

Layher Rolling Towers – Uni Light

Safety Structure 

Instructions for Assembly and Use

**Mobile working platforms**

to DIN EN 1004:2005-03

Working platform 0.75 x 1.8 m

max. working height:

indoors 9.3 m

outdoors 9.3 m

Load bearing capacity 2.0 kN/m<sup>2</sup>

on max. one working level

(scaffold group 3 to

DIN EN 1004:2005-03)



Rolling Towers

Layher® 

More Possibilities. The Scaffolding System.

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## ► NOTE

The products or assembly variants shown in these instructions for assembly and use may be subject to country-specific regulations. The user of the products bears the responsibility for compliance with such regulations. Subject to local regulations, we reserve the right not to supply all the products illustrated here.

Your Layher partner on the spot will be happy to provide advice and answers to all questions relating to the approvals for the products, to their use or to specific assembly regulations.

## ▶ 1. INTRODUCTION

### General

These instructions for assembly and use relate to assembly, modification and dismantling of the Layher rolling tower Uni Light from Wilhelm Layher GmbH & Co. KG, of Gueglingen-Eibensbach, Germany. The instructions cannot cover all the possible applications. If you have any questions about specific applications, please contact your Layher partner.

**Caution:** The Layher Uni Light may only be assembled, modified and dismantled under the supervision of a qualified expert and by technically trained employees.

## ▶ 2. GENERAL DIRECTIONS FOR ASSEMBLY AND USE

The rolling tower may be used for the appropriate scaffolding class as specified in DIN EN 1004.

**The user of the rolling tower must comply with the following instructions:**

1. The user must check the suitability of the selected rolling tower for the work to be performed (Section 4 of BetrSichV).

2. The maximum platform height is, in accordance with DIN EN 1004:2005-03:

- indoors 12.0 m
- outdoors 8.0 m

The ballasting and component specifications on pages 8 and 15 respectively must be complied with. Risk of accidents in the event of non-compliance. The stability and loadability are no longer assured. Assembly variants differing from the specifications may require additional design measures. In such cases, the stability and loadability must be verified in each individual instance.

3. The assembly, modification or dismantling of the rolling tower in accordance with the present instructions for assembly and use may only be performed under the supervision of a qualified person and by professionally suitable employees after special instruction. Only

the tower types shown in these instructions for assembly and use may be used. The unit must, after assembly and before being put into service, be inspected by persons qualified to do so (Sections 4 and 10 of BetrSichV). The inspection must be documented (Section 11 of BetrSichV). During assembly, modification or dismantling, the rolling tower must be provided with a prohibition sign indicating "No access allowed" and be adequately safeguarded by means of barriers preventing access to the danger zone (BetrSichV Annex 2, para. 5.2.5).

4. Before installation, all parts must be inspected to ensure they are in perfect condition. Only undamaged original parts from the Layher mobile working platform systems may be used. Scaffolding parts such as snap-on claws and spigots must be cleaned of dirt after use. Scaffolding components must be secured against slipping and impacts when transported by truck. Scaffolding components must be handled in such a way that they are not damaged. For wall supports and attachment of ballast weights, see the table on page 8 of these instructions for assembly and use.

5. To assemble the upper sections of the tower, the components must be hoisted from level to level. Small quantities of tools and materials can be carried up by the personnel, otherwise hoisted to the working level using transport ropes.

6. The ladder frame joints must always be secured using spring clips.

7. The tower must be levelled using the adjusting spindles. The maximum inclination is 1 %.

8. Stability must be assured during each phase of the assembly process.

9. On intermediate platforms used solely for ascent, toe boards can be dispensed with. For small towers where the height of the deck is more than 1.00 m, equipment must be provided that permits attachment of side protection in accordance with DIN EN 1004:2005-03.

10. Access up onto the working platform is only permitted on the inside of the scaffolding.

11. Working on two or more working levels at the same time is not permitted. In the event of exceptions, the manufacturer must be consulted.

12. Personnel working on mobile working platforms must not push against the brick guards.

13. Lifting gear must not be attached to and used on mobile working platforms.

14. Assembly and movement are only permitted on sufficiently firm ground, and only in a longitudinal or diagonal direction. Avoid any impacts. When the base is extended on one side while wall supports are in use, movement is only permissible parallel to the wall. During movement, do not exceed normal walking speed.

15. No personnel and/or loose objects may be on the tower while it is being moved.

16. After movement, the castors must be locked by pressing down the brake lever.

17. The scaffolding structures must not be subjected to any aggressive fluids or gases.

18. Mobile working platforms must not be connected by bridging unless its structural strength has been specifically verified. The same applies for all other special assemblies, e.g. suspended scaffolding etc. Furthermore, it is not permitted to construct bridges between a mobile working platform and a building.

19. When the mobile working platform is used outdoors or in open buildings, it must be moved to a wind-protected area when wind strengths exceed 6 on the Beaufort scale or at the end of a shift, or secured against toppling over by other suitable measures (a wind strength of more than 6 can be recognised by noticeable difficulty in walking). If possible, towers used outside buildings must be securely fastened to the building itself or to other structures. It is recommended that mobile working platforms be anchored if they are left unattended. The tower must be set to the perpendicular using the adjusting spindles or by inserting suitable materials underneath it. The maximum inclination is 1 %.

20. Decks can also be fixed one rung higher or lower to achieve a different working height. It must be ensured here that the specified side protection heights of 1.0 m and 0.5 m are observed. For this assembly form, deck diagonal braces must be used.

**With regard to a verification of stability, consult the manufacturer.**

21. The access hatches must be kept shut whenever they are not in use.

22. All couplers must be tightened with 50 Nm.

23. Climbing over from rolling towers is prohibited.

24. Jumping onto decks is prohibited.

25. A check must be made as to whether all parts, auxiliary tools and safety equipment (ropes etc.) for assembling the mobile working platforms are available at the site.

26. Horizontal and vertical loads that could cause the mobile working platform to topple over must be avoided, for example:

- pushing against the brick guard
- additional wind loads (tunnel effect from through-type buildings, unclad buildings and corners).

27. If stipulated, mobile beams or stabilizers or outriggers and ballast must be provided.

28. It is prohibited to increase the height of the deck using ladders, boxes or other objects.

29. Mobile working platforms are not designed to be lifted or suspended.

### ▶ 3. MEASURES TO PREVENT FALLS

#### Preventing falls during assembly, modification or dismantling of the tower

##### General

In line with local regulations or as the result of a risk analysis performed by the scaffolding erector, personal safety apparatus (PSA), an assembly guardrail or a combination of the two may be necessary for assembly, modification or dismantling of the scaffolding.

##### Attachment points on the tower for the personal safety apparatus (PSA)

The tower can be assembled/dismantled optionally with personal safety apparatus (PSA) too. Suspend the snap hook during ascent at least **1.0 m above the standing area** of the still unsecured level. The platform height must be at least 5.75 m. This results in a **minimum attachment height for the PSA of 6.75 m** (Fig. 1).



Fig. 1: Attachment of PSA during ascent onto the unsecured level

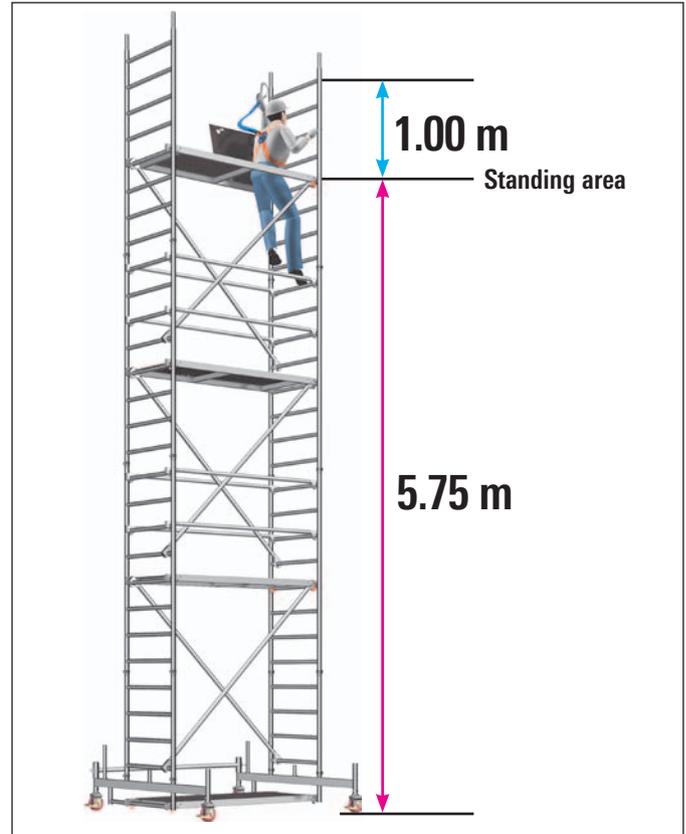


Fig. 2: Minimum heights for use of PSA

The tower level can then be secured with the rear guardrails.

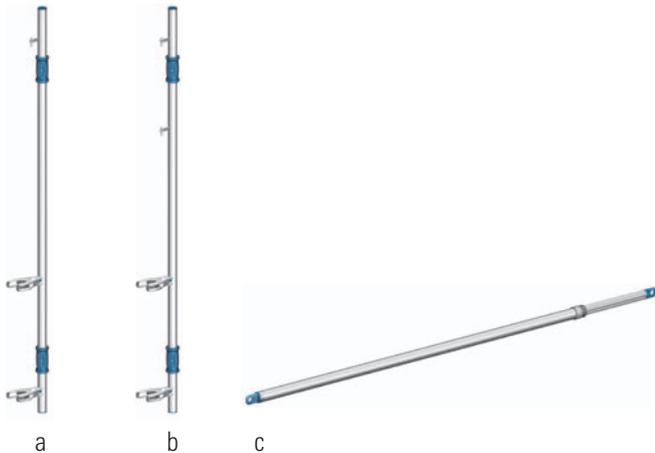


Fig. 3: Safe assembly of rear guardrails using PSA

## How the Layher advance guardrail system works

The Layher advance guardrail consists of two basic components – advance guardrail post and telescoping guardrail. The assembly post a) or b) must be used depending on local regulations.

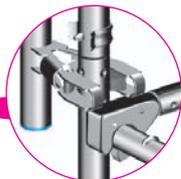
- a. Advance guardrail post with connection for telescoping guardrail at 1 m height
- b. Advance guardrail post with connection for telescoping guardrail at 0.5 m and 1 m heights
- c. Advance telescopic guardrail of aluminium



The advance guardrail post of the assembly safety rail can be fitted and dismantled by an erector from two positions:

1. Assembly/dismantling from above
2. Assembly/dismantling from below

Ensure that both claws of the advance guardrail snap in completely and that the telescoping guardrail is attached using the tilting pins.



To prevent unintended slipping of the advance guardrail post, fit a rear guardrail at the level of a snap-on claw.

Fig. 4: Connection of advance guardrail post to the ladder frame



Fig. 5: Upward movement of the advance guardrail system



Fig. 6: Safe assembly of rear guardrails using advance guardrail system

## ▶ 4. TOWER MODELS

In the case of **assembly outdoors**, do not exceed the height limit!

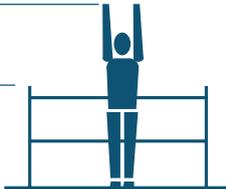
### Tower models

1403201 – 1403207

Working height

Scaffolding height

Platform height



1403201



1403202



1403203



1403204



1403205



1403206



1403207

Tower model	1403201	1403202	1403203	1403204	1403205	1403206	1403207
Working height [m]	3.15	4.3	5.3	6.3	7.3	8.3	9.3
Scaffolding height [m]	2.40	3.55	4.55	5.55	6.55	7.55	8.55
Platform height [m]	1.15	2.3	3.3	4.3	5.3	6.3	7.3
Weight [kg] (without ballast)	52.6	134.6	161.2	183.0	209.6	231.4	258.0
<b>Ballasting</b>							
<b>Indoors</b>							
Assembly central	I4 r4	0	0	I2 r2	I3 r3	I5 r5	I6 r6
Assembly off-set	X	0	LO R2	LO R4	LO R6	L2 R8	L2 R10
Assembly off-set with wall bracing	X	0	0	L2 R2	L4 R2	L6 R4	L6 R6
<b>Outdoors</b>							
Assembly central	I4 r4	0	0	I3 r3	I5 r5	I9 r9	I13 r13
Assembly off-set	X	0	LO R4	LO R6	LO R10	L4 R14	X
Assembly off-set with wall bracing	X	0	0	L4 R2	L6 R4	L10 R8	X

When assembling with adjustable mobile beam, it must be fully extended. X = not permissible / possible 0 = no ballast required Table gives the number of ballast weights each of 10 kg.

For ballasting, use Layher ballast weights, Ref. No. 1249.000, 10 kg each. These are fastened quickly and securely at the right place using the star handle coupling.

**Liquid or granular ballast materials must not be used. The ballast weights must be distributed evenly to all ballast fixing points (see pages 13 – 14).**

Example: I2, r2 → 2 ballast weights of 10 kg each must be fastened to the left-hand side of the ladder frame, and 2 ballast weights of 10 kg each to its right-hand side  
L6, R16 → 6 ballast weights of 10 kg each must be fastened to the left-hand side of the mobile beam, and 16 ballast weights of 10 kg each to its right-hand side

r and R always relate, in the case of off-centre assembly, to that side facing away from the scaffolding; l and L relate to the side facing the scaffolding (see also Section 7, Ballasting, on pages 13 – 14)

## ▶ 5. ASSEMBLY Safety Structure P2

Observe the general directions for assembly and use on pages 4–5. The assembly examples shown are intended for use indoors up to a maximum platform height of 12 m and outdoors up to a maximum platform height of 8 m. Snap the snap-on claws of all parts into the ladder frames from above. Level the tower after the basic assembly process.



**The castors must be locked during assembly, modification or dismantling, and when there are people on the scaffolding.**

Wedges in the system must be hammered home until the blow bounces off. Screw couplers must generally be tightened (50 Nm).

On the topmost scaffolding level, a double guardrail 14 or a tower beam 15 can be fitted instead of two rear guardrails. Please remember in this case that for assembly and dismantling two additional rear guardrails must be present to ensure collective side protection. These can be removed again after insertion of the double guardrail or of the tower beam.

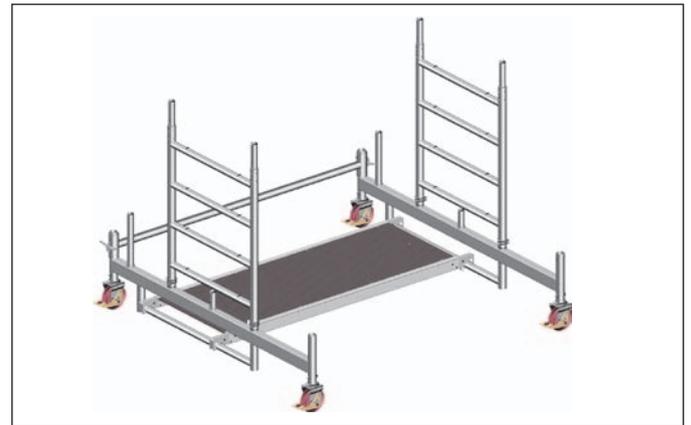
The item numbers of the parts relate to the individual part list on page 16–18.

### Basic assembly Tower model 1403201



1. Insert the castors 1 into the 2.00 m ladder frames 27 and secure them against falling out by fastening the wing screws on the spindle nuts.
2. Connect the two ladder frames 27 using two double guardrails 14. Suspend the access deck 24 from the fourth rung from below of the 2.00 m ladder frames 27.

### Basic assembly Tower models 1403202, 1403204 and 1403206



1. Insert the castors 1 into the mobile beams 6 and secure them against falling out by fastening the wing screws on the spindle nuts.
2. Connect the mobile beams 6 using a basic tube 11 / basic strut 12 and a deck 23.
3. Fit two 1.00 m ladder frames 26 onto the mobile beams and secure them using spring clips 25.

Further assembly is in accordance with page 10 “Assembly of intermediate platforms”.

## Basic assembly

Tower models 1403203, 1403205 and 1403207



1. Insert the castors 1 into the mobile beams 6 and secure them against falling out by fastening the wing screws on the spindle nuts.

2. Connect the mobile beams 6 using a basic tube 11 / basic strut 12 and a rear guardrail 13 to the bar of the mobile beam.

3. Fit a 2.00 m ladder frame 27 onto the mobile beam 6 and secure it with spring clips 25. Suspend two rear guardrails 13 from the top rung and connect them with a second 2.00 m ladder frame 27. Then fit the second 2.00 m ladder frame 27 onto the mobile beam and secure it using spring clips 25. (Any double guardrails in stock must be installed as side protection for the first level. The rear guardrails previously installed as an advance side protection are removed again after the double guardrails have been fitted.)

4. Fit two diagonal braces 17 and the access deck 24. **Ensure here that the two diagonal braces are installed parallel to one another in the direction of the access hatch.**

5. Climb up to the next level and fit additional rear guardrails 13 to the second rung above the platform surface.

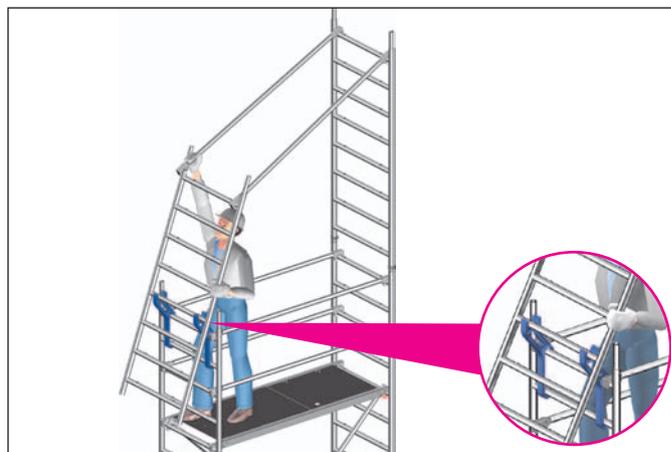
Further assembly is in accordance with "Assembly of intermediate platforms" (see on the right side).

## Assembly of intermediate platforms

All tower models

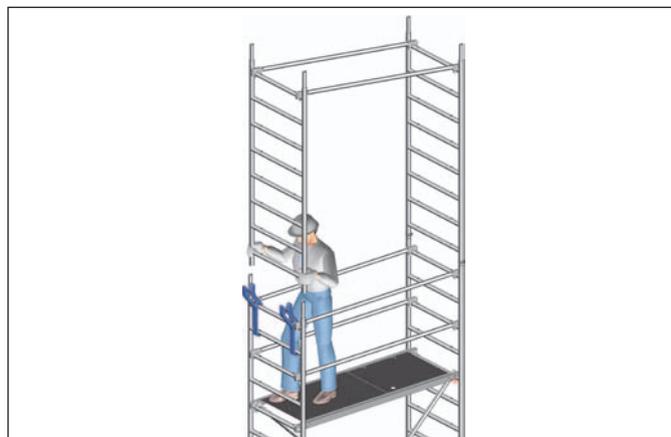


The following assembly steps 1 to 5 are repeated several times depending on the assembly height.

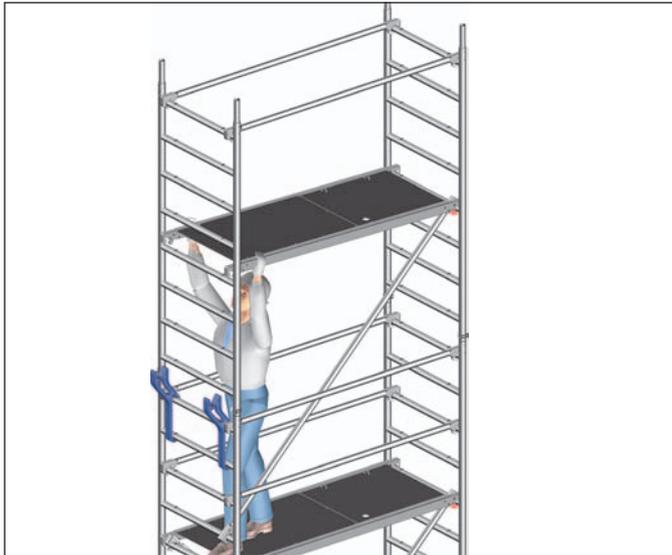


1. Fit the first 2.00 m ladder frame 27 and secure it with spring clips 25.

2. Attach the Uni assembly hook 28 and position the second ladder frame 27 for fitting the rear guardrails 13.



3. Swing the ladder frame with the rear guardrail upwards, fit it in place and secure it with spring clips 25.



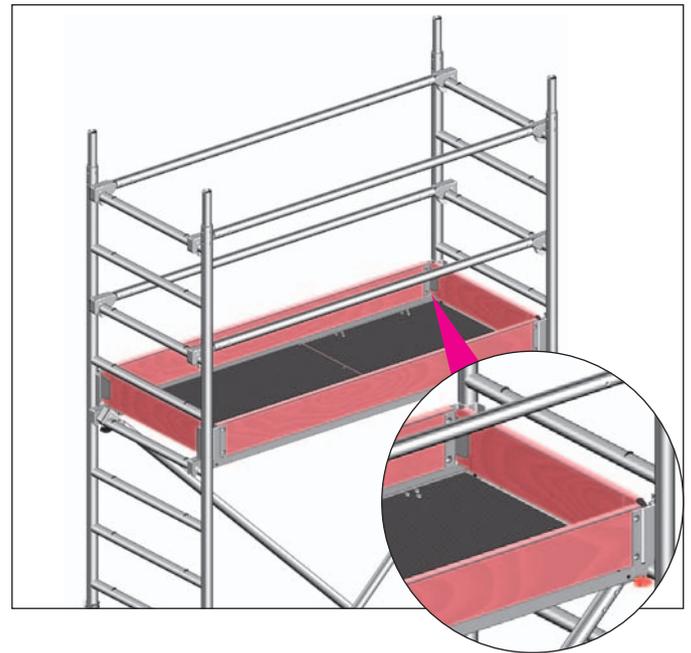
4. Insert diagonal braces 16 and an access deck 24. The diagonal braces must be installed in a tower-like (zig-zag) form on both sides.



5. Climb up to the next level and fit additional rear guardrails 13 to the second rung above the platform surface.

## Completion of working platform

All tower models



1. To complete the working platform, attach toe boards with claw 22 and end toe boards 21.



If an intermediate platform is also to be used as a working platform, attach toe boards here too.

## Operating the castors



During assembly and while working, keep the castors locked by pressing down the brake lever labelled STOP.

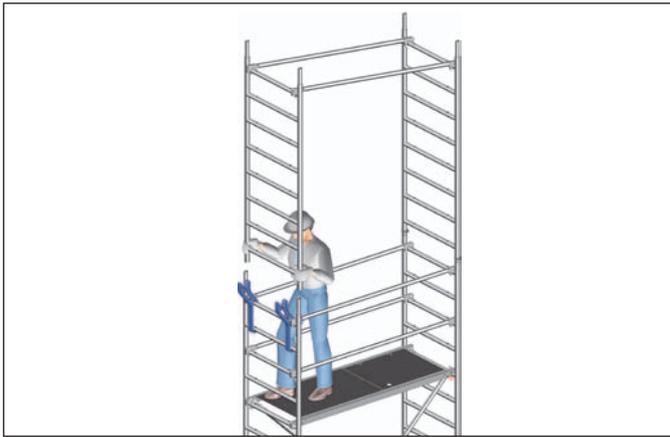
When the brake is locked, the lever labelled STOP is in the down position. For movement, unlock the castors by pushing the opposite lever down.

## ▶ 6. DISMANTLING

Dismantling is in the reverse order to assembly (see page 9–11).

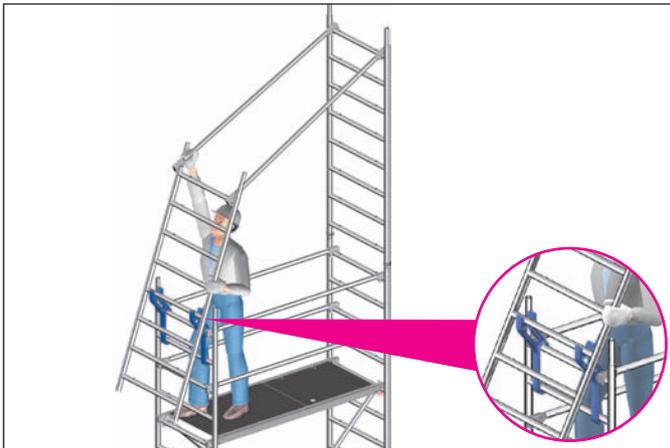
**When dismantling, do not remove the bracing elements such as diagonal braces, rear guardrails or access decks until the ladder frames above them have been dismantled.**

To lift out the individual parts, open the snap-on claws by pressing their locking clips.



During dismantling of an intermediate or working platform, first remove the topmost rear guardrails from the level underneath them. This is done with the aid of a rear guardrail installed at knee level.

It is placed from above onto the 2nd rung and acts as a lever for opening the snap-on claw (see detail).



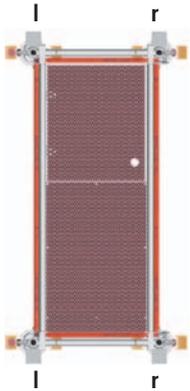
The red locking clips of the decks permit effortless installation and removal by a single person; first open them and place the deck with the opened clips on the rung, then open the opposite clips and lift out the deck.

## ▶ 7. BALLASTING

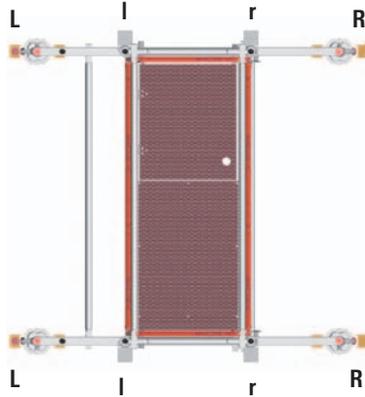
### Attachment of ballast weights

#### Assembly central:

Model:  
1403201

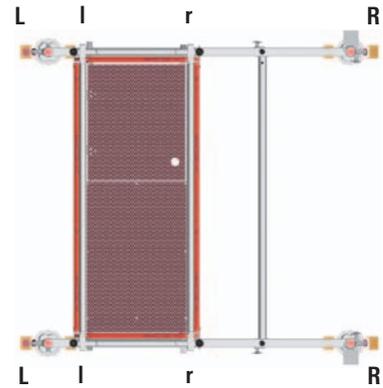


Models:  
1403202 – 1403207

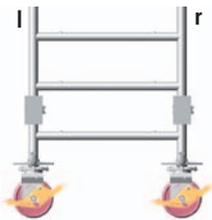


#### Assembly off-set:

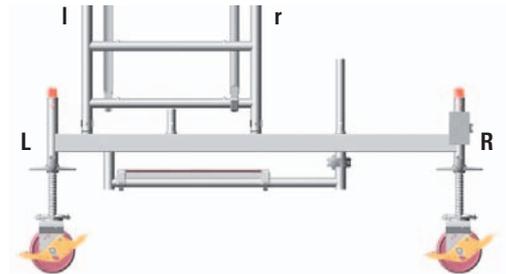
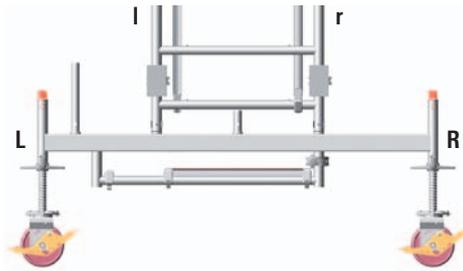
Models:  
1403202 – 1403207



Models:  
1403202 – 1403207



Models:  
1403202 – 1403207



## Example for assembly, model 1403204

Assembly outdoors in centre position

Ballast: see page 8



<b>Tower model</b>	1403204
Working height [m]	6.3
Scaffolding height [m]	5.49
Platform height [m]	4.3
Weight [kg] (without ballast)	183.0
<b>Ballasting</b>	
<b>Indoors</b>	
Assembly central	I2 r2
Assembly off-set	L0 R4
Assembly off-set with wall bracing	L2 R2
<b>Outdoors</b>	
Assembly central	I3 r3
Assembly off-set	L0 R6
Assembly off-set with wall bracing	L4 R2

## ► 8. WALL SUPPORT (under load) ANCHORING (under load and tension)



For work performed on a load-bearing wall, ballasting can be reduced in accordance with the **Ballasting table** (see page 8). In this case, wall supports or anchoring must be installed on both sides of the tower. Use the Uni distance tube 19 and fix it to the ladder frame 26/27 using two couplers 20 in each case. The rubber mount is positioned on the wall to provide support (see detail A). The Uni distance tube, rotated by 180°, is used for anchoring and is fitted in an eyebolt which was attached to the wall previously (see detail B). The mobile beams must be installed so that they project at the side facing away from the wall. The wall supports/anchoring must be attached at the level of the top working platform or at most 1 m below that.



Detail A



Detail B

## ► 9. PARTS LIST

Tower model	Ref. No.	1403201	1403202	1403203	1403204	1403205	1403206	1403207
Bolt M12 x 60	1203.060	4	4	4	4	4	4	4
Guardrail 1.8 m	1205.180	0	4	9	8	13	12	17
Double guardrail 1.8 m	1206.180	2	0	0	0	0	0	0
Diagonal brace 2.5 m	1208.180	0	2	2	4	4	6	6
Diagonal brace 1.95 m	1208.195	0	0	2	0	2	0	2
Basic tube 1.8 m	1211.180	0	1	1	1	1	1	1
End toe board 0.75 m	1238.075	0	2	2	2	2	2	2
Toe board 1.8 m, with claw	1239.180	0	2	2	2	2	2	2
Deck 1.8 m	1241.180	0	1	0	1	0	1	0
Access deck 1.8 m	1242.180	1	1	2	2	3	3	4
Spring clip 11 mm	1250.000	0	8	8	12	12	16	16
Ladder frame 75/4 – 1.00 m	1297.004	0	2	0	2	0	2	0
Ladder frame 75/8 – 2.00 m	1297.008	2	2	4	4	6	6	8
Castor 400 – 4 kN	1308.150	4	4	4	4	4	4	4
Mobile beam with bar	1323.180	0	2	2	2	2	2	2
Uni assembly hook	1300.001	0	1	1	1	1	1	1
Ballast	1249.000							

For the number of ballasting weights see the ballasting table, see page 8

## ▶ 10. COMPONENTS OF THE SYSTEM

1



**1308.150 Castor 400**  
Plastic wheel, dia. 150 mm, with single brake lever, permissible load-bearing capacity 4 kN ( $\approx$ 400 kg), weight 2.2 kg.

2



**1309.150 Castor 400**  
Plastic wheel with Vulkollan tyre, dia. 150 mm, permissible load-bearing capacity 4 kN ( $\approx$ 400 kg). Special wheel for sensitive floor surfaces. Wheel and slewing ring can be locked. Weight 2.5 kg.

3



**1259.200 Castor 700 with spindle and lock**  
Steel. Plastic wheel, dia. 200 mm. Permissible load-bearing capacity 7 kN ( $\approx$ 700 kg). With double brake lever and load centering in the braked state. Wheel and slewing ring can be locked. Adjustment range 0.3 – 0.6 m, weight 7.7 kg.

4



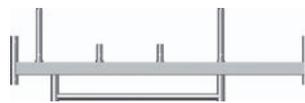
**1260.200 Castor 1000 with spindle and lock**  
Steel. Plastic wheel, dia. 200 mm. Permissible load-bearing capacity 10 kN ( $\approx$ 1000 kg). With double brake lever and load centering in the braked state. Wheel and slewing ring can be locked. Adjustment range 0.3 – 0.6 m, weight 9.4 kg.

5



**1268.200 Castor 1000 with spindle and lock**  
Aluminium rim with Vulkollan tyre, dia. 200 mm. Permissible load-bearing capacity 10 kN ( $\approx$ 1000 kg). Special wheel for sensitive floor surfaces. Wheel and slewing ring can be locked. Adjustment range 0.3 – 0.6 m, weight 10.0 kg.

6



**1323.180 Mobile beam with bar, 1.8 m**  
Steel rectangular tube, hot-dip-galvanized. For widening the base of towers with up to 6.6 m platform height. Width 1.8 m, weight 16.8 kg.

7



**1214.180 Mobile beam, 1.8 m**  
Steel rectangular tube, hot-dip-galvanized. For widening the base of towers with up to 6.6 m platform height. Width 1.8 m, weight 14.4 kg.

8



**1323.320 Mobile beam with bar, 3.2 m, adjustable**  
Steel rectangular tube, hot-dip-galvanized. For widening the base of towers with up to 11.6 m platform height. Width max. 3.2 m, min. 2.3 m, weight 42.5 kg.

9



**1338.320 Mobile beam with 2 spigots, 3.2 m, adjustable**  
Steel rectangular tube, hot-dip-galvanized. For base widening in special rolling tower structures. Width max. 3.2 m, min. 2.3 m, weight 42.6 kg.

10



**1337.000 Spigot, adjustable**  
for twin towers, steel, hot-dip-galvanized. For use with mobile beam No. 1338.320. Weight 2.1 kg.

11



**1211.180 Basic tube 1.8 m**  
Steel tube, hot-dip-galvanized. Length 1.8 m, weight 7.7 kg.

12



**1324.180 Basic strut 1.8 m**  
with 2 half-couplers, steel tube hot-dip-galvanized, length 1.8 m, weight 6.2 kg.

13

**1205.180 Rear guardrail 1.8 m**

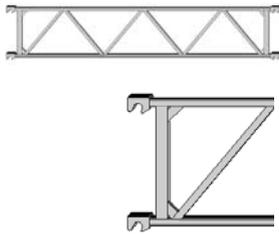
Aluminium.  
Length 1.8 m,  
weight 2.3 kg.

14

**1206.180 Double guardrail 1.8 m**

Aluminium.  
Length 1.8 m, height 0.5 m,  
weight 5.8 kg.

15

**0701.938 Beam 1.8 m**

Aluminium. Support elements in  
tower construction kit or double  
side protection.  
Length 1.8 m, height 0.5 m,  
weight 7.2 kg.

16

**1208.180 Diagonal brace 2.5 m**

Aluminium.  
Length 2.5 m,  
weight 3.3 kg.

17

**1208.195 Diagonal brace 1.95 m**

Aluminium.  
Length 1.95 m,  
weight 2.8 kg.

18



**1347.250 Deck diagonal brace 2.5 m**  
Weight 4.2 kg

19

**1275.110 Uni distance tube**

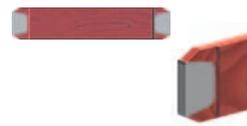
Aluminium tube with hook and  
rubber foot. Dia. 48.3 mm,  
length 1.1 m, weight 1.4 kg.

20

**1269.019/1269.022****Special tower screw coupler, rigid**

WS 19 or 22 mm,  
weight 1.1 kg.

21

**1238.075****End toe board 0.75 m**

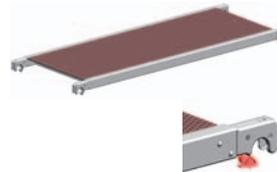
Wood.  
Length 0.73 m, height 0.15 m,  
weight 1.6 kg.

22

**1239.180****End toe board 1.8 m with claw**

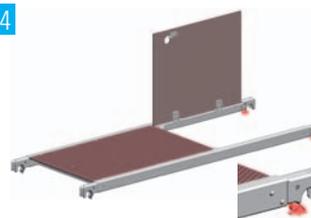
Wood.  
Length 1.8 m, height 0.15 m,  
weight 4.2 kg.

23

**1241.180 Deck 1.8 m**

Aluminium frame, with plywood  
deck (BFU 100G) with phenolic  
resin coating.  
Length 1.8 m, width 0.68 m,  
weight 13.3 kg.

24

**1242.180 Access deck 1.8 m**

Aluminium frame, with plywood  
deck and hatch (BFU 100G) with  
phenolic resin coating.  
Length 1.8 m, width 0.68 m,  
weight 15.0 kg.

25

**1250.000 Spring clip**

Steel.  
Weight 0.1 kg.





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