999804302 - 02/2018
en-GB

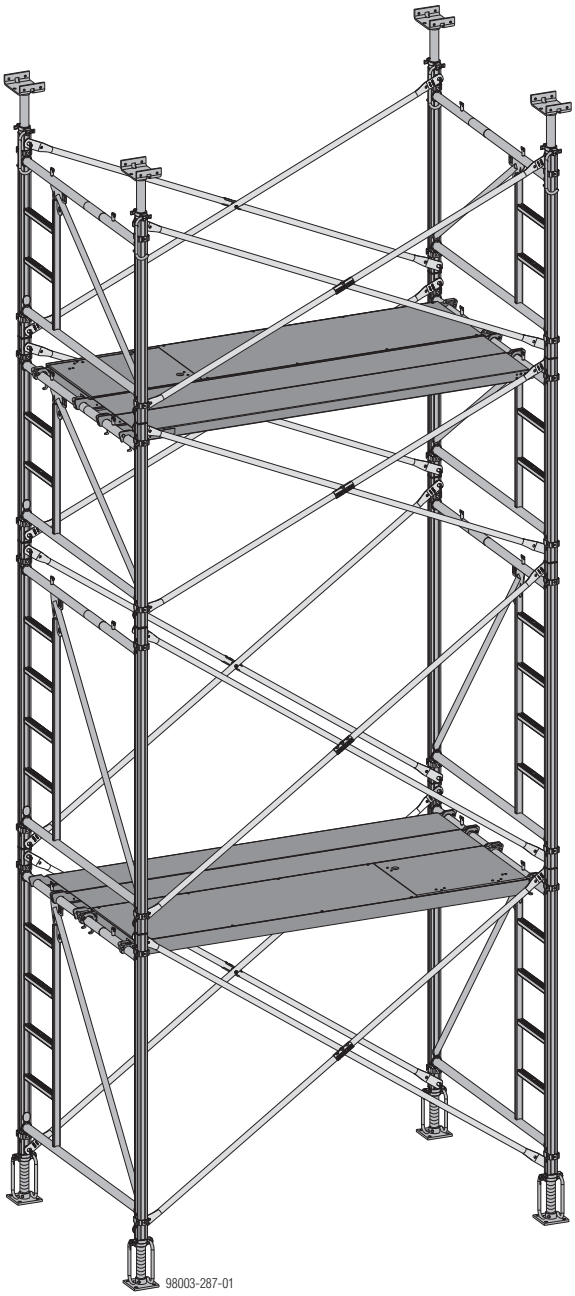
The Formwork Experts.

Load-bearing tower Staxo 100

with brief design as per Eurocode

User Information

Instructions for assembly and use (Method statement)



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 booklet can also be used as a generic method statement or incorporated with a site-specific method statement.
- **Many of the illustrations in this booklet show the situation during formwork assembly and are therefore not always complete from the safety point of view.**
  Any safety accessories not shown in these illustrations must still be used by the customer, in accordance with the applicable rules and regulations.
- **Further safety instructions, especially warnings, will be found in the individual sections of this booklet!**

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 side-guard 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. Heating appliances are only allowed if properly and expertly used, and set up a safe distance away from the formwork.
- The customer must consider all types of weather conditions on equipment and in connection with the use or storage of the equipment (e.g. slippery surfaces, risk of slippage, effects of wind, etc.) and must take steps in good time to safeguard the equipment and the surrounding areas and to protect the 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 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 suitable condition. Steps must be taken to rule out the use of any components that are damaged, deformed, or weakened due to wear, corrosion or rot.
- Combining our formwork systems with those of other manufacturers could be dangerous, risking damage to both health and property. If you intend to combine different systems, please contact Doka for advice first.
- The equipment/system must be assembled and erected in accordance with the applicable laws, Standards and rules by suitably skilled personnel of the customer's, having regard to any and all required safety inspections.
- It is not permitted to modify Doka products; any 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 out 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 booklet, the customer must use slinging means that are suitable for the application envisaged and that comply with the regulations.
- Remove any loose parts or fix them in place so that they cannot be dislodged or fall free!
- All components must be stored safely, following all the special Doka instructions given in the relevant sections of this booklet!

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.

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.

NOTE
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.

Eurocodes at Doka

In Europe, a uniform series of Standards known as **Eurocodes** (EC) was developed for the construction field by the end of 2007. These are intended to provide a uniform basis, valid throughout Europe, for product specifications, tenders and mathematical verification.

The EC are the world's most highly developed Standards in the construction field.

In the Doka Group, the EC are to be used as standard from the end of 2008. They will thus supersede the DIN norms as the "Doka standard" for product design.

The widely used "Permissible stress design" (comparing the actual stresses with the permissible stresses) has been superseded by a new safety concept in the EC.

The EC contrast the actions (loads) with the resistance (capacity). The previous safety factor in the permissible stresses is now divided into several partial factors. The safety level remains the same!

$$E_d \leq R_d$$

E_d **Design value of effect of actions**
(E ... effect; d ... design)
Internal forces from action F_d
(V_{Ed}, N_{Ed}, M_{Ed})

F_d **Design value of an action**
$F_d = \gamma_F \cdot F_k$
(F ... force)

F_k **Characteristic value of an action**
"actual load", service load
(k ... characteristic)
e.g. dead weight, live load, concrete pressure, wind

γ_F **Partial factor for actions**
(in terms of load; F ... force)
e.g. for dead weight, live load, concrete pressure, wind
Values from EN 12812

R_d **Design value of the resistance**
(R ... resistance; d ... design)
Design capacity of cross-section
(V_{Rd}, N_{Rd}, M_{Rd})

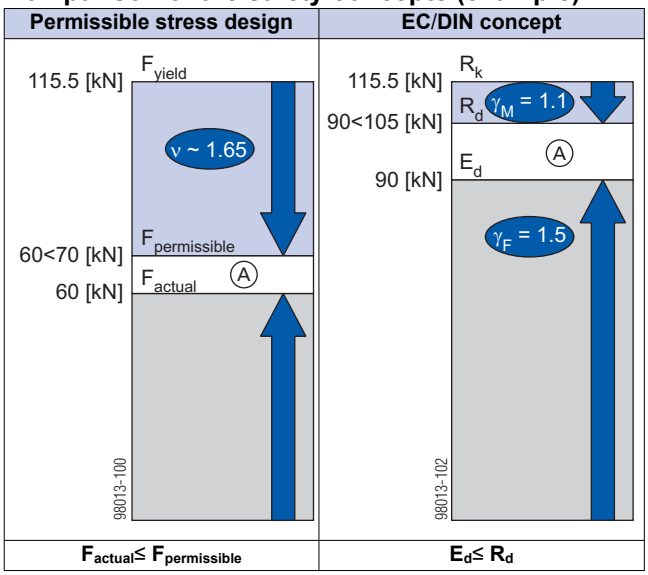
Steel: $R_d = \frac{R_k}{\gamma_M}$ Timber: $R_d = k_{mod} \cdot \frac{R_k}{\gamma_M}$

R_k **Characteristic value of the resistance**
e.g. moment resistance to yield stress

γ_M **Partial factor for a material property**
(in terms of material; M...material)
e.g. for steel or timber
Values from EN 12812

k_{mod} **Modification factor** (only for timber – to take account of the moisture and the duration of load action)
e.g. for Doka beam H20
Values as given in EN 1995-1-1 and EN 13377

Comparison of the safety concepts (example)



A Utilisation factor

The "permissible values" communicated in Doka documents (e.g.: $Q_{permissible}$ = 70 kN) do not correspond to the design values (e.g.: V_{Rd} = 105 kN)!

- ➤ Avoid any confusion between the two!
- ➤ Our 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

In this way, all the design values needed in an EC design calculation can be ascertained from the permissible values.

Doka services

Support in every stage of the project

Doka offers a broad spectrum of services, all with a single aim: to help you succeed on the site.

Every project is unique. Nevertheless, there is one thing that all construction projects have in common – and that is a basic structure with five stages. We at Doka know our clients' varying requirements. With our consulting, planning and other services, we help you achieve effective implementation of your formwork assignment using our formwork products – in every one of these stages.

Project Development Stage

Taking well-founded decisions thanks to professional advice and consulting

Find precisely the right formwork solutions, with the aid of

- help with the bid invitation
- in-depth analysis of the initial situation
- objective evaluation of the planning, execution, and time-risks

Bidding Stage

Optimising the preliminary work with Doka as an experienced partner

Draw up potentially winning bids, by

- basing them on realistically calculated guideline prices
- making the right formwork choices
- having an optimum time-calculation basis

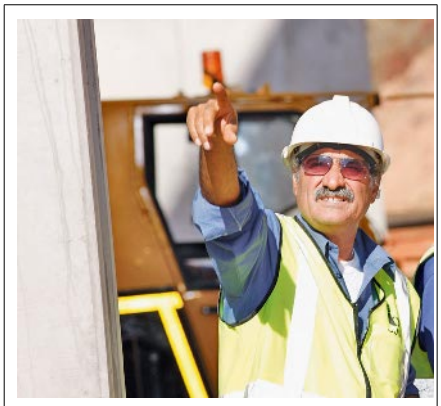
Operations Scheduling Stage

Controlled, regular forming operations, for greater efficiency resulting from realistically calculated formwork concepts

Plan cost-effectively right from the outset, thanks to

- detailed offers
- determination of the commissioning quantities
- co-ordination of lead-times and handover deadlines

Concrete Construction Stage



Optimum resource utilisation
with assistance from the Doka Formwork Experts

Workflow optimisation, thanks to

- thorough utilisation planning
- internationally experienced project technicians
- appropriate transport logistics
- on-site support

Project Close-out Stage

Seeing things through to a positive conclusion
with professional support

Doka Services are a byword for transparency and efficiency here, offering

- jointly handled return of rented formwork
- professional dismantling
- efficient cleaning and reconditioning using special equipment

The advantages for you
thanks to professional advice and consulting

- **Cost savings and time gains**
  When we advise and support you right from the word 'go', we can make sure that the right formwork systems are chosen and then used as planned. This lets you achieve optimum utilisation of the formwork equipment, and effective forming operations because your workflows will be correct.
- **Maximised workplace safety**
  The advice and support we can give you in how to use the equipment correctly, and as planned, leads to greater safety on the job.
- **Transparency**
  Because our services and costs are completely transparent, there is no need for improvisation during the project – and no unpleasant surprises at the end of it.
- **Reduced close-out costs**
  Our professional advice on the selection, quality and correct use of the equipment helps you avoid damage, and minimise wear-and-tear.

System description

Load-bearing tower Staxo 100 – the extra-high-capacity, fast load-bearing tower made of steel, with integral safety features

Staxo 100 comes with all the field-proven advantages of Staxo – meaning that it is robust, fast and versatile. On top of all this, Staxo 100 has been given an extensive package of built-in safety features, and its load capacity greatly increased.

Sturdy galvanised steel frames, in three different heights, are the basis of this high-speed, high-performance load-bearing tower system.

High load-bearing capacity, quick and easy assembly using integrated connectors, and great versatility - these are the outstanding characteristics of Staxo.

Wherever high loads occur, in either the building-construction or civil-engineering fields, this load-bearing tower is the ideal solution.

The high-performance load-bearing tower

- high capacity of up to 100 kN per leg
- with lightweight components (frames up to h=1.20 m can be manhandled)
- ergonomical: easy-to-handle parts

... speeds up work

- the small number of system components makes for easier handling and means that no time is wasted searching for parts
- the connector components are captively integrated into the frames and so cannot be lost
- no tools are needed for assembling the towers

... provides optimum safety

- high stability, due to its 1.52 m wide frames
- slip-proof ladders integrated in the frames
- suspension points for chest harness

... is flexible

- the inter-frame spacing can be varied (from 0.60 m to 3.00 m), for optimum utilisation of the frames' load-bearing capacity. (From 1.00m, in 50 cm increments).
- different frame heights - 0.90 m, 1.20 m and 1.80 m - for rough height adjustment in 30 cm increments: 0.90, 1.20 and 1.80 m
- fine adjustment by means of screw-jack U-heads and feet
- can be used in conjunction with floor props and Dokaflex

... is economical

- The tower units are quick and easy to assemble:
  - either on their sides or in the upright
  - for tall towers, tower units can be pre-assembled on their sides, and then simply stacked by crane
  - scaffold planking units make it easy to erect and dismantle the tower and superstructure
- with special wheel units, complete tableforms can quickly be wheeled to their next location
- the Forklift shifting device TG makes the job of erecting, dismantling and transporting Doka load-bearing towers very much easier.

Areas of use

The Load-bearing tower Staxo is ideal:

- as falsework for use in bridge-building, where high loads occur and where great stability is called for in that horizontal forces such as wind loads have to be safely transferred
- in the building construction field, e.g. for administration buildings and multistorey car-park decks, where large-area tableform units reduce forming times
- in the industrial and power-station construction field, as a load-bearing tower for all manner of applications

Doka stair tower 250

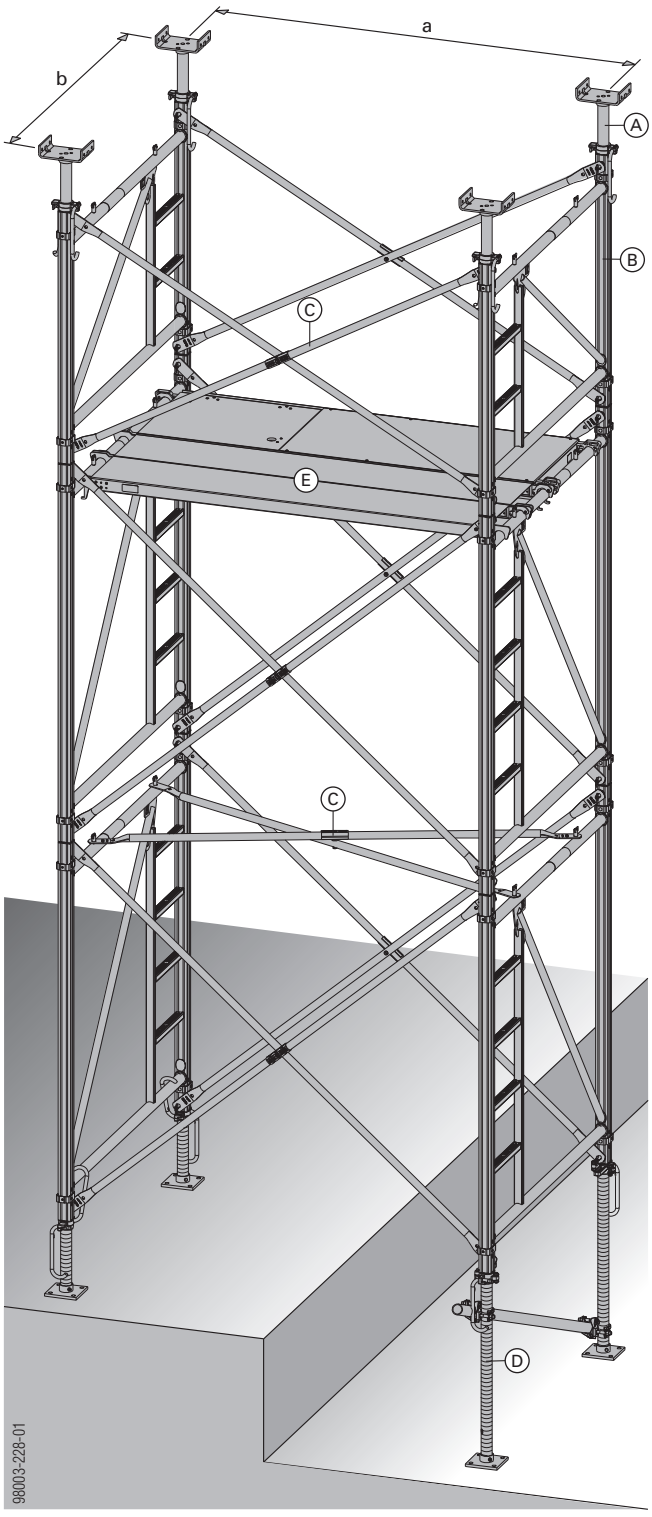
The Doka stair tower 250 consists of 1.20 m frames and a small number of light-weight aluminium stairway elements.

Quick to erect, the stair tower provides 'high-level' safety and lets the site crew get quickly to their workplaces.

Follow the directions in the 'Doka stair tower 250' User Information!

System overview

Basic design concept

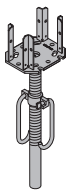
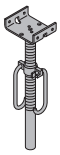
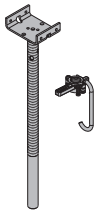
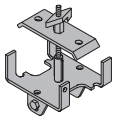


a ... inter-frame spacing = 60* / 100 / 150 / 175 / 200 / 250 / 300 cm
b ... frame width = 152 cm
* only for 1.20 and 0.90m frames

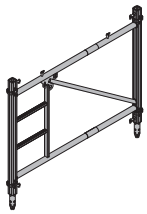
A	Head unit
B	Staxo 100 frame
C	Diagonal cross
D	Base unit
E	Scaffold planking

The Staxo 100 system components

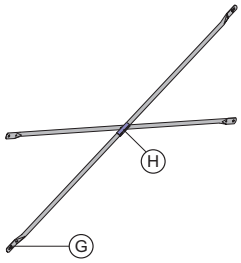
Head units (A)

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 primary beams (e.g. multi-purpose walings, steel girders).		For holding the primary beams (e.g. WS10 multi-purpose walings or double H20 beams).
The primary beams are fixed so that they cannot tip over.			

Staxo 100 frame (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)

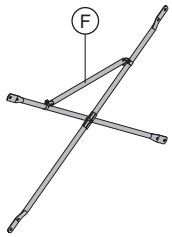


Drop-in steel-tube bracing crosses between the frames.

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 mounted waist-level guardrail strut **(F)** . This strut can also be retro-fitted to standard diagonal crosses.

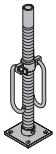
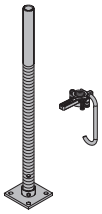
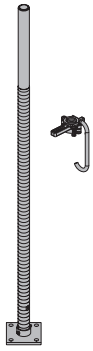
Designation	Colour-coded clip	Notches
Diagonal cross H 9.100	Green	—
Diagonal cross H 9.150	Red	—
Diagonal cross H 9.200	Blue	—
Diagonal cross H 9.250	Yellow	—
Diagonal cross H 12.100	Green	1
Diagonal cross H 12.150	Red	1
Diagonal cross H 12.200	Blue	1
Diagonal cross H 12.250	Yellow	1

Note:

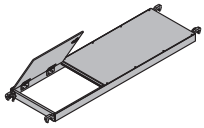
For **horizontal** bracing of the frames, always use **Diagonal crosses 9.xxx**.

In levels in which scaffold planking units are mounted, 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 feet	Heavy-duty screw jack 70 + Split nut B	Heavy-duty screw jack 130 + Split nut B
		
Bottom levelling 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 mis-matches such as on steps. Otherwise identical to Heavy-duty screw jack 70. See the section headed 'Structural design' for dimensioning details.

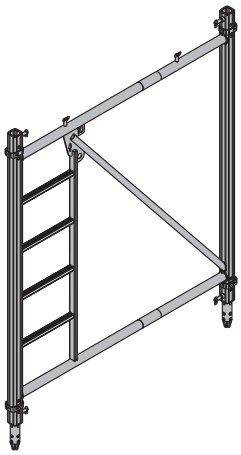
Scaffold planking units (E)

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	

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

Load Class 2 to EN 12811-1:2003

The Staxo 100 frame in detail

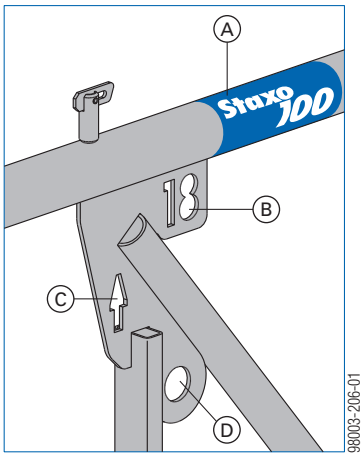


Features of the Staxo 100 frames

The following features characterise the Staxo **100** frame and distinguish it from the former Staxo frame.

NOTICE

Only Staxo 100 frames fulfil the capacity ratings stated in this document!



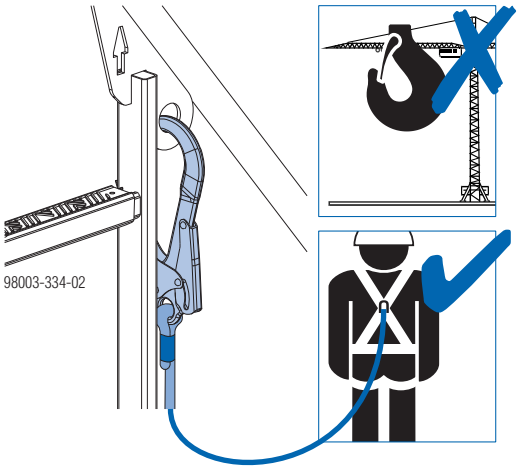
A	'Staxo 100' sticker
B	Stamped-in type designation: 18, 12 or 9
C	Arrow to make clear where 'top and bottom' are (arrow pointing up = frame is in correct position)
D	Attachment point for personal fall-arrest set

Anchorage points for personal fall arrest systems (PFAS)

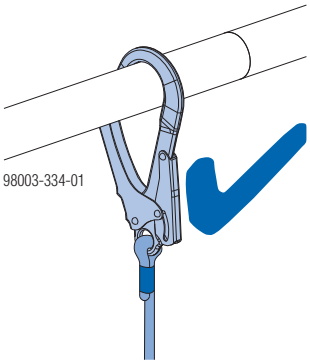
WARNING

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

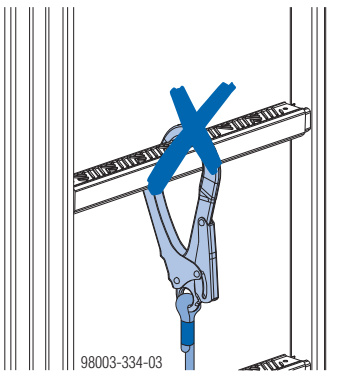
Attachment point allowed for personal fall-arrest set only.
Attachment of the crane suspension tackle for lifting is prohibited.



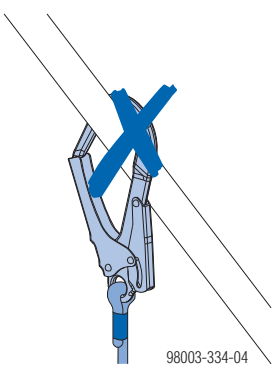
To horizontal tube: allowed.



To ladder rungs: prohibited.



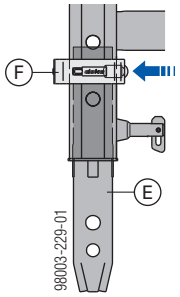
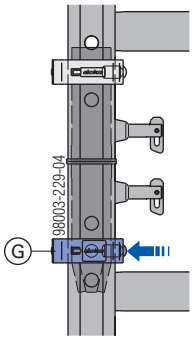
To diagonal tube: prohibited.



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**.

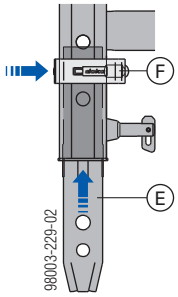
Mode of functioning for upward stacking

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

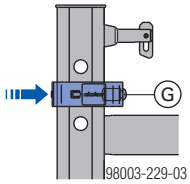
Yellow locking spring pushed toward the inside = connection sleeve unfixed.



E Connection sleeve
F Yellow locking spring

Mode of functioning for fitting the head units

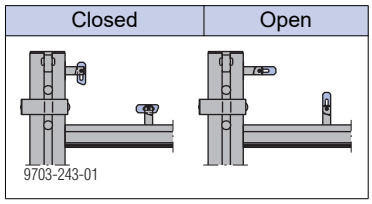
Blue locking spring is pushed toward the inside.



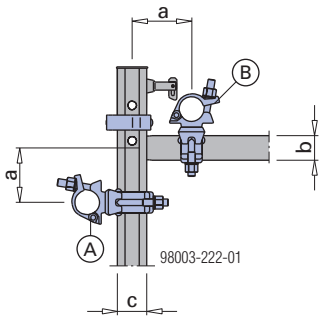
G Blue locking spring

Safety catch

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



Connecting the couplers

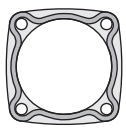


a ... max. 16 cm (exception: where tubes are being connected for constructional design purposes)
b ... Diameter 48 mm
c ... Diameter 75 mm

A Transition swivel coupler 48/76mm.
This type of link is not in conformity with DIN 4421 (DIN EN 74).
No loads may be introduced parallel to the Staxo tubes.
B Swivel coupler 48mm or Normal coupler 48mm

Profile form

- low weight, yet high load-bearing capacity
- sturdy

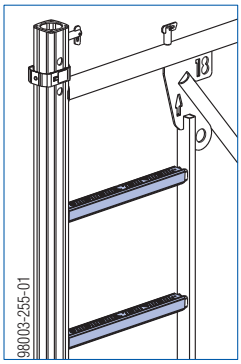


Profile seal

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

Vertical access system

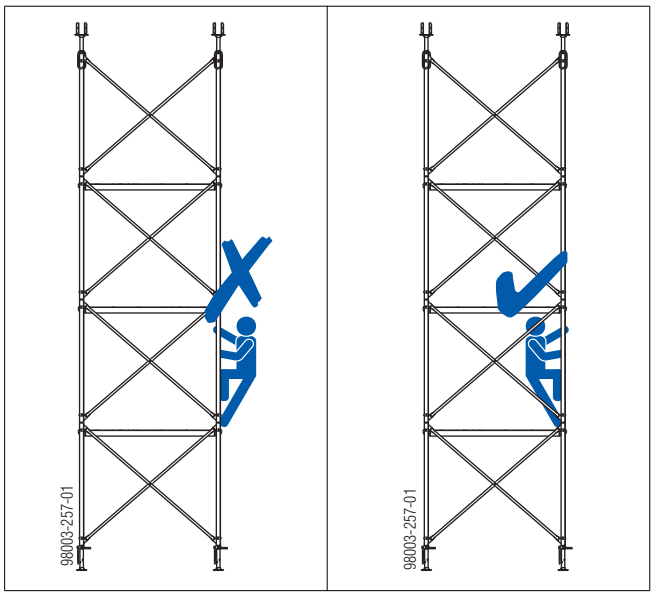
- integral ladder
- extra 'handles' to pick the frame up by



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)!

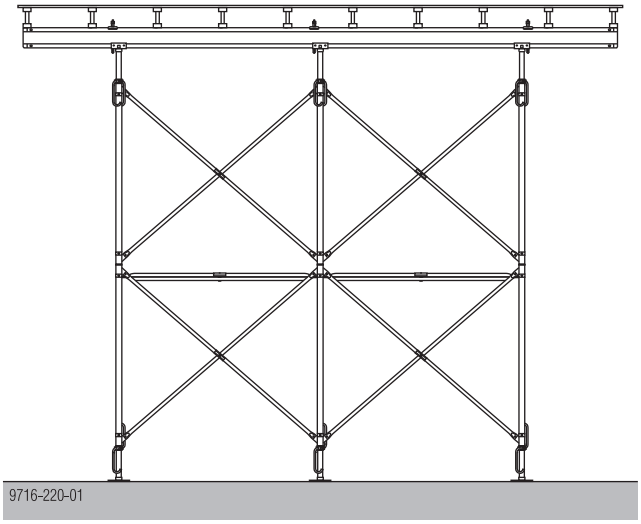


Practical examples

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

Tableform units

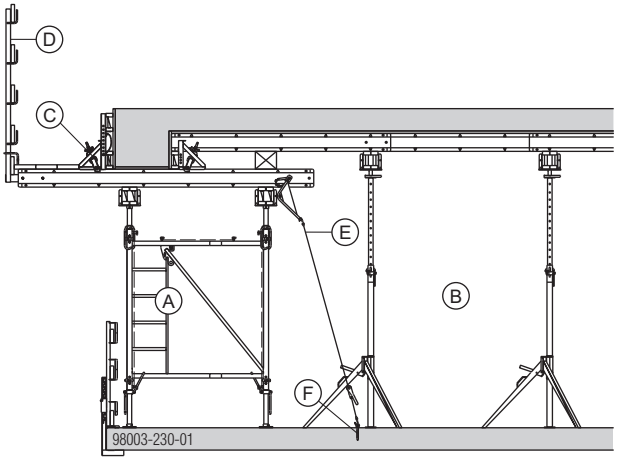
- For repetitive use, the load-bearing tower can be assembled into complete table-forms.



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), Edge protection system XP, Handrail clamp S or Handrail post 1.50m
E	Lashing strap 5.00m
F	Doka express anchor 16x125mm and Doka coil 16mm

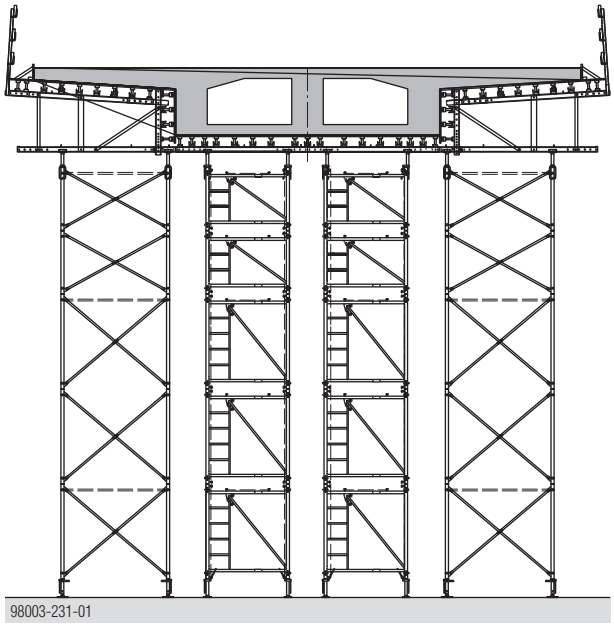
Tower frames

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.



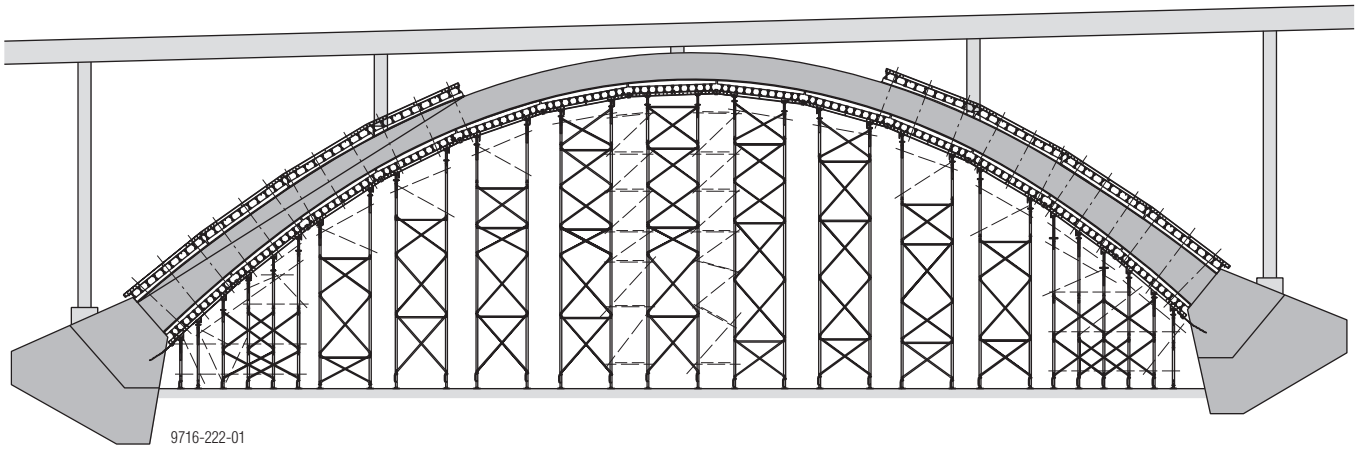
The Universal dismantling tool makes it easier to turn the Split nut B - even when it is under higher loads.

Shoring load-bearing structures

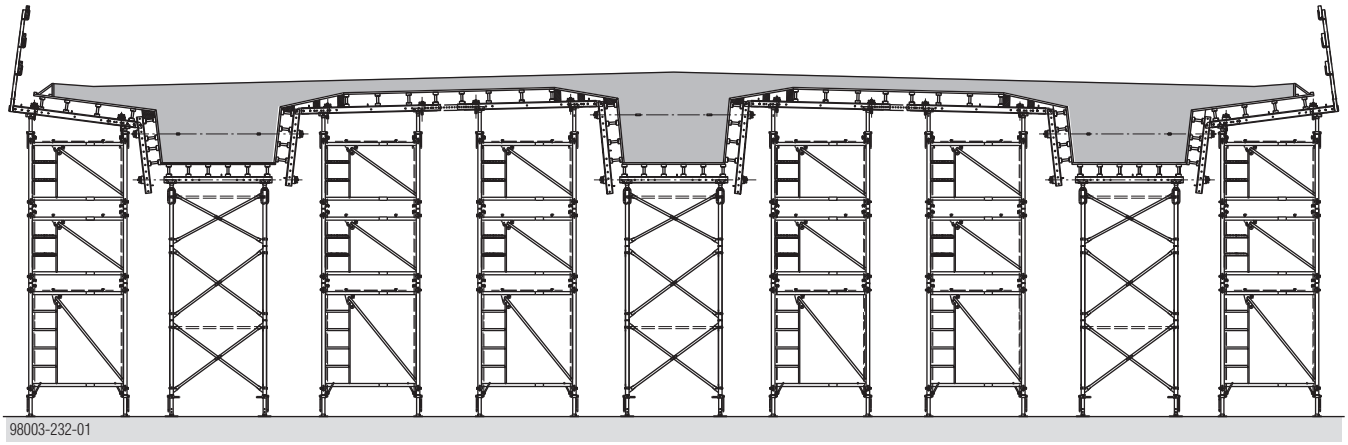
On bridges, culverts and industrial structures, the load-bearing tower and Doka large-area formwork Top 50 together make an ideal combination.

In this way, even complex structures can be formed using mostly standard parts - at lower cost.

Falsework beneath arched bridge



Typical cross-section - Falsework beneath superstructure formwork

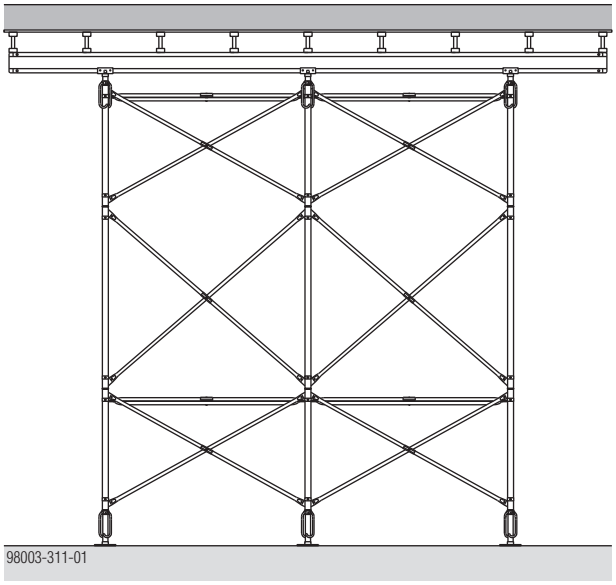


Adapts to different ground plans, heights, floor shapes and loads

The different sizes of diagonal brace for each height of frame enable the frames to be spaced close together or further apart, depending on the load.

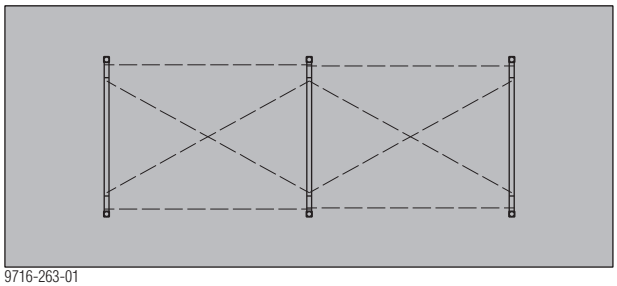
In this way, only as much material is used as is really needed.

e.g. light loads – frames spaced further apart



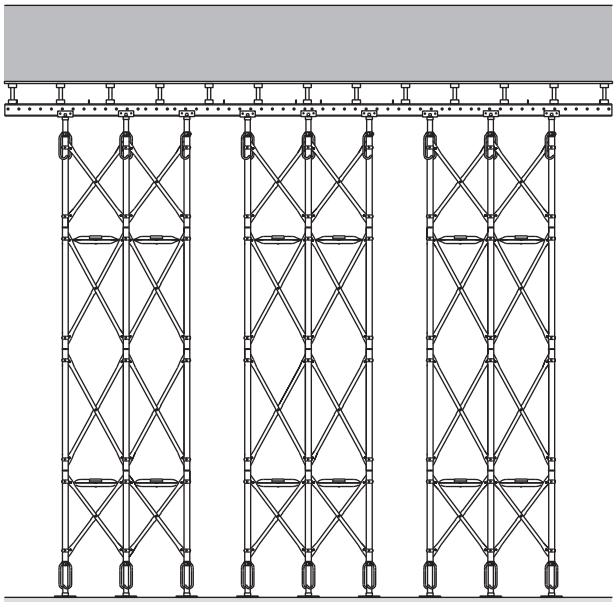
98003-311-01

Plan view



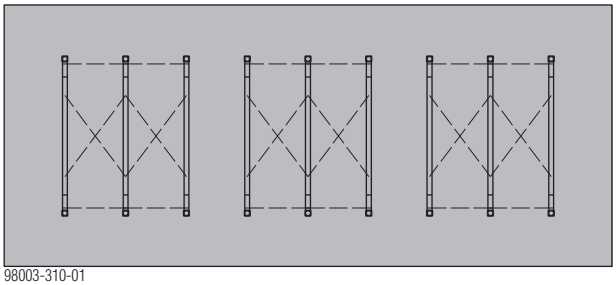
9716-263-01

e.g. heavy loads – frames spaced close together



98003-309-01

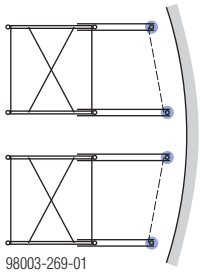
Plan view



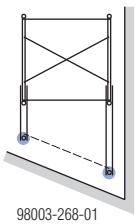
98003-310-01

e.g. adapting to irregular shaped layouts

by using single legs



98003-269-01



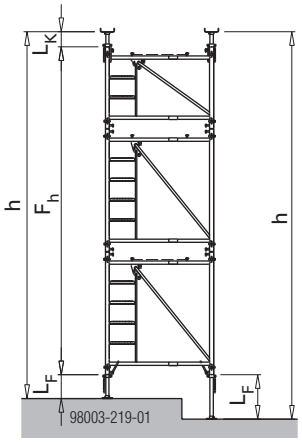
98003-268-01

Height ranges and materials schedule

Frame-sizes up to 1.80 m

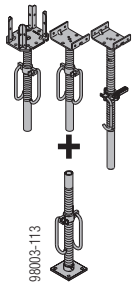
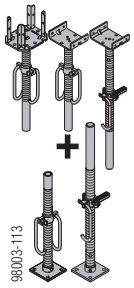
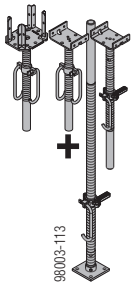
NOTICE

- The minimum values $h_{min.}$ given in Table A are only applicable if the biggest possible frame is always used in the base section.
- 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 'Height adjustment'.



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

Table A

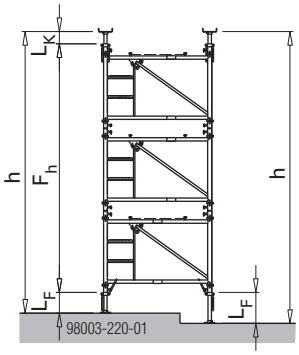
Fixed height of frame F_h [m]	Variant 1 L_K = max. 30 cm L_F = max. 30 cm			Variant 2 L_K = max. 45 cm L_F = max. 70 cm			Variant 3 L_K = max. 45 cm L_F = max. 130 cm			Basic items					
	 h [m] min. - max.	4-way screw-jack head, Screw jack U-head or Heavy-duty screw jack 70 top	Screw-jack foot	 h [m] 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

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 1.20 m

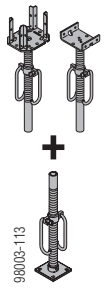


1.20m and 0.90m frames are possible here.

NOTICE

- The minimum values $h_{min.}$ given in Table A are only applicable if the biggest possible frame is always used in the base section.
- 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 'Height adjustment'.
- 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 'Height adjustment'.

Table A

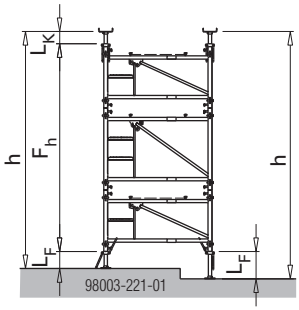
Fixed height of frame F_h [m]	L_K = max. 30 cm L_F = max. 30 cm  h [m] min. - max.	4-way screw-jack head or Screw jack U-head	Screw-jack foot	Basic items Staxo 100 frame 0.90m	Staxo 100 frame 1.20m	Diagonal cross 9.xxx	Diagonal cross 12.xxx
1.20	1.75 - 1.80	4	4	-	2	1	2
1.80	2.18 - 2.40	4	4	4	-	5	-
2.10	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

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.

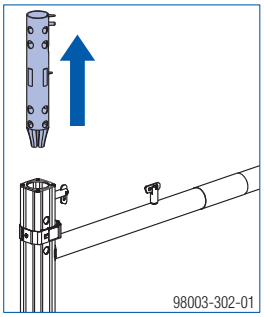
Frame-sizes up to 1.20 m (with 0.90 m frames in the top and bottom 'storeys')



1.20m and 0.90m frames are possible here.

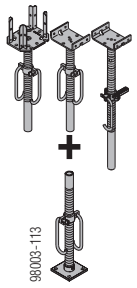
NOTICE

- The minimum values given in the table can only be obtained if the integrated connection sleeve is removed from the frame.



- 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 'Height adjustment'.
- In the top and bottom ‘storeys’, 0.90m frames MUST be used.
- Greater extension lengths are possible (up to max. 40 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 'Height adjustment'.

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

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.

Height adjustment

- 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

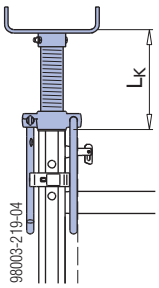
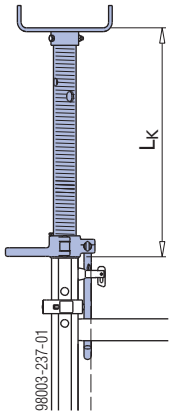
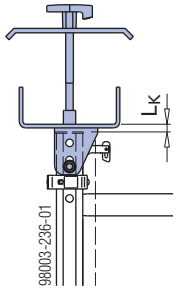
The structural design of the load-bearing tower may make it necessary to plan for shorter extension lengths. See the section headed 'Structural design' for dimensioning details.

System dimensions

on multi-storey towers

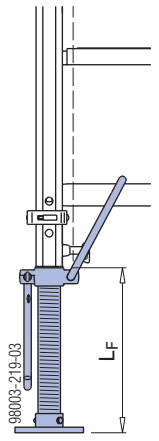
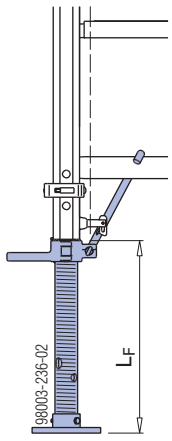
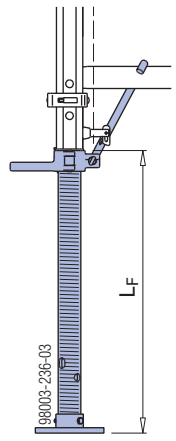
Regarding Table A 'Height ranges and materials schedule', use the version of this table given in the chapter for the usage situation concerned.

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 formwork-striking play

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 formwork-striking play

on single-storey towers

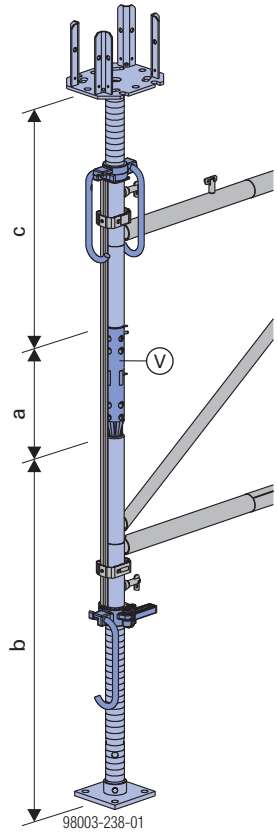
Note:

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

Reason: The lengths of the screwjack head and base units and the integrated connector 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: Cut-away view of frame tube



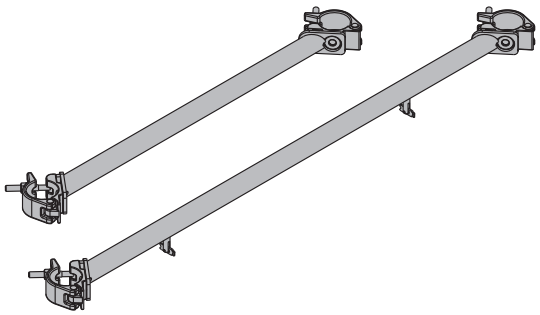
	a	b	c
Connector	30.5	--	--
Screw jack foot	--	69.2	--
Heavy duty screw jack 70	--	101.2	--
Heavy duty screw jack 130	--	173.0	--
Screw jack U-head	--	--	68.8
4-way screw-jack head	--	--	68.8
Heavy duty screw jack 70 top	--	--	100.9
U-head D	--	--	10.0

V Connector

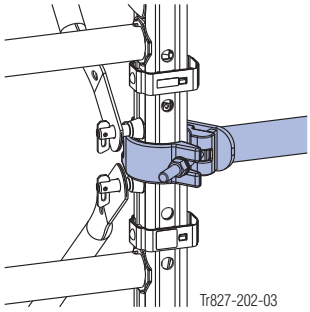
Linking towers / placing scaffold planking between towers

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

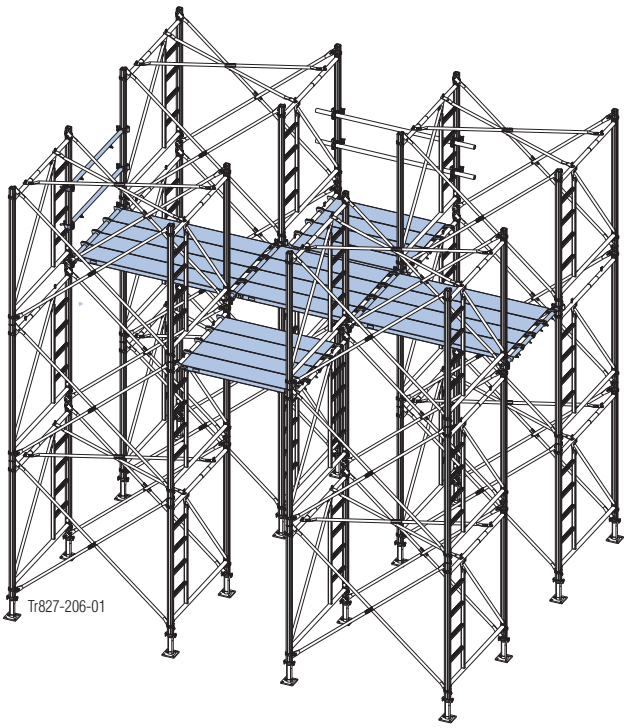
- No need to use scaffold tubes and loose couplers to make links in the frame plane
- Can be used as guard rails in the frame plane
- Can be used as links and, if statically necessary, as bracing between the towers
- Towers are always kept the same distance apart



Close-up showing how the Staxo 100 planking strut is fixed to the Staxo 100 frame-joint to make a decking level

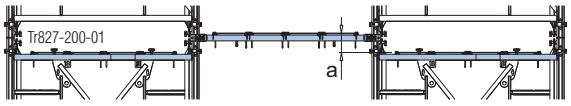


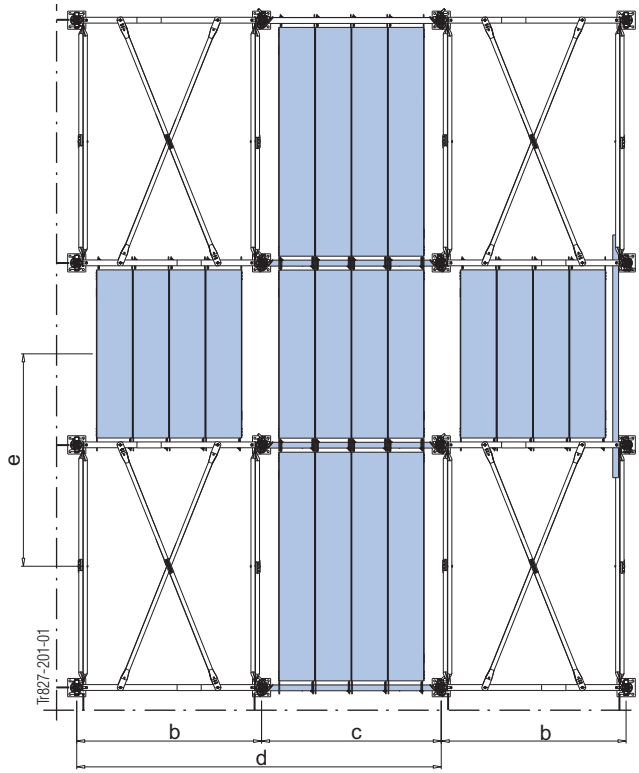
Width-across 22 mm



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.





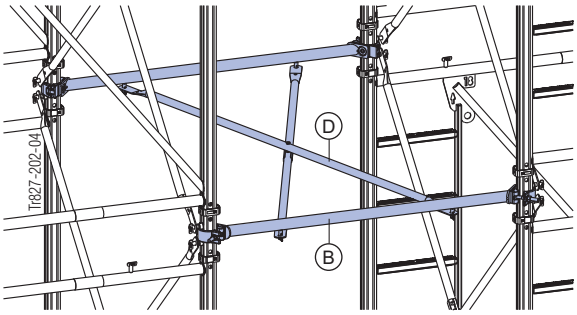
a ... 16 cm
b ... 152.4 cm
c_1 ... 97.6 cm with Staxo 100 planking strut 1.00m
c_2 ... 147.6 cm with Staxo 100 planking strut 1.50m
d_1 ... 250.0 cm with Staxo 100 planking strut 1.00m
d_2 ... 300.0 cm with Staxo 100 planking strut 1.50m
e ... permitted influence (see Table)

Permitted influence width 'e' [cm]

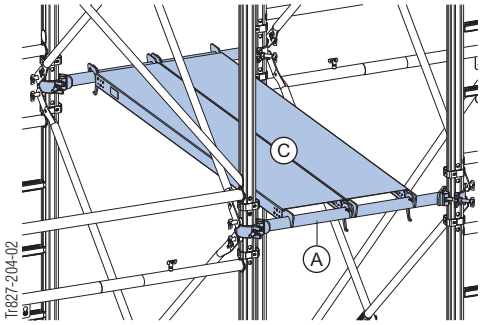
	Service load	
	1.5 kN/m²	0.75 kN/m²
Staxo 100 planking strut 1.00m	300	—
Staxo 100 planking strut 1.50m	225	300

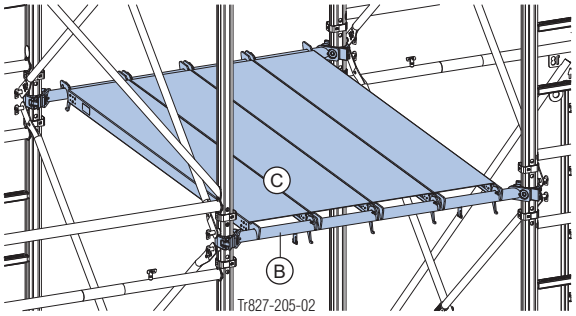
Practical examples

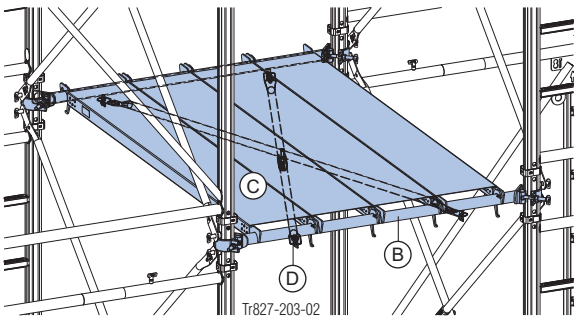
Linking towers



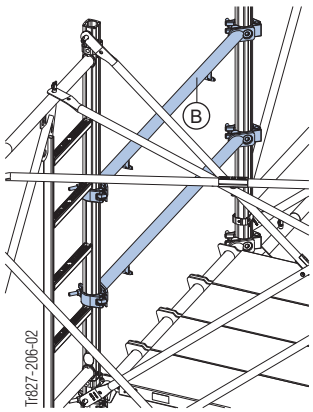
Placing scaffold planking between towers



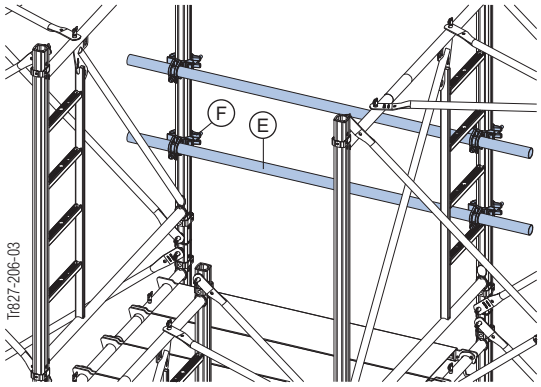




Erecting guard rails in frame plane



Note:
In the bracing-strut plane, guard rails may be erected using scaffold tubes 48.3mm and Transition swivel couplers 48/76mm.



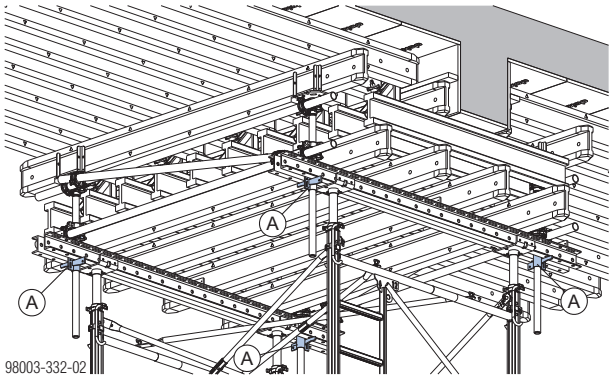
A	Staxo 100 planking strut 1.00m
B	Staxo 100 planking strut 1.50m
C	Scaffold planking
D	Diagonal cross (where statically required)
E	Scaffold tube 48.3mm
F	Transition swivel coupler 48/76mm

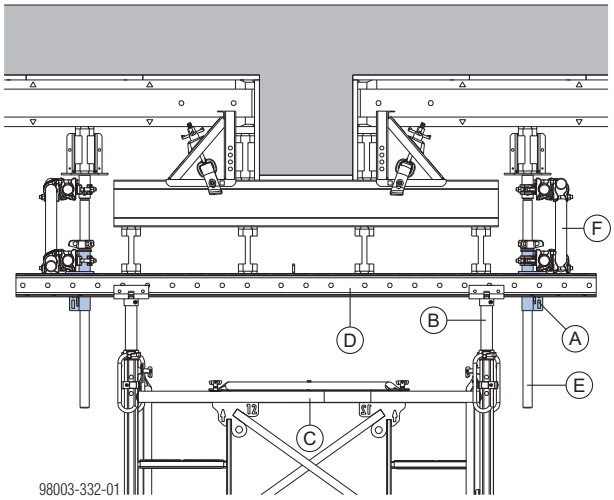
Forming downstand beams

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 screwjack 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

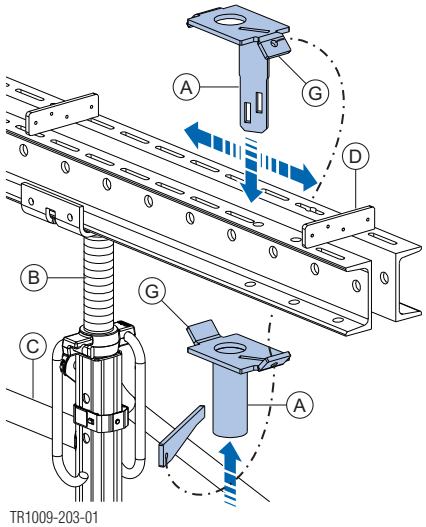
Example on Multi-purpose waling WU12 Top50

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

NOTICE

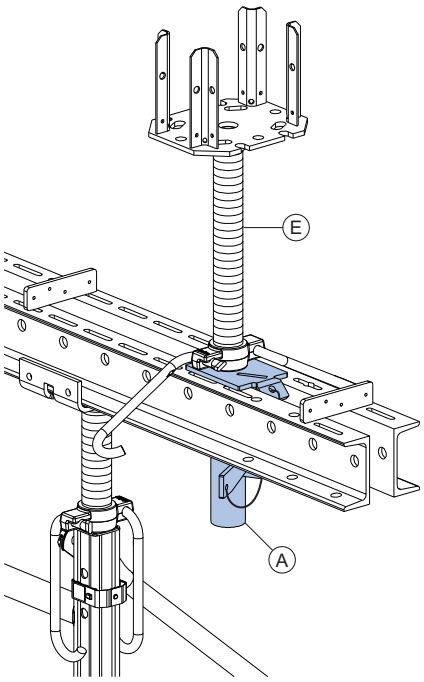
➤ Do not oil or grease wedged connections.

➤ Move it to the desired position and fix it on firmly 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.



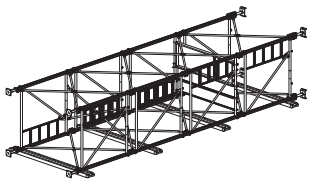
A Staxo 100 spindle adapter
E 4-way screw-jack head

Assembly (overview)

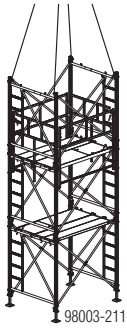
Set-up configurations

Load-bearing tower Staxo 100

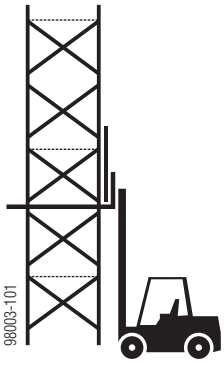
Horizontal assembly
Standard set-up


98003-213-01

Assembling in the upright

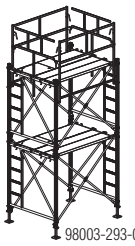

98003-211-01

with Fork lift shifting device TG

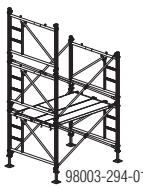

98003-101

by hand

'Mounted-ahead' railings


98003-293-01

'Mounted-ahead' 1.20m frames and diagonals


98003-294-01

Fall protection when erecting, modifying or dismantling the load-bearing tower

If required by local regulations or as the result of a hazard assessment performed by the scaffold erector, when erecting, modifying or dismantling the load-bearing tower it may be necessary to use a personal fall-arrest system, 'mounted-ahead' frames and/or railings, or a combination of both.

NOTICE

Use only the anchorage points as shown in the section headed 'The Staxo 100 frame in detail'!

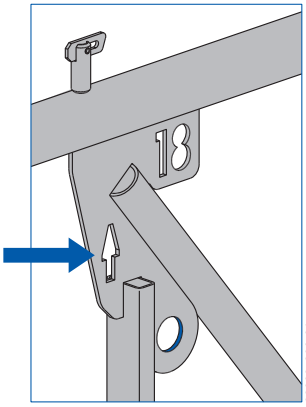
WARNING

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

Horizontal assembly

Preliminary remark:

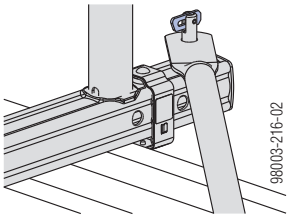
- The terms 'vertical' and 'horizontal' (e.g. referring to the diagonal crosses) are always used here with reference to their installation situation in the finished, upright tower.
- The job of erecting the load-bearing tower begins with the bottom (i.e. first) 'storey'.
- Arrow on frame must be pointing upwards.
  (= yellow locking spring at bottom)



NOTICE

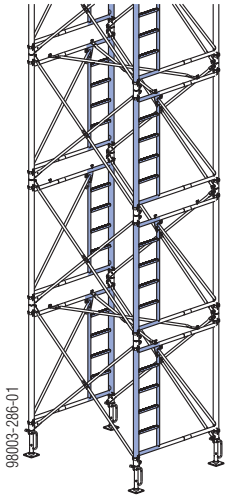
General remarks:

- 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 tower.



Seen from outside, the ladder must always be on the left-hand side.

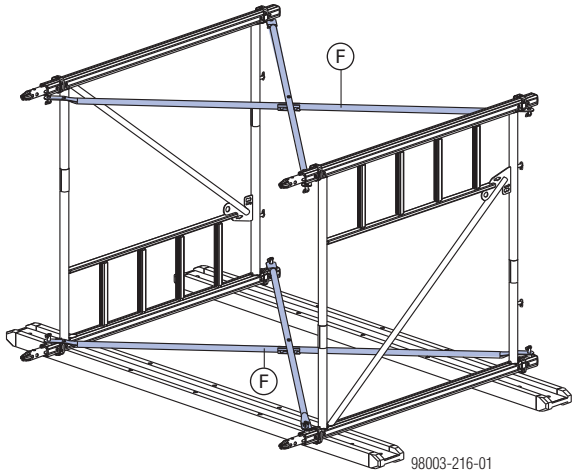
This makes it possible to use scaffold planking units where needed (see 'Assembling towers in the upright with 'mounted-ahead' railings').

Erecting the first storey

➤ Having regard to the instructions given above, place the tower frames on their sides on timber supports (min. 4cm high).

Bracing the frames in the vertical

➤ Link the frames with diagonal crosses.



F Diagonal cross

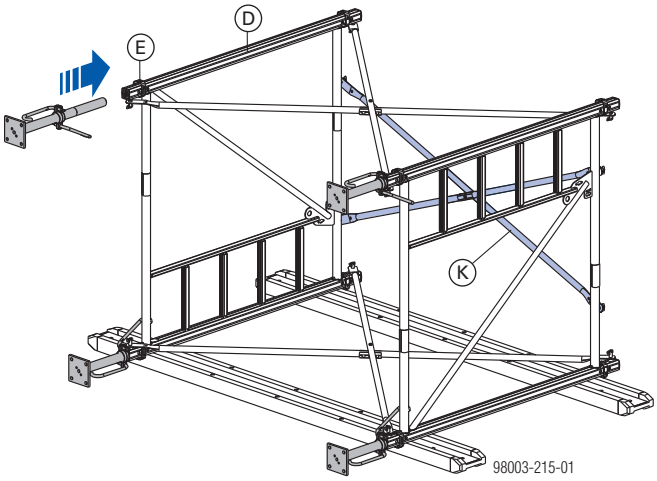
Plan-bracing the frames (in the horizontal)

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.



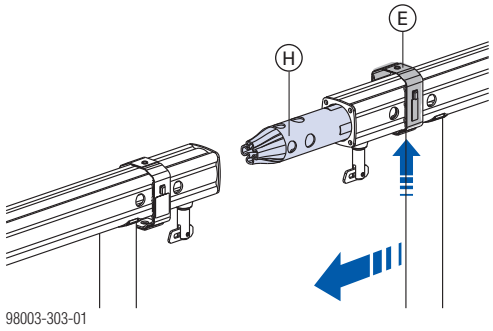
D Frame
E Yellow locking spring
K Diagonal cross

➤ Press the yellow locking springs on the frame inwards (to open) – the connection sleeves can now be moved freely.
➤ Push in and secure the base units. See the section headed 'Lifting by crane'.

Erecting further storeys

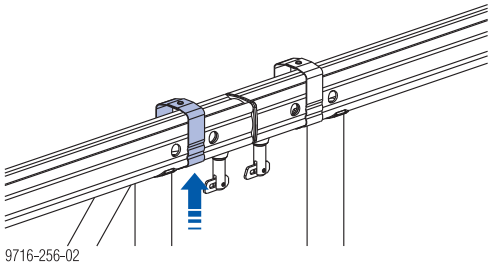
Note:
Do not pre-assemble units any higher than 10 m.

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

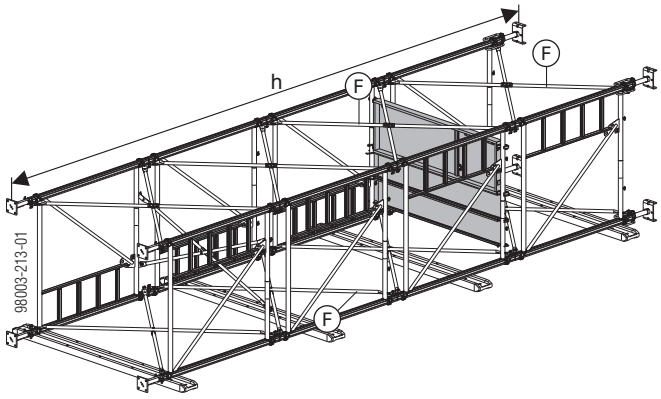


E Yellow locking spring
H Connection sleeve

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



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

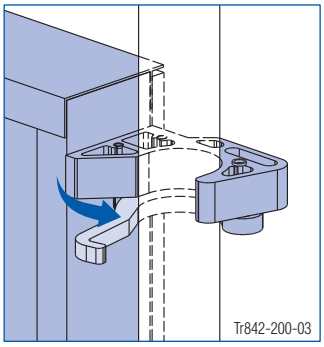


h ... max. 10 m

F Diagonal cross

➤ Install scaffold planking units where needed.

➤ Close the anti-liftout guard.



Having scaffold planking units in the top 'storey' makes it easier to carry out assembly work on the towerframe superstructure.

Mount the toeboard

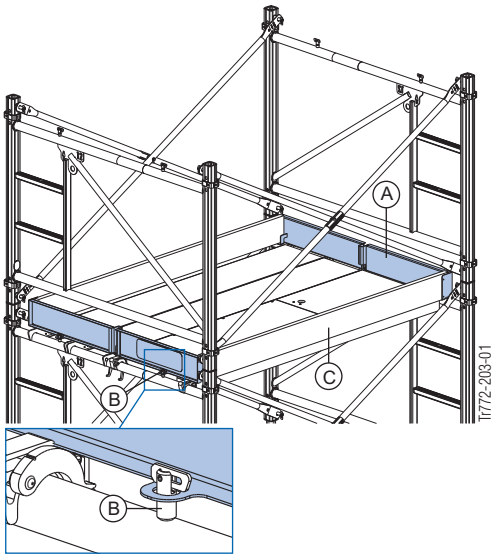
To create a safe workplace, toeboards must be mounted:

➤ Hook the Staxo 100 toeboards onto the safety-catch bolts.

➤ Fit the site-provided planks.

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

➤ Fix the planks with nails.

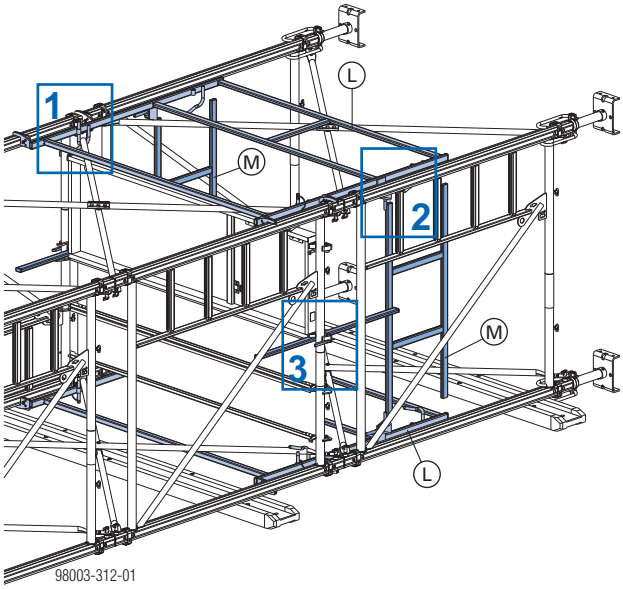


A Staxo 100 toeboard
B Safety-catch bolt
C Plank

Optionally: Railings on the top 'storey'

To meet very stringent safety requirements, 'mounted-ahead' railings can be fitted in the top section.

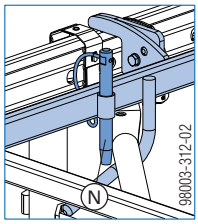
This is done in line with the instructions given in 'Assembling towers in the upright with 'mounted-ahead' railings'.



L Staxo side railing
M Staxo front railing

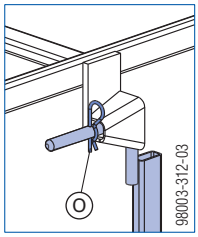
➤ Mount the Staxo side railings and secure them with a Spring locked connecting pin 16mm to prevent accidental lift-out.

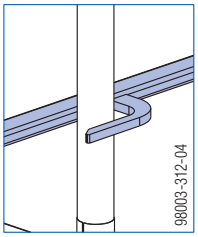
Close-up 1



➤ Mount Staxo front railings and secure them with a Spring cotter 5mm to prevent accidental lift-out.

Close-ups 2 and 3





N Spring locked connecting pin 16mm
O Spring cotter 5mm

Lifting into the upright by crane

➤ Check before attaching the lifting chain:

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

NOTICE

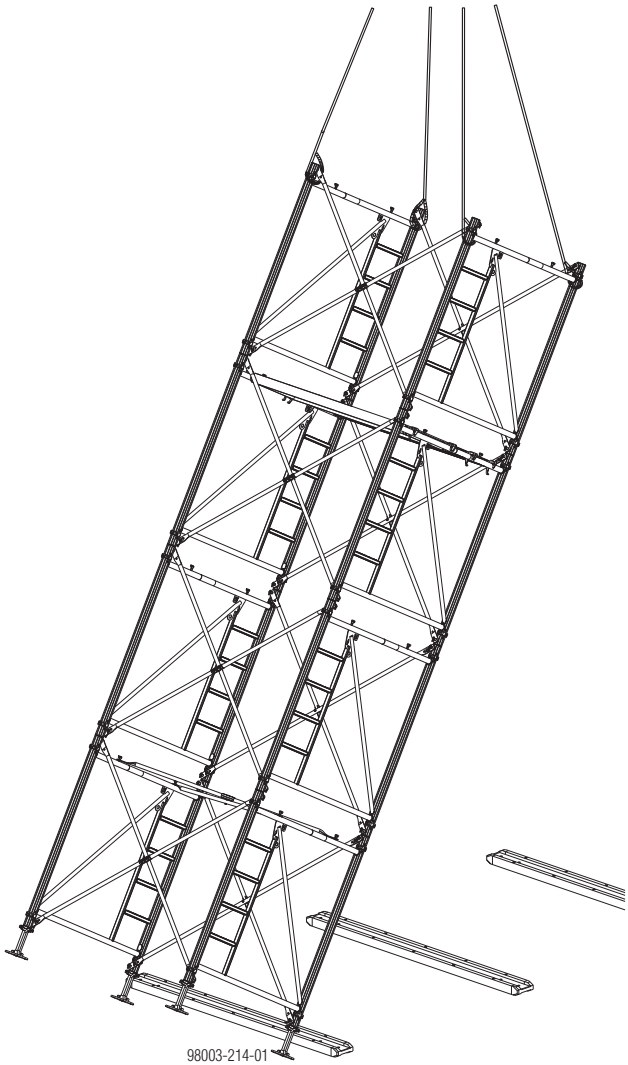
Max. extension length of the base units when the tower is being lifted into the upright: 35 cm!

Lifting into the upright

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, back-stay it or combine it with other towers.

➤ Attach the crane suspension 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.

Detaching the crane suspension tackle near ground level:

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

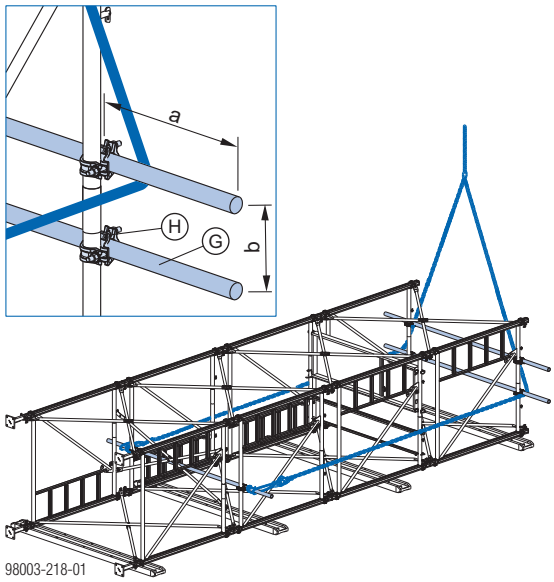
Items needed:

- 3 x Scaffolding 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.

Dismantling

After the tower has been placed back on its side, it can be dismantled in reverse order.

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)!

Assembling towers in the upright

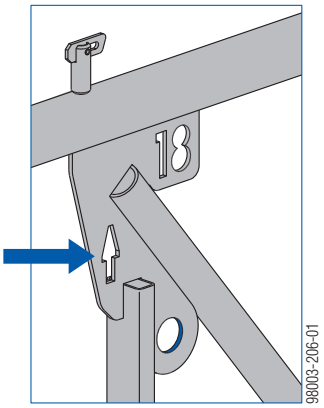
Assembling towers in the upright with 'mounted-ahead' railings

NOTICE

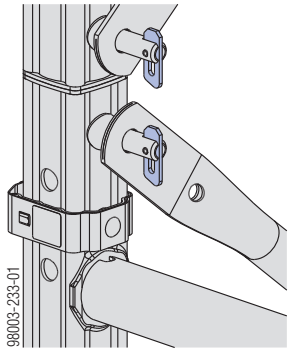
- Erect the load-bearing tower in the vertical on ground that is statically capable of supporting the load.
- If the load-bearing tower is over 6 m high, back-stay it or combine it with other towers.

As a rule:

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

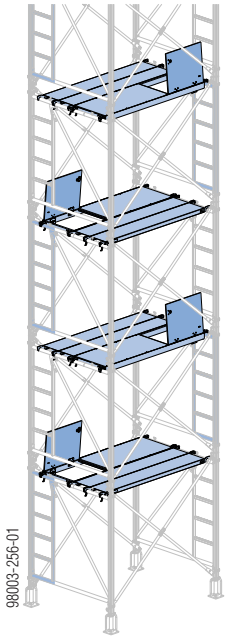


- Slide the diagonal cross onto the safety-catch bolt and immediately secure it with the safety catch.



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.

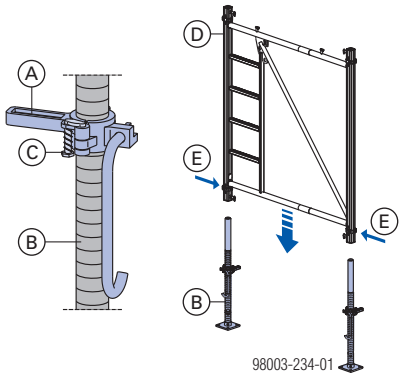
Erecting the first storey

➤ 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.

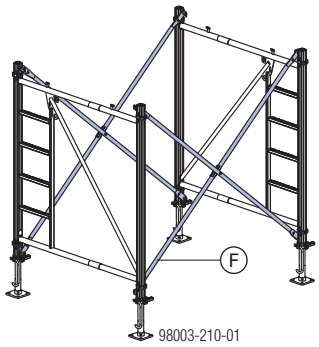
➤ Press the yellow locking springs on the frame inwards (to open) – the connection sleeves can now be moved freely.

➤ 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.

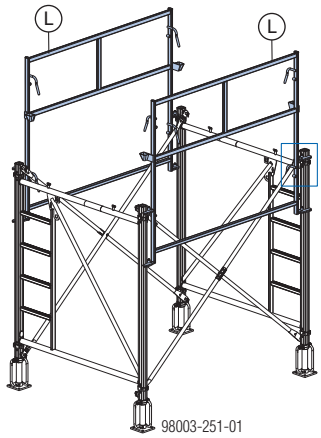


F Diagonal cross

Erecting the second storey

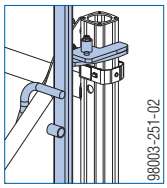
Fitting the 'mounted-ahead' railings

➤ Mount Staxo side railings above the diagonal crosses.

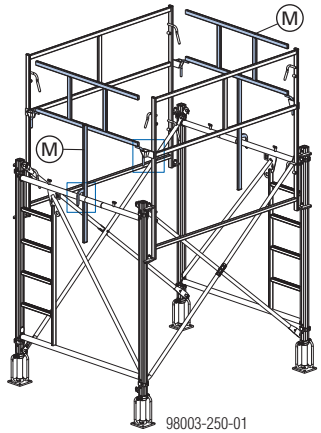


L Staxo side railing

Close-up of how to hang into place

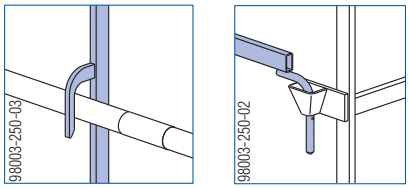


➤ Mount Staxo front railings above the Staxo 100 frames.



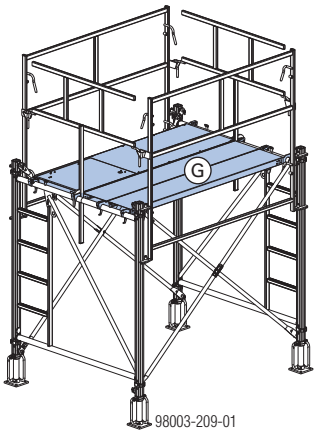
M Staxo front railing

Close-up of how to hang into place



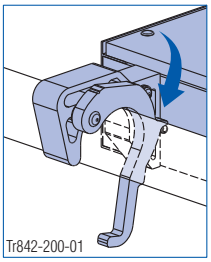
Mounting the scaffold planking units

➤ Place scaffold planking on the finished 'storey'.



G Scaffold planking

➤ Close the anti-liftout guard.



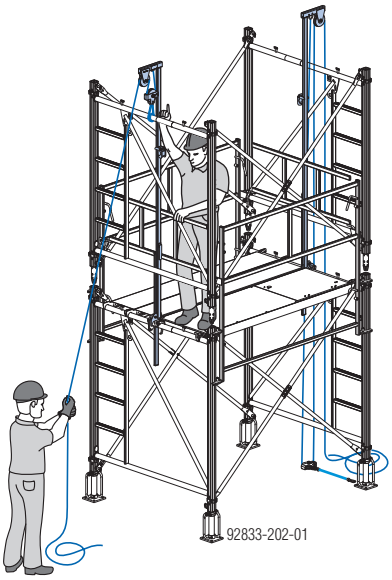
Staxo 100 mounting gallows 40kg

The Staxo 100 mounting gallows 40kg makes it easier to put up and take down Doka load-bearing towers Staxo 100 when these are erected and dismantled in the upright.

Follow the directions in the ‘Staxo 100 mounting gallows 40kg’ Operating Instructions!

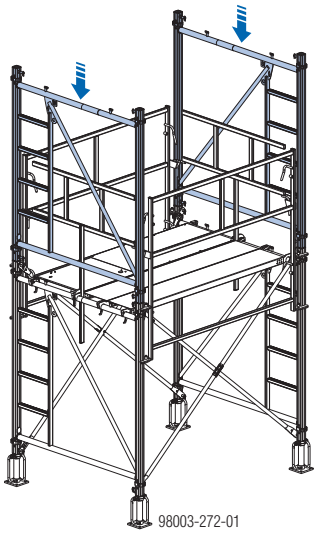
Permitted load-bearing capacity:
40 kg / Staxo 100 mounting gallows 40kg,
Staxo 100 attaching cable 40cm and
Staxo 100 hoisting cable 40kg 30m

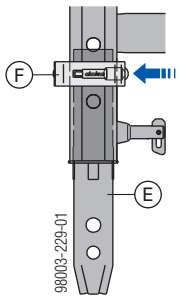
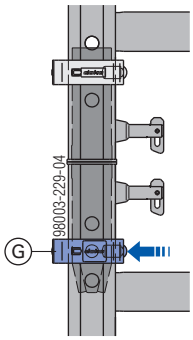
Practical example



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).

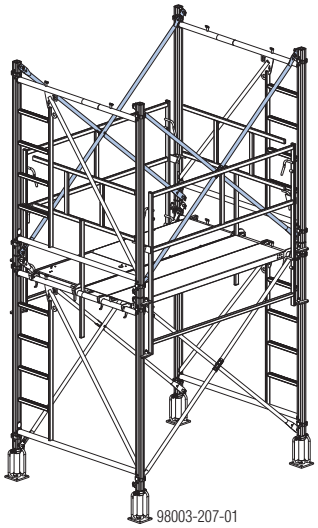


Yellow locking spring pushed toward the outside = connection sleeve fixed	Blue locking spring pushed toward the outside = frames linked in a tight, drop-out-proof connection
	

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'.

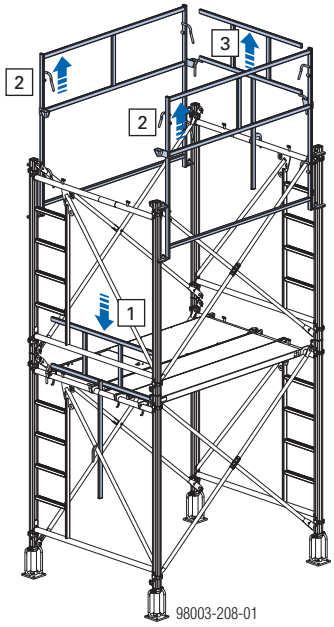


F Diagonal cross

Erecting the third 'storey'

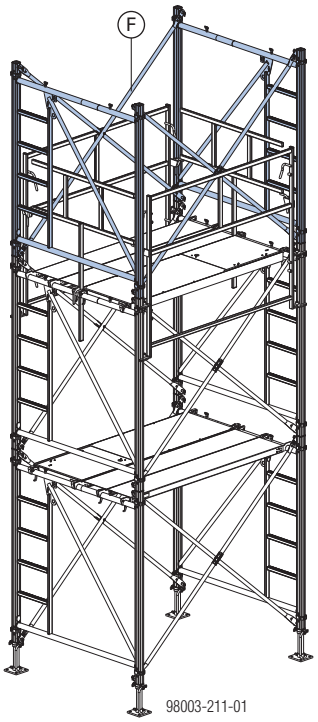
Raising the 'mounted-ahead' railings

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.



➤ Mount the assembly planking.
➤ Climb up onto the scaffold planking.
➤ Fix on the frames in the same way as on the 2nd section.

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



F Diagonal cross

To meet particularly stringent safety requirements, the ‘mounted-ahead’ railings can be left in place on all levels (‘storeys’) with scaffold planking units.

Horizontal bracing

NOTICE

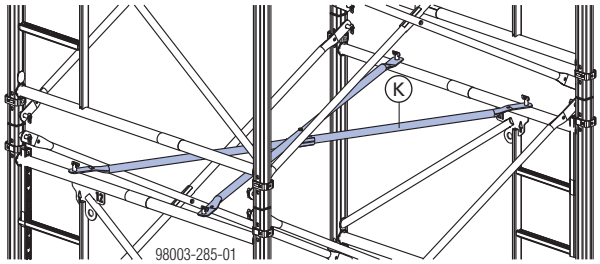
If no scaffold planking units are used, or if these are removed before the tower is finally put into use, the following rule applies:

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.

Mount the toeboard

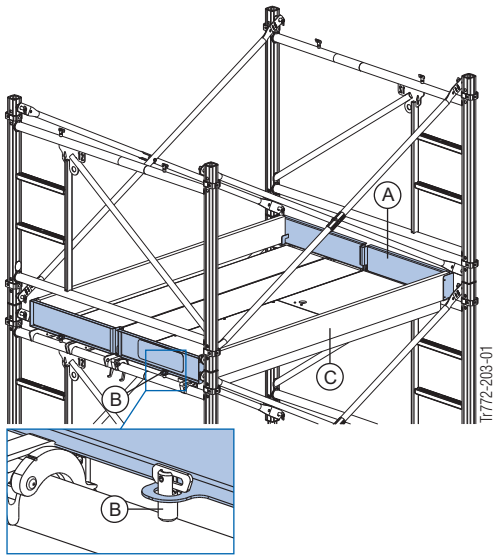
To create a safe workplace, toeboards must be mounted:

➤ Hook the Staxo 100 toeboards onto the safety-catch bolts.

➤ Fit the site-provided planks.

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

➤ Fix the planks with nails.

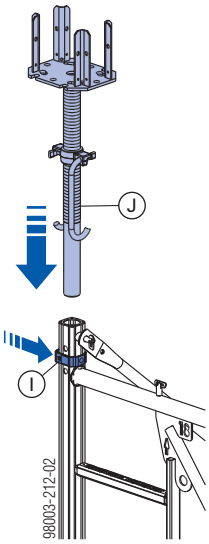


A Staxo 100 toeboard
B Safety-catch bolt
C Plank

Head zone

Fitting the head unit

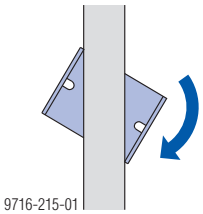
➤ Press the blue locking springs of the top frames towards the inside (to open them).
➤ Insert the head unit.



I Blue locking spring
J Head unit

Always place the primary beams (single or double formwork beams) centrally.

The screw jack U-heads can also be turned to an angle to keep single formwork beams centred.



WARNING
➤ Where formwork beams cantilever out a long way, secure them against accidental lift-out.

WARNING
Loads that are applied non-centrally can cause overloading of the system.
➤ Ensure that all loads are applied centrally!

NOTICE
➤ When lifting and repositioning the entire tower unit (or pre-assembled sub-units) by crane: Follow the instructions in the section headed 'Lifting by crane'!

Dismantling

After the tower has been placed back on its side, it can be dismantled in reverse order.

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)!

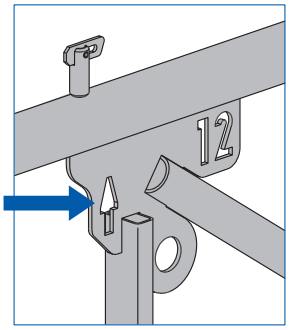
Assembling towers in the upright with 'mounted-ahead' 1.20m frames

NOTICE

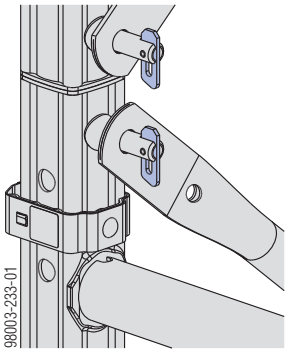
- Erect the load-bearing tower in the vertical on ground that is statically capable of supporting the load.
- If the load-bearing tower is over 6 m high, back-stay it or combine it with other towers.

General remarks:

- Arrow on frame must be pointing upwards. (= yellow locking spring at bottom)



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



e.g. with Heavy duty screw jack 70 and 4-way screwjack head.

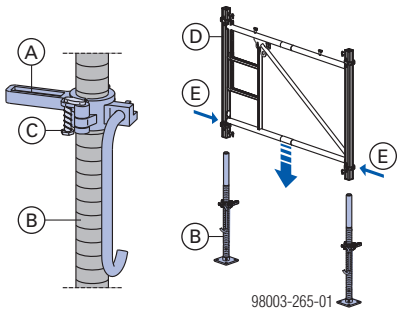
Erecting the first storey

➤ 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.

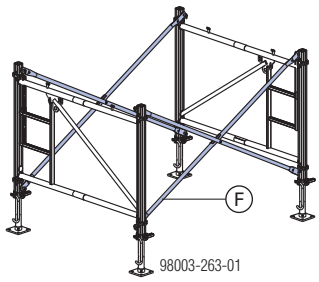
➤ Press the yellow locking springs on the frame inwards (to open) – the connection sleeves can now be moved freely.

➤ 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

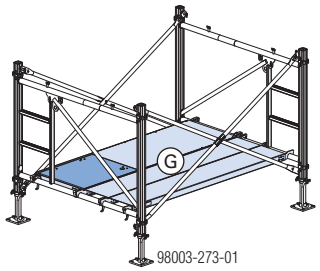
➤ Link the frames with diagonal crosses.



F	Diagonal cross

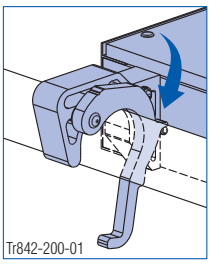
Mounting the scaffold planking units

➤ Place scaffold planking onto the bottom level.



G Scaffold planking

➤ Close the anti-liftout guard.



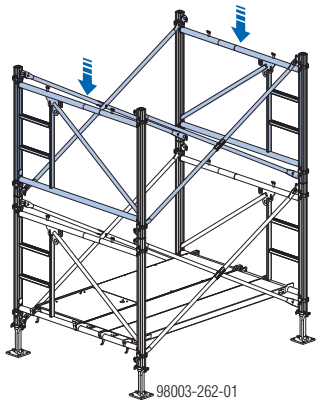
Erecting the second storey

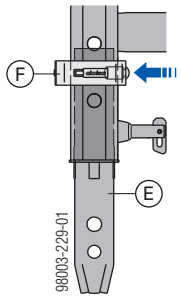
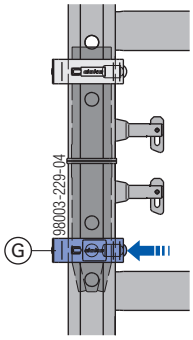
Stacking the frames

➤ 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).

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



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

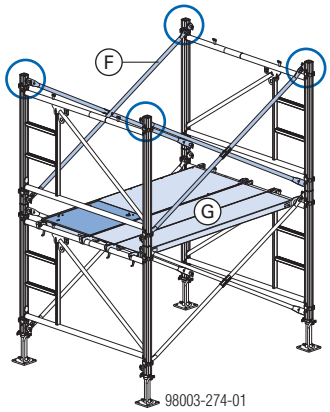
F Yellow locking spring

G Blue locking spring

Bracing the frames in the vertical

➤ Raise the scaffold planking units to the next level.

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



G Scaffold planking

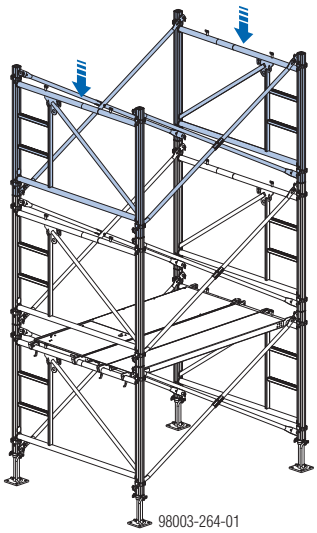
F Diagonal cross

Erecting the third 'storey'

Stacking the frames

➤ Add 1.20 m frames in the same way as for the 2nd section.

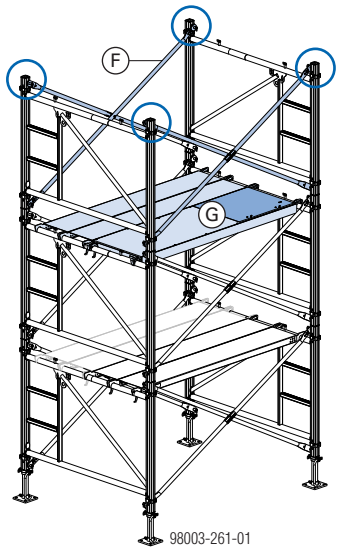
➤ Push diagonal crosses onto the bottom safety-catch bolts and secure them with the safety catches.



Mounting scaffold planking units and bracing the frames in the vertical

➤ Place scaffold planking on the finished 'storey'.

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



G Scaffold planking

F Diagonal cross

Horizontal bracing

NOTICE

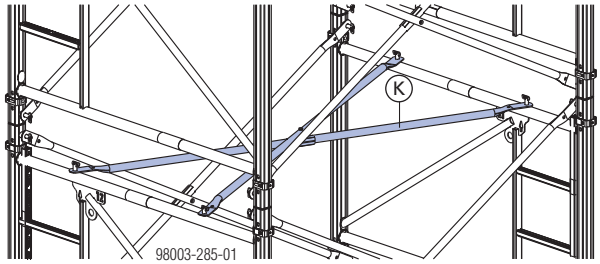
If no scaffold planking units are used, or if these are removed before the tower is finally put into use, the following rule applies:

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.



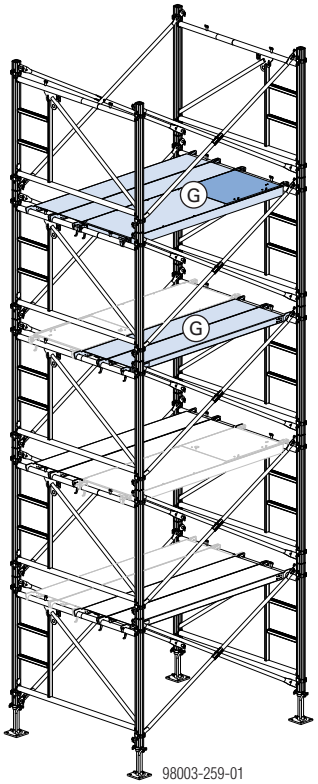
K Diagonal cross

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

- Arrange the scaffold planking units either on alternate sides from one 'storey' to the next, or across the entire area.
- When the scaffold planking units are located on alternate sides, 3 scaffold planking units must be used on the final (i.e. top) ‘storey’, one of them with a manhole. Make sure that the manhole is in the correct position here.
- If the load-bearing tower is over 6 m high, back-stay it or combine it with other towers.



G Scaffold planking

Mount the toeboard

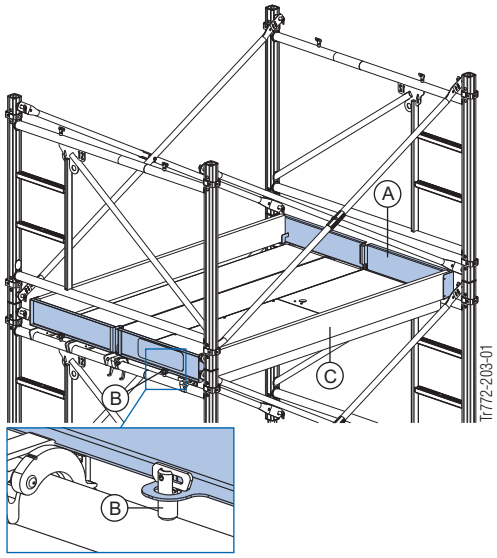
To create a safe workplace, toeboards must be mounted:

➤ Hook the Staxo 100 toeboards onto the safety-catch bolts.

➤ Fit the site-provided planks.

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

➤ Fix the planks with nails.

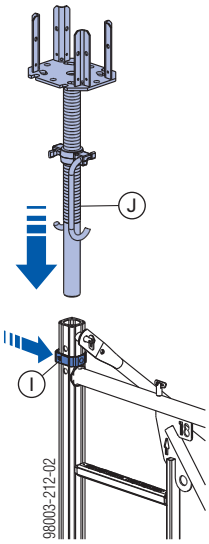


A Staxo 100 toeboard
B Safety-catch bolt
C Plank

Head zone

Fitting the head unit

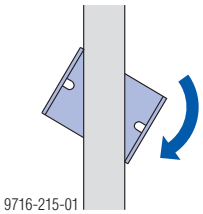
➤ Press the blue locking springs of the top frames towards the inside (to open them).
➤ Insert the head unit.



I Blue locking spring
J Head unit

Always place the primary beams (single or double formwork beams) centrally.

The screw jack U-heads can also be turned to an angle to keep single formwork beams centred.



WARNING
➤ Where formwork beams cantilever out a long way, secure them against accidental lift-out.

WARNING
Loads that are applied non-centrally can cause overloading of the system.
➤ Ensure that all loads are applied centrally!

NOTICE
➤ When lifting and repositioning the entire tower unit (or pre-assembled sub-units) by crane: Follow the instructions in the section headed 'Lifting by crane'!

Dismantling

After the tower has been placed back on its side, it can be dismantled in reverse order.

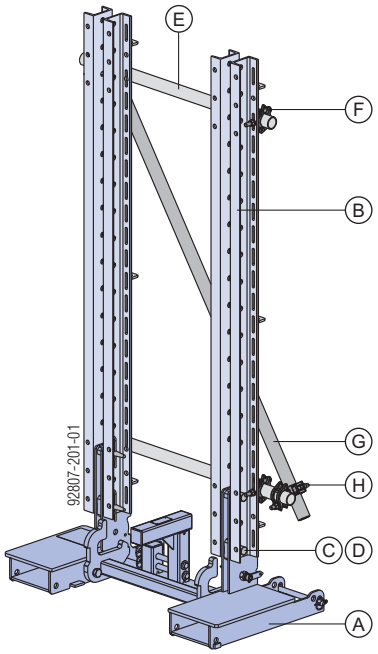
NOTICE
As early as in the planning phase, consideration should also be given to the dismantling operations (e.g. travelling/towing the load-bearing tower/unit into the reach of the crane for safe repositioning or for horizontal on-ground dismantling)!

Assembling towers in the upright by forklift truck

Fork lift shifting device TG

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 directions in the Operating Instructions!



Items needed:

Item	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

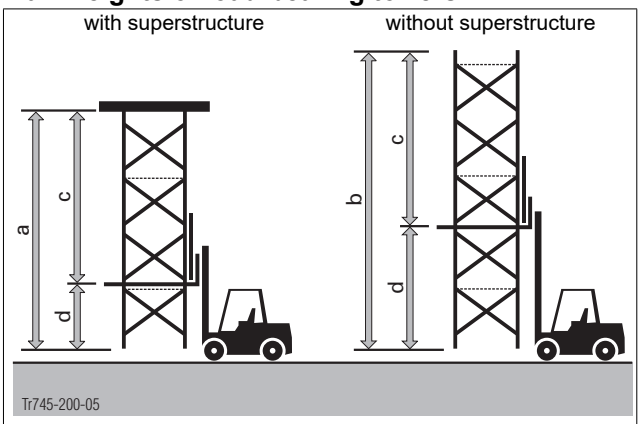
WARNING

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

Max. load

Max. load on forklift	Max. load on Fork lift 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



	Max. load on forklift **4000 kg**		Max. load on forklift **2000 kg**	
	when travelling	when lifting	when travelling	when lifting
a	7.20 m	9.00 m	5.00 m	7.00 m
b	9.00 m	12.60 m	7.00 m	10.00 m
c	5.40 m	9.00 m	4.00 m	7.00 m
d	3.60 m	3.60 m	3.00 m	3.00 m

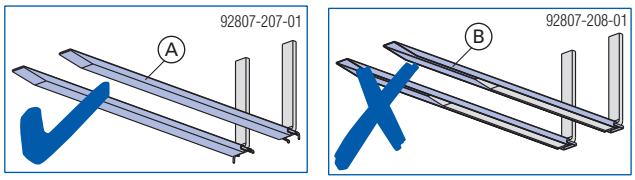
Requirements for fork-lift trucks or telescoping stacker trucks

- Driver protection roof
- 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 Forklift 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 data:
- load carrying 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.

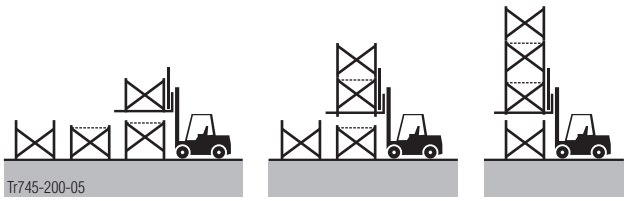
Assembling the towerframe units

NOTICE

➤ For details of how to assemble and join together the individual 'towerframe storeys', see 'Assembling towers in the upright'!

➤ Build each storey 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

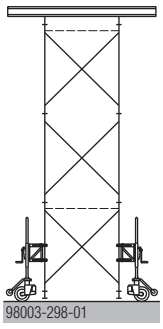
Always only dismantle the bottom 'storey' of the towerframe unit.

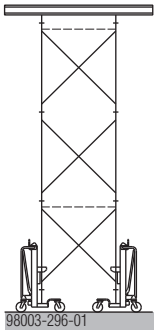
Practical examples

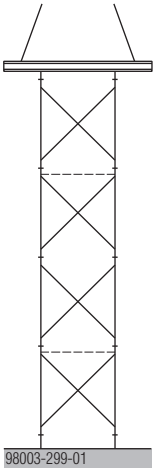
Repositioning

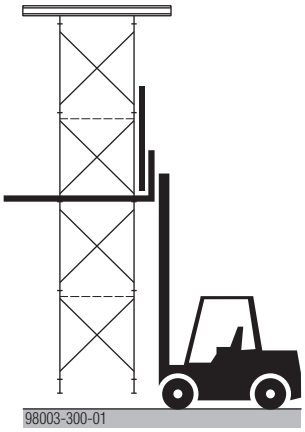
Different ways of repositioning

- 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

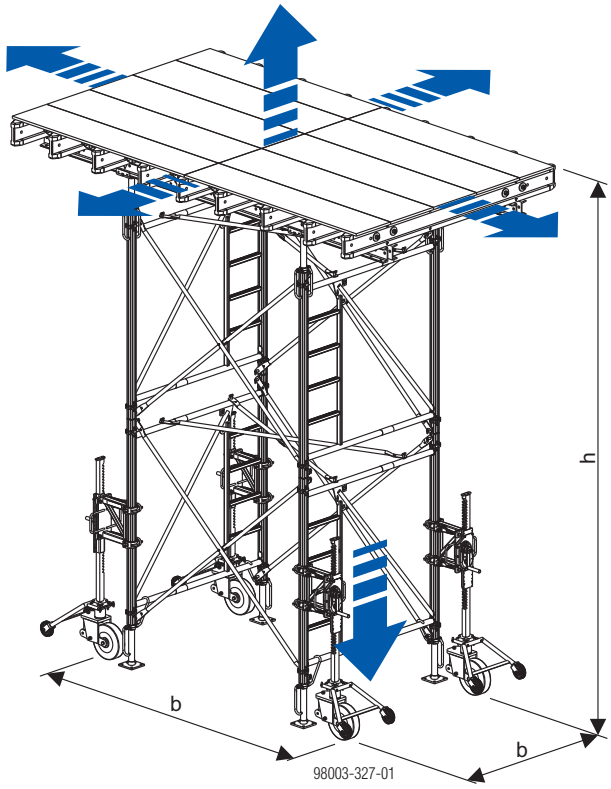
Completely assembled tableforms can be wheeled to their next location, quickly and easily, using traveller units.

The following different types of wheel unit are available for this. The crane is only needed when the tower has to be lifted up to the next storey.

All types of wheel unit can perform the following functions:

- Lifting
- Wheeling
- Lining-and-levelling
- 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.

Max. load:
1000 kg per Winch 70
(lifting height 70 cm) with solid-tyre wheel
1500 kg per Winch 125
(lifting height 125 cm) with Heavy-duty wheel 15 kN

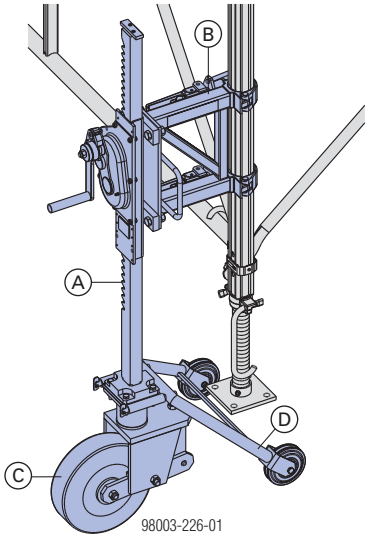
NOTICE

- The floor must be stable, firm and sufficiently smooth (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 Staxo/d2 adapter frame.

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



Equipment needed for one shifting unit

Item	Designation	N° of items
A	Winch 70 or 125	4
B	Staxo/d2 adapter frame	4
C	Solid-tyre 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 strike the formwork.

- Hydraulic, for near-effortless lifting.
- Tables can be 'inched' down slowly with handle-control.
- 3 guide-rolls, for maximum manoeuvrability.
- With an overall width of only 82 cm, the carriage can pass easily through any doorway when empty.

Max. load per Shifting carriage TG 1000 kg

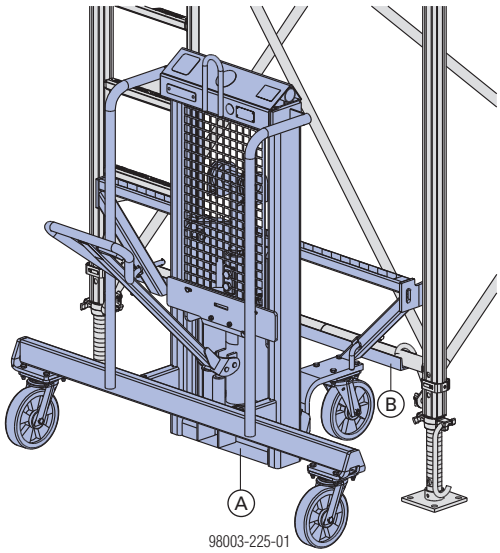
NOTICE

- The floor must be stable, firm and sufficiently smooth (e.g. concrete).
- Max. gradient of floor: 5 %.
- Max. configuration that can be transported using 2 Shifting carriages TG: Tables with 3 cross-frames per storey and a max. height of 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'.



Equipment needed for one shifting unit

Item	Designation	N° of items
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!

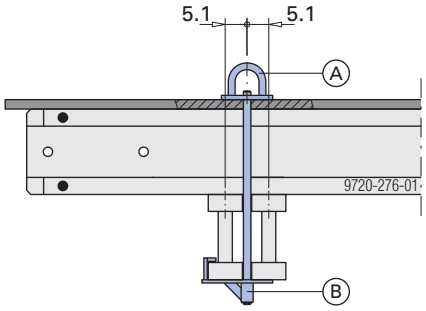
Where the tableforms are to be repositioned in the vertical, i.e. crane-lifted, they must be fitted with a **Lifting rod 15.0** and **Retaining plate 15.0** , which make it easy to attach the transfer cables.

Max. load:

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.

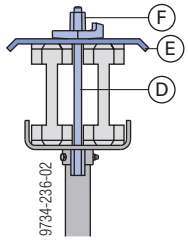
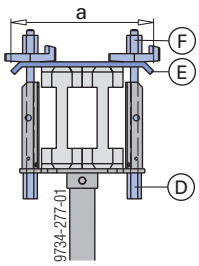
➤ Observe the following points before lifting!

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)

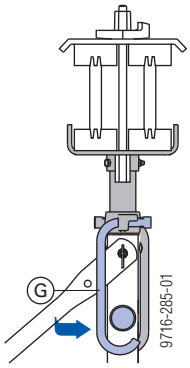
D Locking rod 15.0

E Clamping plate

F Wing nut 15.0

Secure the head units so that they cannot be lifted out

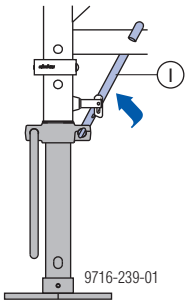
➤ Slot the fixing handle into the cross-tube of the frame.



G Fixing handle

Secure the base units to prevent them dropping out

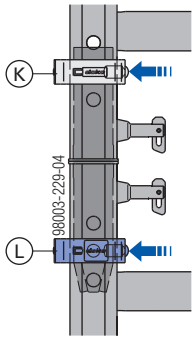
➤ Slot the fixing handle into the cross-tube of the frame.



I Fixing handle

Link the frames in a crane-handling-safe manner

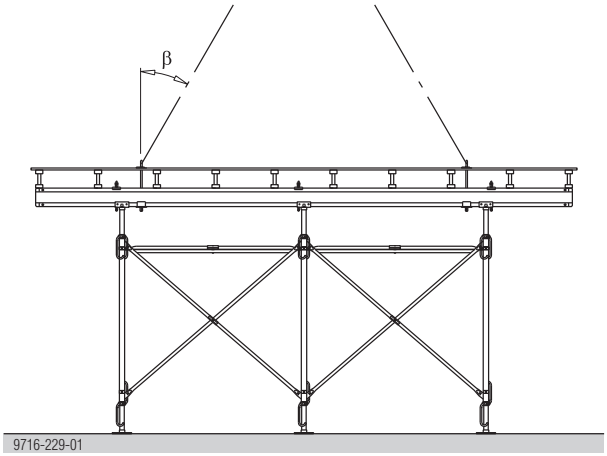
➤ Close the yellow and blue locking springs, by pressing them towards the outside.



K Yellow locking spring
L Blue locking spring

Repositioning operation

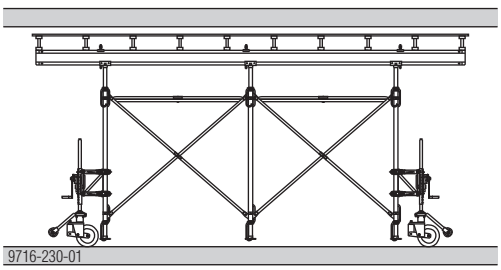
➤ Attach the crane sling to the Lifting rods 15.0 and lift the tableform to its next location. Spread-angle β max. 30°.



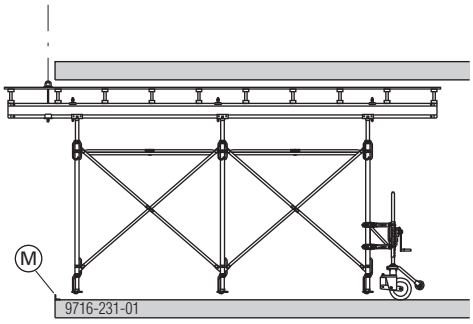
While the tableform is being lifted, there must NOT be any loose parts, tools or other items on the tableform!

Shifting the table in skeleton construction

➤ Take the load off the table by turning the threaded spindles.
➤ Clamp on the wheel-units.
➤ Push in and secure the base units.

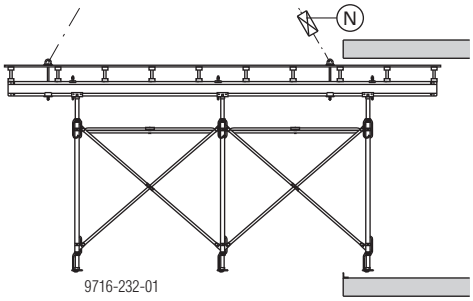


➤ Using the wheel-units, lower the table, and wheel it out as far as the stop.
➤ Remove the front wheel-units.
➤ Screw the Lifting rod 15.0 into the previously mounted Retaining plate 15.0.
➤ Attach the crane sling to the Lifting rod 15.0, then raise the crane until the front legs are just off the floor.



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

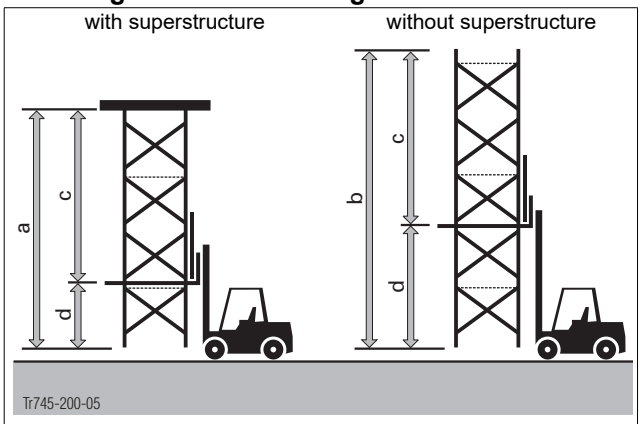
Lifting by forklift truck

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 entitled 'Assembling towers in the upright by forklift truck'.

Follow the directions in the Operating Instructions!

Max. heights of load-bearing towers



	Max. load on forklift **4000 kg**		Max. load on forklift **2000 kg**	
	when travelling	when lifting	when travelling	when lifting
a	7.20 m	9.00 m	5.00 m	7.00 m
b	9.00 m	12.60 m	7.00 m	10.00 m
c	5.40 m	9.00 m	4.00 m	7.00 m
d	3.60 m	3.60 m	3.00 m	3.00 m

Travelling the towerframe units

NOTICE

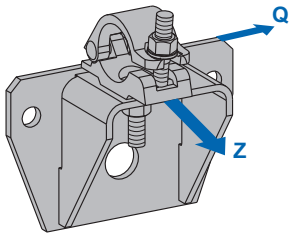
Very important points for the moving procedure:

- 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.

General remarks

Anchoring on the structure

With Anchoring shoe for stair tower



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

Permitted loads [kN]		Anchorage method	Max. anchoring loads [kN] per anchor		Concrete strength at the time of loading
Tensile force Z	Shear force Q		Tensile force Z	Shear force Q	
6.0	6.0	1 dowel in the centre hole	14.0	6.0	$f_{ck,cube,current}$ = 20 N/mm²
12.0	6.0	2 dowels, one in each of the outer holes, e.g. Doka express anchor 16x125mm	13.3	3.0	$f_{ck,cube,current}$ = 15 N/mm²
		1 Cone screw B 7cm in the centre hole	44.0	6.0	$f_{ck,cube,current}$ = 10 N/mm²

Methods for fixing in concrete:

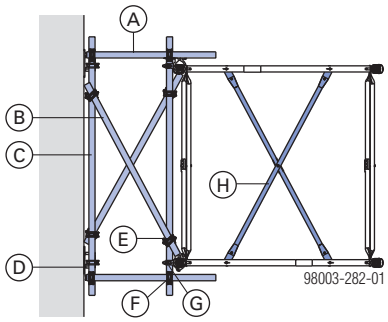
- By using a Cone screw B 7cm to fix the anchoring shoe to an existing suspension point prepared with Universal climbing cones 15.0 (diameter of hole in anchoring shoe = 32 mm). Hardwood shim (essential for ensuring a firm fit) prevents damage to the concrete (scratch marks).
  This fixing method is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

Design of the anchoring planes

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

NOTICE

When designing units assembled from tubes and couplers, all applicable standards and regulations must be observed, in particular EN 12812 'Falsework', EN 39 'Loose steel tubes for tube and coupler scaffolds' and EN 74 'Couplers, spigot pins and baseplates for use in falsework and scaffolds'.



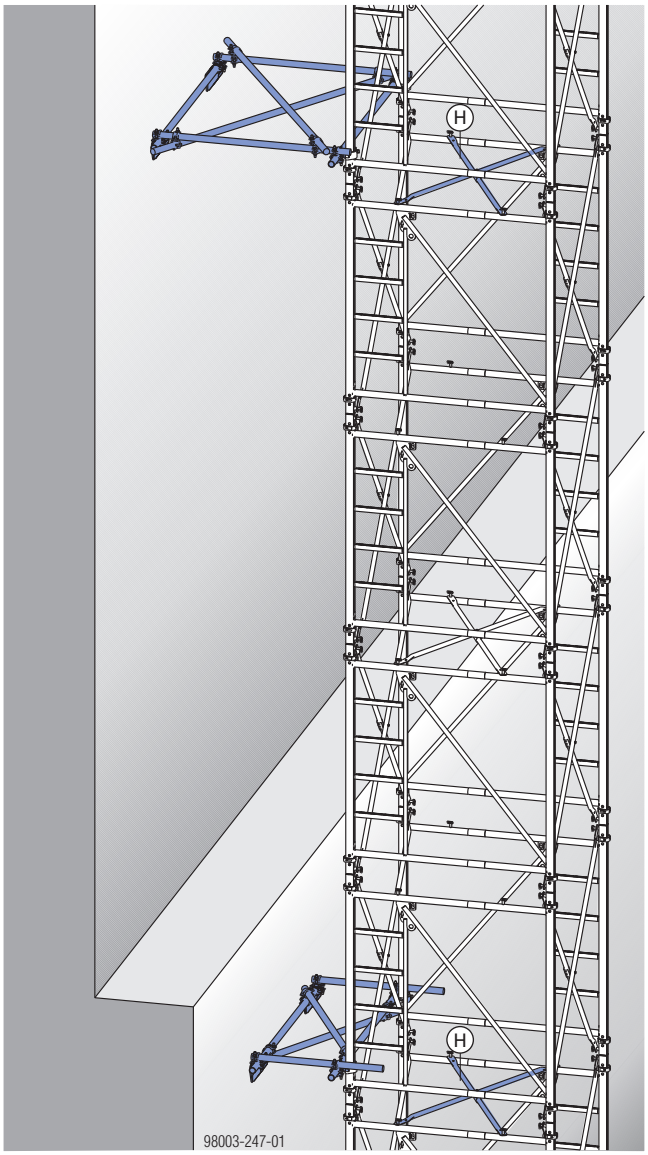
A	Scaffolding tube 48.3mm (L min = distance from structure)
B	Scaffolding tube 48.3mm (L = variable)
C	Scaffolding tube 48.3mm (L = variable)
D	Anchoring shoe for stair tower
E	Swivel coupler 48mm
F	Normal coupler 48mm
G	Transition swivel coupler 48/76mm
H	Horizontal diagonal brace

Vertical distance between the anchoring levels

- Will depend on the assembly method, the wind loads and the design assumptions
- Near junctions (frame-joins)

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.

Practical example

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

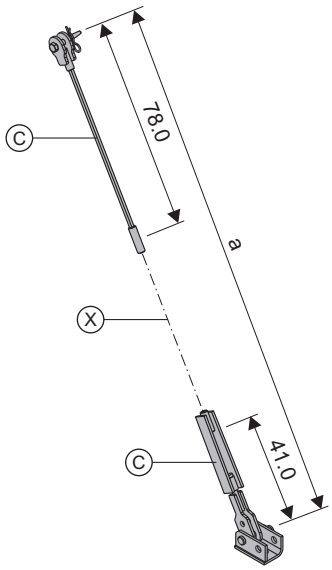
Back-stay on the superstructure

Back-stay for load-bearing towers

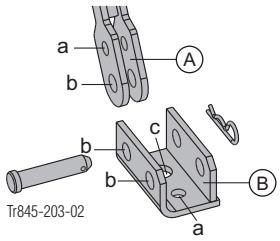
For transferring **planned horizontal loads** e.g. wind loads, concrete loads or in custom applications (e.g. on inclined load-bearing towers or for high load-bearing capacities).

NOTICE

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

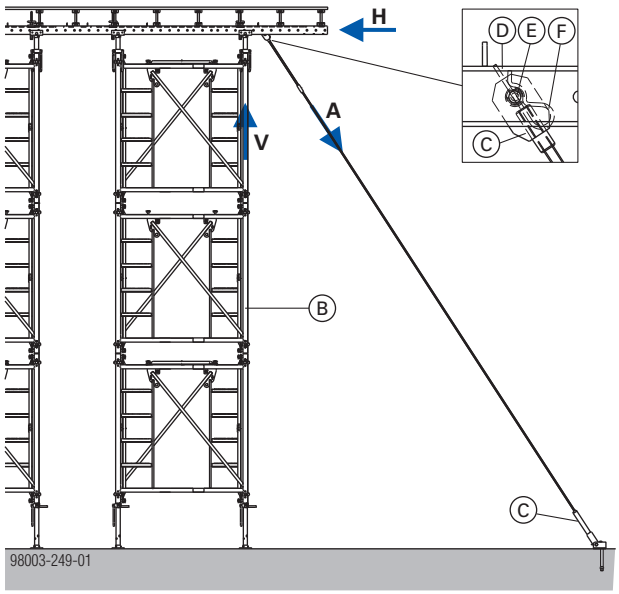


Bores in spindle unit and shoe (complete)



a ... dia. 21 mm
b ... dia. 27 mm
c ... Dia. 35 mm

A	Screw-jack unit
B	Shoe complete

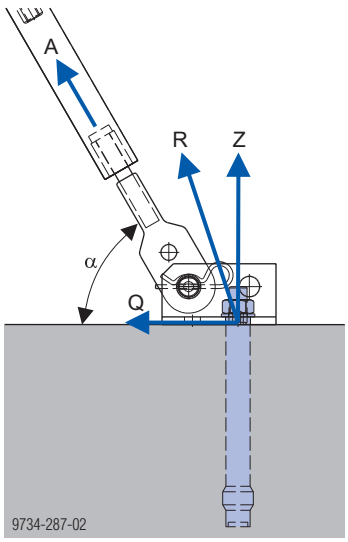


H ... Horizontal force
V ... Resulting vertical force from H
A ... Back-stay/shoring force

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 back-stay (i.e. until they are fully engaged)!
- When calculating the leg loads, allow for the additional forces imposed by the back-stay!
- With high loads and long back-stays, watch out for any elongation of the back-stay!



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

Back-stay 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

Back-stay 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

Back-stay 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.

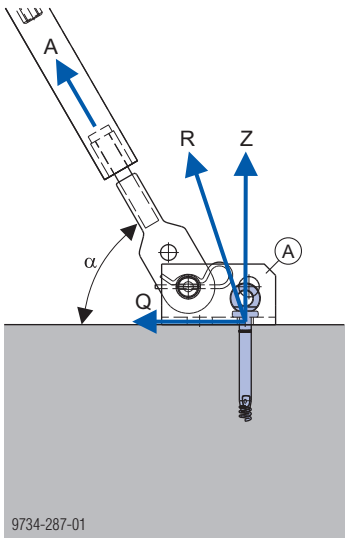
CAUTION

➤ 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

Permissible back-stay 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

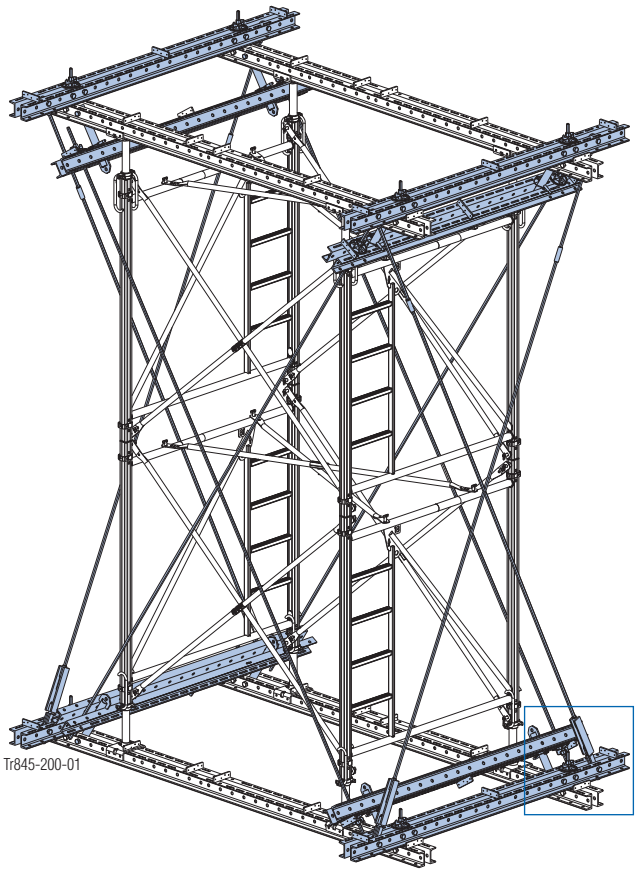
Follow the directions in the 'Doka express anchor 16x125mm' Fitting Instructions!

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.

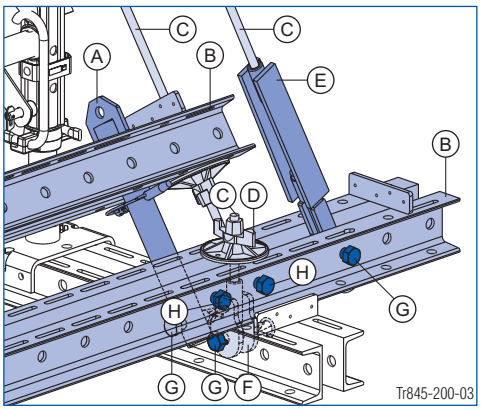
It is also possible to brace several load-bearing towers to one another to transfer the horizontal loads jointly.

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.

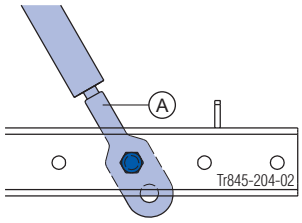
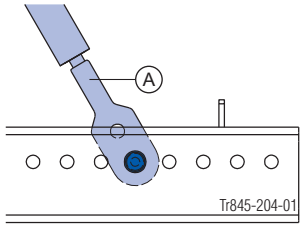
Close-up



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

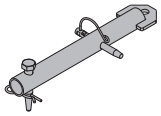
Note:
The Bracing for load-bearing towers is attached to the multi-purpose waling directly by means of a spindle unit, without a ‘Shoe (complete)’.

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

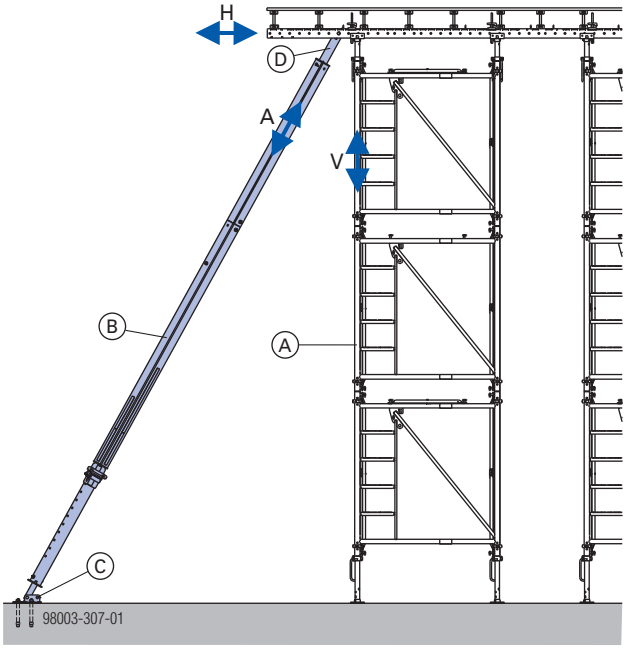
➤ When calculating the leg loads on the Load-bearing tower, allow for the additional forces from the bracing!

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.

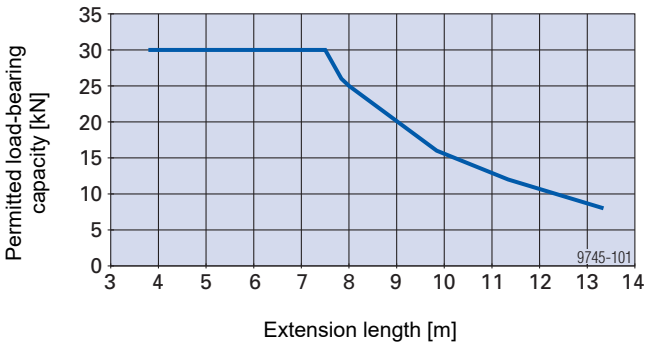


H ... Horizontal force
V ... Resulting vertical force from H
A ... Back-stay/shoring force

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)*

Used as a plumbing accessory

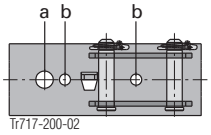


* 15 kN tensile force at any extension length
30 kN tensile force at any extension length and when anchored with 2 dowels

Fixing to the ground

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

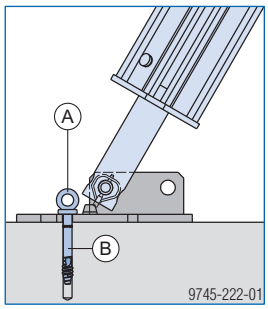
Holes in plumbing strut shoe Eurex 60:



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 16x125mm
B	Doka coil 16mm

Follow the Fitting Instructions!

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:

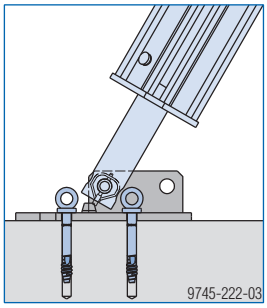
- $R_d \geq 30.0$ kN ($F_{permissible} \geq 20.0$ kN) in the diam. 18 mm hole
- $R_d \geq 43.5$ kN ($F_{permissible} \geq 29.0$ kN) in the diam. 28 mm hole

Follow the manufacturers' applicable fitting instructions.

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

NOTICE

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



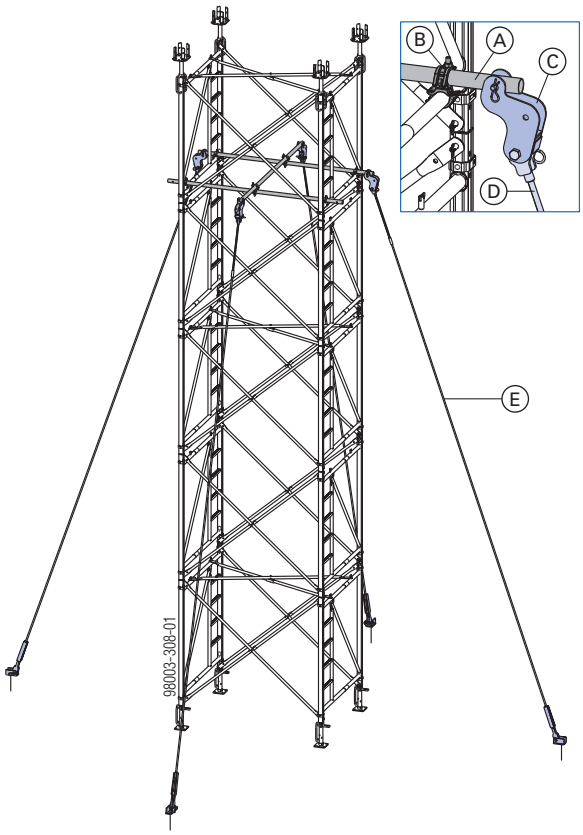
Characteristic cube compressive strength of the concrete ($f_{ck,cube,current}$):
min. 30 N/mm² (C25/30 concrete)

Required safe working load of alternative anchors for footplates:
$R_d \geq 30.0$ kN ($F_{permissible} \geq 20.0$ 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

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!

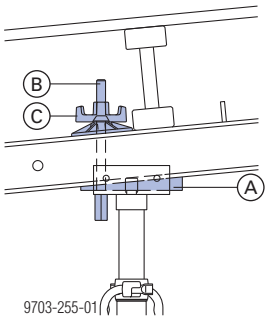
➤ Maximum inclination: 20%!

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

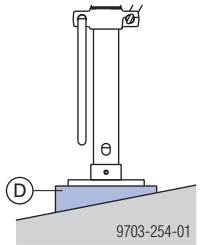
Securing the superstructure at angles of over 12%:

➤ Connect the head-plate to the longitudinal beam (e.g. with Locking rod 15.0/33cm and Super-plate 15.0 or Angle anchor plate 12/18)



A Wedge for screw-jack ..... %
B Locking rod 15.0/33cm
C Super-plate 15.0

Inclined ground surface



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

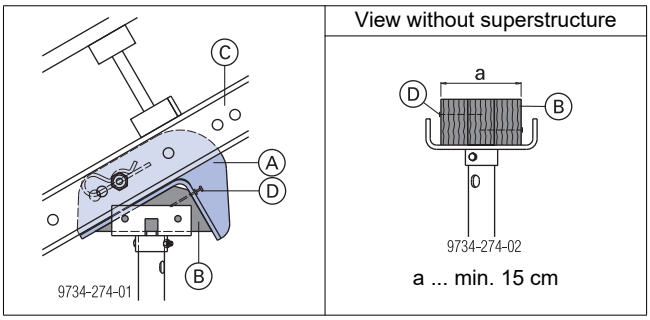
using Staxo wedge support WS10

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

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

NOTICE

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



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.

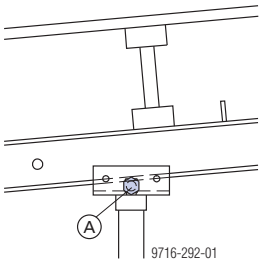
The wedge support is labelled '12' and '14' on the respective sides, to ensure that it is always correctly positioned.

using an M20 hexagonal bolt

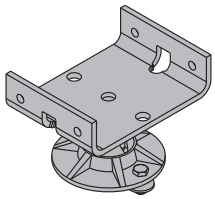
In this case, the superstructure rests on e.g. an M20x240 hexagonal bolt **(A)** . This bolt is inserted through the recessed opening in the Screw jack U-head and is secured with a self-locking M20 hexagon nut.

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 Statical Calculation Dept.!

NOTICE

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

- Swivel bearing plate for Screw jack U-head' on head unit only:
  - Use only the permitted leg loads for 'Head units not restrained' for constructing the superstructure, but do not exceed 65 kN.
- Swivel bearing plate for Screw jack U-head on both head and base unit:
  - Use only the permitted leg loads for 'Head units not restrained' for constructing the superstructure, 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

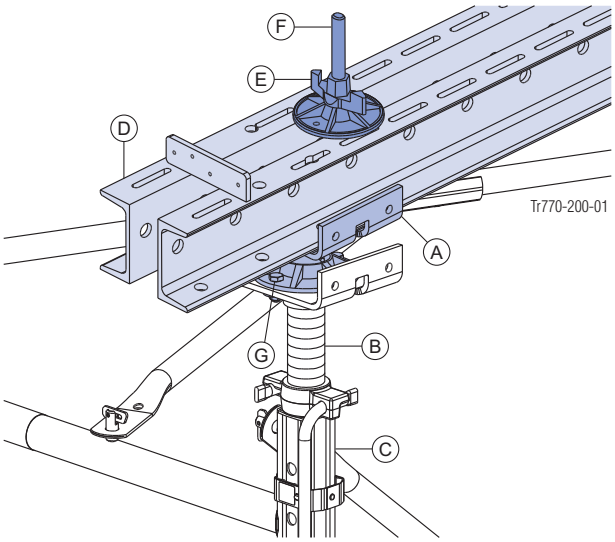
The following geometrical limitations must be taken into account:

- 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 foot/U-head extension lengths caused by inclined superstructures.

Assembly

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

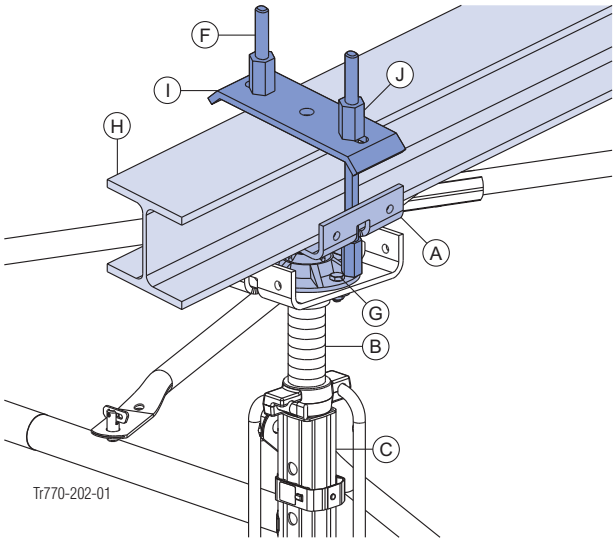
- Insert a Locking rod 15.0 330mm through one of the side holes (diam. 18 mm) on the Swivel bearing plate for Screw jack U-head.
- Using the nuts & bolts etc. supplied with the product, fix the Swivel bearing plate for Screw jack U-head to the Screw jack U-head or Heavy duty screw jack 70 top (spanner 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.

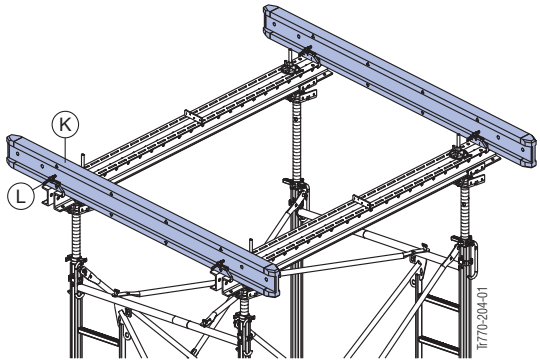
IPB structural steel section clamped on its side on the Swivel bearing plate for Screw jack U-head:

- 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.

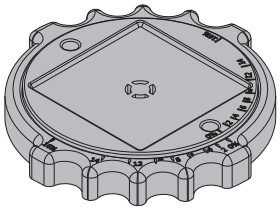


A	Swivel bearing plate for Screw jack U-head
B	Screw jack U-head or Heavy duty screw jack 70 top
C	Staxo 100 frame
F	Locking rod 15.0 330mm
G	Nuts, bolts etc.
H	IPB structural steel section
I	Clamping plate for U-head
J	Hexagon nut 15.0

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

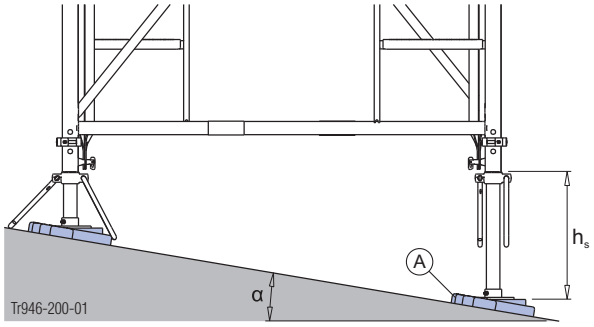


The 'Compensating plate' is made of tough plastic and is used to compensate for sloping support surfaces beneath load-bearing towers, without limiting their load-bearing capacity.

- 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)

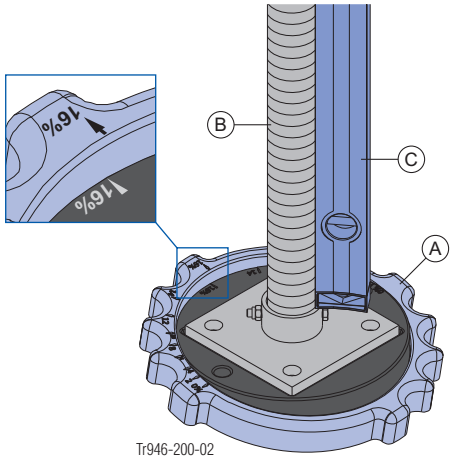
Set-up instructions:

➤ 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.

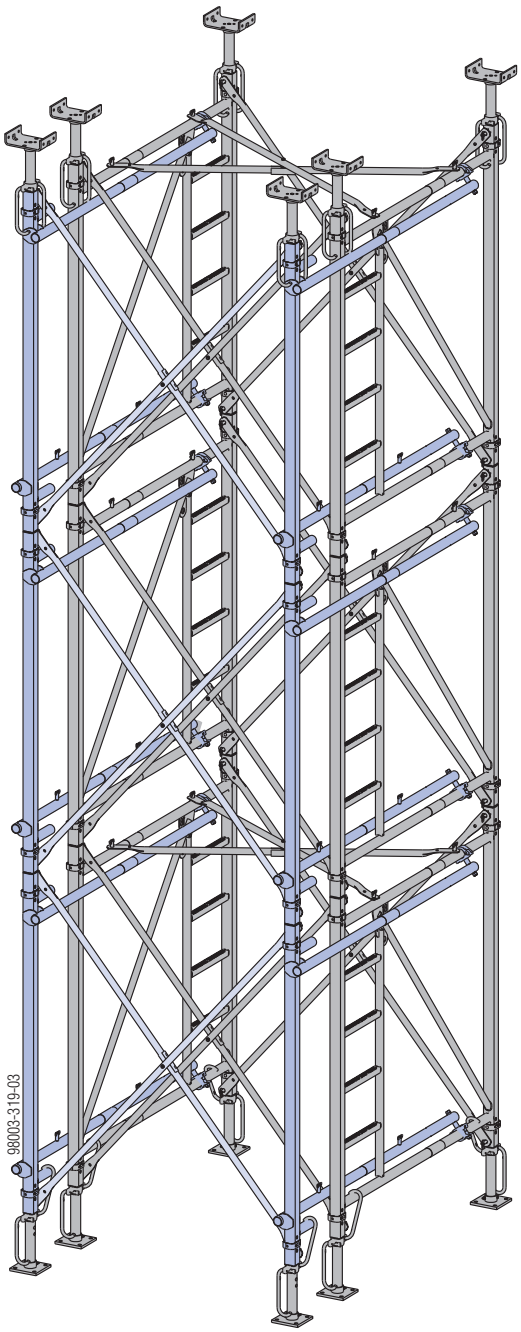
➤ Make sure that the 'Compensating plate' is sitting firmly, and check that the leg is in the vertical.



A	Compensating plate
B	Screw-jack foot
C	Spirit level

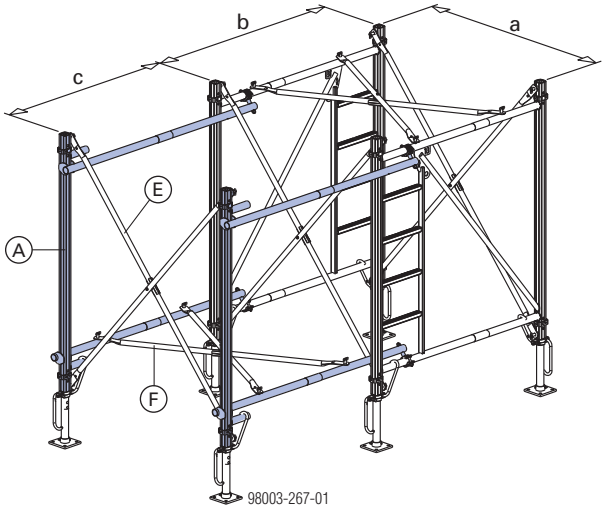
Adaptation to building layout

with Staxo 100 single legs



We recommend using the "Modul" scaffolding or a commercially available movable scaffold to facilitate assembly.

Standard design



a ... Inter-frame spacing = 100/150/175/200/250/300 cm
b ... Frame width = 152 cm
c ... Distance of add-on single-leg plane from main tower = 25 - 150 cm

A	Staxo 100 single leg 1.80, 1.20 or 0.90 m
E	Diagonal cross (the type will depend on the size of frame and the inter-frame space)
F	Diagonal cross 9.xxx (where distance 'c' is between 120 cm and 150 cm – otherwise use a scaffolding tube as bracing)

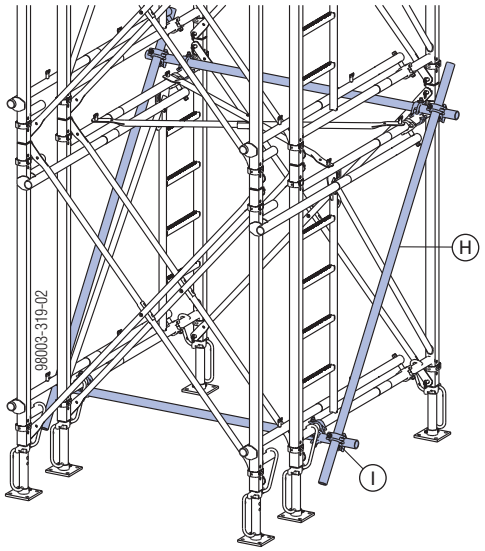
WARNING

Allow for the reduced loading capacities!

- ➤ Can only be used on top-held load-bearing towers.
- ➤ Allow for higher assumed wind loads!

NOTICE

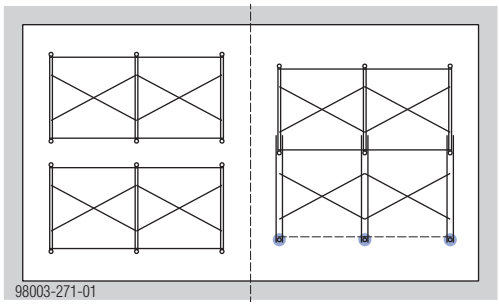
- Horizontal diagonal crosses 9.xxx are needed at intervals of every two 'storeys' - beginning with the first storey.
- It is not possible to use Diagonal crosses 9.060 and 12.060 in single-leg configurations.
- On load-bearing towers higher than 13.20 m, extra bracing – with scaffolding tubes 48.3mm and Normal couplers 48mm – must be mounted in the bottom storey.



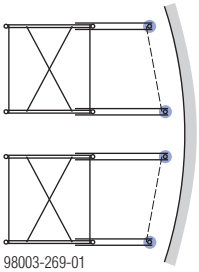
H Scaffold tube 48.3mm
I Swivel coupler 48mm

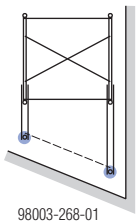
Practical examples

- Reducing the number of legs (instead of 2 tower units, an extra leg-plane is added to one side of the tower).

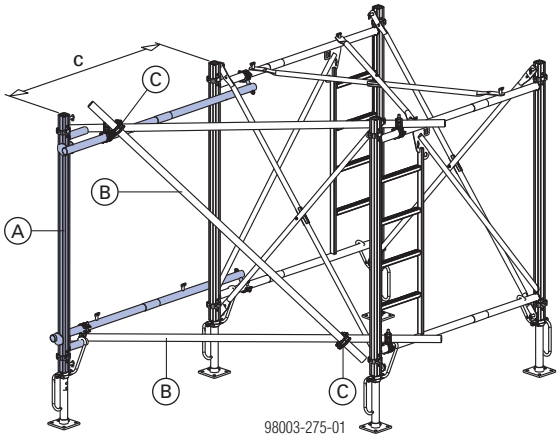


- Adapting to angled or curved layouts.





Triangle-type solution

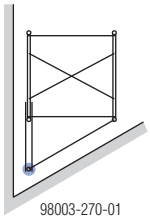


c ... 25 - 150 cm

A Staxo 100 single leg 1.80, 1.20 or 0.90 m
B Scaffolding tube 48.3mm
C Swivel coupler 48mm

Practical examples

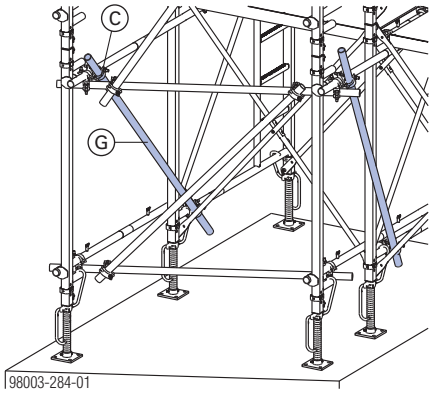
- Adapting to angled or curved layouts.



Wheeling

NOTICE

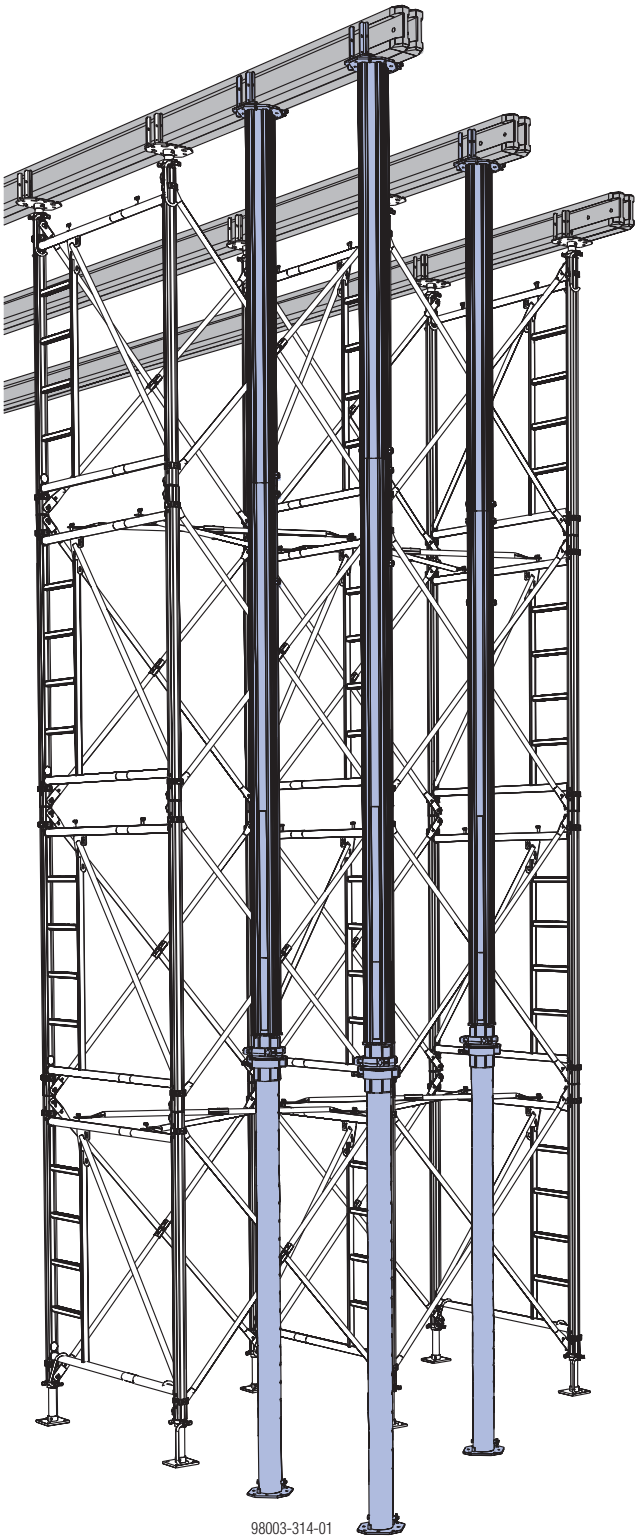
Before a Staxo tower with extra legs can be wheeled, vertical bracing must be added in the bottom 'storey' between these single legs and the Staxo 100 tower!



C Swivel coupler 48mm
G Scaffolding tube 48.3mm

with Eurex 60 550 floor props

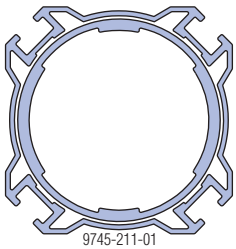
Follow the directions in the 'Eurex 60 550' User Information!



98003-314-01

Product description

- 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 capacity as shown in the diagram!
- 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

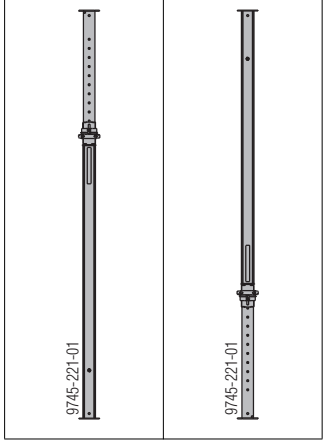
- Can be telescoped in 10 cm increments, with continuous fine adjustment.
- All parts are captively integrated - telescopic tube has anti-dropout safeguard.

Permitted load-bearing capacity of Eurex 60 550

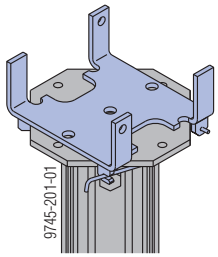
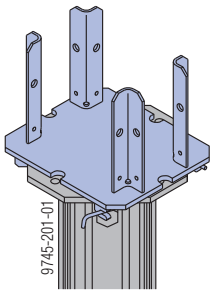
Permitted capacities [kN] as a function of the extension length and the position of the outer tube (prop category T55 to EN 16031)

	Position of outer tube*)	
Prop length [m]	at bottom	at top
5.5	61.8	67.0
5.4	65.0	70.9
5.3	68.5	74.9
5.2	72.1	78.6
5.1	76.0	83.5
5.0	80.3	88.6
4.9	84.0	88.9
4.8	88.9	
4.7		
4.6		
4.5		
4.4		
4.3		
4.2		
4.1		
4.0		
3.9		
3.8		
3.7		
3.6		
3.5		

***) Position of outer tube**

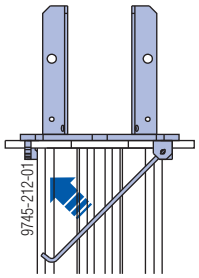
at bottom	at top
	

Holding primary beams

U-head Eurex 60 for steel girders (e.g. WS10), squared timbers or formwork beams H20	Four-way head Eurex 60 for single or double formwork beams H 20
	

Assembly

➤ Place the U-head or four-way head on the prop and fix with spring-steel stirrup.

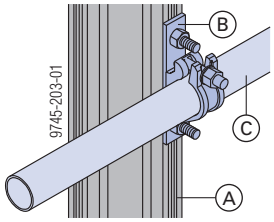


Bracing

Swivel couplers Eurex 60 can be fixed at any height on the outer tube. This means that bracing tubes can be attached wherever needed.

Examples:

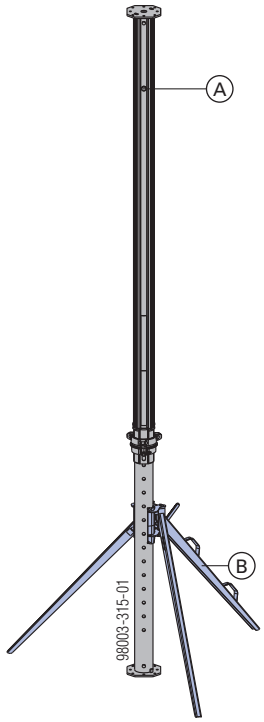
- between prop and load-bearing tower frame
- between two or more props
- to facilitate erection of the prop (as a 'handle' for workers to hold onto)



A	Floor prop Eurex 60 550
B	Swivel coupler Eurex 60
C	Scaffolding tube 48.3mm

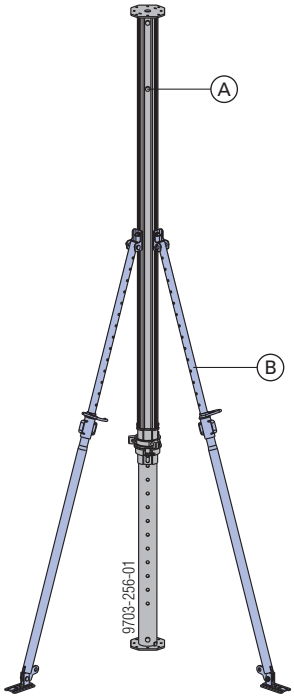
Holding Eurex 60 550 floor props upright during erection

Removable folding tripod 1.20m



A Floor prop Eurex 60 550
B Removable folding tripod 1.20m

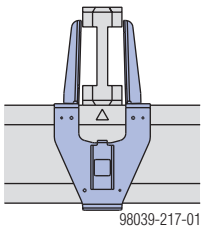
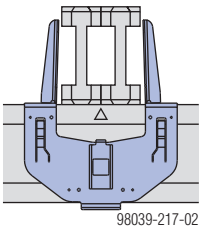
Plumbing struts



A Deckenstütze Eurex 60 550
B Plumbing strut 340 or 540 IB with Strut shoe EB

Secondary-beam stabilisers

Secondary-beam stabilisers are used to prevent formwork beams tipping over while panels are being laid on them.

Secondary-beam stabiliser 1	Secondary-beam stabiliser 2
 98039-217-01	 98039-217-02

Advantages:

- Special claws to prevent slippage on the beam-flange
- Needs only small commissioning quantities, as the Secondary-beam stabilisers can be re-set in tandem with the formwork erection cycle:
  - approx. 20 Secondary-beam stabilisers 1
  - approx. 10 Secondary-beam stabilisers 2

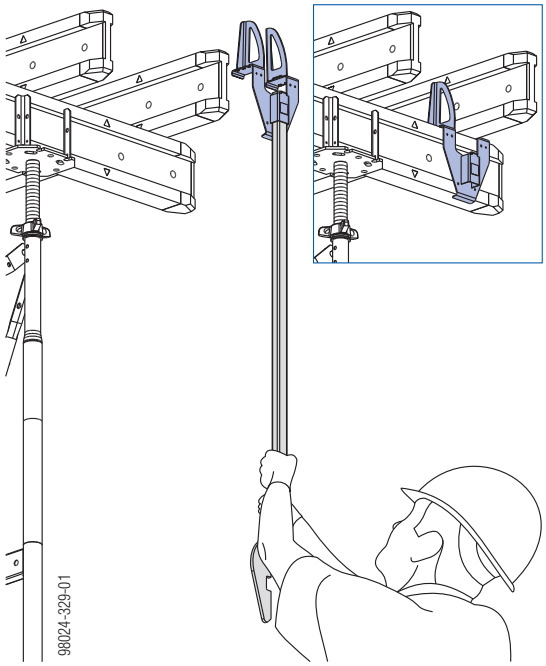
Note:

In certain special situations, (e.g. when forming inclined floor-slabs), Secondary-beam stabilisers can also be used for transferring horizontal loads.

For more information, please contact your Doka technician.

Assembly:

➤ Hang the Secondary-beam stabilisers into place with an Alu beam fork H20.



The secondary beam is now held in place.

➤ Lay the formwork sheets.

➤ After the formwork sheets have been laid, unhook and remove the Secondary-beam stabilisers with an Alu beam fork H20.

Combining Staxo 100 with Staxo

NOTICE

In principle, the system frames of the Load-bearing towers Staxo and Staxo 100 are compatible with one another. Ideally, however, tower frames should each be assembled from components of the same system (i.e. 'mono-system'). The diagrams in the User Information booklet and type-test only apply to mono-system tower frames.
If this is not possible, then the following points must be remembered:

- The lower leg loads permitted for the Staxo system must be assumed.
  - Custom applications with permitted capacities of 85 or 97 kN per leg are not possible
  - No type-test
- At the very least, each 'storey' must be assembled from components of the same system (because the two systems use different horizontal diagonal braces).

For details regarding structural design, set-up and use, see the User Information booklet 'Doka load-bearing tower Staxo' !

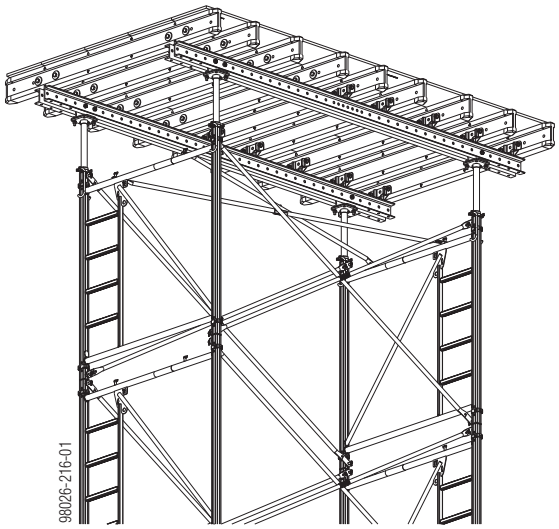
Combining with Dokamatic tables

Superstructure attached by Dokamatic table Staxo spindle connectors

- Ready-assembled Dokamatic tables can be mounted directly onto Staxo 100
- Height adjustment is possible in both the head and base zone of the load-bearing tower
- Superstructure can be inclined by up to 12% (in both the longitudinal and transverse directions)

NOTICE

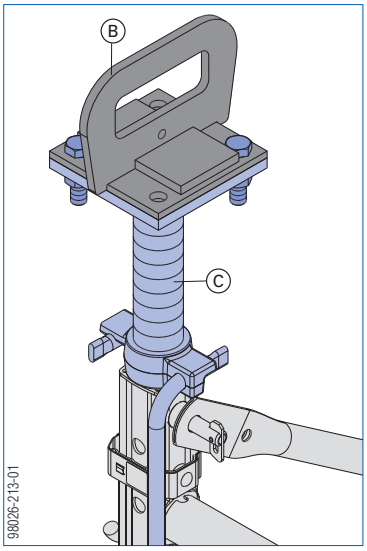
This configuration requires screwjack feet at the top of the tower instead of the usual screw-jack head units!



Assembly

➤ Mount a Screw-jack foot on the top frame.

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

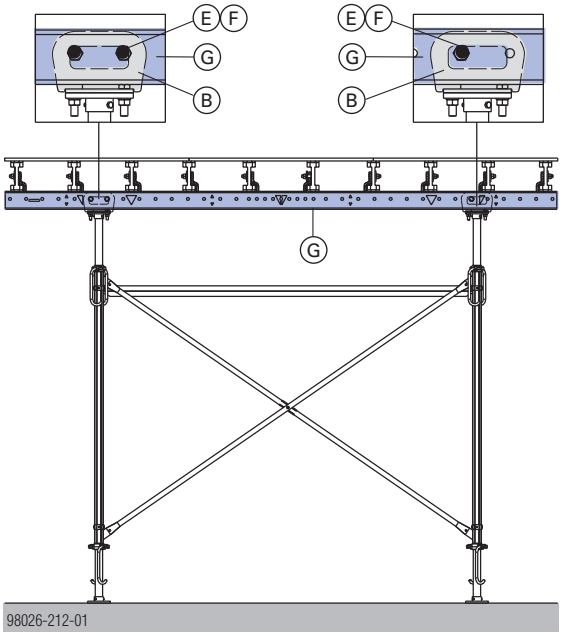


B Dokamatic table Staxo spindle connector
C Screw-jack foot

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. The second connecting pin on each longitudinal connection prevents any displacement of the table superstructure.

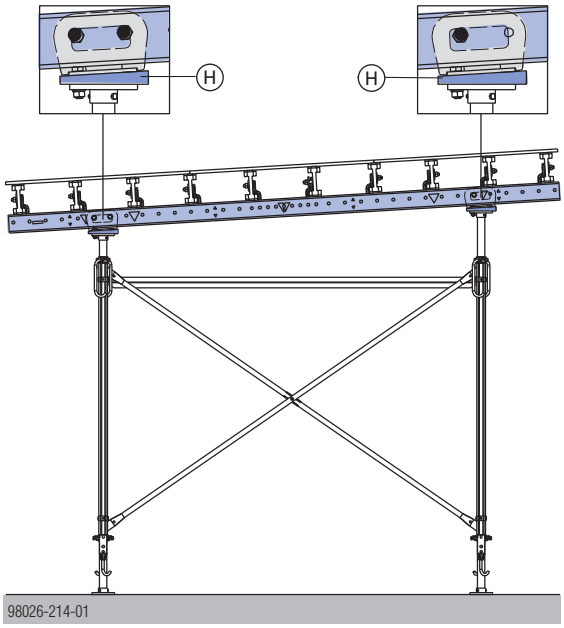


B Dokamatic table Staxo spindle connector
E Connecting pin 10cm
F Spring cotter 5mm
G Dokamatic table

Inclinations

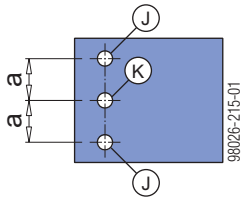
using Wedges for screw-jack ..... % (hardwood wedge)

➤ 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)

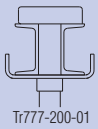
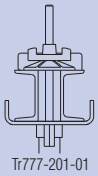
NOTICE

Max. table inclination 12% (in both the longitudinal and transverse directions).

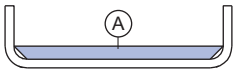
Steel primary beams

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

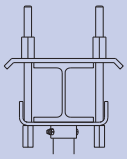
Doka series walings	Width x height [mm]	 Tr777-200-01 Unsecured Max. width = 165 mm	 Tr777-201-01 Secured centrally (necessary from 12%) Max. width = 165 mm
Multi-purpose waling WS10 Top50	153 x 100	Yes	Yes
Multi-purpose waling WU12 Top50	163 x 120	Yes	Yes
Facade waling WU14	172 x 140	Yes [1)]	Yes [1)]
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.
The bevelled edges prevent it resting in the curved radius zone.
This results in a max. available width of 188 mm.



Tr770-201-03

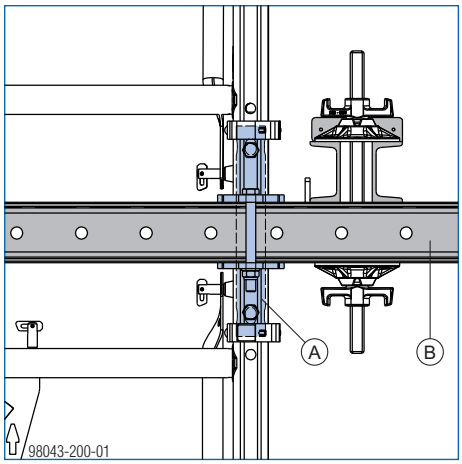
Usage conditions for various I-section girders

Selection of I-girders	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
IPBI 140	140 x 133	Yes	Yes
IPBI 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:

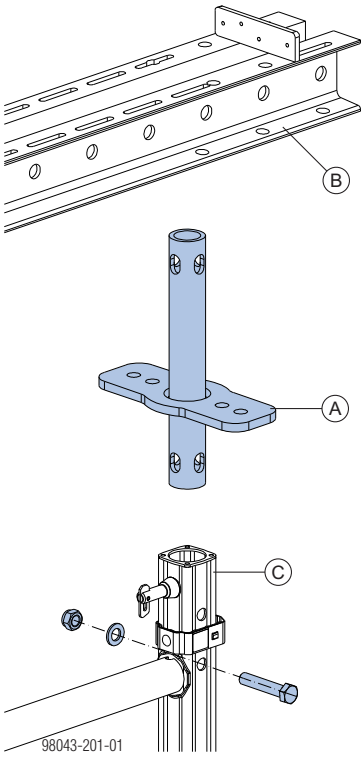
- Connection of a back-stay
- Support against / anchoring to the structure
- Formation of a truss of cross-braced horizontal multi-purpose walings



A Coupler WS10 250
B Multi-purpose waling WS10

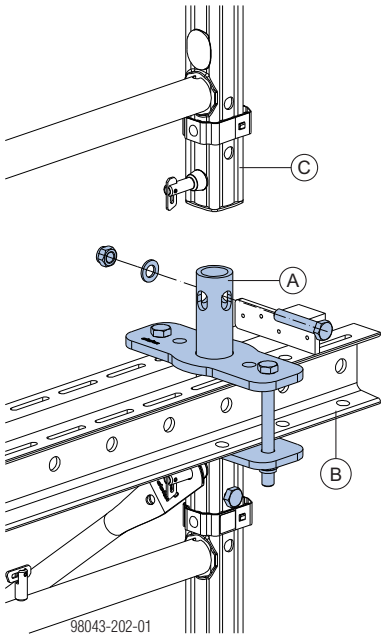
Assembly

➤ 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 M16x80
- 2 hexagon bolts M16x160
- 4 washers 16
- 4 hexagon nuts M16 (self-locking)

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

Transporting, stacking and storing

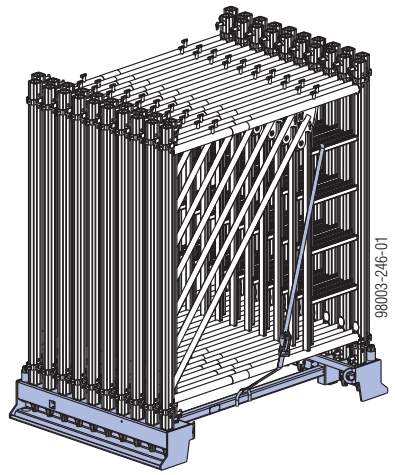
Utilise the benefits of Doka multi-trip packaging on your site.
Multi-trip packaging such as containers, stacking pallets and skeleton transport boxes keep everything in place on the site, minimise time wasted searching for parts, and streamline the storage and transport of system components, small items and accessories.

Doka pallet for Staxo/Aluxo

Storage and transport device for Staxo, Staxo 100 or Aluxo frames (max. 20 frames per pallet):
- durable
- stackable

Suitable transport appliances:
- crane
- pallet stacking truck
- forklift truck

Other features:
- Integral lashing strap for fixing the tower frames
- The connection sleeves on the frames remain extended.
- 1.20 m wide - ideal for transporting by truck



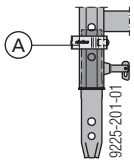
Max. load-bearing capacity: 750 kg
Permitted imposed load: 1630 kg (max. 3 stacked pallets)

NOTICE
- Multi-trip packaging items that each contain very different loads must be stacked with the heaviest ones at the bottom and the lightest ones at the top!
- The rating plate must be in place and clearly legible.

Loading the transport device

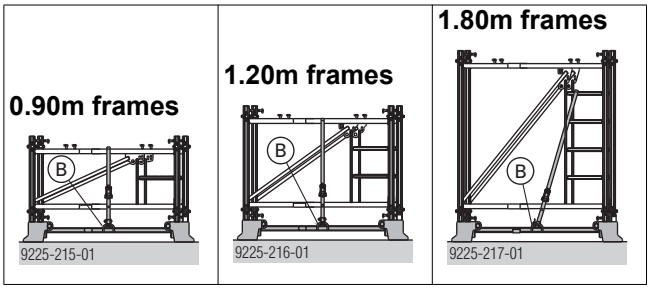
CAUTION
➤ It is not allowed to mix frames of different heights!

➤ Unwind the lashing strap from the Doka pallet for Staxo/Aluxo.
➤ Fix the connection sleeves of the Staxo or Aluxo frames in the extended position, using the yellow security spring.



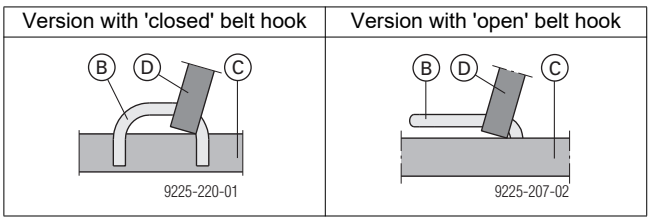
A Security spring (yellow)

➤ Insert the legs of the frames 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.



B Belt hook
C Cross profile
D Lashing strap

Using Doka pallets for Staxo/Aluxo as storage units

Storage of filled pallets

NOTICE

- 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.

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

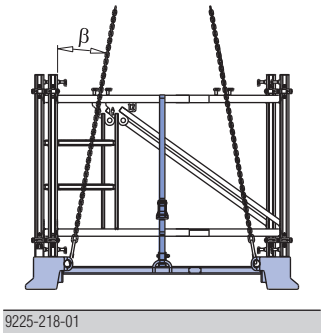
Do not attach the lifting chain to the Staxo or Aluxo frames!

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

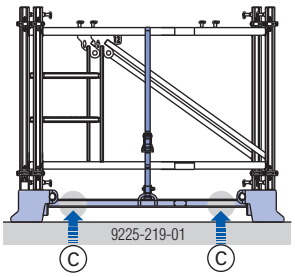
- Multi-trip packaging items may only be lifted one at a time.
- Use a suitable lifting chain (e.g. Doka 4-part chain 3.20m). Do not exceed the permitted load-bearing capacity.
- Spread-angle β max. 30°!



Repositioning by forklift truck or pallet stacking truck

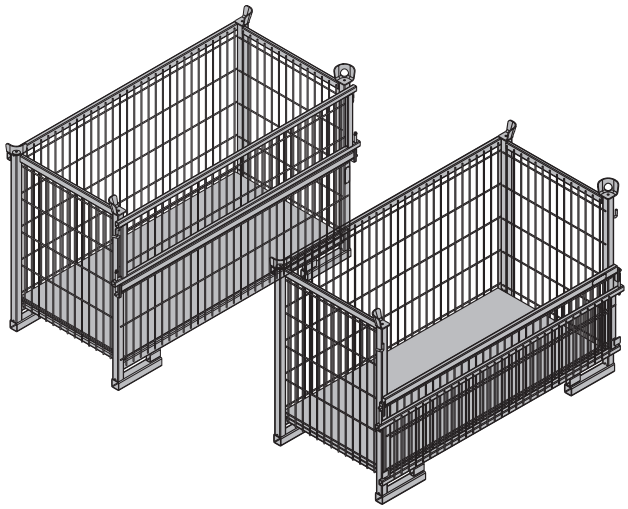
NOTICE

- 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 devices for small items:
- durable
- stackable

Suitable transport appliances:
- crane
- pallet stacking truck
- forklift truck

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

Max. load: 700 kg (1540 lbs) Permitted imposed load: 3150 kg (6950 lbs)

NOTICE
- Multi-trip packaging items that each contain very different loads must be stacked with the heaviest ones at the bottom and the lightest ones at the top!
- Rating plate must be in place and clearly legible

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

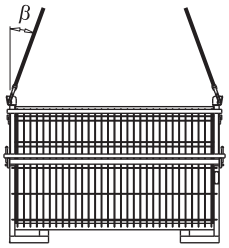
Max. n° of boxes on top of one another

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

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

Lifting by crane

NOTICE
- Multi-trip packaging items may only be lifted one at a time.
- Only lift the boxes when their sidewalls are closed!
- Use a suitable lifting chain (e.g. Doka 4-part chain 3.20m). Do not exceed the permitted load-bearing capacity.
- Spread-angle β max. 30°!

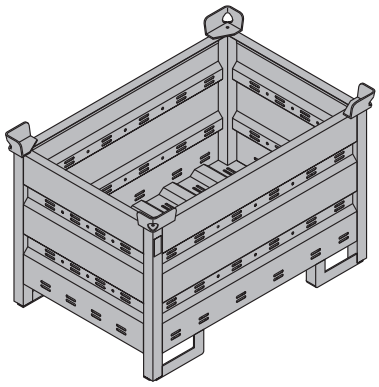


9234-203-01

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 1.20x0.80m galv.



Storage and transport devices for small items:
- durable
- stackable

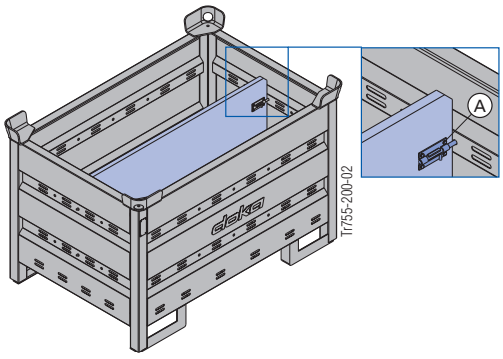
Suitable transport appliances:
- crane
- pallet stacking truck
- forklift truck

Max. load: 1500 kg (3300 lbs)
Permitted imposed load: 7850 kg (17305 lbs)

NOTICE
- Multi-trip packaging items that each contain very different loads must be stacked with the heaviest ones at the bottom and the lightest ones at the top!
- Rating plate must be in place and clearly legible

Multi-trip transport box partition

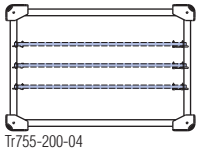
Different items in the Multi-trip transport box can be kept separate with the Multi-trip transport box partitions 1.20m or 0.80m.

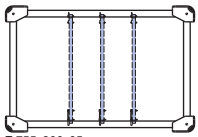


A Slide-bolt for fixing the partition

Possible ways of dividing the box

Multi-trip transport box partition	Lengthways	Crossways
1.20m	max. 3 partitions	-
0.80m	-	max. 3 partitions


Tr755-200-04


Tr755-200-05

Using Doka multi-trip transport boxes as storage units

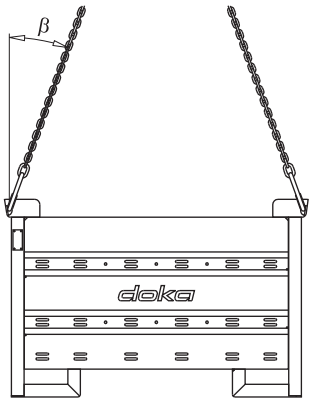
Max. n° of boxes on top of one another

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

Using Doka multi-trip transport boxes as transport devices

Lifting by crane

NOTICE
- Multi-trip packaging items may only be lifted one at a time.
- Use a suitable crane suspension tackle (e.g. Doka 4-part chain 3.20m). Do not exceed the permitted load-bearing capacity.
- Spread angle β max. 30°!

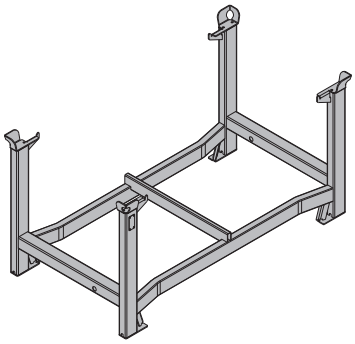


9206-202-01

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 devices for long items:
- durable
- stackable

Suitable transport appliances:
- crane
- pallet stacking truck
- forklift truck

Max. load: 1100 kg (2420 lbs)
Permitted imposed load: 5900 kg (12980 lbs)

NOTICE
- Multi-trip packaging items that each contain very different loads must be stacked with the heaviest ones at the bottom and the lightest ones at the top!
- Rating plate must be in place and clearly legible

Using Doka stacking pallets as storage units

Max. n° of units on top of one another

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

Note:

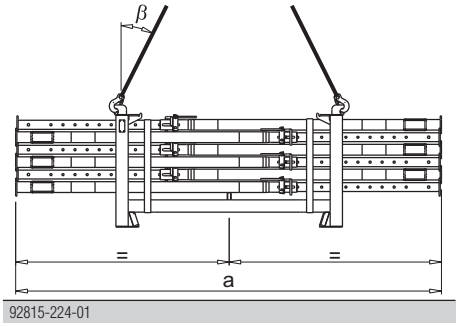
How to use with bolt-on castor set:
Always apply the fixing brake when the container is ‘parked’.

When Doka stacking pallets are stacked, the bottom pallet must NOT be one with a bolt-on caster set mounted to it.

Using Doka stacking pallets as transport devices

Lifting by crane

NOTICE
- Multi-trip packaging items may only be lifted one at a time.
- Use a suitable crane suspension tackle (e.g. Doka 4-part chain 3.20m). Do not exceed the permitted load-bearing capacity.
- Load the items centrically.
- Fasten the load to the stacking pallet so that it cannot slide or tip out.
- Spread angle β max. 30°!

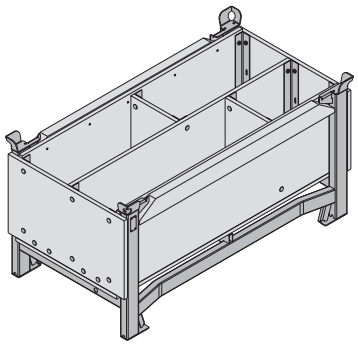


	a
Doka stacking pallet 1.55x0.85m	max. 4.5 m
Doka stacking pallet 1.20x0.80m	max. 3.0 m

Repositioning by forklift truck or pallet stacking truck

NOTICE
- Load the items centrically.
- Fasten the load to the stacking pallet so that it cannot slide or tip out.

Doka accessory box



Storage and transport devices for small items:
- durable
- stackable

Suitable transport appliances:
- crane
- pallet stacking truck
- forklift truck

The Doka accessory box is the tidy, easy-to-find way of storing and stacking all interconnection and form-tie components.

Max. load: 1000 kg (2200 lbs)
Permitted imposed load: 5530 kg (12191 lbs)

NOTICE
- Multi-trip packaging items that each contain very different loads must be stacked with the heaviest ones at the bottom and the lightest ones at the top!
- Rating plate must be in place and clearly legible

Doka accessory boxes as storage units

Max. n° of boxes on top of one another

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

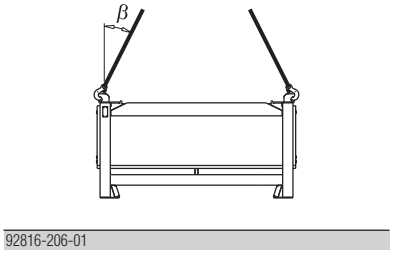
Note:

How to use with bolt-on castor set:
Always apply the fixing brake when the container is 'parked'.
When Doka accessory boxes are stacked, the bottom box must NOT be one with a bolt-on castor set mounted to it.

Doka accessory box as transport devices

Lifting by crane

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 load-bearing capacity.
- Spread angle β max. 30°!

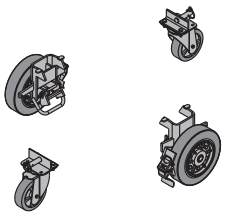


Repositioning by forklift truck or pallet stacking truck

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

Bolt-on castor set B

The Bolt-on caster set B turns the stacking pallet into a fast and manoeuvrable transport device.
Suitable for drive-through access openings > 90 cm.



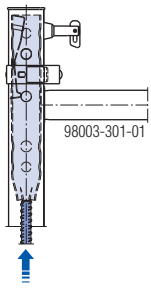
The Bolt-on caster set B can be mounted to the following multi-trip packaging items:
- Doka accessory box
- Doka stacking pallets

Follow the directions in the 'Bolt-on castor set B' Operating Instructions!

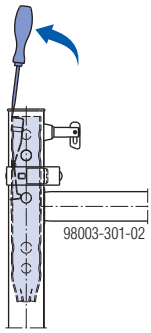
Removing and refitting the connection sleeve

Removing

➤ Using e.g. a tie rod, push the connection sleeve upwards until it hits the stop.

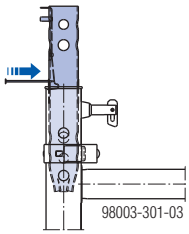


➤ Use a screwdriver to press the spring out of the way.

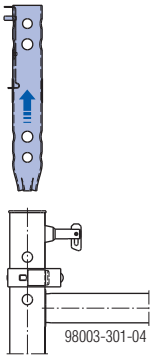


➤ Pull out the connection sleeve as far as the stop.

➤ Stick a pointed object (e.g. a nail) into the hole in the connection sleeve until the spring no longer reaches over the stop.



➤ Completely pull out the connection sleeve.

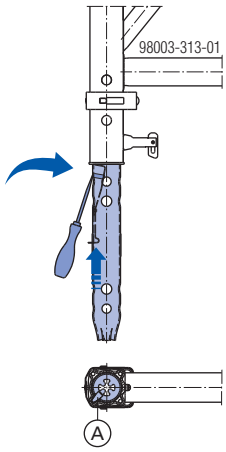


Safely stow away the loose connection sleeve so that it can be reinstalled in the Staxo 100 frame when work is finished.

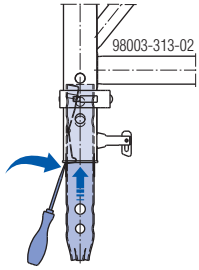
Installation

➤ Use a screwdriver to press the spring out of the way.

➤ Push the connection sleeve into the frame tube from below, until it hits the stop (make sure that the spring **(A)** is in the right position)

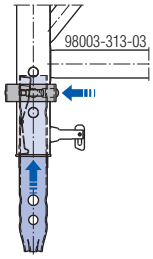


➤ Use a screwdriver to press the rear stop out of the way.



➤ Keep pushing in the connection sleeve until the spring snaps into place.

➤ 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.

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!
- Intermediate anchoring planes may be necessary while the towers are being erected.
- 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
  - single legs
  - 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.

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

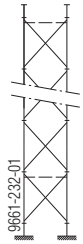
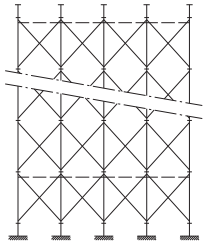
Height of load-bearing tower	Dynamic pressure
h ≤ 15 m	$q_k \leq 1.3$ kN/m²
15 m < h ≤ 21 m	$q_k \leq 0.8$ kN/m²

Ranges of use for free-standing systems

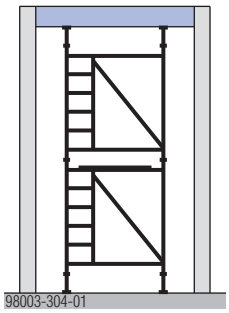
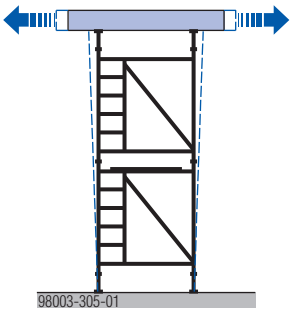
For each 1% angle of inclination, increase the minimum imposed loads by +10% (max. +160%).

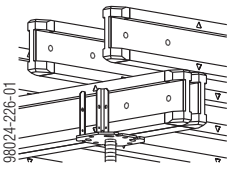
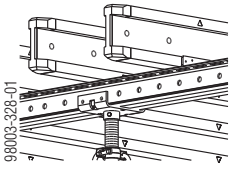
This fulfils the local proof against slippage between the Compensating plate and the concrete ($\mu_k = 0.33$).

Set-up configurations

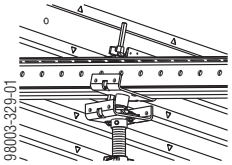
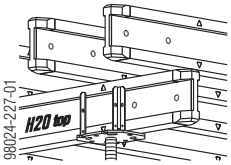
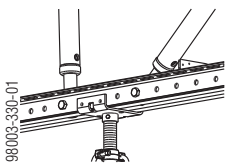
As tower Number of frame planes = 2	With multiple towerframe-planes Number of frame planes ≥ 3
	

Superstructure configuration

Top-held systems	Free-standing systems
	

Head units restrained	
Double primary beams H20 or Single primary beam I tec 20	Multipurpose walings
	

Max. influence width of the secondary beams for the superstructure: 50 cm

Head units not restrained	
Swivel bearing plate for Screw-jack U-head	Single primary beam H20
	
Superstructure with spindle struts	
	

Permitted leg loads

Free-standing systems (without back-stay, without holding device)

Frame size [m]	Screw-jack extension lengths [cm] at top and bottom respectively		Inter-frame space [m]	N° 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)	Permitted 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 back-stay)

Frame size [m]	Screw-jack extension lengths [cm] at top and bottom respectively		Inter-frame space [m]	N° 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)	Permitted 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
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	—

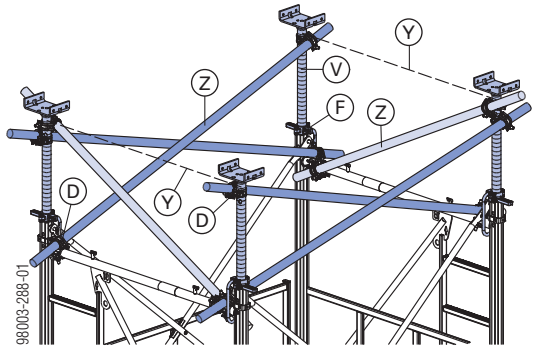
- Permitted leg load where 2 Doka beams I tec 20 are used as primary beams in conjunction with Staxo 100: **60 kN**
- Permitted leg load where 2 Doka beams I tec 20 are used as primary beams in combination with Staxo 100 and a Dokaplex intermediate sheet (size: 160 x 210 mm, thickness: 18 or 21 mm): **70 kN**
- Permitted leg load where 2 Doka beams I tec 20 are used as primary beams in combination with Staxo 100 and an intermediate sheet of thickness t=8 mm: **80 kN**

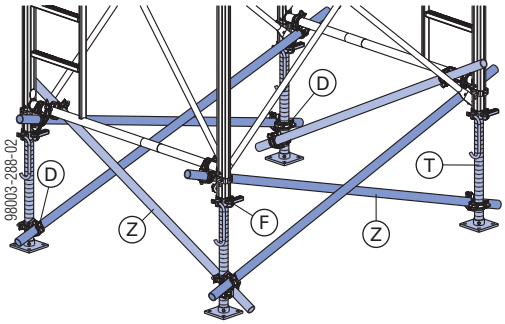
The intermediate sheets have to be secured so that they cannot drop down, for example with suitable lengths of adhesive tape.

NOTICE

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

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

	[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 9.165	**5.7**	**582627000**
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	**4.6**	**582610000**
Diagonal cross 12.150	**5.7**	**582612000**
Diagonal cross 12.165	**6.1**	**582628000**
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 18.165	**7.3**	**582629000**
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**

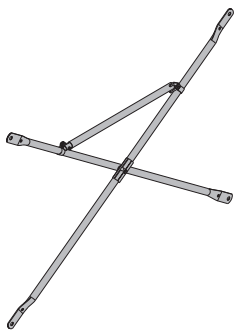
Diagonalkreuz

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

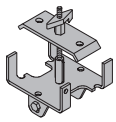
Galvanised
Delivery condition: folded closed



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

Gabelkopf D

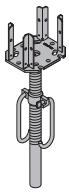
Galvanised
Length: 20 cm
Width: 22 cm
Height: 37 cm



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

Vierwegkopfspindel

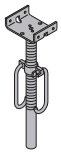
Galvanised
Height: 86 cm



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

Kopfspindel

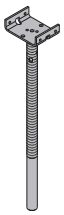
Galvanised
Height: 74 cm



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

Lastspindel 70 oben

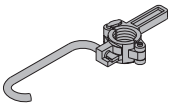
Galvanised
Height: 106 cm



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

Spannmutter B

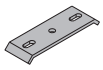
Galvanised



	[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**

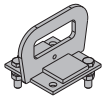
Quetschteil 15,0 330mm

Galvanised
Width-across: 24 mm

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

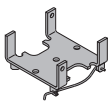
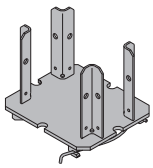
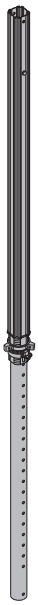
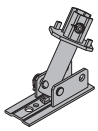
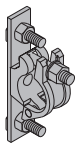
Staxo-Spindelanschluss Dokamatic-Tisch

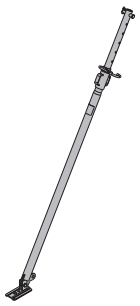
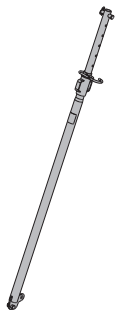
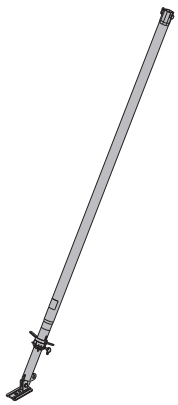
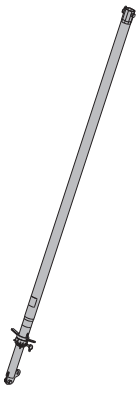
Galvanised
Length: 20.7 cm



	[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 DIN 18216	**1.1**	**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**
Screw jack foot Fußspindel Galvanised Height: 69 cm	**9.0**	**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 Orange Black Diameter: 30 cm	**1.2**	**582239000**
Staxo 100 single leg 0.90m **Staxo 100 single leg 1.20m** **Staxo 100 single leg 1.80m** Staxo 100-Einzelstiel Galvanised	**20.2** **21.5** **17.0**	**582305000** **582304000** **582303000**
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**

	[kg]	Article n°
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**
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 Follow the directions in the "Fitting instructions"! 	**1.0**	**582654000**

	[kg]	Article n°
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**
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**

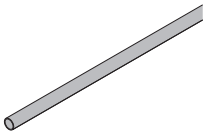
	[kg]	Article n°
Prop shoe EB Stützenschuh EB Galvanised Length: 20 cm Width: 11 cm Height: 10 cm	**1.8**	**588245500**
Universal dismantling tool Universal-Lösewerkzeug Galvanised Length: 75.5 cm	**3.7**	**582768000**
Removable folding tripod 1.20m Stützbein 1,20m Galvanised Height: 120 cm Delivery condition: folded closed	**20.7**	**586145000**
Doka express anchor 16x125mm Doka-Expressanker 16x125mm Galvanised Length: 18 cm Follow the directions in the "Fitting instructions"!	**0.31**	**588631000**
Doka coil 16mm Doka-Coil 16mm Galvanised Diameter: 1.6 cm	**0.009**	**588633000**
Scaffold planking 30/100cm	**7.4**	**582231000**
Scaffold planking 30/150cm	**10.6**	**582232000**
Scaffold planking 30/200cm	**13.5**	**582234000**
Scaffold planking 30/250cm	**16.4**	**582235000**
Scaffold planking 30/300cm	**19.5**	**582236000**
Gerüstbelag Galvanised		
Scaffold planking 60/100cm with manhole	**9.5**	**582311500**
Scaffold planking 60/150cm with manhole	**13.8**	**582312500**
Scaffold planking 60/175cm with manhole	**15.5**	**582333500**
Scaffold planking 60/200cm with manhole	**17.7**	**582313500**
Scaffold planking 60/250cm with manhole	**20.8**	**582314500**
Scaffold planking 60/300cm with manhole	**26.3**	**582315500**
Gerüstbelag mit Durchstieg Aluminium		

	[kg]	Article n°
Scaffold planking 60/60cm	**6.1**	**582330500**
Scaffold planking 60/100cm	**9.5**	**582306500**
Scaffold planking 60/150cm	**13.6**	**582307500**
Scaffold planking 60/175cm	**15.5**	**582332500**
Scaffold planking 60/200cm	**17.8**	**582308500**
Scaffold planking 60/250cm	**22.2**	**582309500**
Scaffold planking 60/300cm	**26.2**	**582310500**
Gerüstbelag Aluminium		
Staxo 100 toeboard Staxo 100-Fußwehr Galvanised Length: 131 cm Height: 15 cm	**5.5**	**582329000**
Staxo 100 planking strut 1.00m	**6.1**	**582348000**
Staxo 100 planking strut 1.50m	**9.0**	**582349000**
Staxo 100-Belagstrebe Galvanised Width-across: 22 mm		
Staxo front railing Staxo-Stirngeländer Galvanised Length: 140 cm Height: 152 cm	**10.5**	**582316000**
Staxo side railing 100	**17.5**	**582317500**
Staxo side railing 150	**20.0**	**582318500**
Staxo side railing 175	**23.2**	**582331500**
Staxo side railing 200	**24.1**	**582319500**
Staxo side railing 250	**27.5**	**582320500**
Staxo side railing 300	**31.1**	**582321500**
Staxo-Seitengeländer Galvanised Height: 152 cm		
Spring locked connecting pin 16mm Federbolzen 16mm Galvanised Length: 15 cm	**0.25**	**582528000**

	[kg]	Article n°
Scaffold tube 48.3mm 0.50m	**1.7**	**682026000**
Scaffold tube 48.3mm 1.00m	**3.6**	**682014000**
Scaffold tube 48.3mm 1.50m	**5.4**	**682015000**
Scaffold tube 48.3mm 2.00m	**7.2**	**682016000**
Scaffold tube 48.3mm 2.50m	**9.0**	**682017000**
Scaffold tube 48.3mm 3.00m	**10.8**	**682018000**
Scaffold tube 48.3mm 3.50m	**12.6**	**682019000**
Scaffold tube 48.3mm 4.00m	**14.4**	**682021000**
Scaffold tube 48.3mm 4.50m	**16.2**	**682022000**
Scaffold tube 48.3mm 5.00m	**18.0**	**682023000**
Scaffold tube 48.3mm 5.50m	**19.8**	**682024000**
Scaffold tube 48.3mm 6.00m	**21.6**	**682025000**
Scaffold tube 48.3mm .....m	**3.6**	**682001000**

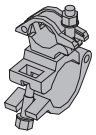
Gerüstrohr 48,3mm

Galvanised



Transition swivel coupler 48/76mm **1.9** **582563000**

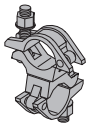
Übergangsdrehkupplung 48/76mm



Galvanised
Width-across: 22 mm
Follow the directions in the "Fitting instructions"!

Swivel coupler 48mm **1.5** **582560000**

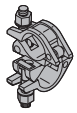
Drehkupplung 48mm



Galvanised
Width-across: 22 mm
Follow the directions in the "Fitting instructions"!

Normal coupler 48mm **1.2** **682004000**

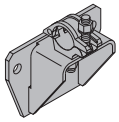
Normalkupplung 48mm



Galvanised
Width-across: 22 mm
Follow the directions in the "Fitting instructions"!

Anchoring shoe for stair tower **3.4** **582680000**

Ankerschuh für Treppenturm



Galvanised
Length: 22 cm
Width: 12 cm
Height: 22 cm

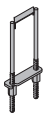
Cone screw B 7cm **0.86** **581444000**

Konusschraube B 7cm

Red
Length: 10 cm
Diameter: 7 cm
Width-across: 50 mm

Brace stirrup 8 **2.7** **582751000**

Spannbügel 8



Galvanised
Width: 19 cm
Height: 46 cm
Width-across: 30 mm

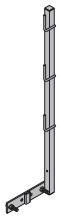
Rafter plate right **0.09** **582521000**
Rafter plate left **0.09** **582522000**

Sparrenpfettenanker

Galvanised
Length: 17 cm

	[kg]	Article n°
Handrail post 1.50m	**12.4**	**582754000**

Geländer 1,50m



Galvanised

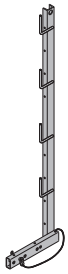
Handrail clamp S **11.5** **580470000**

Schutzgeländerzwinge S

Galvanised
Height: 123 - 171 cm

Handrail post T 1.80m **17.7** **584373000**

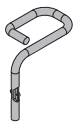
Einschubgeländer T 1,80m



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

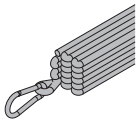
Staxo 100 mounting gallows 40kg **7.5** **582328000**

Staxo 100-Montagegalgen 40kg

Galvanised
Height: 258 cm
Follow the directions in the "Operating Instructions"!

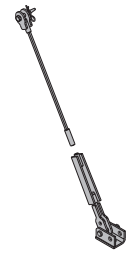
CE

	[kg]	Article n°
Staxo 100 hoisting cable 40kg 30m Staxo 100-Aufzugsseil 40kg 30m	**1.3**	**582346000**

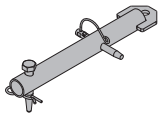


Staxo 100 attaching cable 40cm Staxo 100-Anschlagseil 40cm	**0.31**	**582345000**

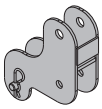
Bracing for load-bearing towers Abspannung für Traggerüste Galvanised Painted blue	**11.6**	**582795000**



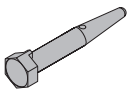
Bracing waling connector WS10 Abspann-Riegelverbinder WS10 Galvanised Length: 46.7 cm	**2.7**	**582756000**



Spindle connecting plate T Spindellasche T Galvanised Width: 20 cm Height: 25 cm	**3.1**	**584371000**

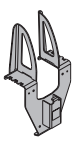


Connecting pin 10cm Verbindungsbolzen 10cm Galvanised Length: 14 cm	**0.34**	**580201000**



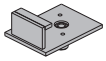
Spring cotter 5mm Federvorstecker 5mm Galvanised Length: 13 cm	**0.03**	**580204000**

Secondary-beam stabiliser 1 **Secondary-beam stabiliser 2** Querträgersicherung Galvanised Height: 38.7 cm	**1.6** **2.1**	**586196000** **586197000**



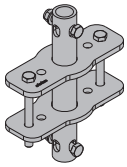
Lifting rod 15.0 Umsetzstab 15,0 Painted blue Height: 57 cm Follow the directions in the "Operating Instructions"!	**1.9**	**586074000**

Retaining plate 15.0 Jochplatte 15,0 Galvanised Length: 17 cm Width: 12 cm Height: 11 cm	**1.8**	**586073000**

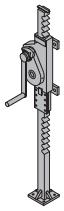


Universal plug R20/25 Kombi-Ankerstopfen R20/25 Blue Diameter: 3 cm	**0.003**	**588180000**

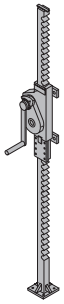
Coupler WS10 250 Kupplungsstück WS10 250 Galvanised Length: 35 cm Width: 27 cm Width-across: 24 mm	**6.9**	**582688000**



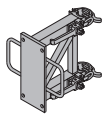
Winch 70 Zahnstangenwinde 70 Painted blue Height: 126 cm Follow the directions in the "Operating Instructions"!	**31.0**	**582779000**



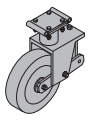
Winch 125 Zahnstangenwinde 125 Painted blue Height: 189 cm Follow the directions in the "Operating Instructions"!	**63.8**	**582780000**



Staxo/d2 adapter frame Staxo/d2-Adapter Painted blue Length: 37 cm Width: 36 cm Height: 36 cm	**14.1**	**582781000**

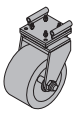


Solid tire wheel Vollelastikrad Painted blue Height: 45 cm	**34.5**	**582573000**



	[kg]	Article n°

Heavy-duty wheel 15kN 33.0 582575000
Schwerlastrad 15kN

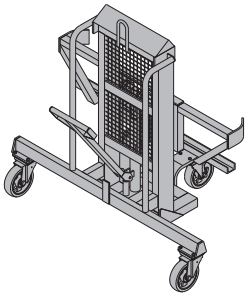


Painted blue
Height: 41 cm

Double wheeled transporter 5.0 582558000
Zweirad-Transportroller

Painted blue
Width: 57 cm

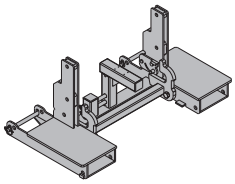
Shifting carriage TG 168.0 582778000
Hubwagen TG



Galvanised
Length: 99 cm
Width: 152 cm
Height: 148 cm
Follow the directions in the "Operating Instructions"!

CE

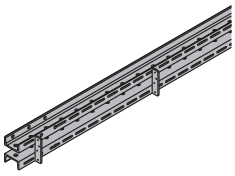
Fork lift shifting device TG 83.0 582797000
Umsetzgerät TG für Stapler



Galvanised
Length: 60 cm
Width: 113 cm
Height: 52 cm
Follow the directions in the "Operating Instructions"!

CE

Multi-purpose waling WS10 Top50 2.00m 38.9 580007000
Mehrzweckriegel WS10 Top50 2,00m



Painted blue

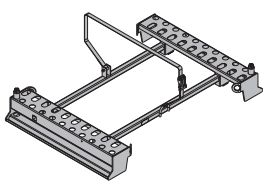
Doka personal fall-arrest set 3.6 583022000
Doka-Auffanggurt

Follow the directions in the "Operating Instructions"!

CE

Multi-trip packaging

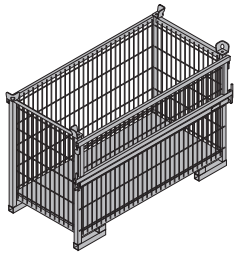
Doka load-bearing tower pallet 64.6 582783000
Doka-Traggerüstpalette



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

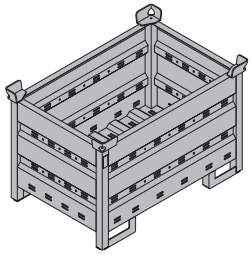
	[kg]	Article n°

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



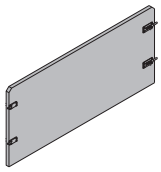
Galvanised
Height: 113 cm

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



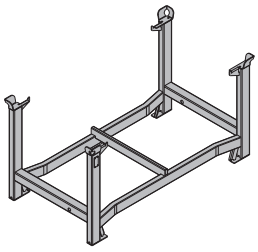
Galvanised
Height: 78 cm

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



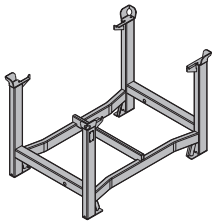
Steel parts galvanised
Timber parts varnished yellow

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



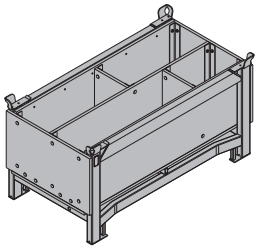
Galvanised
Height: 77 cm

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

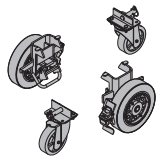
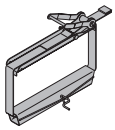


Galvanised
Height: 77 cm

Doka accessory box 106.4 583010000
Doka-Kleinteilebox



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

	[kg]	Article n°
Bolt-on castor set B Anklemm-Radsatz B Painted blue 	**33.6**	**586168000**
Stacking strap 50 Stapelgurt 50 Powder-coated blue Packaging unit: 2 pcs. 	**3.1**	**586156000**

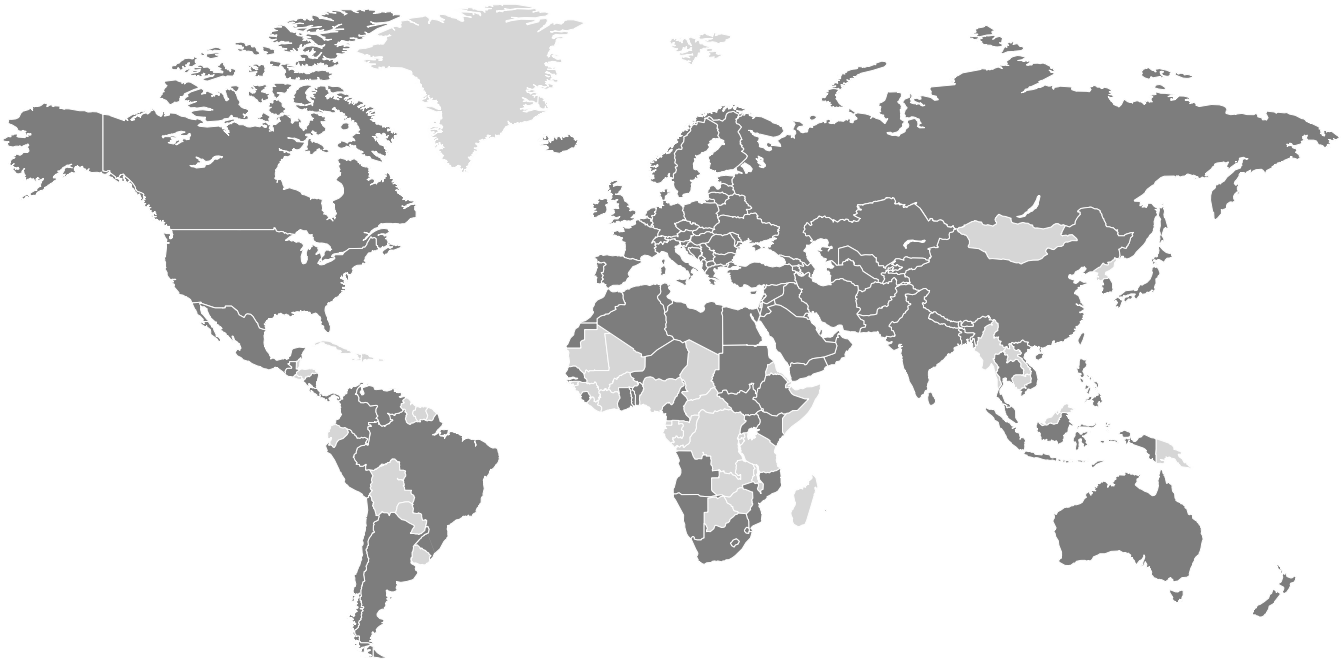
[kg] Article n°

Near to you, worldwide

Doka is one of the world leaders in developing, manufacturing and distributing formwork technology for use in all fields of the construction sector.

With more than 160 sales and logistics facilities in over 70 countries, the Doka Group has a highly efficient distribution network which ensures that equipment and technical support are provided swiftly and professionally.

An enterprise forming part of the Umdasch Group, the Doka Group employs a worldwide workforce of more than 6000.



www.doka.com/staxo-100