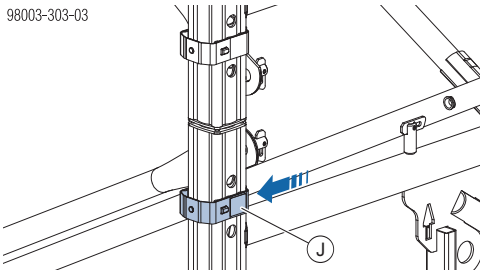
D Staxo 100 frame

I Staxo 100 railing coupler
This is not an EN 74 compliant connection

➤ Lock the connection sleeves on the frames that you are about to add, by pressing the yellow locking springs towards the outside.



➤ Place this frame onto the finished section and push the blue locking spring of the bottom frame outward (to join the frames).

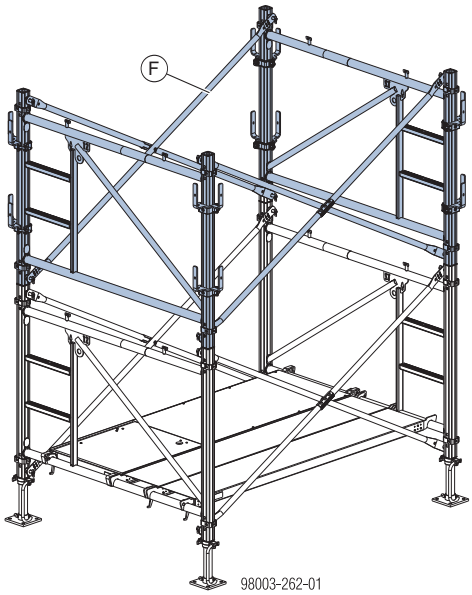


E Locking spring (yellow)

J Locking spring (blue)

K Connection sleeve

➤ Push diagonal crosses onto the bottom safety-catch bolts and secure them with the safety catches.

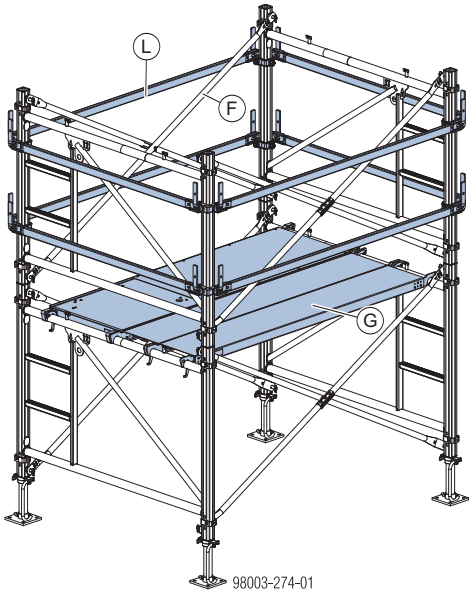


F Diagonal cross

➤ Raise the scaffold planking units to the next level.

➤ Engage Staxo 100 railing struts in Staxo 100 railing couplers.

➤ Push diagonal crosses onto the top safety-catch bolts and secure them with the safety catches.

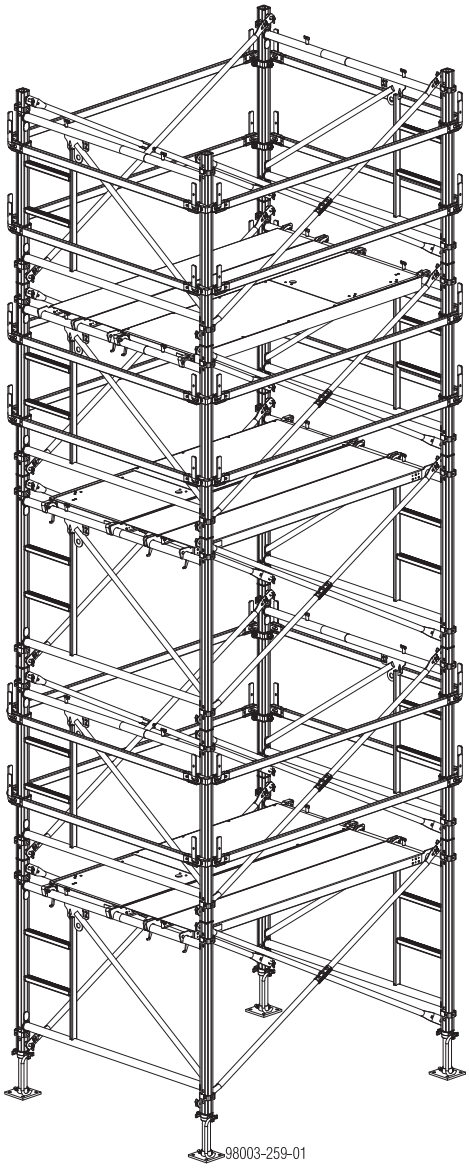


G Scaffold planking

F Diagonal cross

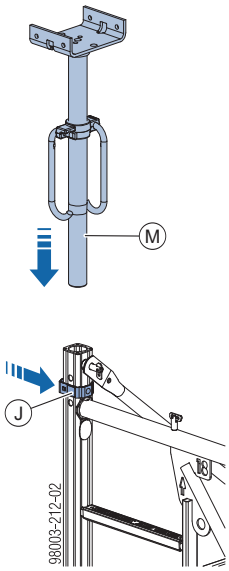
L Staxo 100 railing strut

➤ Repeat the steps up to the last 'storey'.



Installing screw jack U-heads

➤ Press the blue locking springs of the top frames towards the inside (to open them).
➤ Insert the Screw jack U-head.



J Blue locking spring
M Screw jack U-head

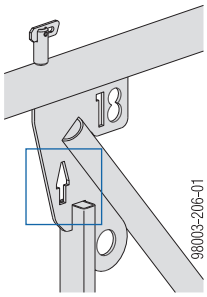
Assembling towers in the upright with leading guard rails

NOTICE

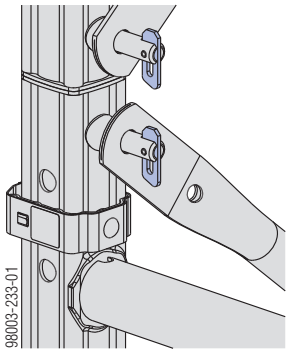
- Observe local regulations regarding the max. permissible lifting weight!
- Erect the load-bearing tower in the vertical on ground that is statically capable of supporting the load.
- If the load-bearing tower is over 6 m high, brace it or combine it with other towers.

As a rule:

- Arrow on the frame must point up.
  (= yellow locking spring down)

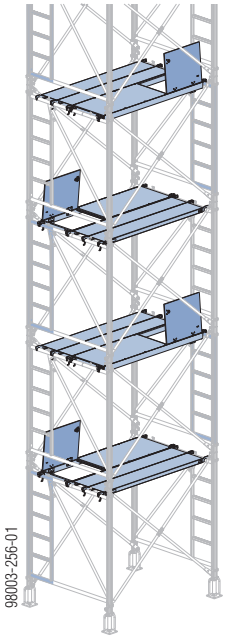


- Slide the diagonal cross onto the safety-catch bolt and immediately secure it with the safety catch.



NOTICE

When erecting the tower, make sure that the climbing rungs are in the correct position relative to the scaffold planking units.



Example with Heavy-duty screw jack 70 and 4-way screw-jack head.

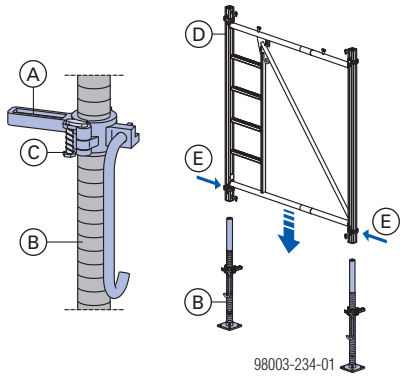
Erecting the first storey

➤ Place a Split nut B on the Heavy-duty screw jack 70, push the two halves together and secure it with the spring locking pin.

Make sure that the spring locking pin points downwards when it is secured.

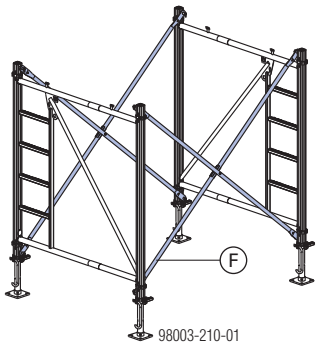
➤ Press the yellow locking springs on the frame inwards (to open) – the connection sleeves can now be moved freely.

➤ Insert the Heavy duty screw jacks 70 into the frames.



A Split nut B
B Heavy duty screw jack 70
C Spring locking pin
D Frame
E Yellow locking spring

➤ Link the frames with diagonal crosses.

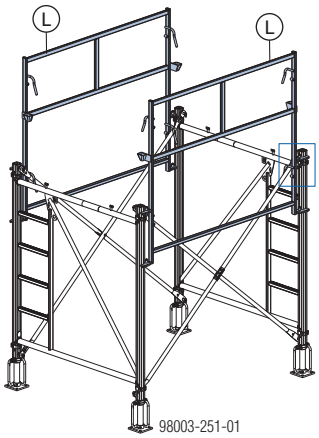


F Diagonal cross

Erecting the second storey

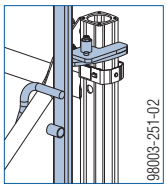
Fitting the leading guard rails

➤ Mount Staxo side railings above the diagonal crosses.

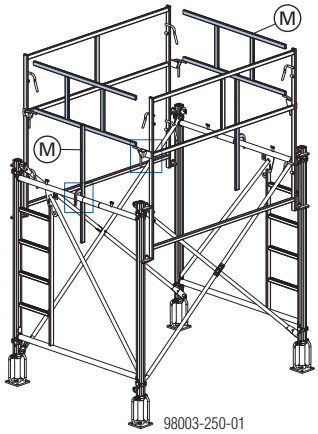


L Staxo side railing

Close-up of how to hang into place

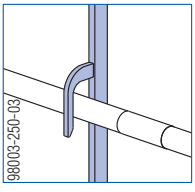


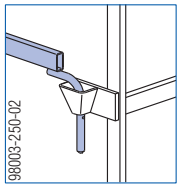
➤ Mount Staxo front railings above the Staxo 100 frames.



M Staxo front railing

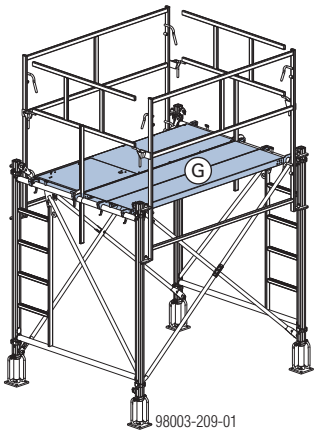
Close-up of how to hang into place





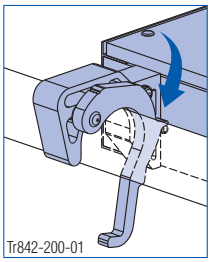
Mounting the scaffold planking units

➤ Place scaffold planking on the finished 'storey'.



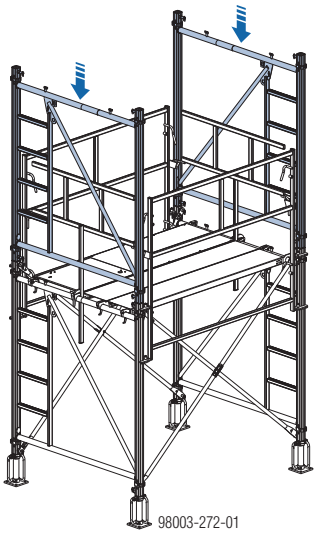
G Scaffold planking

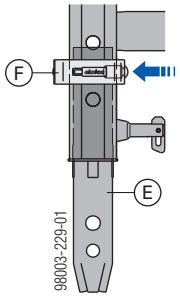
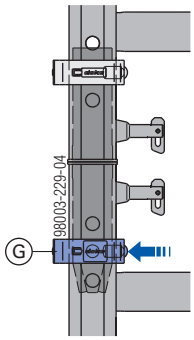
➤ Close the anti-liftout guard.



Stacking the frames

➤ Climb up onto the scaffold planking.
➤ Lock the connection sleeves on the frames that you are about to add, by pressing the yellow locking springs towards the outside.
➤ Place this frame onto the finished section and push the blue locking spring of the bottom frame outward (to join the frames).

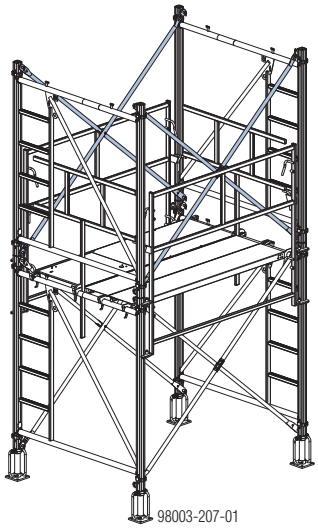


Yellow locking spring pushed toward the outside = connection sleeve fixed	Blue locking spring pushed toward the outside = frames linked in a tight, drop-out-proof connection
	

E Connection sleeve
F Yellow locking spring
G Blue locking spring

Bracing the frames in the vertical

➤ Fit and secure diagonal crosses in the same way as in the first 'storey'.

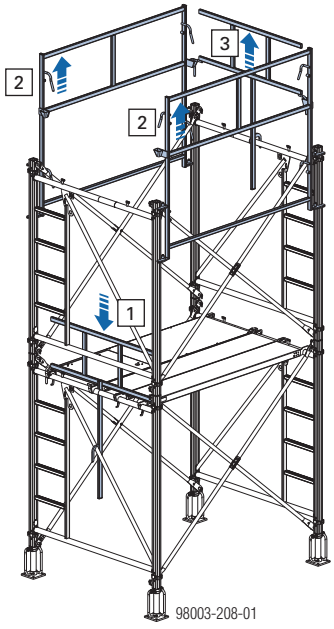


F Diagonal cross

Erecting the third 'storey'

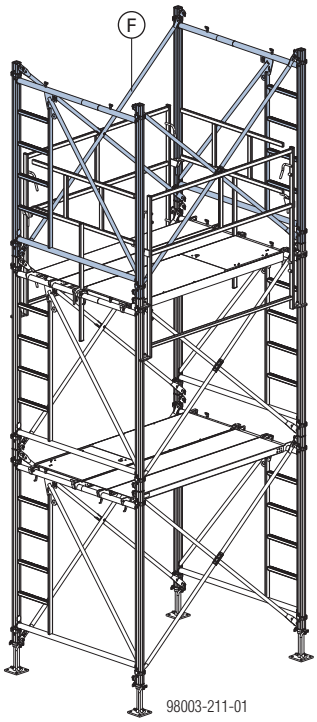
Raising the leading guard rails

1) Push the Staxo front railings down into the stand-by position.
2) Move the Staxo side railings up one section ('storey').
3) Move the Staxo front railings up again.



➤ Install the assembly planking.
➤ Climb up onto the scaffold planking.
➤ Fix the frames as on the 2nd section.

➤ Fit and secure diagonal crosses as on the 2nd section.



F Diagonal cross

To meet stringent safety requirements, the leading guard rails can be left in place on all levels (‘storeys’) with scaffold planking units.

Horizontal bracing

NOTICE

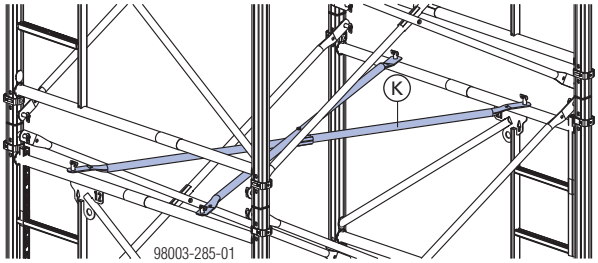
If no scaffold planking units are used, or if these are removed before the tower is finally put into use, the following rule applies:

Basic rule:

- Maintaining correct geometry by fixing a horizontal diagonal cross in the 1st and last-but-one or last 'storey', and every 10 m.
  Additionally as required e.g.
  - if there is a horizontal restraint for the tower (even a temporary one)
  - if local loads need to be transferred (e.g. from attaching the tower to the crane after it has been ground-assembled in the horizontal)

For detailed design-load information, see the type test.

➤ Slot diagonal crosses onto the safety-catch bolts of the horizontal frame tubes, and fix them in place.



K Diagonal cross

Erecting further storeys

➤ Add further frames in the same way as for the 3rd storey, and brace them in the vertical with diagonal crosses.

NOTICE

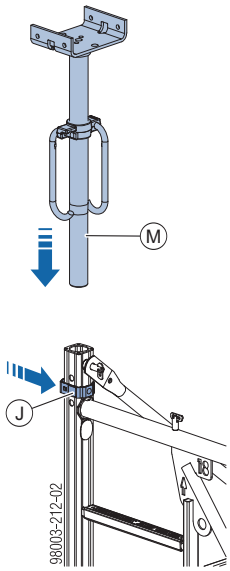
- If the load-bearing tower is over 6 m high, back-stay it or combine it with other towers.

Head zone

Fitting the head unit

➤ Press the blue locking springs of the top frames towards the inside (to open them).

➤ Insert the Screw jack U-head.



J Blue locking spring

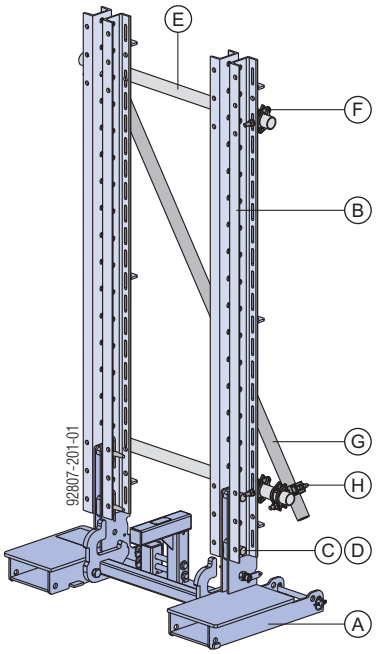
M Screw jack U-head

Assembling towers in the upright by forklift truck

Follow the instructions in the section headed General instructions for site-erection!

The Fork lift shifting device TG may only be used for erecting, dismantling and transporting Doka load-bearing towers Staxo, Staxo 40, Staxo 100, Staxo 100 eco, d2 and d3.

Follow the Operating Instructions!



Items needed:

Pos.	Designation	Q'ty
(A)	Fork lift shifting device TG	1
(B)	Multi-purpose waling WS10 Top50 2.00m	2
(C)	Connecting pin 10cm	4
(D)	Spring cotter 5mm	4
(E)	Scaffold tube 48.3mm 1.00m	2
(F)	Screw-on coupler 48mm 50	4
(G)	Scaffold tube 48.3mm 2.00m	1
(H)	Swivel coupler 48mm	2
	Operating cord, site-provided (optional)	1

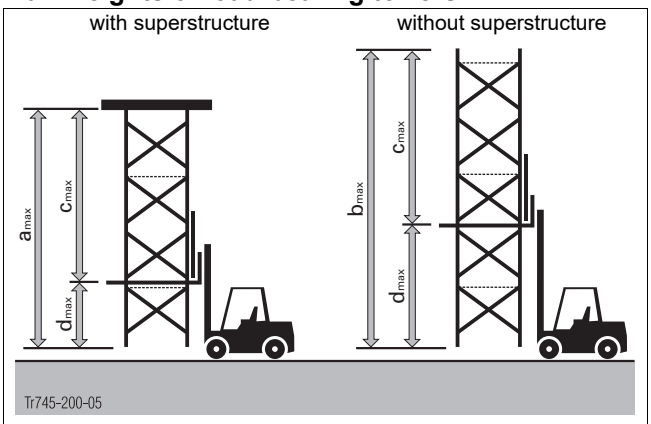
WARNING

➤ While load-bearing towers are being erected or dismantled, lifted or lowered: It is forbidden to walk or stand beneath suspended loads.

Perm. load-bearing capacity

Load on forklift	Perm. load on shifting device	
	with box-style fork extensions	with telescopic forks
4000 kg	1000 kg	600 kg
2000 kg	600 kg	600 kg

Max. heights of load-bearing towers



	Load on forklift **4000 kg**		Load on forklift **2000 kg**	
	when travelling	when lifting	when travelling	when lifting
a_{max}	7.20 m	9.00 m	5.00 m	7.00 m
b_{max}	9.00 m	12.60 m	7.00 m	10.00 m
c_{max}	5.40 m	9.00 m	4.00 m	7.00 m
d_{max}	3.60 m	3.60 m	3.00 m	3.00 m

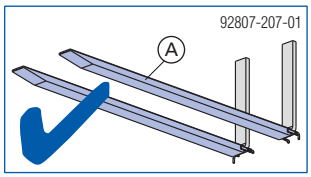
Requirements for fork-lift trucks or telescoping stacker trucks

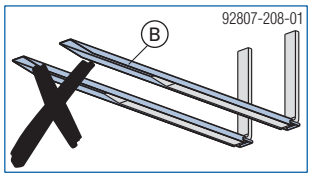
- Overhead guard for forklift operator
- Centre-to-centre distance of the fork prongs: 850 mm

WARNING

➤ It is forbidden to use forklift or telescoping stacker trucks to erect/dismantle or transport load-bearing towers **without** a Fork lift shifting device TG.

➤ It is not permitted to use non-enclosed (open) fork extensions.





A Box-style fork extension

B Open fork extension

- Permitted types of fork extension:
  - box-style fork extensions [1)]
  - Telescopic fork prongs
- Min. fork length:
  Distance between the frames of the load-bearing tower + 400 mm
- Max. fork width: 195 mm
- Max. fork height: 71 mm

1) Observe the following manufacturer's data:
- Load-bearing capacity of the fork extension
- Required length of the fork prongs

Travelling the towerframe units

NOTICE

Very important points for the moving procedure:

- As well as the fork-lift driver, a specially trained watchman must also be on hand during all lifting, assembly and travelling operations.
- max. inclination of trackway: 2%.
- There must be a flat, firm (e.g. concrete) base that is capable of supporting the load.

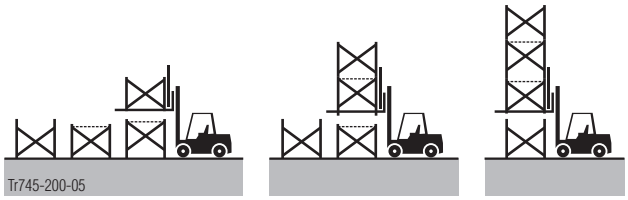
Assembling the towerframe units

NOTICE

➤ For details of how to assemble and join together the individual sections, see the section headed Assembling towers in the upright by hand.

➤ Build each section at ground level.

➤ Use a forklift truck to stack the towerframe 'storeys' into a single towerframe unit.



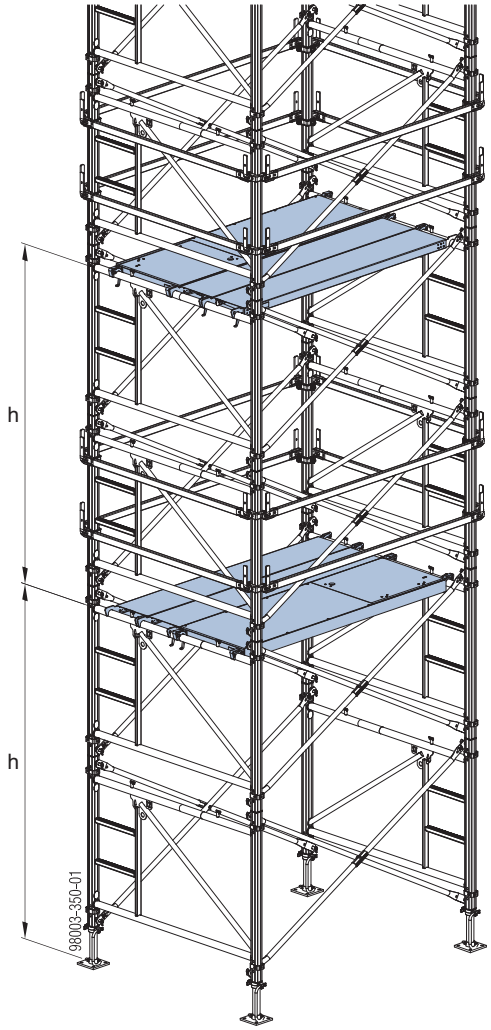
Dismantling

To dismantle, perform the above steps in reverse order.

NOTICE

Always only dismantle the bottom 'storey' of the towerframe unit.

Access system



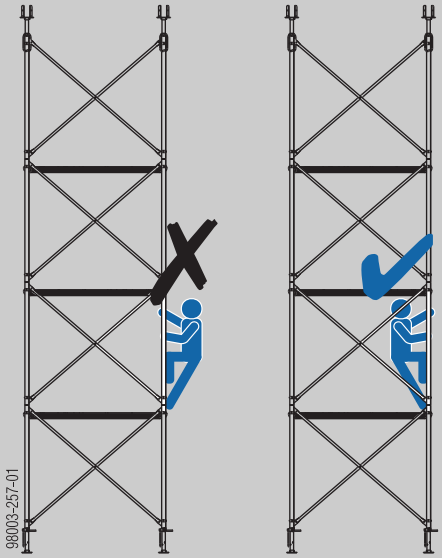
NOTICE

Observe the maximum distance **h** between decking levels, according to local regulations!

WARNING

Never climb up or down the outside of the tower! You risk falling and/or causing the tower to tip over!

➤ Only ever climb up the inside of the tower. When doing this, make sure that the scaffold planking units are in the correct positions (as intermediate landings)!

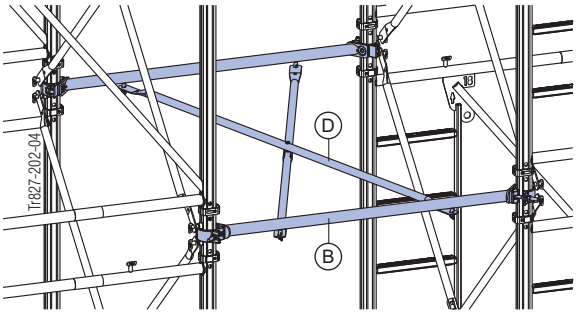


Bracing, planking level and bracket closure between towers

Follow the instructions in the section headed General instructions for site-erection!

Linking towers

Staxo 100 planking struts 1.00m and 1.50m can be used to create stiffening between Staxo 100 towers.



B Staxo 100 planking strut 1.00m or 1.50m
D Diagonal cross (where statically required)

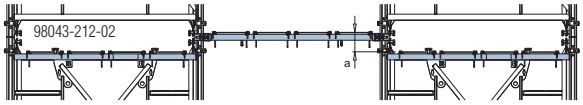
Placing scaffold planking between towers

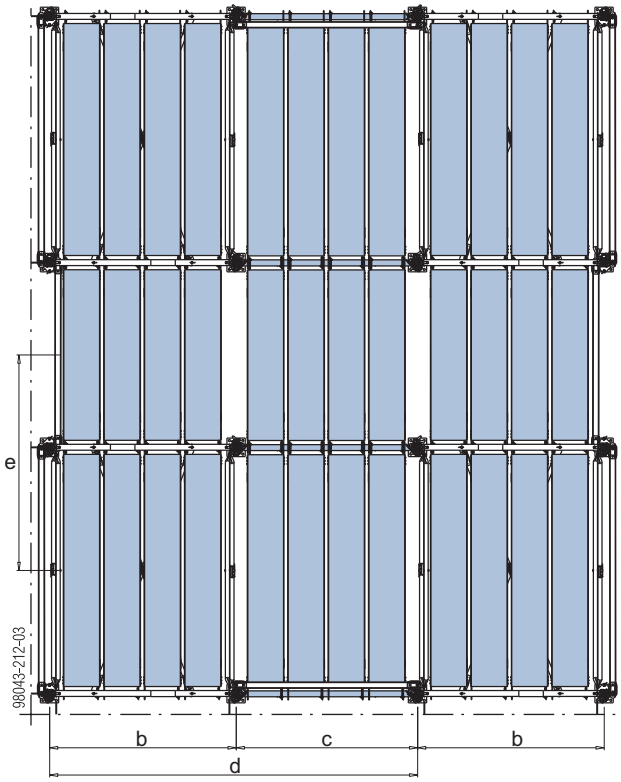
Staxo 100 planking struts 1.00m and 1.50m can be used – together with scaffold planking units – to create workspaces or access routes between Staxo 100 towers.

Permitted influence 'e' [cm]

	Service load to EN 12811	
	LC2 1.5 kN/m²	LC1 0.75 kN/m²
Staxo 100 planking strut 1.00m	300	300
Staxo 100 planking strut 1.50m	225	300

Note:
There is a height mismatch between the scaffold planking units placed on Staxo 100 planking struts and those placed on the Staxo 100 frames.

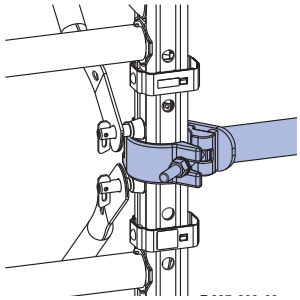




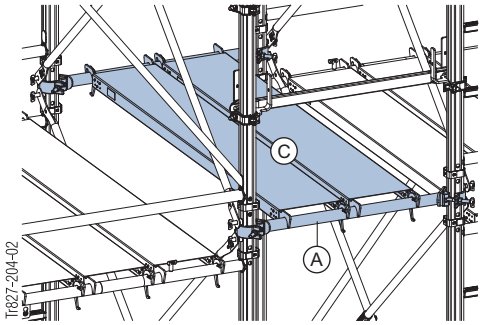
a ... 16 cm
b ... 152.4 cm
c_1 ... 97.6 cm with Staxo 100 planking strut 1.00m
c_2 ... 147.6 cm with Staxo 100 planking strut 1.50m
d_1 ... 250.0 cm with Staxo 100 planking strut 1.00m
d_2 ... 300.0 cm with Staxo 100 planking strut 1.50m
e ... permitted influence (see table)

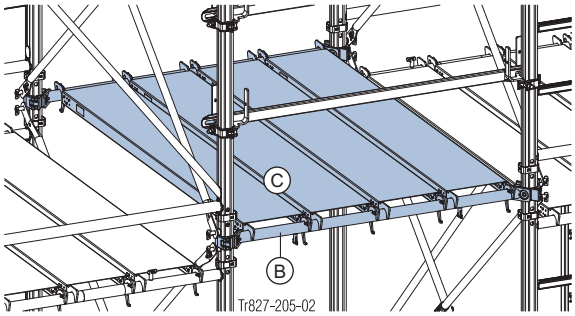
NOTICE

Always fix the Staxo 100 planking strut to the Staxo 100 frame joint to make the assembly level!



Width across flats 22 mm

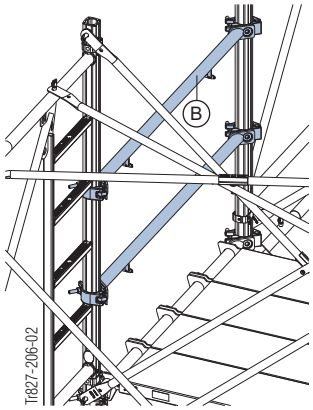




A Staxo 100 planking strut 1.00m
B Staxo 100 planking strut 1.50m
C Scaffold planking

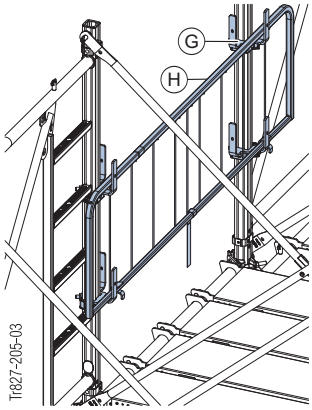
Setting up guardrails

with Staxo 100 planking struts



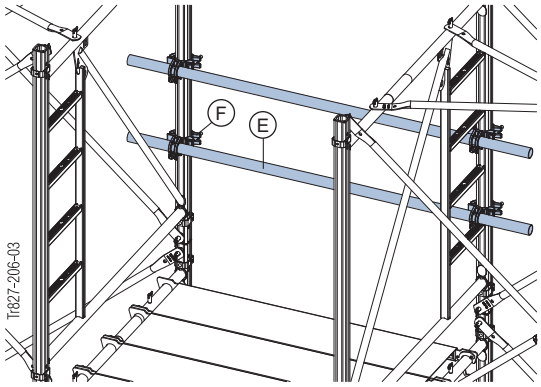
B Staxo 100 planking strut 1.00m or 1.50m

with Protective grating XP and railing coupler



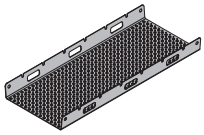
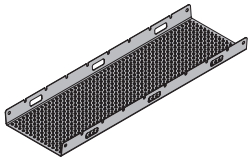
G Staxo 100 railing coupler
H Protective grating XP 2.00x0.60m

with scaffold tubes and transition swivel couplers



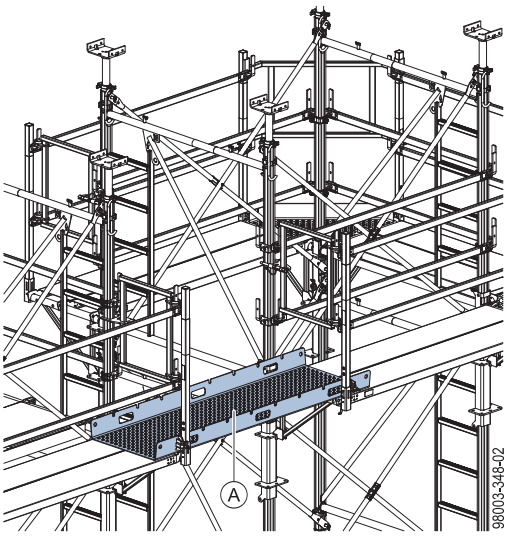
E Scaffold tube 48.3mm
F Transition swivel coupler 48/76mm

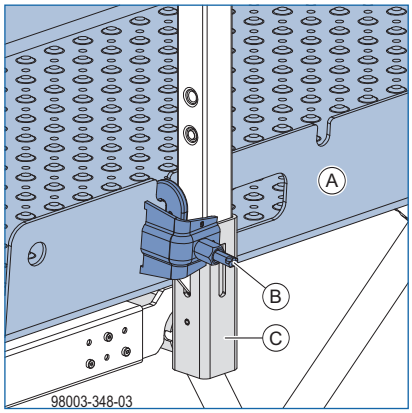
Bracket closure

Closure decking 60/150cm	Closure decking 60/200cm
	
Decking for bridging between the towers.	

Perm. service load: 1.5 kN/m² (150 kg/m²)
Load Class 2 to EN 12811

➤ Remove the Staxo 100 front railing bracket 60cm.
➤ Crane-lift the Staxo 100 closure decking into position and secure with 2 Waling clamps 2G.



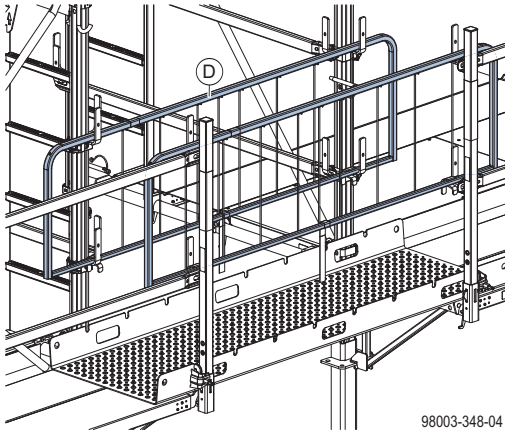


A Staxo 100 closure decking
B Waling clamp 2G
C Staxo 100 bracket 60cm

Make sure that the closure deckings are positioned securely!

NOTICE
Comply with the applicable installed height!

➤ Insert edge protection (e.g. Protective grating XP 0.60m) into the Staxo 100 railing couplers on the inside.



D Protective grating XP 0.60m

NOTICE
- There must be an overlap of 25 cm at each end of the closure decking!
- No-one is permitted to step on to the closure decking before the Waling clamps 2G have been installed.

Superstructure

Follow the instructions in the section headed General instructions for site-erection!

NOTICE

All steps (assembly and disassembly) must be carried out from the assembly level or a service tower (e.g. a scissor-type elevated work platform).

NOTICE

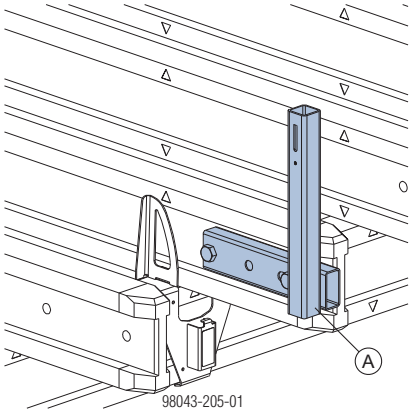
Take the following into account in planning:

- The top ‘storey’ should be constructed with a Staxo frame 1.20m. This gives the later working height for installation of the superstructure and the possible edge protection height.
- Replace the topmost horizontal crosses with assembly planking.
- Whenever possible, compensate for differences in height due to different frame heights, or install clearly visible steps.
- For a higher load-bearing capacity, use the smaller frames in the lowest and highest ‘storeys’ (see the section headed Structural design).

Preparations

Follow the directions in the 'Xsafe edge protection XP' User Information booklet.

➤ Pre-install Insertion adapters XP on the appropriate edge primary beams for installation of railings.
➤ Pre-install Insertion adapters XP on the appropriate secondary beams for installation of railings.



A Insertion adapter XP

Dokaflex as superstructure

Follow the directions in the 'Dokaflex' User Information booklet!

NOTICE

Take the following into account in planning:

- Comply with local regulations on maximum weight of the primary beams (e.g. < 25 kg / person) for manual handling in the stripping out process!
- In the edge zone, secure or fasten all secondary beams to prevent overturning (use secondary-beam stabilisers, Waling clamps H20, etc.).
- In principle, the secondary beams should rest on only 2 primary beams. In the closure zone, the secondary beams can rest on 3 primary beams (because of an additional single primary beam).

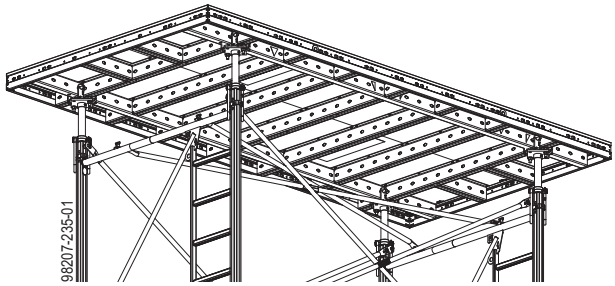
DokaXdek table as superstructure

- Ready-assembled DokaXdek tables can be installed directly on Staxo 100.
- Height adjustment is possible in both the head and base zone of the load-bearing tower

NOTICE

- This configuration requires screwjack feet at the top of the tower instead of the usual screwjack head units!
- Max. table inclination 12% (in both the longitudinal and transverse directions).

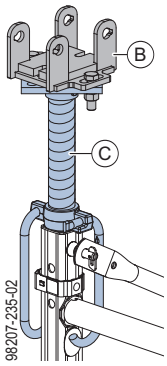
For details regarding structural design, set-up and use, see the User Information booklet 'DokaXdek table'!



Assembly

➤ Install screw jack foot on the topmost frame and secure (see the section headed Installing screw jack U-heads).

➤ Bolt the DokaXdek spindle connector T to the screw jack foot.
Spanner size (width across flats): 24 mm

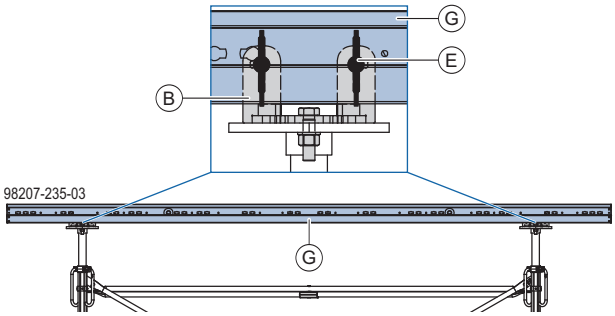


B DokaXdek spindle connector T
C Screw jack foot

Attaching the DokaXdek table:

➤ Place the DokaXdek table onto the Staxo unit with the aid of two Dokamatic lifting straps 13.00m and the crane.

➤ Attach the DokaXdek table with 2 safety pins to each spindle connector.

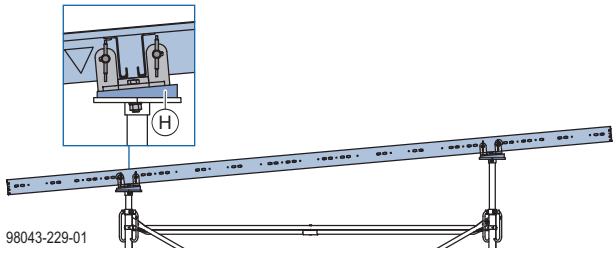


B DokaXdek spindle connector T
E Safety pin D20 195
G DokaXdek table

Inclinations

using DokaXdek wedge for screw jack T ..... % (hardwood wedge)

➤ Clamp the wedge for screw jack between spindle connector and screw jack foot and bolt it to the screw jack foot.



H DokaXdek wedge for screw jack T ..... %

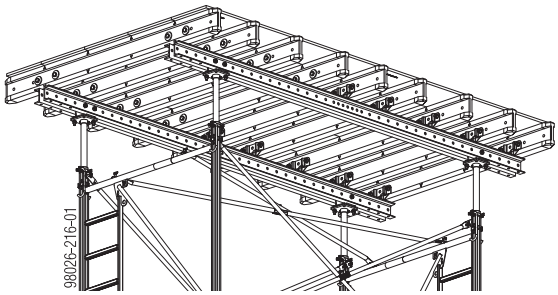
Dokamatic table as superstructure

- Ready-assembled Dokamatic tables can be installed directly onto Staxo 100
- Height adjustment is possible in both the head and base zone of the load-bearing tower

NOTICE

- This configuration requires screwjack feet at the top of the tower instead of the usual screwjack head units!
- Max. table inclination 12% (in both the longitudinal and transverse directions).

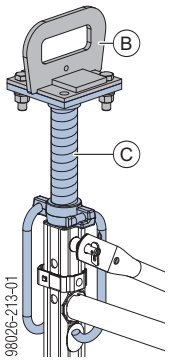
For details regarding structural design, set-up and use, see the User Information booklet 'Dokamatic table'!



Assembly

➤ Install screw jack foot on the topmost frame and secure (see the section headed Installing screw jack U-heads).

➤ Bolt the Dokamatic table Staxo spindle connector onto the Screw jack foot.
Spanner size (width across flats): 24 mm

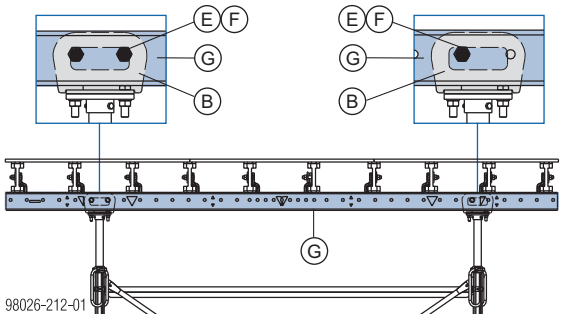


B Dokamatic table Staxo spindle connector
C Screw jack foot

Attaching the Dokamatic table:

➤ Place the Dokamatic table onto the Staxo unit with the aid of two Dokamatic lifting straps 13.00m and the crane.

➤ Fit Connecting pins 10cm to connect the table, and secure these with Spring cotters 5mm. The second connecting pin on each longitudinal connection prevents any displacement of the table superstructure.

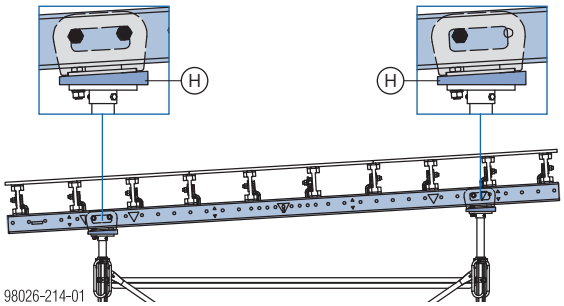


B Dokamatic table Staxo spindle connector
E Connecting pin 10cm
F Spring cotter 5mm
G Dokamatic table

Inclinations

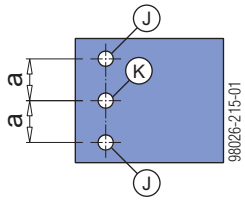
using Wedges for screw-jack ..... % (hardwood wedge)

➤ Bolt the Wedge for screw-jack ..... % onto the Screw-jack foot. If any more holes are needed in the Wedge for screw-jack, these can be drilled on-site.



H Wedge for screw-jack ..... %

Details of extra holes in the Wedge for screw-jack .....%



a ... 55 mm

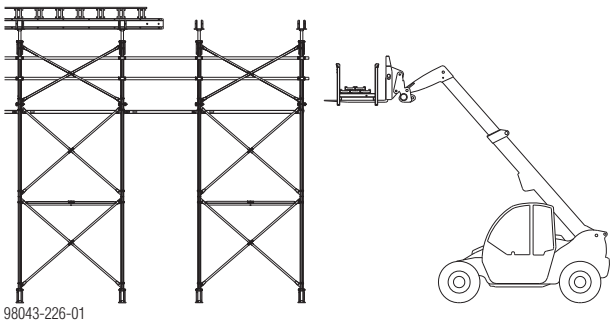
J Holes to be drilled (diam. 20 mm)
K Ready-drilled hole (diam. 20 mm)

Dismantling

For disassembly of the superstructure, comply with the instructions in the User Information booklet of the superstructure used!

NOTICE

- As early as in the planning phase, consideration should also be given to the dismantling operations (e.g. travelling/towing the load-bearing tower/unit into the reach of the crane for safe repositioning or for horizontal on-ground dismantling)!
- All steps (assembly and disassembly) must be carried out from the assembly level or a service tower (e.g. a scissor-type elevated work platform).
- For safe removal of the formwork components, depending on propping height use appropriate lifting equipment (scissor-type elevated work platform, forklift, etc.) and appropriate transport frames.


98043-226-01

WARNING

Risk of falling at open edges!

- ➤ After removal of the fall protection, a personal fall-arrest system must be used.
- ➤ Suitable attachment points must be defined by an approved person appointed by the contractor.
- ➤ As part of a risk assessment, evaluate the use of a personal fall-arrest system. Check the stability of the load-bearing tower.

For suitable attachment points for the PFAS see the section headed The Staxo 100 frame in detail!

A fall arrester such as the FreeFalcon provides a mobile attachment point for the PFAS.

WARNING

Danger from falling objects!

- ➤ During all operations, ensure that no other persons are allowed anywhere near the area where assembly is being carried out!
- ➤ Mark or cordon off the area concerned.
- ➤ It is forbidden to enter, pass through or be in the danger zone underneath a suspended load.
- ➤ Secure all parts (e.g. with ropes, etc.) so that they cannot drop.

WARNING

Risk of tipping over!

If loads (e.g. primary beams, secondary beams, formwork sheets) are not centred, stability can be impaired!!

- ➤ Always centre all loads.
- ➤ Make sure that the structure is sufficiently stable.
- ➤ Consider the loads from slab stop-ends.

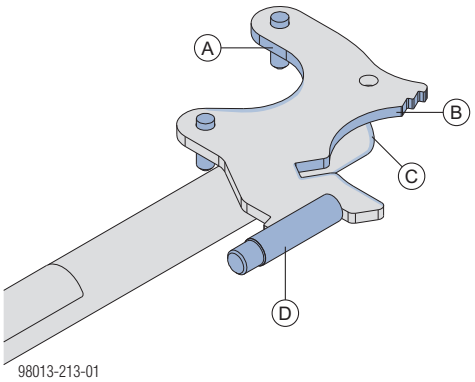
Note:

- Dismantling is the reverse of the assembly procedure.
- For instructions on repositioning and dismantling Staxo towers, see the sections headed Lifting by forklift truck and Assembling towers in the upright by forklift truck.

Universal dismantling tool

The ‘Universal dismantling tool’ makes it easier to undo nuts.

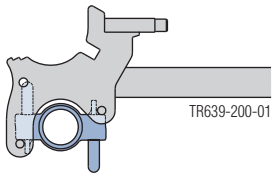
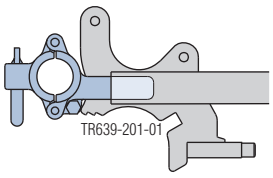
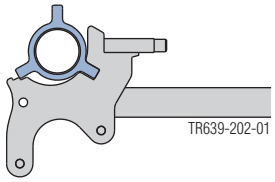
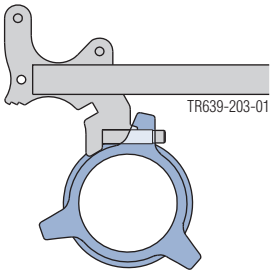
Possible uses



The contact surfaces are shown in blue in this graphic.

A	Screw jack foot Adjustable plumbing strut
B	Split nut B Spindle strut T Plumbing strut 540
C	Doka floor prop Eurex 20 and Eurex 30
D	Eurex 60 550 Adjusting strut 120 and 220 Plumbing strut 340

Practical examples

Screw jack foot	Split nut B
	
Doka floor props Eurex 20 and Eurex 30	**Eurex 60 550**
	

- If no Universal dismantling tool is available, we recommend using a formwork hammer.
- When using a formwork hammer, wear appropriate protective clothing.

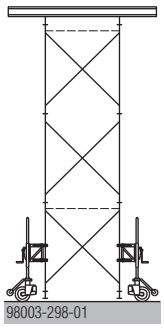
WARNING

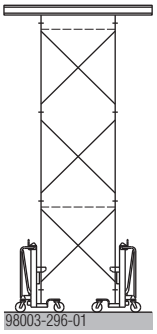
➤ Before using the tool, check the equipment and screw jacks for cracks or other damage.

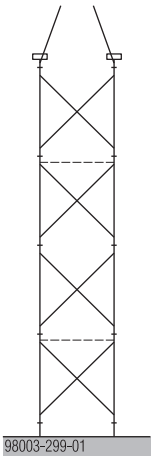
Repositioning

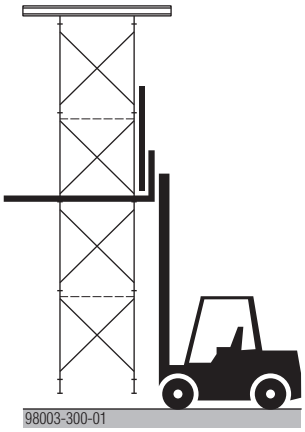
Different ways of repositioning

- Using traveller units
  - With transport winches
  - With Shifting carriage TG
- By crane
- By forklift truck or telescoping stacker truck









NOTICE

- The most suitable approach to repositioning and dismantling should already be discussed and agreed with the site in the project phase, especially for very tall towers.
- There are also other ways of repositioning the towers that are not shown in this User Information booklet. The customer (contractor) bears sole responsibility for use of all such methods and must prepare a separate risk assessment for any such intended method.

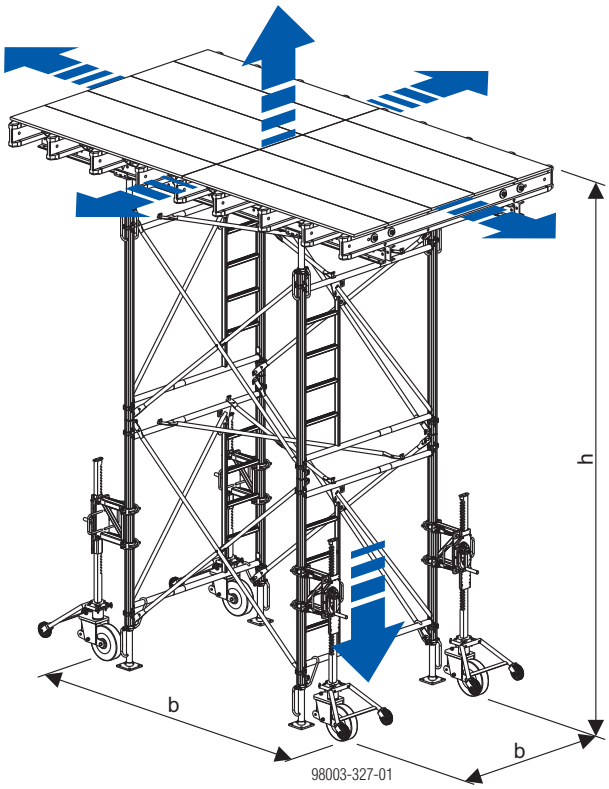
Repositioning using traveller units

Finished tableforms can be moved on to their next usage location quickly and easily using traveller units.

All types of traveller unit can perform the following functions:

- Lifting
- Wheeling
- Plumbing
- Lowering

Example with Winch 70:



Traveller unit variants:

- Shifting carriage TG
- Modular system (with winches)

NOTICE

When repositioning load-bearing towers that include standard superstructures, remember:

Ratio b:h = max. 1:3, with 'b' being the narrowest side.

Custom constructions must be statically verified!

Modular system (with winches)

Optimum adaptability to on-site requirements.
There is a choice of 2 types of winch and 2 types of wheel.

Perm. load-bearing capacity:
1000 kg / Winch 70
(lifting height 70 cm) with Solid tire wheel
1500 kg / Winch 125
(lifting height 125 cm) with Heavy-duty wheel 15kN

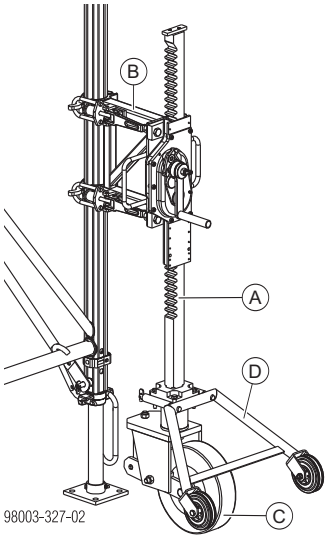
NOTICE

- There must be a flat, firm base capable of supporting the load (e.g. concrete).

Follow the directions in the 'Staxo/d2 winch' Operating Instructions!

➤ Clamp the winch to the frame of the load-bearing tower, using the adapter frame.

➤ Secure the foot-pieces to prevent them dropping out. See the section headed Lifting by crane.



Items needed for one shifting unit

Item	Designation	Quantity
A	Winch 70 or 125	4
B	Staxo/d2 adapter frame	4
C	Solid tire wheel or Heavy-duty wheel 15kN	4
D	Double wheeled transporter	4

Accessory for transporting the winches when empty:

The **Double wheeled transporter** is bolted into the connecting sockets on the wheel flange and makes it easier to wheel the (empty) wheel-units.

A Double wheeled transporter

Shifting carriage TG

This is an easy-to-operate, manual hydraulic lifting carriage for shifting light to medium-weight tableform units. As well as making the tableforms easier to move around, it also makes it easier to erect and strip the formwork.

- Hydraulic, for near-effortless lifting.
- Tables can be 'inched' down slowly with handle control.
- 3 steerable wheels for maximum manoeuvrability.
- Narrow overall width of 82 cm. The carriage can pass easily through any doorway when empty.

Perm. load-bearing capacity per Shifting carriage TG: 1000 kg

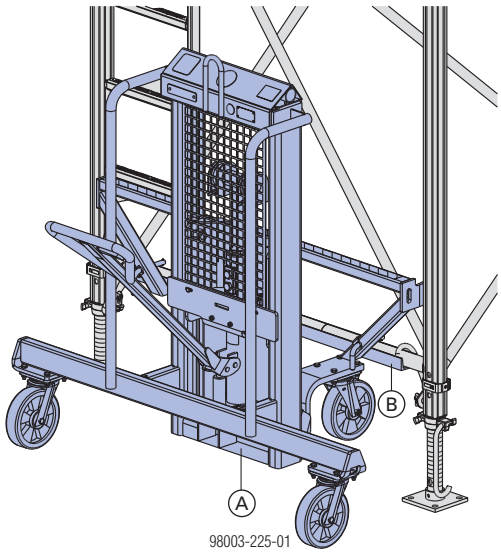
NOTICE

- There must be a flat, firm base capable of supporting the load (e.g. concrete).
- Max. gradient of floor 5%.
- Max. configuration that can be transported using 2 Shifting carriages TG: Table with max. 3 cross-frames and max. height 5.0 m.

Follow the directions in the ‘Shifting carriage TG’ Operating Instructions!

➤ Push the Shifting carriage TG up against the narrowsides of the tableform – the slot-in lifting profile reaches under the bottom cross tube of the frame.

➤ Secure the foot-pieces to prevent them dropping out. See the section headed Lifting by crane.



Items needed for one shifting unit

Item	Designation	Quantity
A	Shifting carriage TG	2

A Shifting carriage TG

B Slot-in lifting profile

Lifting by crane

NOTICE

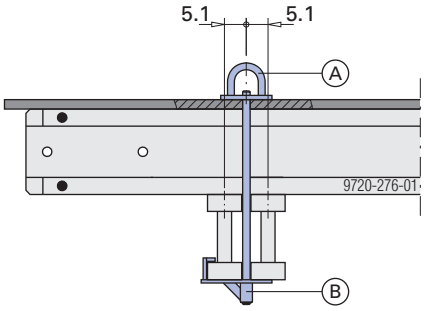
The max. height of towerframe unit that can be lifted in one piece is 20 m!

Where the tableforms are to be repositioned in the vertical, i.e. crane-lifted, they must be fitted with a **Lifting rod 15.0** and **Retaining plate 15.0**, which make it easy to attach the transfer cables.

Perm. working load limit:
1000 kg per Lifting rod 15.0 - where the load is applied centrally

Assembly

➤ Mount the Lifting rod 15.0 and Retaining plate 15.0.



A Lifting rod 15.0
B Retaining plate 15.0

Use a 20 mm diam. bit to drill the hole through the form-ply. It can later be filled with a Universal plug R20/25.

Follow the directions in the Operating Instructions!

Preparation

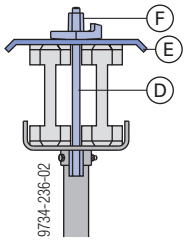
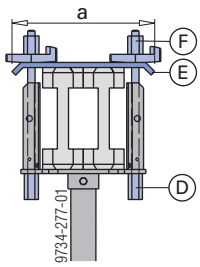
WARNING
Danger from loose and unsecured parts.
➤ Observe the following points before lifting!

Connect superstructure components together

➤ e.g. connect the primary and secondary beams to rafter plates, and nail on the form-ply.

Connect the superstructure to the head units

➤ e.g. with Locking rod 15.0, Clamping plate and Wing nut 15.0.

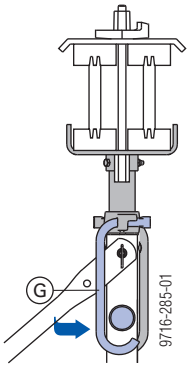
On Screw jack U-head	On 4-way screw-jack head
	 Only possible with Clamping plate a = 28 cm (2002 models onward)

D Locking rod 15.0
E Clamping plate
F Wing nut 15.0

Secure the head units so that they cannot be lifted out

Perm. working load limit:
1.5 kN / securing assembly

➤ Slot the fixing handle into the cross tube of the frame.

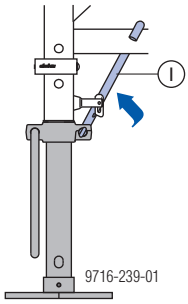


G Fixing handle

Secure the base units to prevent them dropping out

Perm. working load limit:
1.5 kN / securing assembly

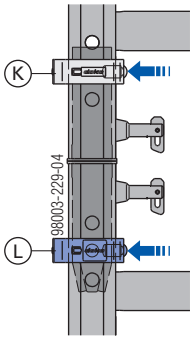
➤ Slot the fixing handle into the cross tube of the frame.



I Fixing handle

Link the frames in a crane-handling-safe manner

➤ Close the yellow and blue locking springs, by pressing them towards the outside.



K Yellow locking spring
L Blue locking spring

Repositioning operation

WARNING

➤ 'Passenger transportation' is forbidden!

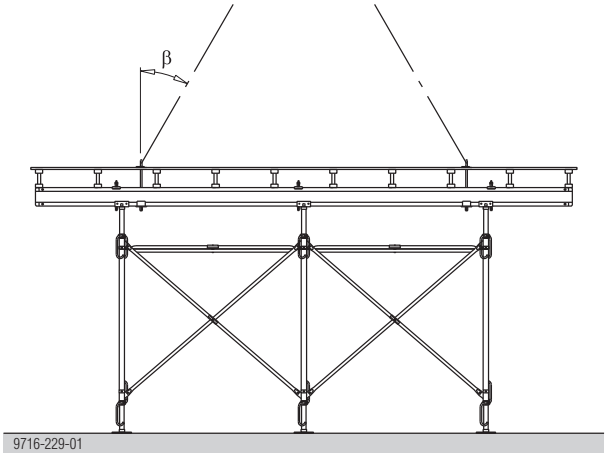
➤ Before repositioning the tableform, remove all loose items (e.g. fitting boards) from it.

NOTICE

- Ensure that the crane has sufficient carrying capacity.
- Comply with the working load limit of the lifting chains or slings as a function of the sling angle.
- Exposed fall hazard locations at the slab edge are produced in the course of the repositioning operation. Secure the entire area around the table to be repositioned.
- Use personal fall-arrest systems to protect against fall hazards when working on unsecured slab edges (e.g. safety harness).

- The presence of third persons in the immediate danger zone is prohibited!

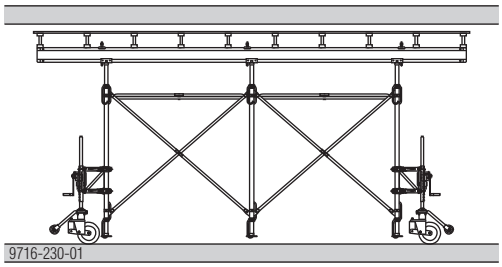
➤ Working from the service tower, for example, attach the crane sling to the Lifting rods 15.0 and lift the tableform to its next location. Sling angle β max. 30°.



➤ Take the load off the table by turning the threaded spindles.

➤ Clamp on the wheel-units.

➤ Push in and secure the base units.

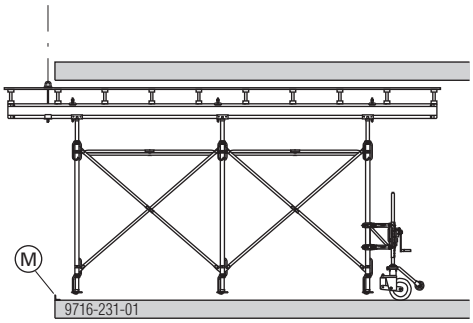


➤ Using the wheel-units, lower the table, and wheel it out as far as the stop.

➤ Remove the front wheel-units.

➤ Screw the Lifting rod 15.0 into the previously mounted Retaining plate 15.0.

➤ Attach the crane sling to the Lifting rod 15.0, then raise the crane until the front legs are just off the floor.



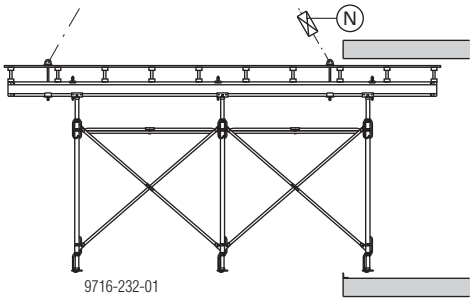
M Wheel-out stop

➤ Push the table outwards until only the innermost legs are still over the floor.

➤ Mount more lifting rods and attach crane slings.

➤ Use a chain hoist to shorten the rear cables until the table is suspended in the horizontal.

➤ Manoeuvre the table all the way out with the crane, then lift it to the next storey.



N Chain hoist

Lifting by forklift truck

Fork lift shifting device TG

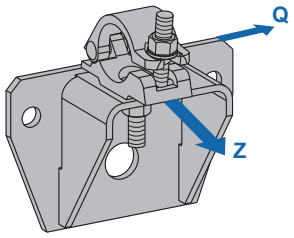
For product information on the Fork lift shifting device TG and the requirements in respect of the forklift truck, see the section headed Assembling towers in the upright by forklift truck.

Follow the Operating Instructions!

General

Anchoring on the structure

With Anchoring shoe for stair tower



Q ... shear force
Z ... tensile force

Permissible force transmission for each Anchoring shoe for stair tower:

- Z = 12 kN perpendicular to the wall
- Q = 6 kN parallel to the wall

Applies when fastened with Cone screw M30 SW50 7cm and Universal climbing cone 15.0 or two anchor-bolts.

Methods for fixing in concrete:

- By using Cone screw M30 SW50 7cm to fix the anchoring shoe to an existing suspension point prepared with Universal climbing cones 15.0 (diameter of hole in anchoring shoe = 32 mm). Hardwood shim (essential for ensuring a firm fit) prevents damage to the concrete (scratch marks).
  This fixing method is possible only with anchoring shoes manufactured from 05/2009 onward.
- With one or two anchor-bolts (diameter of hole in anchoring shoe = 18 mm).

Required load-bearing capacity of the anchor-bolts used:

- Tensile force: $R_d \geq 23.1$ kN ($F_{perm.} \geq 14.0$ kN)
- Shear force: $R_d \geq 6.6$ kN ($F_{perm.} \geq 4.0$ kN)

e.g. Hilti HST M16 - in uncracked C 25/30 concrete, or equivalent products from other manufacturers. Follow the manufacturers' applicable fitting instructions.

Design of the anchoring planes

The load-bearing tower is connected to the Anchoring shoe for stair tower by scaffold tubes and couplers.

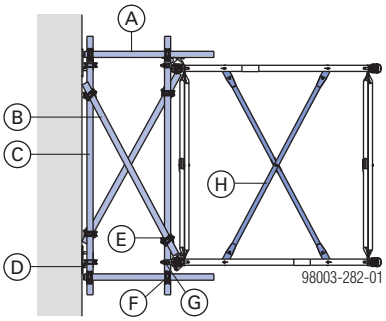
NOTICE

Comply with the following boundary conditions when designing units assembled from scaffold tubes and couplers:

- Scaffold tubes:
  - Diameter d = 48.3 mm
  - Wall thickness t ≥3.2 mm
  - Material grade ≥S235
- Distance/eccentricity of individual couplers to nodes ≤16 cm
- Minimum edge distance of couplers at tube ends ≥4 cm
- Permitted load: 6 kN
  (where buckling length is ≤3.42 m)

Observe all applicable standards and regulations, in particular:

- EN 12812 - Falsework
- EN 39- Loose steel tubes for tube and coupler scaffolds
- EN 74 - Couplers, spigot pins and baseplates for use in falsework and scaffolds



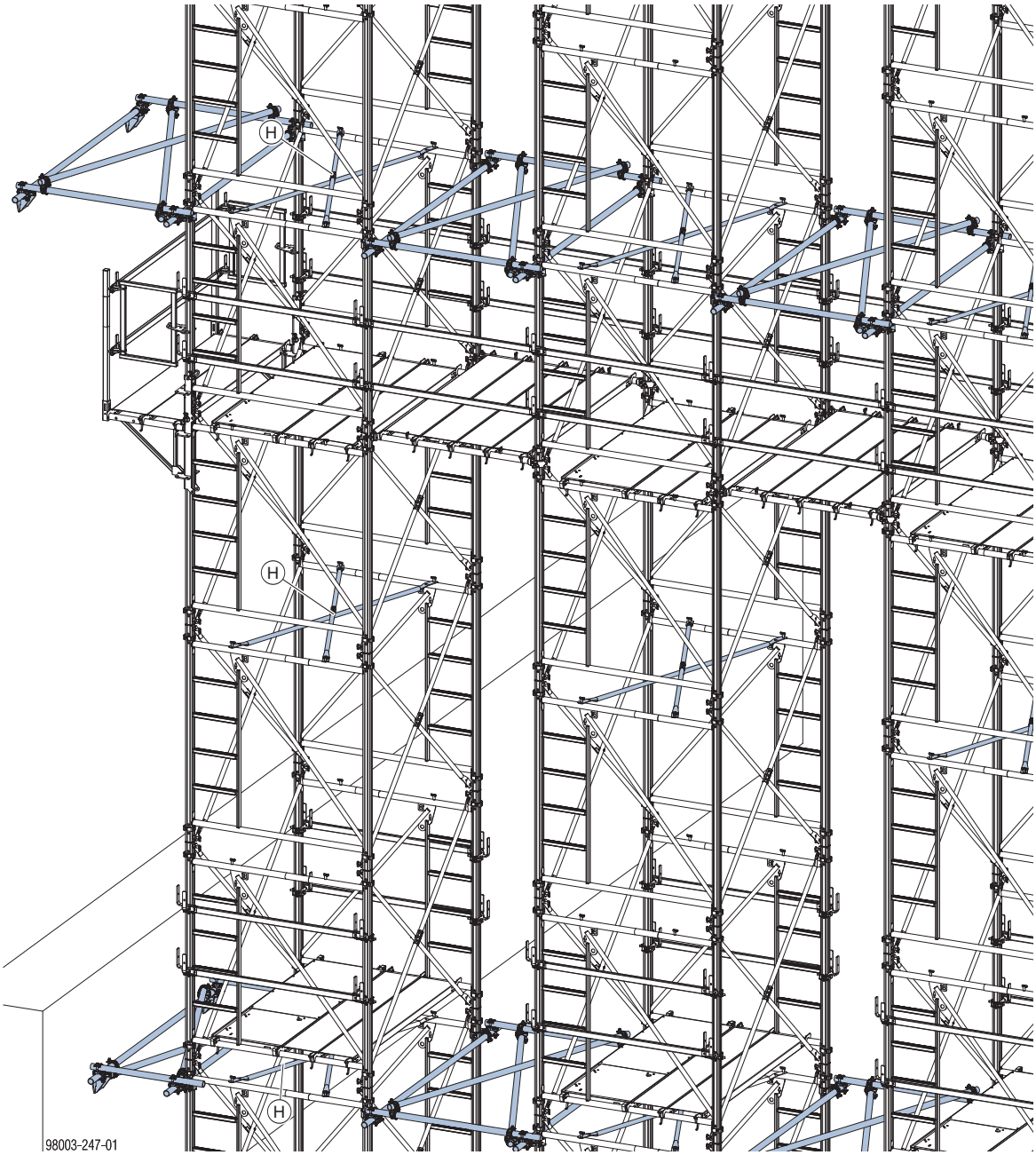
A	Scaffold tube 48.3mm (L min = distance from structure)
B	Scaffold tube 48.3mm (L = variable)
C	Scaffold tube 48.3mm (L = variable)
D	Anchoring shoe for stair tower
E	Swivel coupler 48mm
F	Normal coupler 48mm
G	Transition swivel coupler 48/76mm
H	Horizontal diagonal brace

Vertical distance between the anchoring levels

- will depend on the assembly method, the wind loads and the design assumptions
- near junctions (frame joints)

NOTICE

The load-bearing tower must be stiffened with a diagonal cross in the anchoring plane.



H Diagonal cross

NOTICE

- The actual design of the anchoring planes, and the maximum permitted distances from the structure, must be reviewed separately for each project.
- Adjacent load-bearing towers must be braced to one another as statically required, in a similar way to when towers are anchored to the structure.

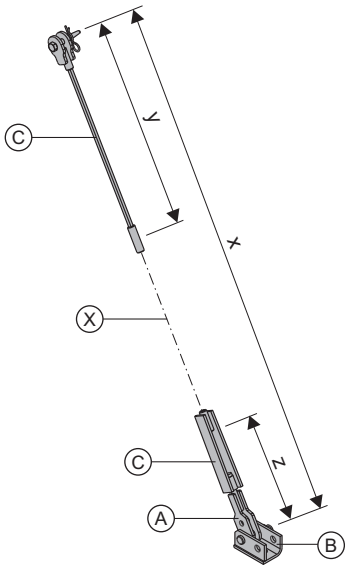
Back-stays/shoring supports for the load-bearing towers

Back-stay on the superstructure

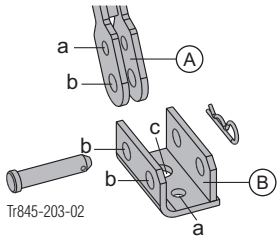
For transferring **planned horizontal loads** e.g. wind loads, concrete loads or in custom applications (e.g. on inclined load-bearing towers or for high load-bearing capacities).

NOTICE

Lashing straps are **not** suitable for transferring planned horizontal loads.

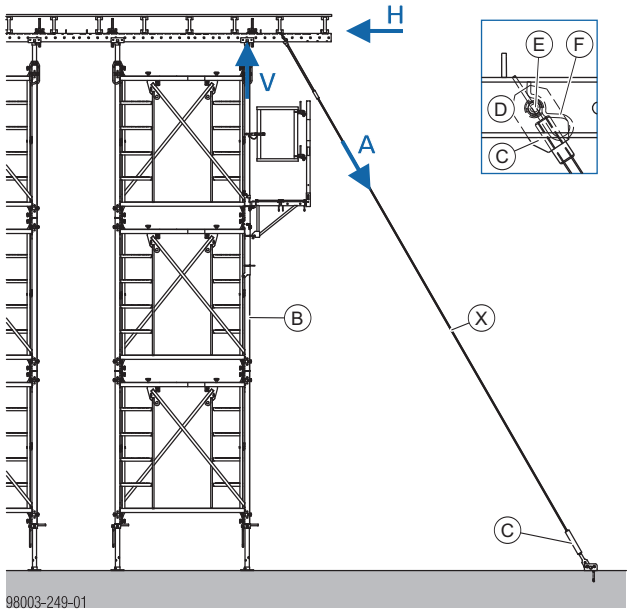


Bores in Screw-jack unit and Shoe complete



a ... diam. 21 mm
b ... diam. 27 mm
c ... diam. 35 mm

A	Screw-jack unit
B	Shoe complete

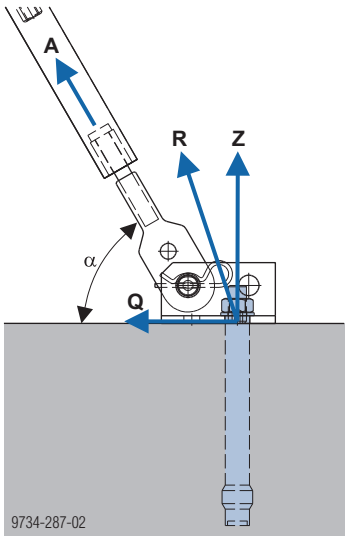


H ... Horizontal force
V ... Resulting vertical force from H
A ... Bracing/shoring force

B	Load-bearing tower
C	Bracing for load-bearing towers
D	Multi-purpose waling
E	Connecting pin 10cm
F	Spring cotter 5mm
X	Tie rod 15.0 (not included in scope of supply) Length = 'a' minus 119 cm This leaves a 17 cm adjustment range available

NOTICE

- Screw the tie rods all the way in to the rod connectors of the bracing (i.e. until they are fully engaged)!
- When calculating the leg loads, allow for the additional forces imposed by the bracing!
- With high loads and long bracings, watch out for any elongation of the bracing!



A ... Bracing force
Q ... Shear force (corresponds to horizontal force H)
R ... Resulting anchor force
Z ... Anchor tensile force

Bracing force A_k = 30 kN (A_d = 45 kN)

Anchor force [kN]	Z_k	$Q_k = H_k$	R_k	Z_d	$Q_d = H_d$	R_d
α = 30° a)	18.2	26.0	31.7	27.3	39.0	47.6
α = 45° a)	27.6	21.2	34.8	41.4	31.8	52.2
α = 60° b)	44.8	15.0	47.2	67.2	22.5	70.8

Bracing force A_k = 40 kN (A_d = 60 kN)

Anchor force [kN]	Z_k	$Q_k = H_k$	R_k	Z_d	$Q_d = H_d$	R_d
α = 30° a)	24.3	34.6	42.3	36.5	51.9	63.5
α = 45° b)	36.8	28.3	46.4	55.2	42.5	69.6
α = 60° c)	59.7	20.0	62.9	89.6	30.0	94.4

Bracing force A_k = 50 kN (A_d = 75 kN)

Anchor force [kN]	Z_k	$Q_k = H_k$	R_k	Z_d	$Q_d = H_d$	R_d
α = 30° b)	30.4	43.3	52.9	45.6	65.0	79.4
α = 45° c)	46.0	35.4	58.0	69.0	53.1	87.0
α = 60° c)	74.6	25.0	78.7	111.9	37.5	118.1

Examples of anchor points in uncracked C 25/30 concrete:
a) HILTI heavy-duty anchor HSL-3 M20
b) HILTI heavy-duty anchor HSL-3 M24
c) HILTI HIT HY200A+HIT-V(5.8) M30
or equivalent products from other manufacturers.
Follow the manufacturers' applicable fitting instructions.

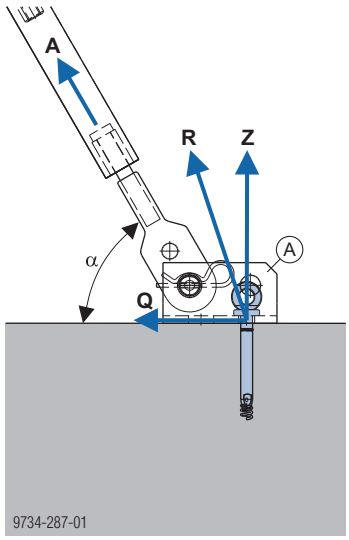
CAUTION

➤ Do not remove the Bracing for load-bearing towers before adequate stability for the load-bearing tower is ensured.

Anchored with Doka Express anchor 16x125mm

Note:

The Shoe complete must be turned by 180° in the horizontal.



A Shoe complete

Permitted bracing force [kN]

	$f_{ck,cube,current}$ > 15 N/mm²		$f_{ck,cube,current}$ > 25 N/mm²	
	A_k	A_d	A_k	A_d
α = 30°	16.9	25.4	21.9	32.9
α = 45°	10.2	15.2	13.2	19.7
α = 60°	7.1	10.6	9.1	13.7

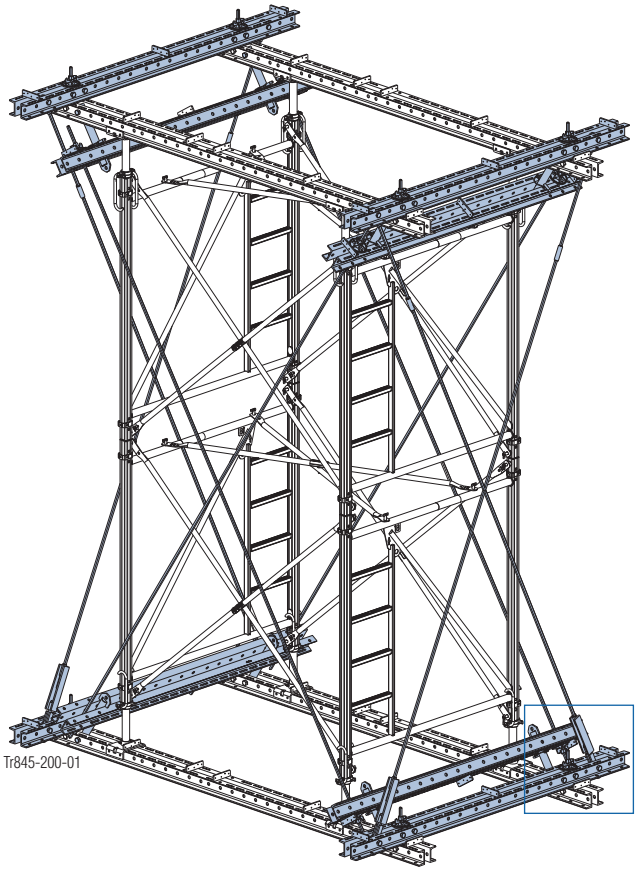
Follow the directions in the 'Doka express anchor 16x125mm' User information booklet!

Bracing waling connector WS10

The Bracing waling connector WS10 is used for bracing load-bearing towers erected on ground which has sufficient load-bearing capacity but in which it is not possible to fix tension anchoring.

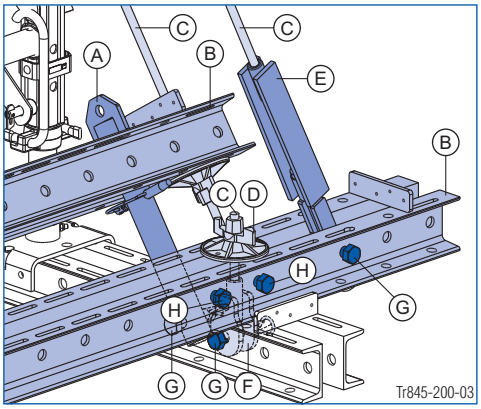
It is also possible to brace several load-bearing towers to one another to transfer the horizontal loads jointly.

Bracing individual towers in the bracing-strut and frame planes



Note:
Separate towers may also be braced in the frame plane or bracing-strut plane only.

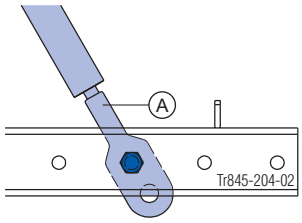
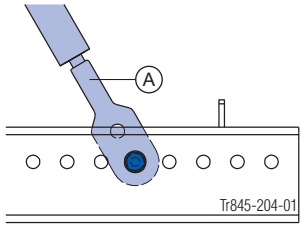
Close-up



A	Bracing waling connector WS10
B	Multi-purpose waling WS10 Top50 2.25m
C	Tie rod 15.0mm galvanised ...m
D	Super plate 15.0
E	Bracing for load-bearing towers – without ‘Shoe (complete)’
F	Eye-lug anchor 15.0 without tie rod
G	Connecting pin 10cm and Spring cotter 5mm
H	Extra safeguard against slippage (end-stop) with Connecting pin 10cm and Spring cotter 5mm

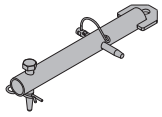
Note:
The Bracing for load-bearing towers is attached to the multi-purpose waling directly by means of a spindle unit, without a ‘Shoe (complete)’.

Permissible back-stay force [kN]

Bolted on through the **upper** bore (Ø 21 mm) of the screw-jack unit	Bolted on through the **lower** bore (Ø 27 mm) of the screw-jack unit
50.0	40.0
	

A Screw-jack unit

Bracing waling connector WS10



Permitted tensile force: 50 kN

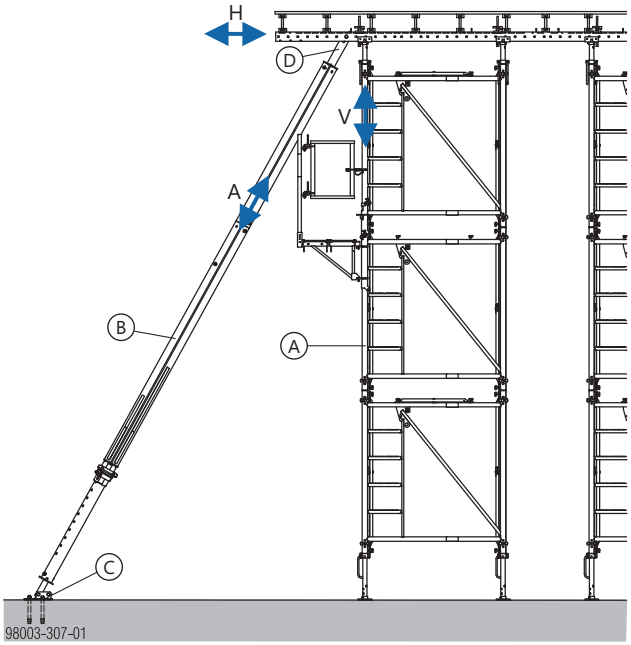
➤ When calculating the leg loads on the Load-bearing tower, allow for the additional forces from the bracing!

Shoring to the superstructure

For transferring **planned horizontal loads** e.g. wind loads, concrete loads or in custom applications (e.g. on inclined load-bearing towers or for high load-bearing capacities).

CAUTION

➤ Do not remove the compression bracing before adequate stability for the load-bearing tower is ensured.

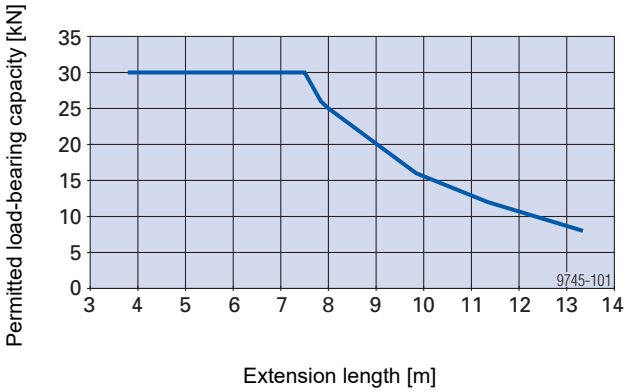


H ... Horizontal force
V ... Resulting vertical force from H
A ... Bracing/shoring force

A	Load-bearing tower
B	Plumbing strut Eurex 60 550
C	Plumbing strut shoe Eurex 60 EB
D	Prop head Eurex 60 Top50

Permitted load-bearing capacity of Eurex 60 550 (compressive force)*

Permitted load-bearing capacity [kN] of Eurex 60 550 (compressive force)*

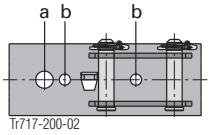


* 15 kN tensile force at any extension length
30 kN tensile force at any extension length and when anchored with 2 dowels

Fixing to the ground

➤ Anchor the plumbing accessories in such a way as to resist tensile and compressive forces!

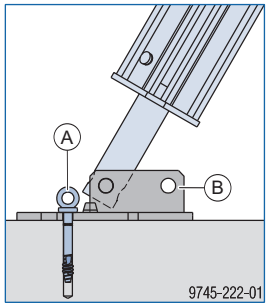
Holes in plumbing strut shoe Eurex 60 EB:



a ... diam. 28 mm
b ... diam. 18 mm (suitable for Doka express anchors)

Anchoring the footplate

The **Doka express anchor** can be re-used many times over.



A	Doka express anchor
B	Baseplate

Follow the directions in the 'Doka express anchor 16x125mm' User Information booklet!

Anchored with one dowel (up to 15 kN tensile force)

Characteristic cube compressive strength of the concrete ($f_{ck,cube,current}$):
min. 25 N/mm² (C20/25 concrete)

Required safe working load of alternative anchors for footplates:

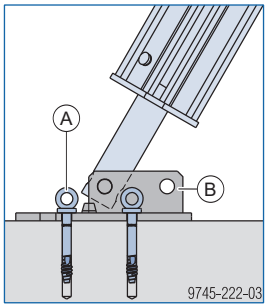
- $R_d \geq 30.0$ kN ($F_{permissible} \geq 20.0$ kN) in the diam. 18 mm hole
- $R_d \geq 43.5$ kN ($F_{permissible} \geq 29.0$ kN) in the diam. 28 mm hole

Follow the manufacturers' applicable fitting instructions.

Anchored with two dowels (up to 30 kN tensile force)

NOTICE

- One anchor bolt must be positioned between the lugs of the baseplate.
- Remove the baseplate from the plumbing strut for this step.
- After anchoring the baseplate, reinstall the Plumbing strut Eurex 60 550 at the position shown.



A Doka express anchor
B Baseplate

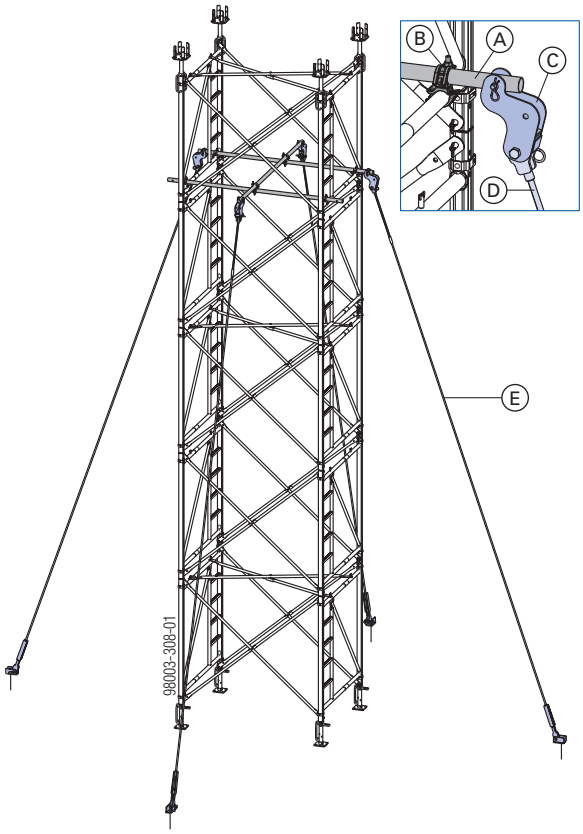
Characteristic cube compressive strength of the concrete ($f_{ck,cube,current}$):
min. 30 N/mm² (C25/30 grade concrete)

Required load-bearing capacity of alternative anchor-bolts:
$R_d \geq 30.0$ kN ($F_{perm.} \geq 20.0$ kN)
Follow the manufacturers' applicable fitting instructions.

Temporary back-stays directly on the load-bearing tower, for site-erection

NOTICE

Only suitable for use during erection of the load-bearing tower, but **not** for transferring planned horizontal loads.



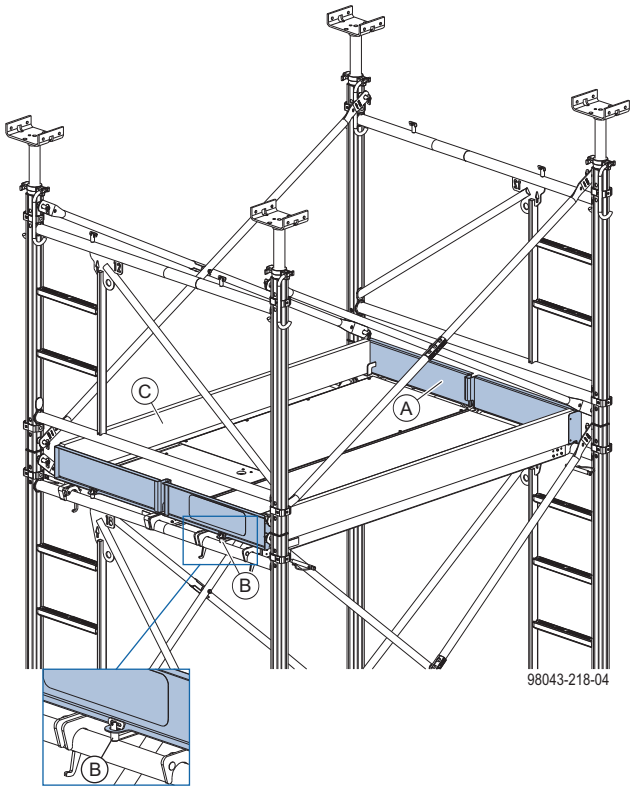
A Scaffolding tube 48.3mm (with drilled hole ⌀17mm)
B Normal coupler 48mm
C Spindle connecting plate T
D Back-stay for load-bearing towers
E Tie-rod 15.0mm

Creating a workplace

Note:
To create a safe workplace, toeboards must be fitted:

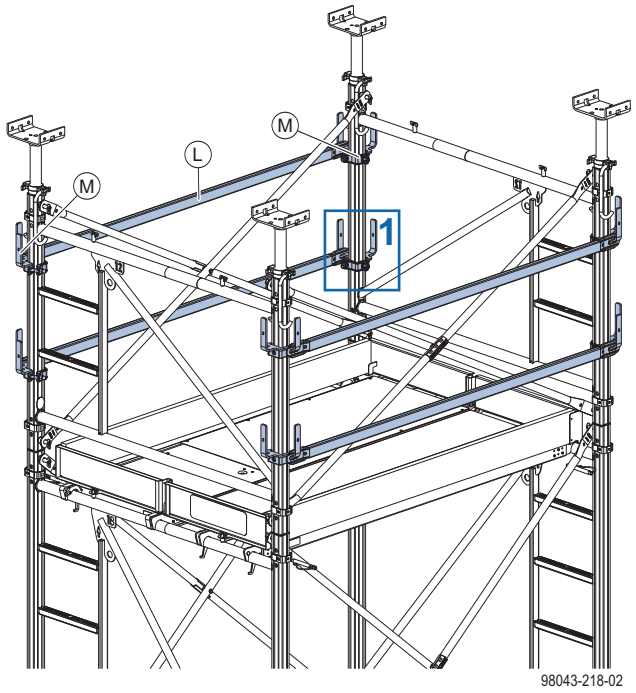
➤ Hook the Staxo 100 toeboards onto the safety-catch bolts.
➤ Install site-provided edge protection planks.

Determining length: Centre-to-centre distance between the frames, minus 10 cm



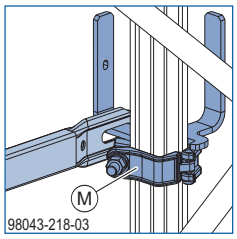
A Staxo 100 toeboard
B Safety-catch bolt
C Edge protection plank (3.0x15.0 cm; strength class S10)

➤ Install Staxo 100 railing couplers on the Staxo 100 frame.
➤ Engage Staxo 100 railing struts in the Staxo 100 railing couplers.



L Staxo 100 railing strut
M Staxo 100 railing coupler

Close-up 1



M Staxo 100 railing coupler

This is done in line with the instructions given in the section headed Assembly.

Inclination adjustment

If the superstructure or the ground are **inclined at an angle of 1% or more**, slope compensation must be provided.

using Wedges for screw-jack ..... %

These prefabricated birch plywood wedges make it possible to stand load-bearing towers in the perpendicular on surfaces with various inclinations, even when utilising the full leg load.

CAUTION

Excessively steep wedges may slip away!

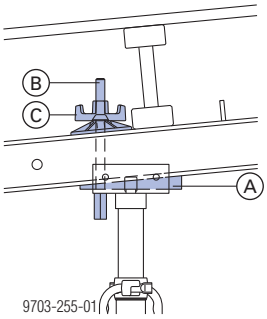
➤ Maximum inclination: 20%!

For this reason, wedges must NOT be placed on top of one another in an attempt to compensate for inclinations that are greater than 20%.

Inclined superstructures

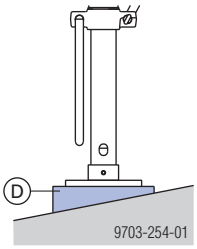
Securing the superstructure at angles greater than 12%:

➤ Connect the head-plate to the longitudinal beam (e.g. with Locking rod 15.0 330mm and Super plate 15.0 or Angle anchor plate 12/18)



A Wedge for screw-jack ..... %
B Locking rod 15.0 330mm
C Super plate 15.0

Inclined ground surface



D Wedge for screw-jack ..... %

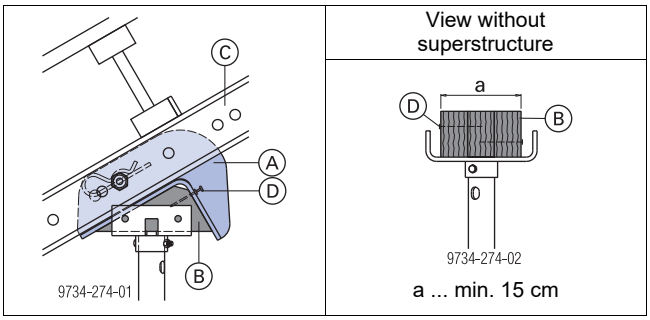
using Staxo wedge support WS10

Used with timber wedges, this component provides angle adjustment to floor-slab constructions with a max. inclination of 45°.

Bolted into the multi-purpose waling, this wedge support prevents the timber wedges from slipping and ensures that the loads are safely transferred.

NOTICE

This type of connection is no substitute for extra structural design measures such as tie-backs.



A Staxo wedge support WS10
B Timber wedge, project-specific
C Multi-purpose waling WS10 Top50
D Nailed connection

NOTICE

The grain of the timber wedges must always be in the vertical!

Note:

If the legs of the load-bearing tower have to be located outside the pattern of drilled holes in the multi-purpose waling, then a suitable 20 mm diam. hole must be drilled in the web of the waling.

using Staxo wedge support WU12/14

Same function as Staxo wedge support WS10, except that it is suitable for being pinned to a 12 cm or 14 cm high waling.

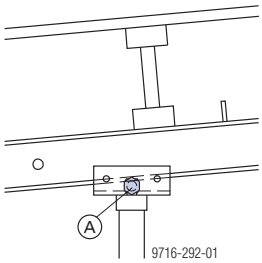
The wedge support is labelled '12' and '14' on the respective sides, to ensure that it is always correctly positioned.

using an M20 hexagonal bolt

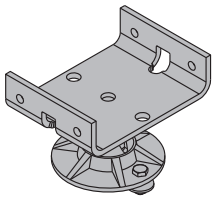
In this case, the superstructure rests on e.g. an M20x240 hexagonal bolt **(A)** . This bolt is inserted through the recessed opening in the Screw jack U-head and is secured with a self-locking M20 hexagon nut.

CAUTION

➤ Maximum inclination: 8%!



with Swivel bearing plates for Screw jack U-head



Rotatable in all directions, the Swivel bearing plate for Screw jack U-head has been designed for use with slab supports where the superstructure slopes on both sides.

On projects where the superstructure slopes on one side only, the solutions shown above are preferable.

The Swivel bearing plate for Screw jack U-head is only allowed to be used in conjunction with the Screw jack U-head or Heavy-duty screw jack 70 top.

Note:

When assessing the oblique bending, always consult the Structural Engineering department!

NOTICE

The following structural-design limitations must be taken into account:

- Swivel bearing plate for Screw jack U-head on screwjack head unit only:
  - Use only the permitted leg loads for superstructure configuration stated for ‘Head units not restrained’, but not exceeding 65 kN.
- Swivel bearing plate for Screw jack U-head on both screwjack head and base units:
  - Use only the permitted leg loads for superstructure configuration stated for ‘Head units not restrained’, but with an additional load reduction of 25%.
- Maximum inclination of superstructure: 18%
- Permitted overall inclination (in both the longitudinal and transverse directions): 18%
- From an overall inclination of 12%: Superstructure must be secured!
- Allow for the oblique bending on the primary beam!
- When calculating the extension lengths of the head and base units, always allow for the extra height of the Swivel bearing plate for Screw jack U-head (92 mm).

NOTICE

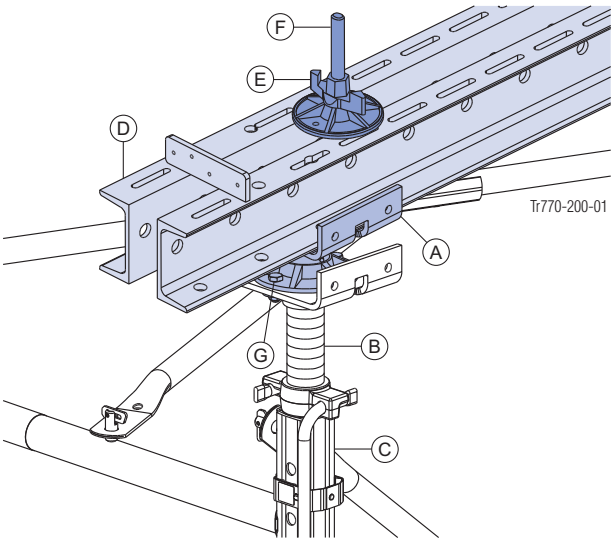
The following geometrical limitations must be taken into account:

- Maximum widths of walings / beams (see the section headed Steel primary beams).
- Additional height of the Swivel bearing plate for Screw jack U-head (92 mm).
- Different extension lengths for the Screw jack feet, caused by inclined superstructures.

Assembly

Multi-purpose waling centrally clamped on the Swivel bearing plate for Screw jack U-head:

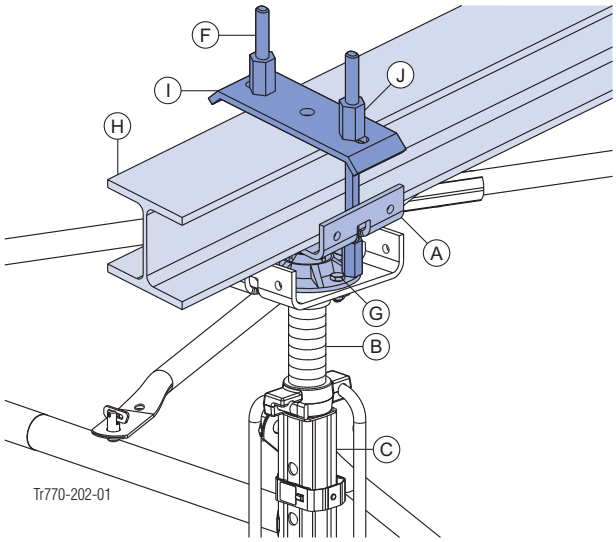
- ➤ Insert a Locking rod 15.0 330mm through one of the side holes (diam. 18 mm) on the Swivel bearing plate for Screw jack U-head.
- ➤ Using the nuts & bolts etc. supplied with the product, fix the Swivel bearing plate for Screw jack U-head to the Screw jack U-head or Heavy duty screw jack 70 top (spanner size 17 mm).
- ➤ Place the multi-purpose waling on the Swivel bearing plate for Screw jack U-head.
- ➤ Screw a Super-plate 15.0 onto the Locking rod 15.0 and tighten it.



A	Swivel bearing plate for Screw jack U-head
B	Screw jack U-head or Heavy duty screw jack 70 top
C	Staxo 100 frame
D	Multi-purpose waling
E	Super-plate 15.0
F	Locking rod 15.0 330mm
G	Nuts, bolts etc.

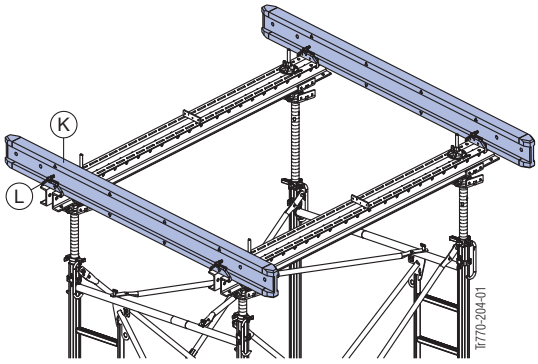
IPB structural steel section clamped on its side on the Swivel bearing plate for Screw jack U-head:

- ➤ Using the nuts & bolts etc. supplied with the product, fix the Swivel bearing plate for Screw jack U-head to the Screw jack U-head or Heavy duty screw jack 70 top (spanner size 17 mm).
- ➤ Place the IPB structural steel section on the Swivel bearing plate for Screw jack U-head.
- ➤ From below, insert Locking rods 15.0 330mm through the punched-out holes on the bent edge of the Swivel bearing plate for Screw jack U-head.
- ➤ Place a Clamping plate for U-head over the Locking rods 15.0 and screw it down tightly with hexagon nuts 15.0.

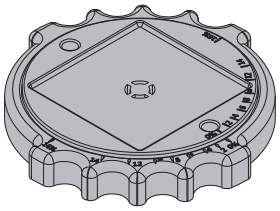


A	Swivel bearing plate for Screw jack U-head
B	Screw jack U-head or Heavy duty screw jack 70 top
C	Staxo 100 frame
F	Locking rod 15.0 330mm
G	Nuts, bolts etc.
H	IPB structural steel section
I	Clamping plate for U-head
J	Hexagon nut 15.0

To prevent the Multi-purpose walings tipping over while an unattached superstructure is being mounted, it is advisable – even where the overall inclination is less than 12 % (in both the longitudinal and transverse directions) – to attach 2 Doka H20 beams **(K)** to each Multi-purpose waling using Flange-clamps H20 **(L)** .



with Compensating plate

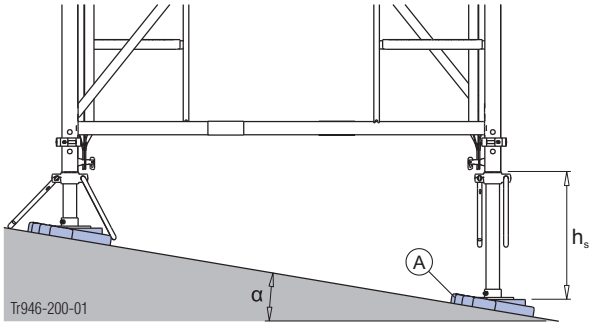


The 'Compensating plate' is made of tough plastic and is used to compensate for sloping support surfaces beneath load-bearing towers, without limiting their load-bearing capacity.

- Angle adjustment from 0 - 16 % in all directions.
- The baseplate is always supported across its entire area.
- The punch-marked number scale is a practical aid for setting and checking the required angle.
- No timber wedges or other chocks are needed.
- Max. size of baseplate: 15 x 15 cm
  (meaning that Eurex 60 550 cannot be stood on it)

NOTICE

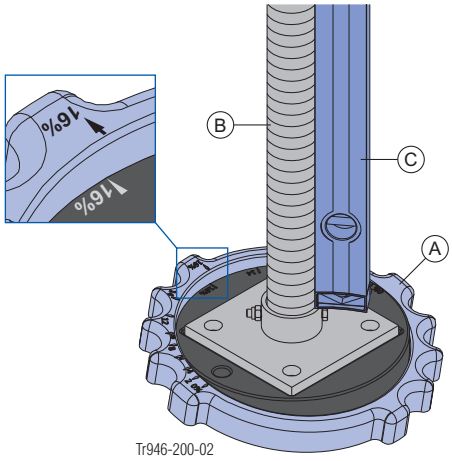
- The 'Compensating plate' must be placed on concrete only.
- For the proof against slippage between the Compensating plate and the concrete, a friction coefficient of 0.33 must be assumed.



α ... max. angle 16 %
h_s ... screw-jack extension length (determines design-load of load-bearing tower)

Set-up instructions:

➤ Place the 'Compensating plates' on concrete.
➤ Set the required angle with the black rotary plate. The numbers must correspond – see close-up.
➤ Position the Doka load-bearing tower.
➤ Make sure that the 'Compensating plate' is sitting firmly, and check that the leg is in the vertical.



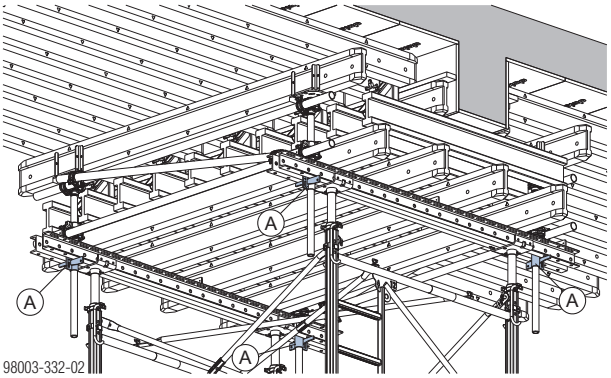
A	Compensating plate
B	Screw-jack foot
C	Spirit level

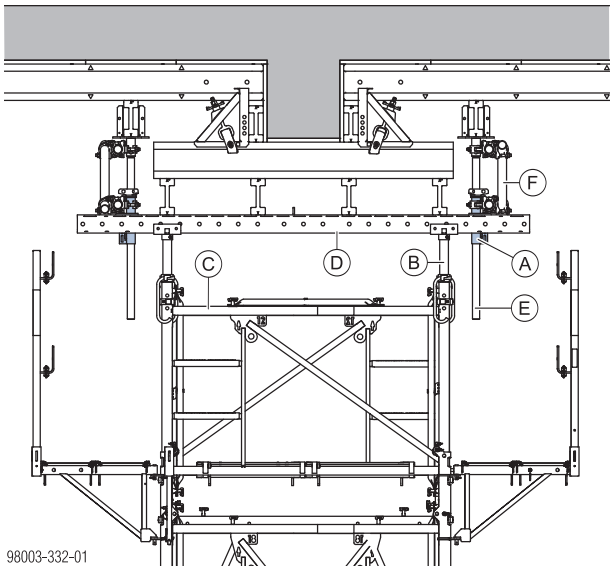
Forming downstand beams

The Staxo 100 spindle adapter has been specially designed for use in forming downstand beams.

- Can be mounted onto both types of Multi-purpose waling: WS10 and WU12.
- Because they are fixed onto multi-purpose walings (whose length can be selected), a variable adjusting range is possible.
- Allows exact lining-and-levelling.
- No doubling-up required.

Practical example





A	Staxo 100 spindle adapter
B	Screw jack U-head
C	Staxo 100 frame
D	Multi-purpose waling WU12 Top50
E	4-way screw-jack head
F	Bracing

NOTICE

- It must be ensured – in every single case – that the Screw jack U-heads are restrained in both directions.

  This may be achieved by way of:
  - contact to the structure
  - nailed-down floor-slab formwork
  - bracing
- Non-restrained screw-jack heads are not permitted.
- In the transverse direction of the multi-purpose waling (torsion of waling), bracing is absolutely essential!
- The multi-purpose waling, the screw-jack and the load-bearing tower must be statically dimensioned as stipulated in this User Information booklet.

Mounting the Staxo 100 spindle adapter

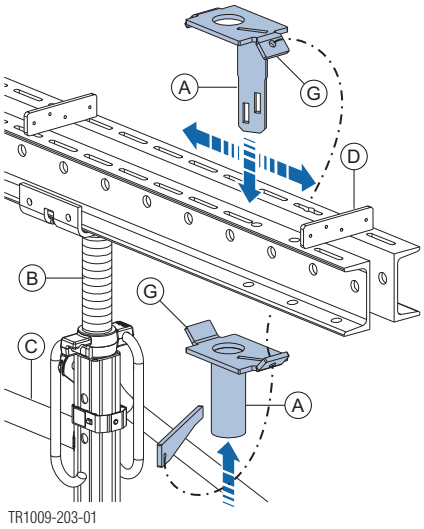
Example on Multi-purpose waling WU12 Top50

➤ Insert the Staxo 100 spindle adapter into the waling-gap of the Multi-purpose waling WU12.

NOTICE

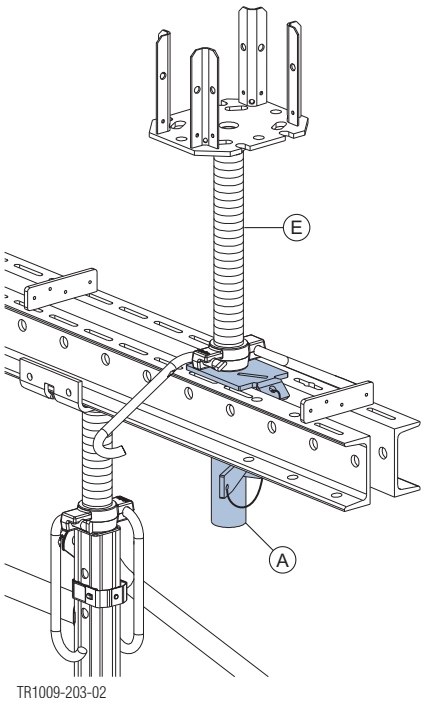
➤ Do not oil or grease the components of wedge-clamped joints.

➤ Move it to the desired position and firmly fix it with the wedge.



A	Staxo 100 spindle adapter
B	Screw jack U-head
C	Staxo 100 frame
D	Multi-purpose waling WU12 Top50
G	Anti-twist lock (prevents the Staxo 100 spindle adapter from being turned out of position)

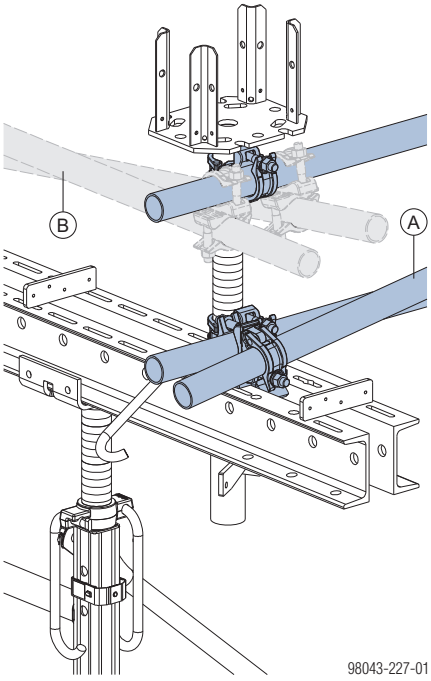
➤ Next, fit on a 4-way screw-jack head.



A Staxo 100 spindle adapter
E 4-way screw-jack head

Animation:
https://player.vimeo.com/video/278154867

➤ Installation of the scaffold tubes.



A Bracing in the direction transverse to the multi-purpose waling
B Alternative bracing when screw-jack U-head not restrained

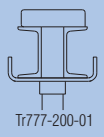
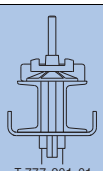
For an overall view of bracings see the section headed Bracing.

Steel primary beams

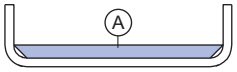
Note:
Comply with the maximum component weight limits permitted by local regulations for manual handling in assembly and disassembly operations (e.g. <25 kg / person)!

The following tables will be helpful to you when you are planning load-bearing tower superstructures consisting of steel primary beams and Screw jack U-heads, Heavy-duty screw jacks 70 top or Swivel bearing plates for Screw jack U-head.

Usage conditions for Doka series walings

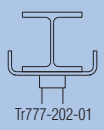
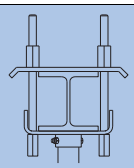
Doka series walings	Width x height [mm]	 Tr777-200-01 Unsecured max. width = 165 mm	 Tr777-201-01 Secured centrally (necessary from 12%) max. width 165 mm
Multi-purpose waling WS10 Top50	153 x 100	yes	yes
Multi-purpose waling WU12 Top50	163 x 120	yes	yes
Facade waling WU14	172 x 140	yes [1]	yes [1]
Multi-purpose waling SL-1 WU16	183 x 160	yes [1]	yes [1]
System beam SL-1	226 x 240	no	no

[1] Hardwood support **(A)** needed.
Bevelled edges prevent it resting in the curved radius zone, resulting in a max. width of 188 mm.



Tr770-201-03

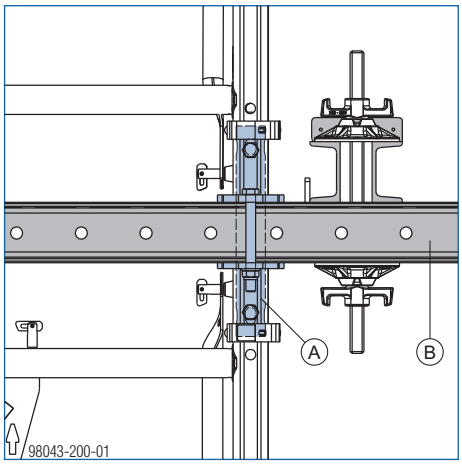
Usage conditions for various I-beams

Selection of I-beams	Width x height [mm]	 Tr777-202-01 Unsecured max. width = 165 mm	 Tr777-203-01 Secured at side (necessary from 12%) max. width 150 mm
I 380	149 x 380	yes	yes
I 425	163 x 425	yes	no
IPE 300	150 x 300	yes	yes
IPE 330	160 x 330	yes	no
IPBl 140	140 x 133	yes	yes
IPBl 160	160 x 152	yes	no
IPB 140	140 x 140	yes	yes
IPB 160	160 x 160	yes	no

Intermediate level made up with multi-purpose walings

Intermediate levels made up from multi-purpose walings permit the transfer of horizontal loads. The possibilities for using multi-purpose walings for this purpose are as follows:

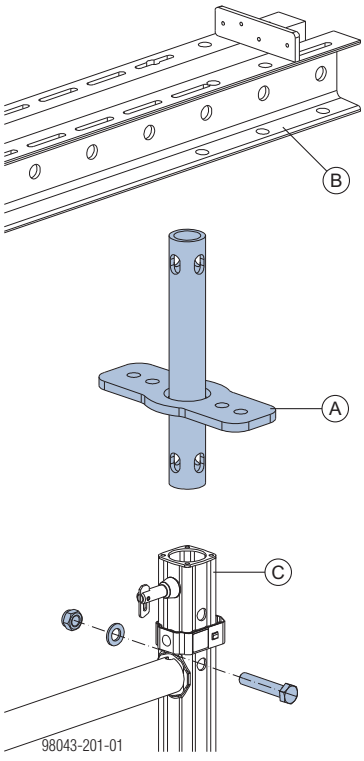
- Connection of a back-stay
- Support against / anchoring to the structure
- Formation of a truss of cross-braced horizontal multi-purpose walings



A Coupler WS10 250
B Multi-purpose waling WS10

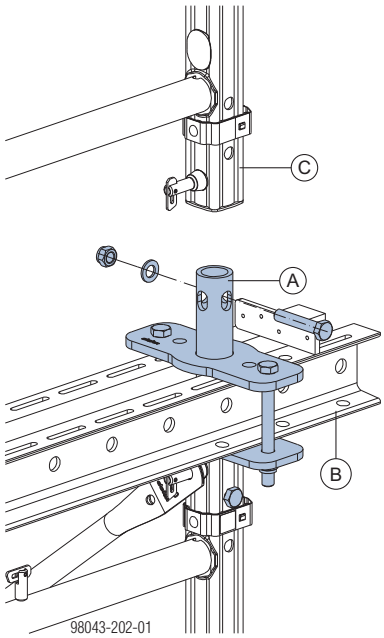
Assembly

➤ Insert Coupler WS10 250 into the Staxo 100 frame and bolt it into position.
➤ Set the multi-purpose waling on the coupler.



A Coupler WS10 250
B Multi-purpose waling WS10
C Staxo 100 frame

➤ Clamp the Multi-purpose waling WS10 to the coupler.
➤ Set the next Staxo 100 frame on the coupler and bolt it into position.



A Coupler WS10 250
B Multi-purpose waling WS10
C Staxo 100 frame

The scope of supply of the Coupler WS10 250 includes:

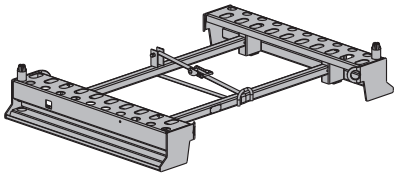
- 2 hexagon bolts ISO 4014 M16x80
- 2 hexagon bolts ISO 4014 M16x160
- 4 washers ISO 7089 16
- 4 hexagon nuts ISO 7042 M16 (self-locking)

Note:
As an alternative to the bolts, it is also possible to make the connection between coupler and Staxo 100 frame using Spring locked connecting pins 16mm.

Animation: https://player.vimeo.com/video/278154472

Transporting, stacking and storing

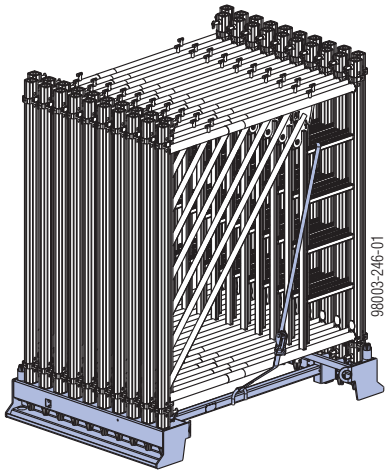
Doka pallet for Staxo/Aluxo



Storage and transport device for load-bearing tower frames.

Perm. load-bearing capacity: 750 kg (1650 lbs)
Permitted imposed stacking load: 1630 kg (3600 lbs)

Loading the transport device

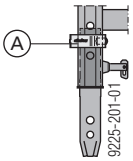


CAUTION

➤ It is not allowed to mix frames of different heights!

➤ Unwind the integral lashing strap from the Doka load-bearing tower pallet.

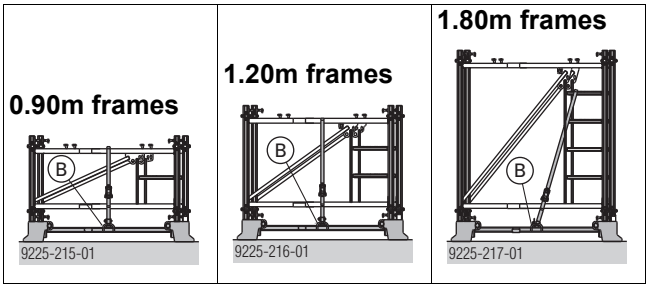
➤ Fix the connection sleeves of the Staxo or Aluxo frames in the extended position, using the yellow locking spring.



A Locking spring (yellow)

➤ Insert the legs of the frames (max. 20 frames per pallet) into the location holes.

➤ Depending on the height of the frames, pull the lashing strap either around the cross profile or (with 1.80m frames) around the top ladder-rung profile, hook it into the belt hook and tighten it carefully.

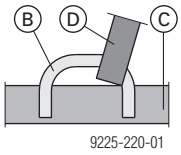
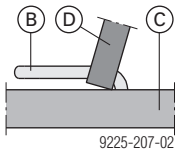


NOTICE

Overtightening the lashing strap can damage the cross profiles of the load-bearing tower frames.

NOTICE

On pallets with 'open' belt hooks that are being used for 1.80m high frames, the lashing strap MUST always be in the position shown.

Version with 'closed' belt hook	Version with 'open' belt hook
	
9225-220-01	9225-207-02

B Belt hook

C Cross profile

D Lashing strap

Using Doka pallets for Staxo/Aluxo as storage units

Storage of filled pallets

NOTICE

- When stacking multi-trip packaging items, put the heaviest units at the bottom and the lightest at the top.
- The pallets at the bottom of the stack must be completely and uniformly filled.
- Make sure that the connection sleeves are fixed in place and that the lashing strap is in the right position and is correctly tensioned.

	Max. number of pallets	
Type of frame	Stacked on the site (outdoors); floor gradients of up to 3%	Stacked in the warehouse; floor gradients of up to 1%
Staxo / Staxo 100 frame 0.90m	4	4
Staxo / Staxo 100 frame 1.20m	3	3
Staxo / Staxo 100 frame 1.80m	2	3

Storage of empty pallets

NOTICE

- When empty pallets are stacked, the lashing straps must be wound around the vertical profiles, attached to the belt hook and tensioned.

	Type of frame	Max. number of pallets
Stacked on the site	all	17
Stacking in the warehouse	all	27

Using Doka pallets for Staxo/Aluxo as transport devices

Lifting by crane

WARNING

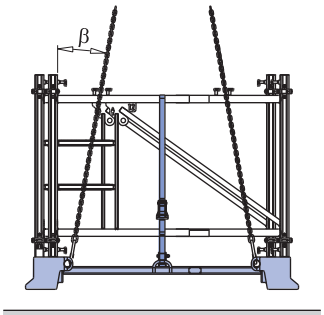
Do not attach the lifting chain to the Staxo or Aluxo frames!

The lashing strap is not designed to be used for hoisting loads – risk of rupture!

➤ The lifting chain may only be attached to the 4 slinging points on the Doka pallet for Staxo/Aluxo.

NOTICE

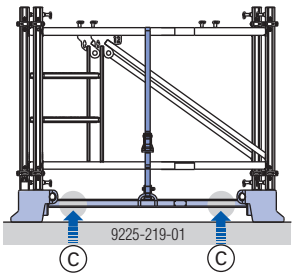
- Multi-trip packaging items may only be lifted one at a time.
- Use a suitable lifting chain (e.g. Doka 4-part chain 3.20m). Do not exceed the permitted working load limit.
- Sling angle β max. 30°!



Repositioning by forklift truck or pallet stacking truck

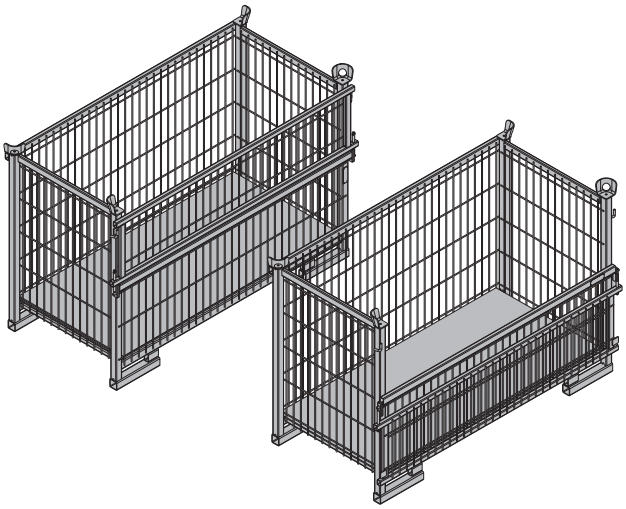
NOTICE

- The forks of the transport appliances may only be placed beneath the cross profiles of the Doka pallet for Staxo/Aluxo!
- Push stacker-truck forks as far apart as possible.



C Cross profile

Doka skeleton transport box 1.70x0.80m



Storage and transport device for small items.
To make the Doka skeleton transport box easier to load and unload, one of its sidewalls can be opened.

Permitted load-bearing capacity: 700 kg (1540 lbs)
Permitted imposed stacking load: 3150 kg (6950 lbs)

Using Doka skeleton transport boxes 1.70x0.80m as storage units

Max. n° of units on top of one another

Outdoors (on the site) Floor gradients up to 3%	Indoors Floor gradients up to 1%
2	5
It is not allowed to stack empty pallets on top of one another!	

NOTICE

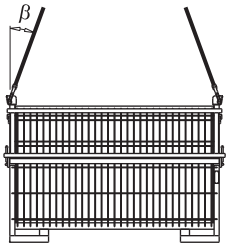
Stacked multi-trip boxes or pallets must have the heaviest boxes at the bottom and the lightest at the top.

Using Doka skeleton transport boxes 1.70x0.80m as transport devices

Lifting by crane

NOTICE

- Multi-trip packaging items must be lifted individually.
- Only lift the boxes when their sidewalls are closed!
- Use suitable lifting chains:
  - e.g. Doka 4-part chain 3.20m
  - Do not exceed the permitted working load limit of the lifting chains.
- Sling angle β max. 30°!



9234-203-01

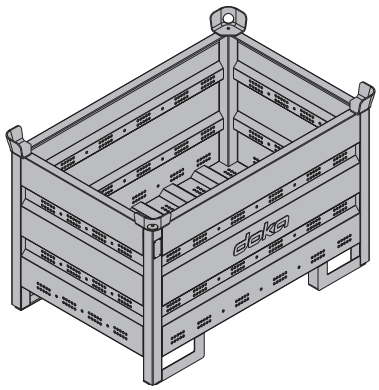
Repositioning by forklift truck or pallet stacking truck

The forks can be inserted under either the broadside or the narrowside of the containers.

Doka multi-trip transport box

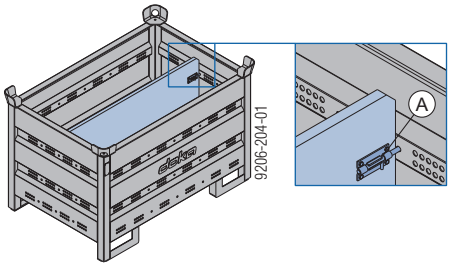
Storage and transport device for small items

Doka multi-trip transport box 1.20x0.80m



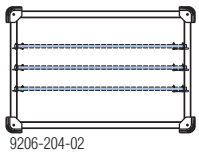
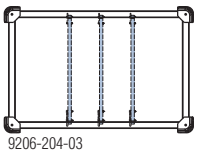
Permitted load-bearing capacity: 1500 kg (3300 lbs)
Permitted imposed stacking load: 7850 kg (17300 lbs)

Different items in the Doka multi-trip transport box can be kept separate with the **Multi-trip transport box partitions 1.20m or 0.80m**.

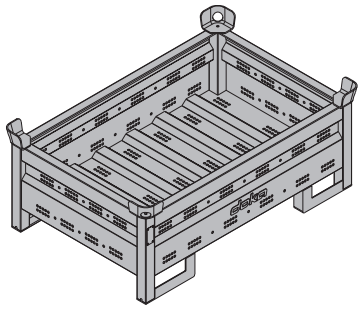


A Slide-bolt for fixing the partition

Possible ways of dividing the box

Multi-trip transport box partition	in the longitudinal direction	in the transverse direction
1.20m	max. 3	-
0.80m	-	max. 3
	 9206-204-02	 9206-204-03

Doka multi-trip transport box 1.20x0.80mx0.41m



Permitted load-bearing capacity: 750 kg (1650 lbs)
Permitted imposed stacking load: 7200 kg (15870 lbs)

Using Doka multi-trip transport boxes as storage units

Max. n° of units on top of one another

Outdoors (on the site) Floor gradients up to 3%		Indoors Floor gradients up to 1%	
Doka multi-trip transport box		Doka multi-trip transport box	
1.20x0.80m	1.20x0.80x0.41m	1.20x0.80m	1.20x0.80x0.41m
3	5	6	10
It is not allowed to stack empty pallets on top of one another!			

NOTICE

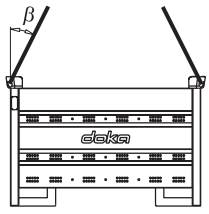
Stacked multi-trip boxes or pallets must have the heaviest boxes at the bottom and the lightest at the top.

Using Doka multi-trip transport boxes as transport devices

Lifting by crane

NOTICE

- Multi-trip packaging items must be lifted individually.
- Use suitable lifting chains:
  - e.g. Doka 4-part chain 3.20m
  - Do not exceed the permitted working load limit of the lifting chains.
- Sling angle β max. 30°!



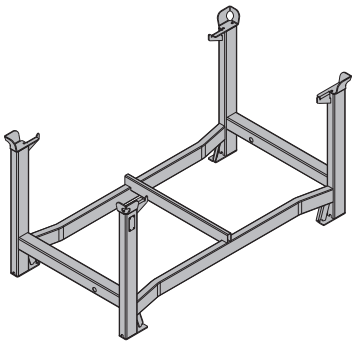
9206-202-01

Repositioning by forklift truck or pallet stacking truck

The forks can be inserted under either the broadside or the narrowside of the containers.

Doka stacking pallet 1.55x0.85m and 1.20x0.80m

Storage and transport device for long items.



Permitted load-bearing capacity: 1100 kg (2420 lbs)
Permitted imposed stacking load: 5900 kg (13000 lbs)

Using Doka stacking pallets as storage units

Max. n° of units on top of one another

Outdoors (on the site) Floor gradients up to 3%	Indoors Floor gradients up to 1%
2	6
It is not allowed to stack empty pallets on top of one another!	

NOTICE

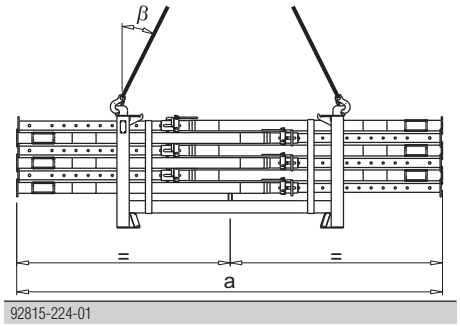
- Stacked multi-trip boxes or pallets must have the heaviest boxes at the bottom and the lightest at the top.
- **How to use with Bolt-on castor set B:**
  - Always apply the fixing brake when the container is 'parked'.
  - When Doka stacking pallets are stacked, the bottom pallet must NOT be one with a bolt-on castor set mounted to it.

Using Doka stacking pallets as transport devices

Lifting by crane

NOTICE

- Multi-trip packaging items must be lifted individually.
- Use suitable lifting chains:
  - e.g. Doka 4-part chain 3.20m
  - Do not exceed the permitted working load limit of the lifting chains.
- Load the items centrically.
- Fasten the load to the stacking pallet (e.g. with strapping tape or lashing strap) so that it cannot slide or tip out.
- Sling angle β max. 30°!



	a
Doka stacking pallet 1.55x0.85m	max. 4.5 m
Doka stacking pallet 1.20x0.80m	max. 3.0 m

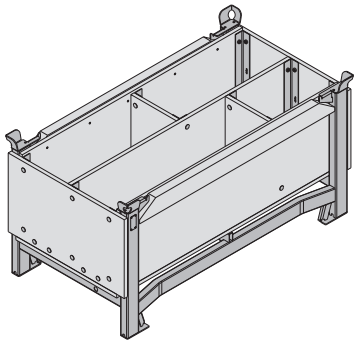
Repositioning by forklift truck or pallet stacking truck

NOTICE

- Load the items centrically.
- Fasten the load to the stacking pallet (e.g. with strapping tape or lashing strap) so that it cannot slide or tip out.

Doka accessory box

Storage and transport device for small items.



Permitted load-bearing capacity: 1000 kg (2200 lbs)
Permitted imposed stacking load: 5530 kg (12190 lbs)

Doka accessory boxes as storage units

Max. n° of units on top of one another

Outdoors (on the site) Floor gradients up to 3%	Indoors Floor gradients up to 1%
3	6
It is not allowed to stack empty pallets on top of one another!	

NOTICE

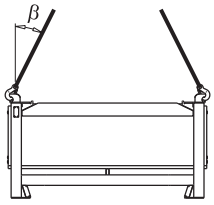
- Stacked multi-trip boxes or pallets must have the heaviest boxes at the bottom and the lightest at the top.
- **How to use with Bolt-on castor set B:**
  - Always apply the fixing brake when the container is 'parked'.
  - When Doka stacking pallets are stacked, the bottom pallet must NOT be one with a bolt-on caster set mounted to it.

Doka accessory box as transport devices

Lifting by crane

NOTICE

- Multi-trip packaging items must be lifted individually.
- Use suitable lifting chains:
  - e.g. Doka 4-part chain 3.20m
  - Do not exceed the permitted working load limit of the lifting chains.
- When lifting units to which Bolt-on castor sets B have been attached, you must also follow the directions in the 'Bolt-on castor set B' User information booklet!
- Sling angle β max. 30°!



92816-206-01

Repositioning by forklift truck or pallet stacking truck

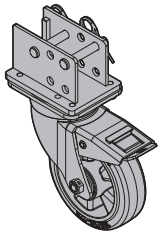
The forks can be inserted under either the broadside or the narrowside of the containers.

Universal castor wheel for transport pallet

The Universal castor wheel for transport pallet turns multi-trip packaging items into fast and manoeuvrable transport devices.

- 4 castor wheels needed per multi-trip packaging item.
- Compatible multi-trip packaging items:
  - Doka stacking pallets (all sizes)
  - Doka multi-trip transport box 1.20x0.80m
  - Doka skeleton transport box 1.70x0.80m
  - DokaXdek panel pallets (all sizes)
  - Superdek beam pallet 1.22x1.10m

Follow the directions in the 'Universal castor wheel for transport pallet' User Information booklet.

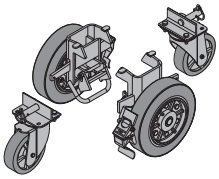


Bolt-on castor set B

The Bolt-on castor set B turns multi-trip packaging items into fast and manoeuvrable transport devices.

- Suitable for drive-through access openings > 90 cm.
- Compatible multi-trip packaging items:
  - Doka accessory box
  - Doka stacking pallets (all sizes)
  - Protective barrier Z pallets

Follow the directions in the 'Bolt-on castor set B' User Information booklet!

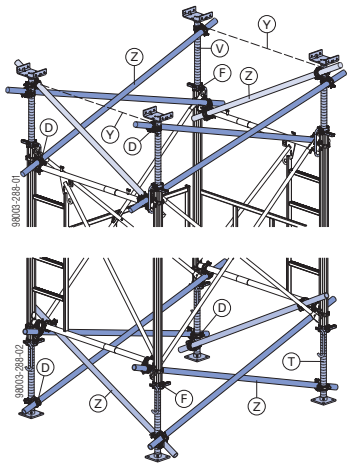


Structural design

Preconditions for use

- Working wind of 0.2 kN/m² (64.4 km/h) is considered
- Separate proof must be provided, by a suitably skilled person, regarding the foundation. Particular attention must be paid here to the ground-bearing pressure!
- States occurring during assembly and disassembly operations must also satisfy the statical requirements. Install temporary stiffeners as necessary.
- The calculated values are in line with the 'Type test for Staxo 100' and thus also with EN 12812 and EN 1993.
- In all cases which differ from the stated boundary conditions, the type test must be used as the basis for the dimensioning calculation, to ensure adequate stability.
  Such deviations may be due to:
  - variations in height
  - different wind loads
  - different inter-frame spacings
  - additional horizontal loads
  - larger screw-jack extension lengths
  - Inclined load-bearing tower
- On multi-plane towers with different inter-frame spaces, it is always the smallest inter-frame space that determines the design load.

Bracing



D	Swivel coupler 48mm
F	Split nut B
T	Heavy-duty screw jack 70
V	Heavy-duty screw jack 70 top
Y	Extra bracing is only necessary if the screw-jack heads are not connected with one another by way of the formwork base.
Z	Scaffold tube 48.3mm

Inclination adjustment

- Inclination adjusted with a centering strip (e.g. hexagon bolt M20x230) or Swivel bearing plate for Screw jack U-head = Screw-jack U-head not restrained.
- Inclination adjusted with a wooden wedge or 'Compensating plate' = no effect on the restraint situation.
  - e.g. with Wedge for screw jack U-head or Staxo wedge support

Founding with the 'Compensating plate'

NOTICE

- The 'Compensating plate' must be placed on concrete only.
- For the proof against slippage between the Compensating plate and the concrete, a friction coefficient of 0.33 must be assumed.

Ranges of use for top-held systems

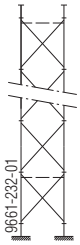
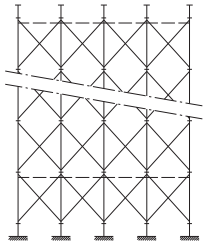
Height of load-bearing tower	Peak velocity pressure
h ≤ 15 m	q_k ≤ 1.3 kN/m²
15 m < h ≤ 21 m	q_k ≤ 0.8 kN/m²

Ranges of use for free-standing systems

For each 1% angle of inclination, increase the minimum imposed loads by +10% (max. +160%).

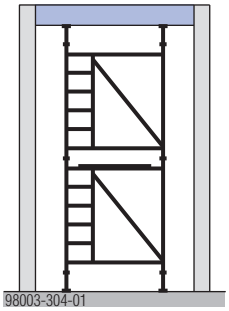
This fulfils the local proof against slippage between the Compensating plate and the concrete (μ_k = 0.33).

Set-up configurations

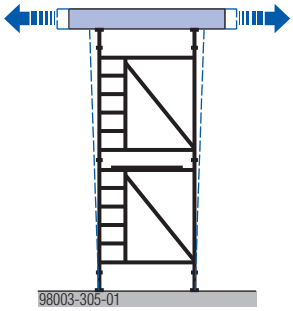
As tower Number of frame planes = 2	With multiple towerframe-planes Number of frame planes ≥ 3
	

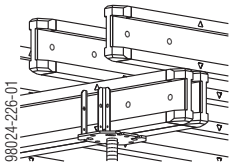
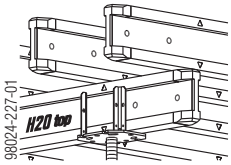
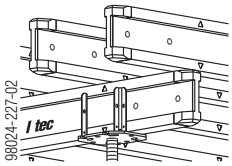
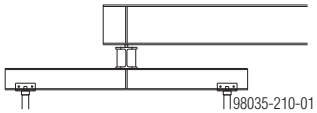
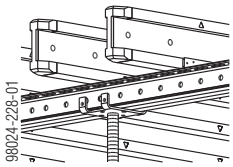
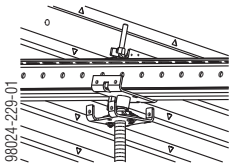
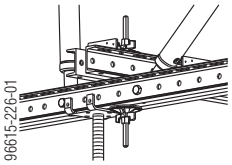
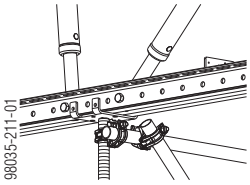
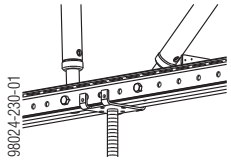
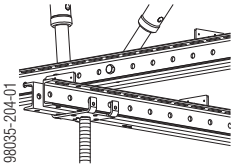
Superstructure configuration

Top-held systems



Free-standing systems



Head units restrained	Head units not restrained
Double primary beam using timber formwork beams or XT20 beams to DIN EN 13377 	Single primary beam using timber formwork beams or XT20 beams to DIN EN 13377 
Single primary beam using Doka beam I tec 20 according to Z-9.1-773 [1] 	Centring beams 
Multi-purpose waling 	Swivel head 
Friction-locked, unloaded secondary beam 	Multi-purpose waling with braced Screw jack U-heads without stiffeners 
Multi-purpose waling with Screw jack U-heads without stiffeners 	
Transverse, unloaded multi-purpose waling between longitudinal multi-purpose walings and Screw jack U-heads 	

Max. secondary-beam spacing 50 cm

[1] due to the higher rigidity of the flanges and the web

Permitted leg loads

Free-standing systems (without bracing, without holding device)

Frame size [m]	Max. screw-jack extension lengths [cm] at top and bottom respectively		Inter-frame space [m]	Number of frame planes connected to one another by diagonal crosses (multi-plane tower)	Max. height [m] of load-bearing tower without intermediate anchoring (Intermediate anchoring planes may be necessary while the towers are being erected.)	Permissible leg load [kN]			
						Head units restrained		Head units not restrained	
	Unbraced	Braced				V	H	V	H
up to 1.80	30	70	≥ 1.5	≥ 2	7.8	63	1	55	1
					11.4	56	1	—	—
					13.2	53	1	—	—
			≥ 1.0	≥ 3	7.8	62	1	54	1
				≥ 5	13.2	56	1	—	—
up to 1.20	30	45	≥ 1.0	≥ 3	7.8	83	1	—	—
				≥ 5	15	75	1	—	—
			≥ 0.6	≥ 5	7.8	77	1	—	—
				≥ 8	15	65	1	—	—

Top-held systems (e.g. enclosed space, or with bracing)

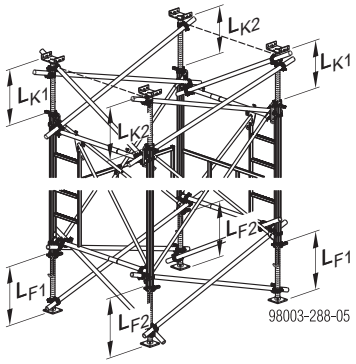
Frame size [m]	Max. screw-jack extension lengths [cm] at top and bottom respectively		Inter-frame space [m]	Number of frame planes connected to one another by diagonal crosses (multi-plane tower)	Max. height [m] of load-bearing tower without intermediate anchoring (Intermediate anchoring planes may be necessary while the towers are being erected.)	Permissible leg load [kN]	
						Head units restrained	Head units not restrained
	Unbraced	Braced					
up to 1.80	30	70	≥ 1.5	≥ 2	3.2	67	60
					20	70	61
	L_F<70 a. L_K<45 or L_{F1}<30 a. L_{F2}<1.3 a. L_{K1}<30 a. L_{K2}<130	L_F<130 a. L_K<130			4.4	51	41
					20	48	44
up to 1.20	30	45	≥ 1.5	≥ 2	2.1	89	—
					20	94	—
			≥ 1.0	≥ 3	2.1	87	—
					21	93	—
			≥ 0.6	≥ 5	2.1	87	—
					21	91	—
up to 1.20 (with 0.90 in top and bottom 'storeys')	25	45	≥ 1.5	≥ 2	3.5	105	—
					20	98	—
			≥ 1.0	≥ 2	10	103	—
				≥ 3	20	98	—
			≥ 0.6	≥ 5	20	96	—

Doka beam	Permissible leg load
I tec 20	Where 2 Doka beams I tec 20 are used as primary beams **60 kN**
	With 2 Doka beams I tec 20 used as primary beams and one Dokaplex intermediate sheet (size: 160 x 210 mm, thickness: 18 or 21 mm): **70 kN**
	With 2 Doka beams I tec 20 used as primary beams and one intermediate steel sheet of thickness t=8 mm: **80 kN**
XT 20	With 2 Doka beams XT20 used as primary beams on the Screw jack U-head: **54 kN**
	With 2 Doka beams XT20 used as primary beams on the Screw jack U-head and one Dokaplex intermediate sheet: **60 kN***)
	With 2 Doka beams XT20 used as primary beams on the 4-way screw-jack head: **60 kN***)
The intermediate sheets have to be secured so that they cannot drop down, for example with suitable lengths of adhesive tape.	

*) … Due to the max. permissible support reaction of the single beams of 30 kN, the permissible reaction load of 60 kN must not be exceeded when using 2 Doka beams XT20.

NOTICE

- Secure the load-bearing tower against slippage and tipover, in all situations!
- Ensure that all loads are applied centrally!



	[kg]	Article N°
Staxo 100 frame 0.90m	**24.0**	**582302000**
Staxo 100 frame 1.20m	**28.0**	**582301000**
Staxo 100 frame 1.80m	**37.0**	**582300000**

Staxo 100-Rahmen

Galvanised

	[kg]	Article N°
Diagonal cross 9.060	**3.1**	**582322000**
Diagonal cross 9.100	**4.1**	**582772000**
Diagonal cross 9.150	**5.2**	**582773000**
Diagonal cross 9.175	**6.1**	**582334000**
Diagonal cross 9.200	**6.6**	**582774000**
Diagonal cross 9.250	**7.7**	**582775000**
Diagonal cross 9.300	**9.0**	**582323000**
Diagonal cross 12.060	**4.0**	**582324000**
Diagonal cross 12.100	**4.8**	**582610000**
Diagonal cross 12.150	**5.7**	**582612000**
Diagonal cross 12.175	**6.3**	**582335000**
Diagonal cross 12.200	**6.9**	**582614000**
Diagonal cross 12.250	**8.3**	**582616000**
Diagonal cross 12.300	**9.3**	**582325000**
Diagonal cross 18.100	**6.1**	**582620000**
Diagonal cross 18.150	**6.9**	**582622000**
Diagonal cross 18.175	**7.8**	**582336000**
Diagonal cross 18.200	**7.8**	**582624000**
Diagonal cross 18.250	**9.1**	**582626000**
Diagonal cross 18.300	**10.3**	**582326000**

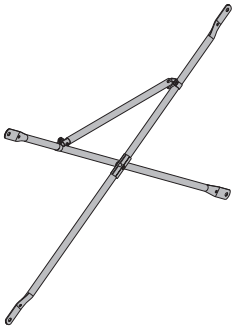
Diagonalkreuz

Galvanised
Delivery condition: folded closed

	[kg]	Article N°
Diagonal cross H 9.100	**5.7**	**582337000**
Diagonal cross H 9.150	**7.2**	**582338000**
Diagonal cross H 9.200	**9.3**	**582339000**
Diagonal cross H 9.250	**11.3**	**582340000**
Diagonal cross H 12.100	**5.8**	**582341000**
Diagonal cross H 12.150	**7.5**	**582342000**
Diagonal cross H 12.200	**9.3**	**582343000**
Diagonal cross H 12.250	**10.5**	**582344000**

Diagonalkreuz H

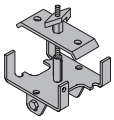
Galvanised
Delivery condition: folded closed



	[kg]	Article N°
U-head D	**6.7**	**582709000**

Gabelkopf D

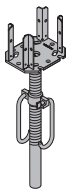
Galvanised
Length: 20 cm
Width: 22 cm
Height: 37 cm



	[kg]	Article N°
4-way screw-jack head	**10.4**	**582638000**

Vierwegkopfspindel

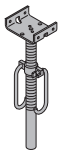
Galvanised
Height: 86 cm



	[kg]	Article N°
Screw jack U-head	**9.2**	**582636000**

Kopfspindel

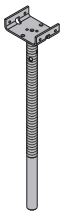
Galvanised
Height: 74 cm



	[kg]	Article N°
Heavy-duty screw jack 70 top	**9.2**	**582327000**

Lastspindel 70 oben

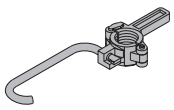
Galvanised
Height: 106 cm



	[kg]	Article N°
Split nut B	**2.0**	**582634000**

Spannmutter B

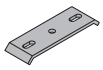
Galvanised



	[kg]	Article N°
Clamping plate D	**2.0**	**502709030**

Klemmplatte D

Galvanised
Length: 24 cm
Width: 9 cm



	[kg]	Article N°
Wing nut 15.0	**0.31**	**581961000**

Flügelmutter 15,0

Galvanised
Length: 10 cm
Height: 5 cm
Width-across: 27 mm

	[kg]	Article N°
Locking rod 15.0 330mm	**0.48**	**582641000**

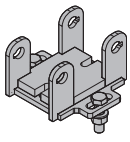
Quetschteil 15,0 330mm

Galvanised
Width-across: 24 mm

	[kg]	Article N°
DokaXdek spindle connector T	**4.8**	**584124000**

DokaXdek-Spindelanschluss T

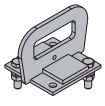
Galvanised
Height: 10.2 cm

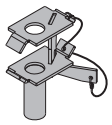
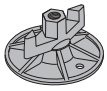
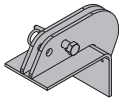
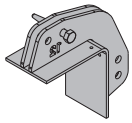
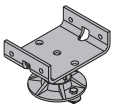
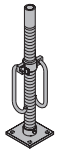
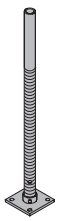


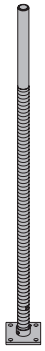
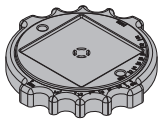
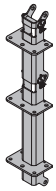
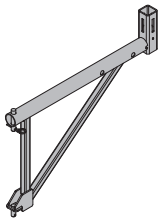
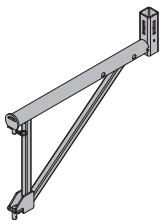
	[kg]	Article N°
Dokamatic table Staxo spindle connector	**3.9**	**582347000**

Staxo-Spindelanschluss Dokamatic-Tisch

Galvanised
Length: 20.7 cm



	[kg]	Article N°
Wedge for screw jack ..... % Spindelkeil ..... %  Length: 20 cm Width: 16 cm	**0.46**	**176071000**
Staxo 100 spindle adapter Staxo 100-Spindeladapter  Galvanised Height: 26 cm	**3.4**	**582351000**
Super plate 15.0 Superplatte 15,0  Galvanised Height: 6 cm Diameter: 12 cm Width-across: 27 mm	**0.98**	**581966000**
Staxo wedge support WS10 Staxo-Keilauflager WS10  Galvanised Length: 31 cm Width: 15 cm Height: 23 cm	**8.7**	**582796000**
Staxo wedge support WU12/14 Staxo-Keilauflager WU12/14  Galvanised Length: 35.6 cm Width: 15 cm Height: 33.6 cm	**12.2**	**582350000**
Swivel bearing plate for screw jack U-head Gelenkaufsatz Kopfspindel  Galvanised Length: 20.8 cm Width: 15.0 cm Height: 14.4 cm	**5.2**	**582799000**
Hexagon nut 15.0 Sechskantmutter 15,0  Galvanised Length: 5 cm Width-across: 30 mm	**0.23**	**581964000**
Screw jack foot Fußspindel  Galvanised Height: 69 cm	**8.3**	**582637000**
Heavy-duty screw jack 70 Lastspindel 70  Galvanised Height: 101 cm	**8.8**	**582639000**

	[kg]	Article N°
Heavy-duty screw jack 130 Lastspindel 130  Galvanised Height: 173 cm	**13.0**	**582711000**
Compensating plate Ausgleichsplatte  Black Diameter: 30 cm	**1.2**	**582239000**
Staxo 100 bracket adapter Staxo 100-Konsolenadapter  Galvanised Length: 15 cm Width: 20 cm Height: 100 cm	**11.0**	**582388000**
Staxo 100 bracket 60cm Staxo 100-Konsole 60cm  Galvanised Length: 69 cm Height: 54 cm	**4.8**	**582389000**
Staxo 100 bracket 60cm 2G Staxo 100-Konsole 60cm 2G  Galvanised	**4.8**	**582389500**
Staxo 100 railing strut 1.00m **Staxo 100 railing strut 1.50m** **Staxo 100 railing strut 2.00m** **Staxo 100 railing strut 2.50m** Staxo 100-Geländerstrebe  Galvanised	**2.9** **4.1** **5.8** **7.0**	**582390000** **582391000** **582392000** **582397000**

	[kg]	Article N°
Staxo 100 corner plank Staxo 100-Eckbelag Aluminium Length: 71 cm Width: 71 cm Height: 15 cm	**4.5**	**582393000**
Staxo 100 corner railing Staxo 100-Eckgeländer Galvanised Length: 110 cm Width: 15 cm Height: 60 cm	**6.0**	**582394000**
Staxo 100 railing coupler Staxo 100-Geländerkupplung Galvanised Length: 22 cm Width: 20 cm Height: 20 cm	**1.8**	**582395000**
Staxo 100 front railing bracket 60cm Staxo 100-Stirngeländer Konsole 60cm Galvanised Length: 69 cm Width: 12 cm Height: 56 cm	**5.5**	**582396000**
Staxo 100 closure decking 60/150cm Staxo 100-Übergangsbelag 60/150cm Aluminium Height: 13 cm	**12.1**	**582398000**
Staxo 100 closure decking 60/200cm Staxo 100-Übergangsbelag 60/200cm Aluminium Height: 13 cm	**16.6**	**582399000**
Waling clamp 2G Riegelklammer 2G Galvanised Width: 7.7 cm Height: 12 cm Width-across: 19 mm	**0.45**	**580118000**

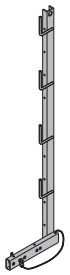
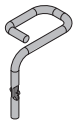
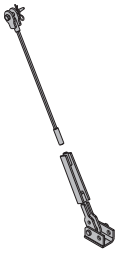
	[kg]	Article N°
Doka floor prop Eurex 60 550 Doka-Deckenstütze Eurex 60 550 Aluminium Length: 345 - 555 cm	**47.0**	**582650000**
Extension Eurex 60 2.00m Verlängerung Eurex 60 2,00m Powder-coated blue Aluminium Length: 250 cm	**21.3**	**582651000**
Coupler Eurex 60 Kupplungsstück Eurex 60 Aluminium Length: 100 cm Diameter: 12.8 cm	**8.6**	**582652000**
U-head Eurex 60 Gabelkopf Eurex 60 Galvanised Length: 22 cm Width: 20 cm Height: 12 cm	**2.9**	**582656000**
4-way head Eurex 60 Vierwegkopf Eurex 60 Galvanised Length: 25 cm Width: 21 cm Height: 21 cm	**4.5**	**582655000**
Plumbing strut Eurex 60 550 Justierstütze Eurex 60 550 Powder-coated blue Aluminium Length: 343 - 553 cm	**42.5**	**582658000**

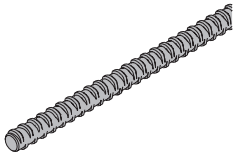
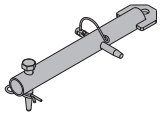
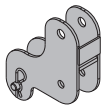
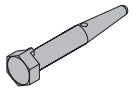
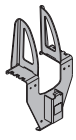
	[kg]	Article N°
Prop head Eurex 60 Top50 Stützenkopf Eurex 60 Top50 Galvanised Height: 50 cm	7.1	582665000
Connector Eurex 60 IB Verbindungsstück Eurex 60 IB Galvanised Length: 15 cm Width: 15 cm Height: 30 cm	4.2	582657500
Plumbing strut shoe Eurex 60 EB Justierstützenfuß Eurex 60 EB Galvanised Length: 31 cm Width: 12 cm Height: 33 cm	8.0	582660500
Swivel coupler 48mm Eurex 60 Drehkupplung 48mm Eurex 60 Galvanised Width-across: 22 mm	1.0	582654000
Plumbing strut 340 IB Justierstütze 340 IB Galvanised Length: 190.8 - 341.8 cm	16.7	588696000
Plumbing strut 340 IB EF Justierstütze 340 IB EF Galvanised Length: 190.8 - 341.8 cm	14.9	588247500

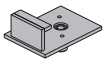
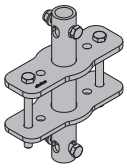
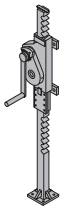
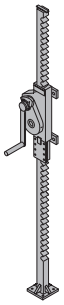
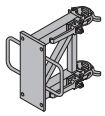
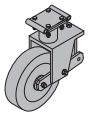
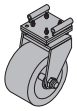
	[kg]	Article N°
Plumbing strut 540 IB Justierstütze 540 IB Galvanised Length: 310.5 - 549.2 cm	30.7	588697000
Plumbing strut 540 IB EF Justierstütze 540 IB EF Galvanised Length: 310.5 - 549.2 cm	28.9	588250500
Strut shoe EB Strebenschuh EB Galvanised Width: 8 cm Height: 13 cm	0.93	588946000
Prop shoe EB Stützenschuh EB Galvanised Length: 20 cm Width: 11 cm Height: 10 cm	1.8	588245500
Universal dismantling tool Universal-Lösewerkzeug Galvanised Length: 75.5 cm	3.6	582768000
Removable folding tripod 1.20m Stützbein 1,20m Galvanised Height: 120 cm Delivery condition: folded closed	20.7	586145000

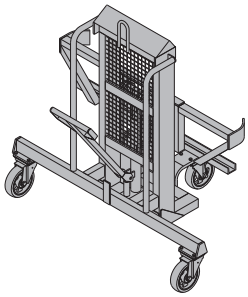
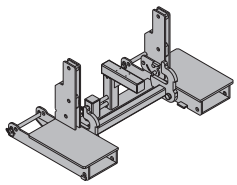
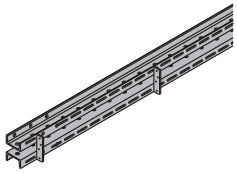
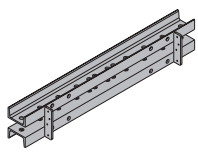
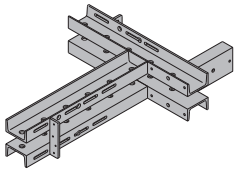
	[kg]	Article N°
Doka express anchor 16x125mm Doka-Expressanker 16x125mm Galvanised Length: 18 cm	**0.31**	**588631000**
Doka coil 16mm Doka-Coil 16mm Galvanised Diameter: 1.6 cm	**0.009**	**588633000**
Information plate for express anchor Plakette Expressanker PS Width: 8 cm Height: 7.5 cm	**0.1**	**588630000**
Scaffold planking 30/100cm **Scaffold planking 30/150cm** **Scaffold planking 30/200cm** **Scaffold planking 30/250cm** **Scaffold planking 30/300cm** Gerüstbelag Galvanised	**7.4** **10.6** **13.5** **16.4** **19.5**	**582231000** **582232000** **582234000** **582235000** **582236000**
Scaffold planking 60/100cm with manhole **Scaffold planking 60/150cm with manhole** **Scaffold planking 60/175cm with manhole** **Scaffold planking 60/200cm with manhole** **Scaffold planking 60/250cm with manhole** **Scaffold planking 60/300cm with manhole** Gerüstbelag mit Durchstieg Aluminium	**9.5** **13.8** **15.5** **17.7** **20.8** **26.3**	**582311500** **582312500** **582333500** **582313500** **582314500** **582315500**
Scaffold planking 60/60cm **Scaffold planking 60/100cm** **Scaffold planking 60/150cm** **Scaffold planking 60/175cm** **Scaffold planking 60/200cm** **Scaffold planking 60/250cm** **Scaffold planking 60/300cm** Gerüstbelag Aluminium	**6.1** **9.5** **13.6** **15.5** **17.8** **22.2** **26.2**	**582330500** **582306500** **582307500** **582332500** **582308500** **582309500** **582310500**
Staxo 100 toeboard Staxo 100-Fußwehr Galvanised Length: 131 cm Height: 15 cm	**5.5**	**582329000**

	[kg]	Article N°
Staxo 100 planking strut 1.00m **Staxo 100 planking strut 1.50m** Staxo 100-Belagstrebe Galvanised Width-across: 22 mm	**6.1** **9.0**	**582348000** **582349000**
Spring locked connecting pin 16mm Federbolzen 16mm Galvanised Length: 15 cm	**0.25**	**582528000**
Scaffold tube 48.3mm 0.50m **Scaffold tube 48.3mm 1.00m** **Scaffold tube 48.3mm 1.50m** **Scaffold tube 48.3mm 2.00m** **Scaffold tube 48.3mm 2.50m** **Scaffold tube 48.3mm 3.00m** **Scaffold tube 48.3mm 3.50m** **Scaffold tube 48.3mm 4.00m** **Scaffold tube 48.3mm 4.50m** **Scaffold tube 48.3mm 5.00m** **Scaffold tube 48.3mm 5.50m** **Scaffold tube 48.3mm 6.00m** **Scaffold tube 48.3mm .....m** Gerüstrohr 48,3mm Galvanised	**1.7** **3.6** **5.4** **7.2** **8.4** **10.8** **12.6** **14.4** **16.2** **18.0** **19.8** **21.6** **3.6**	**682026000** **682014000** **682015000** **682016000** **682017000** **682018000** **682019000** **682021000** **682022000** **682023000** **682024000** **682025000** **682001000**
Transition swivel coupler 48/76mm Übergangsdrehkupplung 48/76mm Galvanised Width-across: 22 mm	**1.9**	**582563000**
Swivel coupler 48mm Drehkupplung 48mm Galvanised Width-across: 22 mm	**1.5**	**582560000**
Normal coupler 48mm Normalkupplung 48mm Galvanised Width-across: 22 mm	**1.2**	**682004000**
Anchoring shoe for stair tower Ankerschuh für Treppenturm Galvanised Length: 22 cm Width: 12 cm Height: 22 cm	**3.4**	**582680000**
Cone screw M30 SW50 7cm Konusschraube M30 SW50 7cm Green Length: 10 cm Diameter: 7 cm Width-across: 50 mm	**0.88**	**581444500**
Cone screw B 7cm Konusschraube B 7cm Red Length: 10 cm Diameter: 7 cm Width-across: 50 mm	**0.86**	**581444000**

	[kg]	Article N°
Rafter plate right	0.09	582521000
Rafter plate left	0.09	582522000
Sparrenpfettenanker		
Galvanised Length: 17 cm		
		
Handrail clamp S	11.5	580470000
Schutzgeländerzwinge S		
Galvanised Height: 123 - 171 cm		
		
Handrail post T 1.80m	17.7	584373000
Einschubgeländer T 1,80m		
Galvanised		
		
Toeboard holder T 1.80m	0.53	584392000
Fußwehrhalter T 1,80m		
Galvanised Height: 13.5 cm		
		
Scaffold tube connection	0.27	584375000
Gerüstrohranschluss		
Galvanised Height: 7 cm		
		
Bracing for load-bearing towers	10.2	582795000
Abspannung für Traggerüste		
Galvanised Painted blue		
		

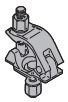
	[kg]	Article N°
Tie rod 15.0mm galvanised 0.50m	0.72	581821000
Tie rod 15.0mm galvanised 0.75m	1.1	581822000
Tie rod 15.0mm galvanised 1.00m	1.4	581823000
Tie rod 15.0mm galvanised 1.25m	1.8	581826000
Tie rod 15.0mm galvanised 1.50m	2.2	581827000
Tie rod 15.0mm galvanised 1.75m	2.5	581828000
Tie rod 15.0mm galvanised 2.00m	2.9	581829000
Tie rod 15.0mm galvanised 2.50m	3.6	581852000
Tie rod 15.0mm galvanised .....m	1.4	581824000
Tie rod 15.0mm non-treated 0.50m	0.73	581870000
Tie rod 15.0mm non-treated 0.75m	1.1	581871000
Tie rod 15.0mm non-treated 1.00m	1.4	581874000
Tie rod 15.0mm non-treated 1.25m	1.8	581886000
Tie rod 15.0mm non-treated 1.50m	2.1	581876000
Tie rod 15.0mm non-treated 1.75m	2.5	581887000
Tie rod 15.0mm non-treated 2.00m	2.9	581875000
Tie rod 15.0mm non-treated 2.50m	3.6	581877000
Tie rod 15.0mm non-treated 3.00m	4.3	581878000
Tie rod 15.0mm non-treated 3.50m	5.0	581888000
Tie rod 15.0mm non-treated 4.00m	5.7	581879000
Tie rod 15.0mm non-treated 5.00m	7.2	581880000
Tie rod 15.0mm non-treated 6.00m	8.6	581881000
Tie rod 15.0mm non-treated .....m	1.4	581873000
Ankerstab 15,0mm		
		DIN 18216
Bracing waling connector WS10	2.7	582756000
Abspann-Riegelverbinder WS10		
Galvanised Length: 46.7 cm		
		
Spindle connecting plate T	3.1	584371000
Spindellasche T		
Galvanised Width: 20 cm Height: 25 cm		
		
Connecting pin 10cm	0.34	580201000
Verbindungsbolzen 10cm		
Galvanised Length: 14 cm		
		
Spring cotter 5mm	0.03	580204000
Federvorstecker 5mm		
Galvanised Length: 13 cm		
		
Secondary-beam stabiliser 1	1.6	586196000
Secondary-beam stabiliser 2	2.1	586197000
Querträgersicherung		
Galvanised Height: 38.7 cm		
		
Lifting rod 15.0	1.9	586074000
Umsetzstab 15,0		
Painted blue Height: 57 cm Follow the directions in the "Operating Instructions"!		CE
		

	[kg]	Article N°
Retaining plate 15.0 Jochplatte 15,0  Galvanised Length: 17 cm Width: 12 cm Height: 11 cm	**1.8**	**586073000**
Universal plug R20/25 Kombi-Ankerstopfen R20/25  Blue Diameter: 3 cm	**0.003**	**588180000**
Coupler WS10 250 Kupplungsstück WS10 250  Galvanised Length: 35 cm Width: 27 cm Width-across: 24 mm	**6.9**	**582688000**
Winch 70 Zahnstangenwinde 70  Painted blue Height: 126 cm Follow the directions in the "Operating Instructions"! CE	**31.0**	**582779000**
Winch 125 Zahnstangenwinde 125  Painted blue Height: 189 cm Follow the directions in the "Operating Instructions"! CE	**63.8**	**582780000**
Staxo/d2 adapter frame Staxo/d2-Adapter  Painted blue Length: 37 cm Width: 36 cm Height: 36 cm	**14.1**	**582781000**
Solid tire wheel Vollelastikrad  Painted blue Height: 45 cm	**34.5**	**582573000**
Heavy-duty wheel 15kN Schwerlastrad 15kN  Painted blue Height: 41 cm	**44.0**	**582575000**

	[kg]	Article N°
Double wheeled transporter Zweirad-Transportroller  Painted blue Width: 57 cm	**5.0**	**582558000**
Shifting carriage TG Hubwagen TG  Galvanised Length: 99 cm Width: 152 cm Height: 148 cm Follow the directions in the "Operating Instructions"! CE	**168.0**	**582778000**
Fork lift shifting device TG Umsetzgerät TG für Stapler  Galvanised Length: 60 cm Width: 113 cm Height: 52 cm Follow the directions in the "Operating Instructions"! CE	**83.0**	**582797000**
Multi-purpose waling WS10 Top50 2.00m Mehrzweckriegel WS10 Top50 2,00m  Painted blue	**38.9**	**580007000**
Multi-purpose waling WS10 Top50 2'-6"	**15.5**	**581601000**
Multi-purpose waling WS10 Top50 3'-0"	**18.0**	**581621000**
Multi-purpose waling WS10 Top50 4'-0"	**24.4**	**581602000**
Multi-purpose waling WS10 Top50 5'-0"	**30.7**	**581617000**
Multi-purpose waling WS10 Top50 6'-0"	**37.3**	**581603000**
Multi-purpose waling WS10 Top50 7'-0"	**42.0**	**581616000**
Multi-purpose waling WS10 Top50 8'-0"	**49.4**	**581604000**
Multi-purpose waling WS10 Top50 10'-0"	**60.9**	**581605000**
Multi-purpose waling WS10 Top50 12'-0"	**74.5**	**581606000**
Multi-purpose waling WS10 Top50 14'-0"	**87.0**	**581607000**
Multi-purpose waling WS10 Top50 16'-0"	**99.0**	**581608000**
Mehrzweckriegel WS10 Top50  Painted blue		
Corner waling WS10 Top50 3'-0"x2'-0"	**25.6**	**581611000**
Corner waling WS10 Top50 4'-0"x2'-0"	**32.1**	**581612000**
Eckriegel WS10 Top50  Painted blue		

	[kg]	Article N°

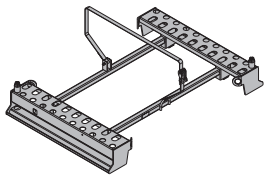
Screw-on coupler 48mm 50 0.8 682002000
Anschraubkupplung 48mm 50



Galvanised
Width-across: 22 mm

Multi-trip packaging

Doka load-bearing tower pallet 64.6 582783000
Doka-Traggerüstpalette

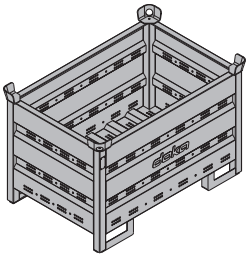


Galvanised
Length: 180 cm
Width: 120 cm
Height: 29 cm

Doka skeleton transport box 1.70x0.80m 87.0 583012000
Doka-Gitterbox 1,70x0,80m

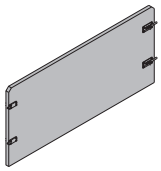
Galvanised
Height: 113 cm

Doka multi-trip transport box 1.20x0.80m 70.0 583011000
Doka-Mehrwegcontainer 1,20x0,80m



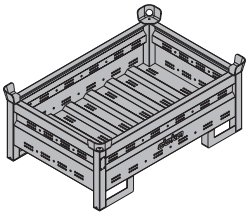
Galvanised
Height: 78 cm

Multi-trip transport box partition 0.80m 3.7 583018000
Multi-trip transport box partition 1.20m 5.5 583017000
Mehrwegcontainer Unterteilung



Steel parts galvanised
Timber parts varnished yellow

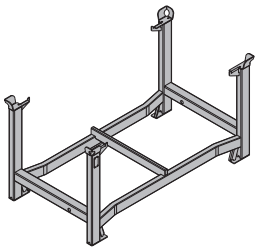
Doka multi-trip transport box 1.20x0.80x0.41m 42.5 583009000
Doka-Mehrwegcontainer 1,20x0,80x0,41m



Galvanised

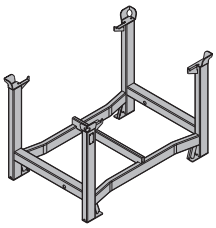
	[kg]	Article N°

Doka stacking pallet 1.55x0.85m 41.0 586151000
Doka-Stapelpalette 1,55x0,85m



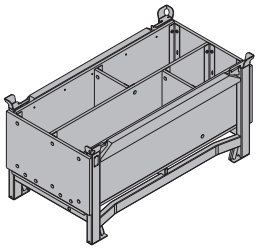
Galvanised
Height: 77 cm

Doka stacking pallet 1.20x0.80m 38.0 583016000
Doka-Stapelpalette 1,20x0,80m



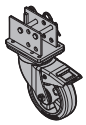
Galvanised
Height: 77 cm

Doka accessory box 106.4 583010000
Doka-Kleinteilebox



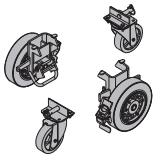
Timber parts varnished yellow
Steel parts galvanised
Length: 154 cm
Width: 83 cm
Height: 77 cm

Universal castor wheel for transport pallet 6.0 584043000
Universal-Lenkrolle Transportgebinde



Galvanised
Height: 28.8 cm

Bolt-on castor set B 33.6 586168000
Anklemm-Radsatz B



Painted blue

Formwork & Scaffolding.
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www.doka.com/staxo-100