



LAYHER ZIFA / ZIFA P2 TOWER INSTRUCTIONS FOR ASSEMBLY AND USE



Edition 03.2013

Safety assembly P2
and minimum requirements
according to DIN EN 1004
Mobile working platforms
according to DIN EN
1004:2005-03
Working platform 0.75 x 1.8 m



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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 Zifa tower made by Wilhelm Layher GmbH & Co. KG, of Güglingen-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 Zifa tower may only be assembled, modified and dismantled under the supervision of a qualified expert and by technically trained employees.

2. GENERAL INSTRUCTIONS FOR ASSEMBLY AND USE

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

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

1. The user must check that the selected rolling tower is suitable for the work to be performed (Section 4 of the German Ordinance on Industrial Safety and Health - BetrSichV).

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

- inside buildings 12.0 m
- outside buildings 8.0 m

The ballasting and component requirements set forth on pages 8 – 10 and 26 – 27 must be complied with. Non-compliance leads to a risk of accidents. Stability and load-bearing capacity are no longer assured. Assembly variants diverging from the specifications may require additional design measures. In these cases, the stability and load-bearing capacity must be verified for each individual variant.

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 models shown in these instructions for assembly and use may be used. The tower 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 Layher's 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 bracing and attachment of ballast weights, see the table on pages 8 – 10 of these instructions for assembly and use.

5. To assemble the upper sections of the tower, the individual components must be passed up from one level to the next. 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 set to the perpendicular by inserting suitable materials underneath it. The maximum divergence from the perpendicular is 1%.

8. Stability must 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 to the working platform is generally speaking only permitted on the inside of the tower. The exception to this is tower models having a platform height of < 1 m.

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. When work is done on several levels, they must be completely equipped

with 3-part side protection.

12. When working on mobile working platforms, it is not allowed to push against adjacent objects (e.g. wall).

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 with wall bracing, 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, lock the castors 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, the provision of bridging parts between a mobile working platform and a building is not permissible.

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 recognized 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. Set the tower to the perpendicular using the adjustable baseplates or by inserting suitable materials underneath it. The maximum divergence from the perpendicular is 1 %.

20. Decks can also be fixed one rung higher or lower to achieve a different working height. Care must be taken that the specified side protection heights of 1.0 m and 0.5 m are complied with. Deck diagonal braces must be used in this assembly form.

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 decked surfaces is prohibited.

25. Check that 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 can cause the mobile working platform to topple over should be avoided, for example:

- pushing against adjacent objects (e.g. wall)
- additional wind loads (tunnel effect of 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 makeshifts.

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

30. The blue item numbers for the components used in the text relate to the component list on pages 28 – 30.

3. MEASURES TO PREVENT FALLS

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

General

Suitable measures to prevent falls must be taken during assembly, modification or dismantling of the tower. The safety assembly P2 implements these protective measures in full. Depending on the result of the risk assessment performed, PSA, an AGR or a combination of both can be used.

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

The rolling tower can also be assembled and dismantled optionally with personal safety apparatus (PSA). The snap hook must be attached during ascent at least **1.0 m above the platform area** of the level which has not yet been secured (Fig. 1).

The platform height must be at least 5.75 m. The result is **the minimum attachment height for PSA of 6.75 m** (Fig. 2).



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

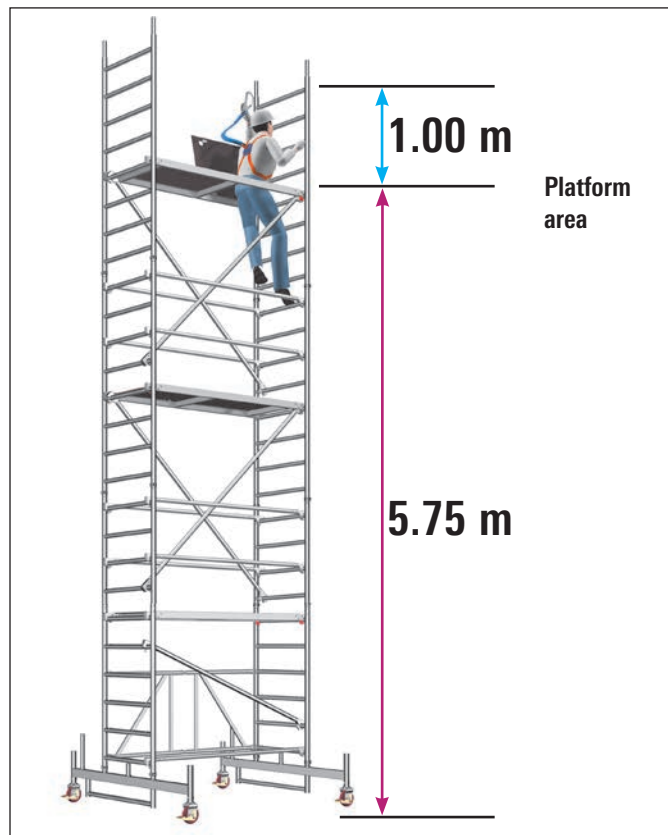


Fig. 2: Minimum heights for use of PSA

The tower level can then be made safe with the guardrails.

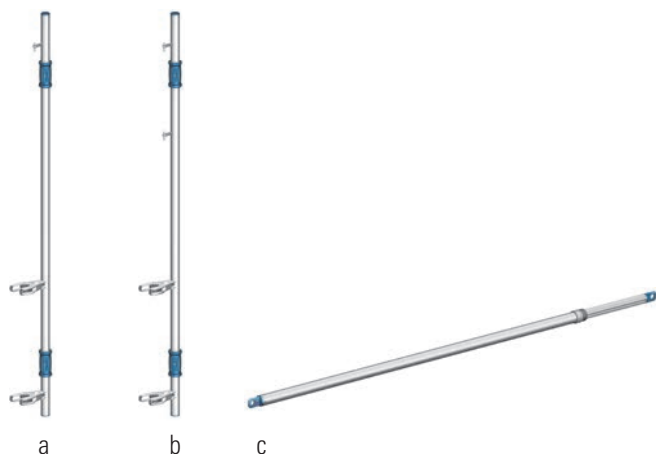


Fig. 3: Safe fitting of guardrails with PSA

Mode of operation of the Layher Advance Guardrail (AGR)

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

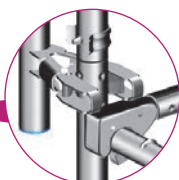
- a. Advance guardrail post with connection for telescoping guardrail at 1 m height
- a. Advance guardrail post with connection for telescoping guardrail at 0.5 and 1 m heights
- c. Telescoping guardrail made of aluminium



The post of the AGR rail can be fitted and dismantled by an erector from two positions:

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

It must be ensured that both claws of the advance guardrail snap in completely and that the telescoping guardrail is attached using the tilting pins.



To prevent any unintended slippage of the advance guardrail post, a guardrail must be fitted at the level of a snap-on claw.

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



Fig. 5: Moving the AGR upwards



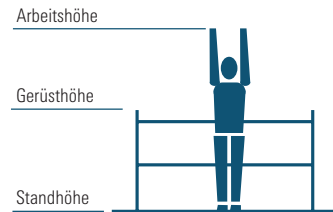
Fig. 6: Safe fitting of the guardrails with AGR

4. TOWER MODELS

Tower models

Design: Safety structure P2

1406200 – 1406216



1406200



1406210



1406213



1406214



1406215



1406216

Tower model	1406200	1406210	1406213	1406214	1406215	1406216
Working height [m]	2.86	3.61	4.76	5.76	6.76	7.76
Tower height [m]	1.83	2.83	3.98	4.98	5.98	6.98
Platform height [m]	0.86	1.61	2.76	3.76	4.76	5.76
Weight [kg] (without ballast)	41.1	57.2	139.3	168.8	191.4	217.2
Ballasting						
In closed areas						
Assembly central	I4 r4*	I6 r6	0	I2 r2	I4 r4	I4 r4
Assembly off-centre	X	X	L0 R2	L0 R4	L0 R6	L0 R8
Assembly off-centre with wall bracing	I4 r0*	I6 r0	0	L2 R0	L6 R0	L8 R0
In the open						
Assembly central	I4 r4*	I6 r6	0	I2 r2	I4 r4	I4 r4
Assembly off-centre	X	X	L0 R2	L0 R6	L0 R8	X
Assembly off-centre with wall bracing	I4 r0*	I6 r0	0	L4 R0	L8 R0	L16 R0

* The specified ballast weights are only necessary when the ladder frame is used for external access (e.g. standard is swung out).

X = not permissible / not possible 0 = no ballast required Specified as single ballast weights of 10 kg each.

For ballasting, use Layher ballast weights, Ref. No. 1249.000, of 10 kg each. The weights are fastened quickly and securely at the right place using the hand-wheel coupler.

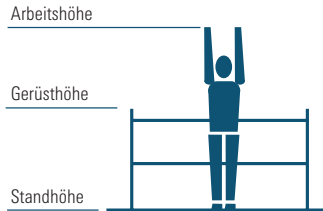
No liquid or granular ballast substances may be used. The ballast weights must be distributed evenly to all ballasting fixing points (see pages 22 – 23)

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 the 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 the right-hand side

r and R relate in the case of lateral assembly always to the side facing away from the tower; l and L relate to the side facing the tower (see also Section 9, Ballasting, on pages 22 – 23)

Tower models

Design: Minimum requirements according to DIN EN 1004
620 – 625



Tower model	620	621	622	623	624	625
Working height [m]	2.86	3.61	4.11	4.26	5.76	7.26
Tower height [m]	1.83	2.83	3.33	3.48	4.98	6.48
Platform height [m]	0.86	1.61	2.11	2.26	3.76	5.26
Weight [kg] (without ballast)	41.1	57.2	85.3	114.6	141.8	201.1
Ballasting						
In closed areas						
Assembly central	I4 r4*	I6 r6	I8 r8	0	I2 r2	I4 r4
Assembly off-centre	X	X	X	0	L0 R4	L0 R8
Assembly off-centre with wall bracing	I4 r0*	I6 r0	I8 r0	0	L4 R0	L8 R0
In the open						
Assembly central	I4 r4*	I6 r6	I8 r8	0	I2 r2	I4 r4
Assembly off-centre	X	X	X	0	L0 R4	L0 R10
Assembly off-centre with wall bracing	I4 r0*	I6 r0	I8 r0	0	L4 R0	L8 R0

* The specified ballast weights are only necessary when the ladder frame is used for external access (e.g. standard is swung out).

X = not permissible / not possible 0 = no ballast required Specified as single ballast weights of 10 kg each.
For ballasting, use Layher ballast weights, Ref. No. 1249.000, of 10 kg each. The weights are fastened quickly and securely at the right place using the hand-wheel coupler.
No liquid or granular ballast substances may be used. The ballast weights must be distributed evenly to all ballasting fixing points (see pages 22 – 23)

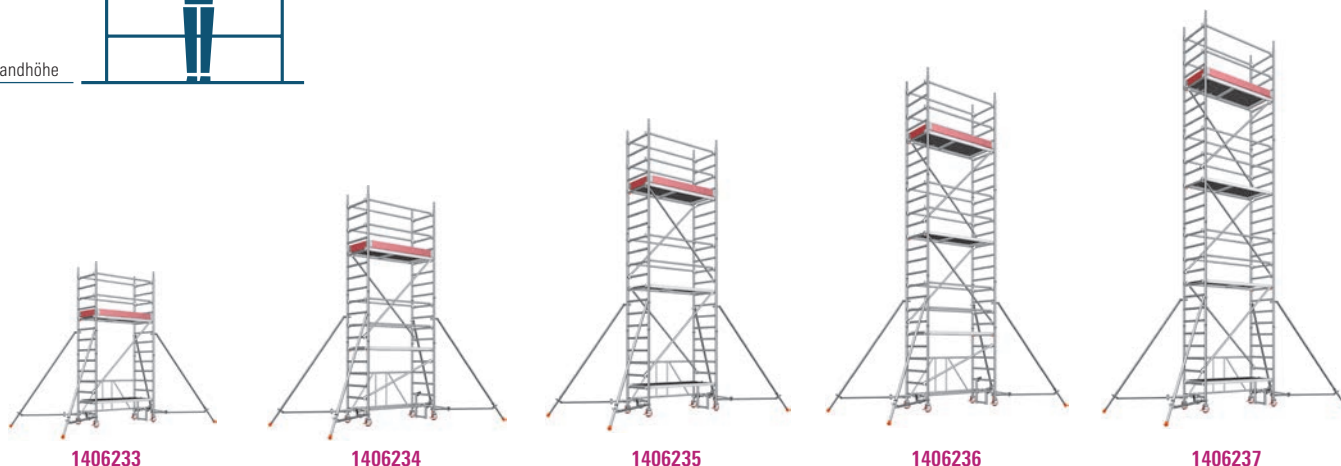
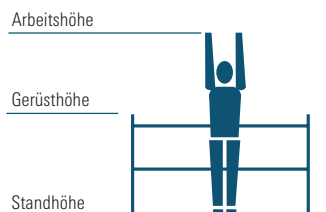
Example: I2, r2 → 2 ballast weights of 10 kg each must be fastened to the left-hand side of the ladder frame, and 2 ballast weights of 10 kg each to the right-hand side
L6, R16 → 6 ballast weights of 10 kg each must be fastened to the left-hand side of the mobile beam, and 16 ballast weights of 10 kg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

r and R relate in the case of lateral assembly always to the side facing away from the tower; l and L relate to the side facing the tower (see also Section 9, Ballasting, on pages 22 – 23)

Tower models

Design: Safety structure P2

1406233 – 1406237



Tower model	1406233	1406234	1406235	1406236	1406237
Working height [m]	4.61	5.61	6.61	7.61	8.61
Tower height [m]	3.83	4.83	5.83	6.83	7.83
Platform height [m]	2.61	3.61	4.61	5.61	6.61
Weight [kg] (without ballast)	145.5	174.6	197.2	223.0	245.6
Ballasting					
In closed areas					
Assembly central	0	0	0	I2 r2	I2 r2
Assembly off-centre	L0 R4	L0 R6	L0 R8	L0 R10	L0 R14
Assembly off-centre with wall bracing	0	0	0	0	0
In the open					
Assembly central	0	0	I2 r2	I4 r4	I8 r8
Assembly off-centre	L0 R6	L0 R10	L0 R12	L0 R18	L0 R22
Assembly off-centre with wall bracing	0	0	0	0	0

X = not permissible / not possible 0 = no ballast required Specified as single ballast weights of 10 kg each.

For ballasting, use Layher ballast weights, Ref. No. 1249.000, of 10 kg each. The weights are fastened quickly and securely at the right place using the hand-wheel coupler.

No liquid or granular ballast substances may be used. The ballast weights must be distributed evenly to all ballasting fixing points (see pages 22 – 23)

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 the 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 the right-hand side

r and R relate in the case of lateral assembly always to the side facing away from the tower; I and L relate to the side facing the tower (see also Section 9, Ballasting, on pages 22 – 23)

5. ASSEMBLY SEQUENCE **Safety structure P2**

Observe the general instructions for assembly and use on pages 4 – 5. The snap-on claws of all parts must be snapped into the ladder frames from above. Level the tower after the safety assembly.

The castors must be locked during assembly, modification or dismantling and while there is anybody on the tower.

Hammer home the wedges in the system until the blow bounces off.



Screw couplers must always be well tightened (50 Nm).

At the top tower level, a double guardrail 17 or a tower beam 18 can be fitted instead of two single guardrails. Please remember in this case that two additional guardrails must be provided for assembly and dismantling in order to ensure collective side protection. They can be removed again after insertion of the double guardrail or tower beam.

Basic structure **Tower model 1406200**



1. Pull the basic tower 9 open and firmly snap in the joints in the folding part.

2. Snap the deck 23 into the cross-rungs of the basic tower. To do so, only the **1st, 2nd or 3rd rung from below** may be used.

3. Insert castors 1 into the ladder frames of the basic tower 9 and use bolts and nuts to prevent them falling out.

Basic structure **Tower model 1406210**



1. Pull the basic tower 9 open and firmly snap in the joints in the folding part.

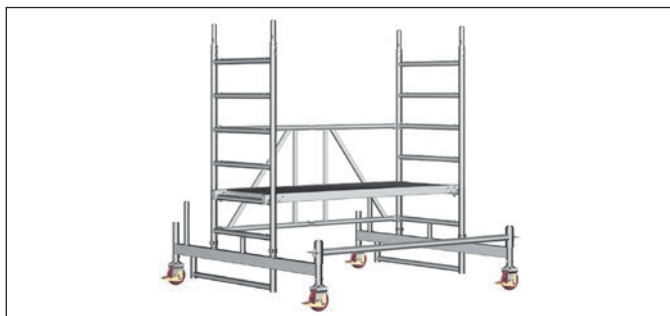
2. Snap the access deck 24 into the top cross-rung of the basic tower.

3. Insert castors 1 into the ladder frames of the basic tower 9 and use bolts and nuts to prevent them falling out.

4. Fit two 1.00 m ladder frames 10 onto the basic tower 9 and brace them with two guardrails 16. Secure the ladder frame joints with spring clips 15.

Basic structure

Tower models 1406213 and 1406215



1. Insert the castors 1 into the mobile beam 7 and use bolts and nuts to prevent them falling out.

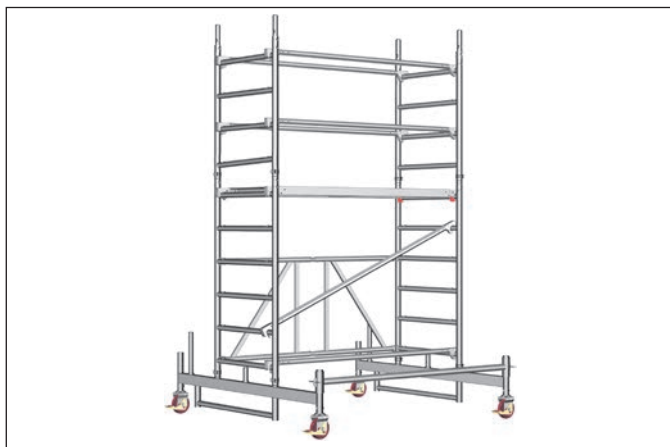
2. The mobile beams 7 must be connected to one another using a basic tube 12.

3. Pull open the basic tower 9, firmly snap in the joints in the folding part and fit it onto the mobile beams 7.

4. Snap in the deck 23 at the second rungs of the basic tower ladder frames.

Basic structure

Tower models 1406214 and 1406216



1. Insert the castors 1 into the mobile beam 7 and use bolts and nuts to prevent them falling out.

2. The mobile beams 7 must be connected to one another using a basic tube 12.

3. Pull open the basic tower 9, firmly snap in the joints in the folding part and fit it onto the mobile beams 7.

4. Brace the basic tower by installing a guardrail 16 at the bottom rung.

5. Snap in the access deck 24 at the top rung of the basic tower ladder frames.

6. Attach the 1.95 m diagonal brace 20 to the second rung from the top and to the second rung from the bottom of the opposite ladder frame.

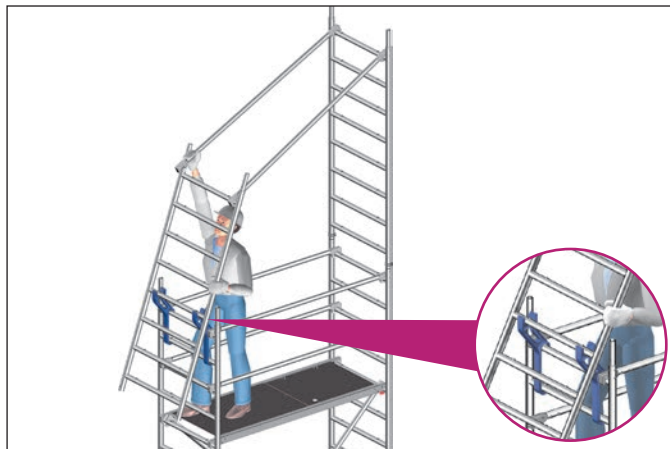
7. Fit two 1.00 m ladder frames 10 and connect them with two guardrails 16 each per side. Secure the ladder frame joints with spring clips 15.

Assembly of intermediate platforms

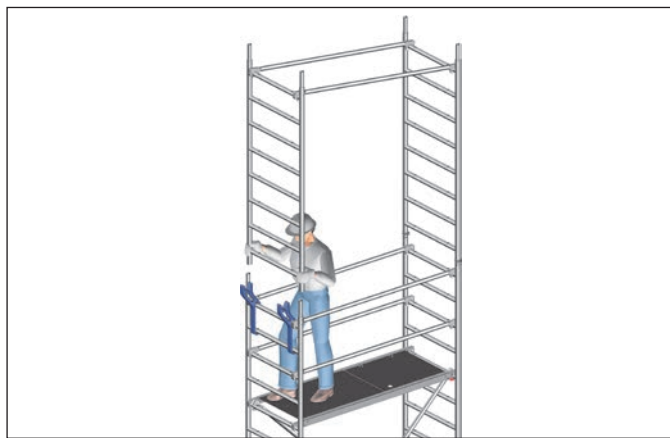
All tower models



Repeat the following assembly steps 1 to 5 several times depending on the assembly height.



1. Fit a first 2.00 m ladder frame 11 and secure it using spring clips 15.
2. Attach the Uni assembly hooks 29 and position the second ladder frame 11 for assembly of the guardrails 16.



3. Swing the ladder frame 11 with guardrails 16 upwards, fit it in place and secure it with spring clips.



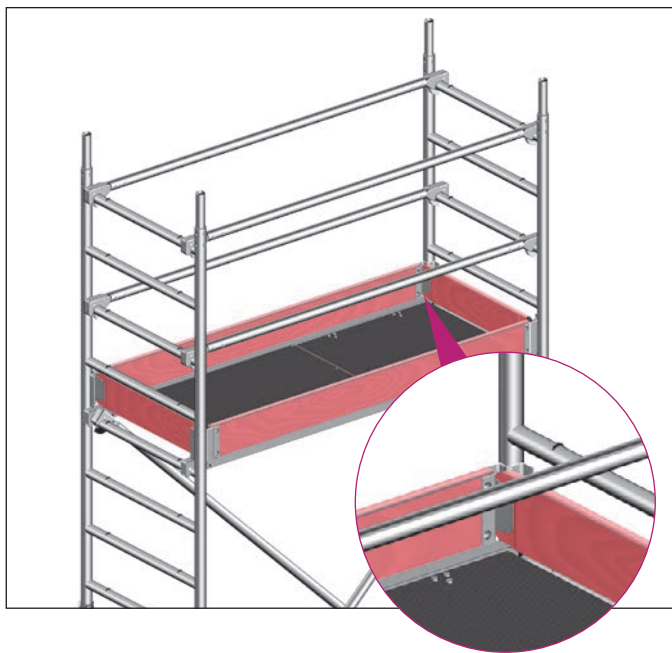
4. Insert diagonal braces 19 and access deck 24. The diagonal bracing arrangement is shown for the tower models (Section 4).



5. Ascend to the next level and fit additional guardrails 16 on the second rung above the platform area.

Completing the working platform

All tower models



1. To complete the working platform, attach toe boards with claw 25 and end toe boards 26.



If an intermediate platform is also to be used for working, toe boards must be attached here too.

Operating the castors



During assembly, dismantling and while working, the castors must be kept 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, the castors are unlocked by pulling the lever up.

6. DISMANTLING SEQUENCE

Safety structure P2

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

When dismantling, do not remove the bracing elements such as diagonal braces, 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.

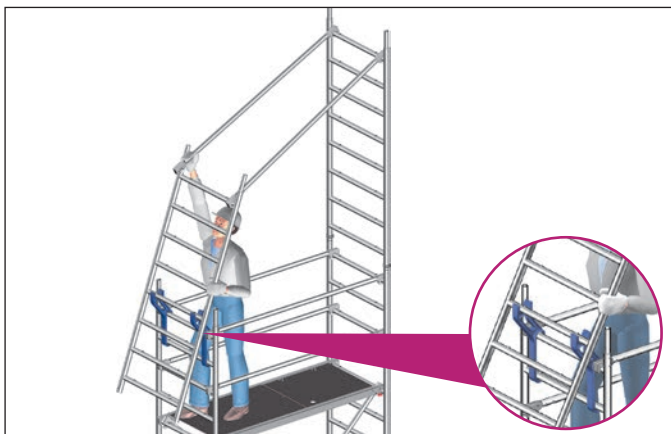


The red locking clips of the decks permit effortless installation and removal by a single person; first open them and place the deck with the opened clips on the rung, then open the opposite clips and lift out the deck.

Dismantling of working or intermediate platform in Zifa P2 tower

When an intermediate platform or working platform is dismantled, the top guardrails are dismantled from the level underneath. This is achieved with the aid of a guardrail installed at knee level.

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



7. ASSEMBLY SEQUENCE

according to DIN EN 1004

Observe the general instructions for assembly and use on pages 4 – 5. The snap-on claws of all parts must be snapped into the ladder frames from above. Level the tower after the safety assembly.

The castors must be locked during assembly, modification or dismantling and while there is anybody on the tower.



Hammer home the wedges in the system until the blow bounces off. Screw couplers must always be well tightened (50 Nm).

At the top tower level, a double guardrail 17 or a tower beam 18 can be fitted instead of two single guardrails.

Assembly

Tower model 620



1. Pull the basic tower 9 open and firmly snap in the joints in the folding part.

2. Snap the deck 23 or access deck 24 into the cross-rungs of the basic tower. To do so, only the **1st, 2nd or 3rd rung from below** may be used.

3. Insert castors 1 into the ladder frames of the basic tower 9 and use bolts and nuts to prevent them falling out.

Assembly

Tower model 621



1. Pull the basic tower 9 open and firmly snap in the joints in the folding part.

2. Snap the access deck 24 into the top cross-rung of the basic tower.

3. Insert castors 1 into the ladder frames of the basic tower 9 and use bolts and nuts to prevent them falling out.

4. Fit two 1.00 m ladder frames 10 onto the basic tower 9 and brace them with two guardrails. Secure the ladder frame joints with spring clips 15.

Assembly

Tower model 622



1. Pull open the basic tower 9, firmly snap in the joints in the folding part and brace it with a guardrail 16 at the bottom cross-rung.
2. Insert castors 1 into the ladder frames of the basic tower 9 and use bolts and nuts to prevent them falling out.



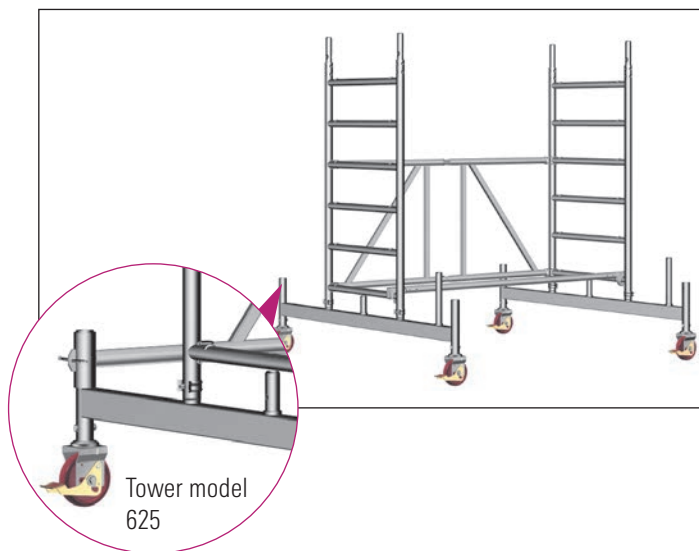
3. Open the second basic tower 9 and firmly snap in the joint in the folding part. Attach it at an angle of 180° to the first basic tower. Secure the joints with spring clips 15.

4. Snap in the access deck 24 at the second cross-rung from the bottom of the upper basic tower 9.

5. To complete the working platform, install 3 guardrails 16, toe boards 25 and end toe boards 26.

Basic structure

Tower models 623, 624 and 625

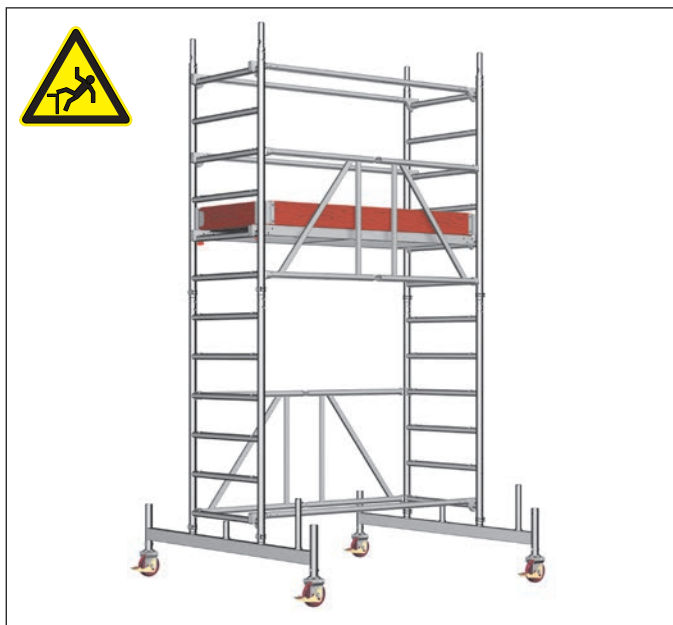


1. Insert the castors 1 into the mobile beams 7 and use bolts and nuts to prevent them falling out. For basic assembly of the tower model 625, the mobile beams must be additionally connected with a basic tube 12 and the ladder frames provided with a horizontal diagonal brace.

2. Pull open the basic tower 9, firmly snap in the joints in the folding part, brace it with a guardrail 16 at the bottom cross-rung and fit it onto the mobile beams 7.

Further assembly

Tower model 623



1. Open the second basic tower 9 and firmly snap in the joint in the folding part. Attach it at an angle of 180° to the first basic tower. Secure the joints with spring clips 15.
2. Snap in the access deck 24 at the second cross-rung from below of the upper basic tower.
3. To complete the working platform, install 3 guardrails 16, toe boards 25 and end toe boards 26.

Further assembly

Tower model 624



1. Open the second basic tower 9 and firmly snap in the joint in the folding part. Attach it at an angle of 180° to the first basic tower. Secure the joints with spring clips 15.

During assembly and dismantling, system decks or scaffolding planks according to DIN 4420-3 (minimum dimensions 28 x 4.5 x 220 cm) must be installed as auxiliary decks at maximum height intervals of 2.0 m. These auxiliary decks provide a safe footing for assembly and dismantling, and must be removed again after assembly. Each platform must be completely boarded.

2. Fasten a diagonal brace 20 to the bottom rung of the first basic tower and to the second rung from below of the second basic tower.

3. Snap in the access deck 24 at the second cross-rung from below of the upper basic tower.

4. Open the third basic tower 9 and firmly snap in the joint in the folding part. Attach it at an angle of 180° to the second basic tower. Secure the joints with spring clips 15.

5. Fasten a diagonal brace 19 to the bottom rung of the second basic tower and to the second rung from below of the third basic tower. Install the diagonal brace opposite to the first diagonal brace.

6. To complete the working platform, install 3 guardrails 16, toe boards 25 and end toe boards 26.

Further assembly Tower model 625



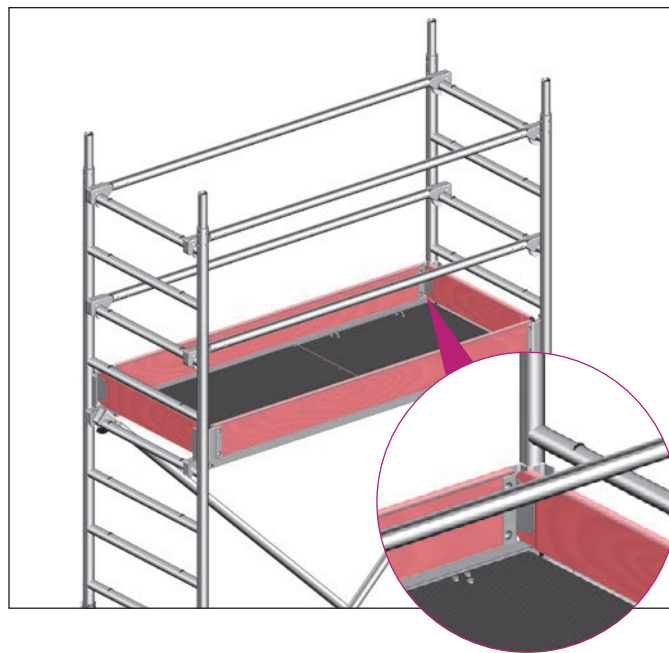
1. Open the second basic tower 9 and firmly snap in the joint in the folding part. Attach it at an angle of 180° to the first basic tower. Secure the joints with spring clips 15.

During assembly and dismantling, system decks or scaffolding planks according to DIN 4420-3 (minimum dimensions 28 x 4.5 x 220 cm) must be installed as auxiliary decks at maximum height intervals of 2.0 m. These auxiliary decks provide a safe footing for assembly and dismantling, and must be removed again after assembly. Each platform must be completely boarded.

2. Fasten a diagonal brace 19 to the bottom rung of the first basic tower and to the second rung from below of the second basic tower.
3. Snap in the access deck 24 at the second cross-rung from the bottom of the second basic tower, then ascend and provide the regulation side protection by installing three guardrails 16.
4. Open the third basic tower 9 and firmly snap in the joint in the folding part. Attach it at an angle of 180° to the second basic tower. Secure the joints with spring clips 15.
5. Fasten the diagonal brace 19 to the third rung from below of the second basic tower and to the third rung from above of the third basic tower, opposite to the first diagonal brace.
6. Install two guardrails 16 to the top rung of the second basic tower as bracing.
7. Open the fourth basic tower 9 and firmly snap in the joint in the folding part. Attach it at an angle of 180° to the third basic tower. Secure the joints with spring clips 15.
8. Fasten a diagonal brace 19 to the bottom rung of the third basic tower and to the second rung from below of the fourth basic tower, opposite to the second diagonal brace.
9. Snap in the access deck 24 at the second cross-rung from below of the upper basic tower.
10. To complete the working platform, install 3 guardrails 16, toe boards 25 and end toe boards 26.

Completing the working platform

All tower models



1. To complete the working platform, attach toe boards with claw 25 and end toe boards 26.



If an intermediate platform is also to be used for working, toe boards must be attached here too.

Operating the castors



During assembly, dismantling and while working, the castors must be kept 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, the castors are unlocked by pulling the lever up.

8. DISMANTLING SEQUENCE according to DIN EN 1004

Dismantling is performed in the reverse order to assembly (see page 16).

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

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

During assembly and dismantling, system decks or scaffolding planks to DIN 4420-3 (minimum dimensions 28 x 4.5 x 220 cm) must be installed as auxiliary decks at maximum height intervals of 2.0 m. These auxiliary decks provide a safe footing for assembly and dismantling, and must be removed again after assembly. Each platform must be completely boarded.



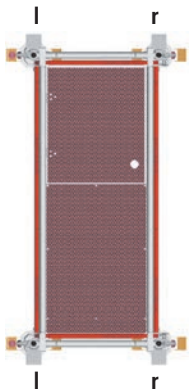
The red locking clips of the decks permit effortless installation and removal by a single person; first open them and place the deck with the opened clips on the rung, then open the opposite clips and lift out the deck.

9. BALLASTING

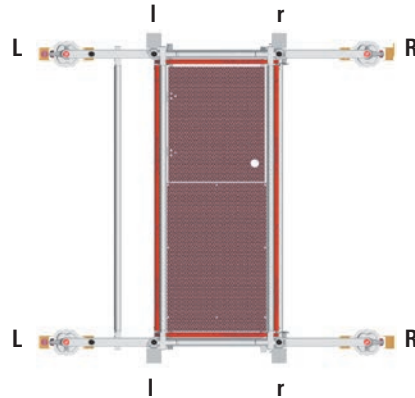
Attachment of ballast weights

Assembly central:

directly on baseplates

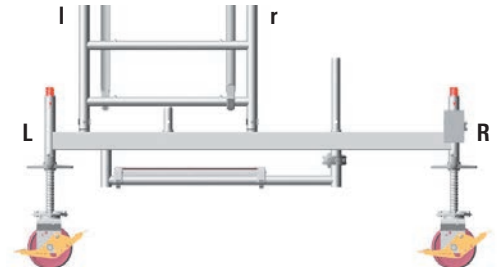
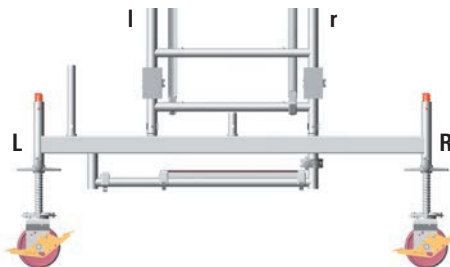
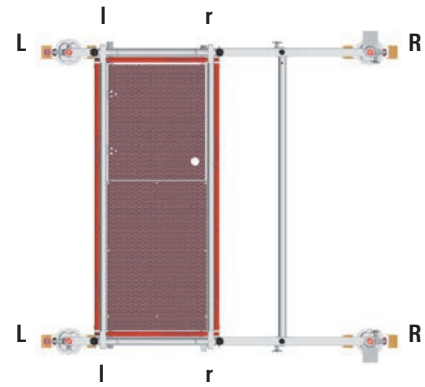


on mobile beams (with and without access ledgers)



Assembly off-centre:

on mobile beams (with and without access ledgers)



Note:

For the off-centre assembly variant with wall bracing, the bracing must always be attached on the side "L" .

Example for assembly of model 1406215

Assembly outdoors in central position

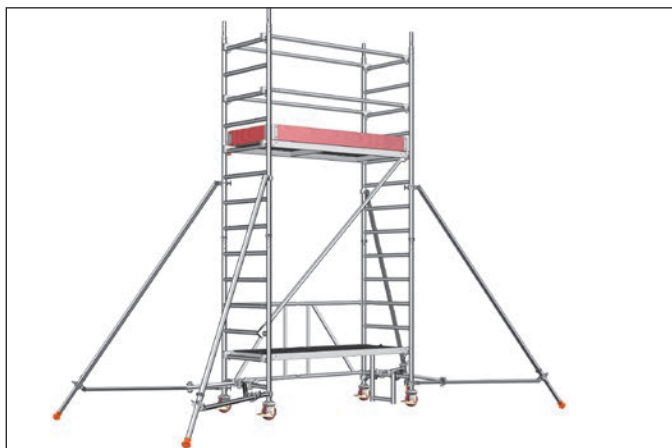
Ballast: see pages 8 – 10



Tower model	1406215
Working height [m]	6.76
Tower height [m]	5.98
Platform height [m]	4.76
Weight [kg] (without ballast)	191.4
Ballasting	
In closed areas	
Assembly central	I4 r4
Assembly off-centre	L0 R6
Assembly off-centre with wall bracing	L6 R0
In the open	
Assembly central	I4 r4
Assembly off-centre	L0 R8
Assembly off-centre with wall bracing	L8 R0

10. STABILIZER ATTACHMENT

Before assembly, please note page 11 "Basic assembly for rolling tower models without mobile beams". With this assembly form, the fixed and adjustable mobile beams are dispensed with. They are replaced by extendable stabilizers 27.



Attach a stabilizer 27 to each stringer of the ladder frame 11. To do so, fasten the half-coupler directly underneath the rung of the ladder frame 11. Before tightening the star handles (hand wheels), fix the stabilizers in the right position, against the wall or free-standing, and then tighten them using the star handles. Ensure that the foot is firmly on the ground by sliding the half-coupler on the stabilizer. Fasten the lower half-coupler above the bottom rung of the ladder frame 11 and tighten it with the star handle.

The positions of the stabilizers must be set as follows:

Free-standing assembly: in each case about 60° to the tower longitudinal side (Fig. 7).

Assembly against wall: on the wall side about 90° to the tower end face. Side facing away from wall about 60° to the tower longitudinal side (Fig. 8).

The specified angles can be checked after attachment of the stabilizers on the basis of the length dimensions "Spacing L".

To ensure that the position cannot change, attach the tower rotation lock 28 to the stabilizer 27 and to the rung of the ladder frame 11.

Adjust the tower rotation lock by moving the half-coupler on the stabilizer 27 such that the half-coupler is fastened beneath the first rung of the ladder frame. It must be ensured that the spring clips safely engage in the telescoping parts of the extendable stabilizer. When moving the tower, the stabilizer must not be lifted more than 2 cm off the ground.

For work performed on a load-bearing wall, ballasting can be provided in accordance with the ballasting table (see pages 8 – 10).

Free-standing assembly

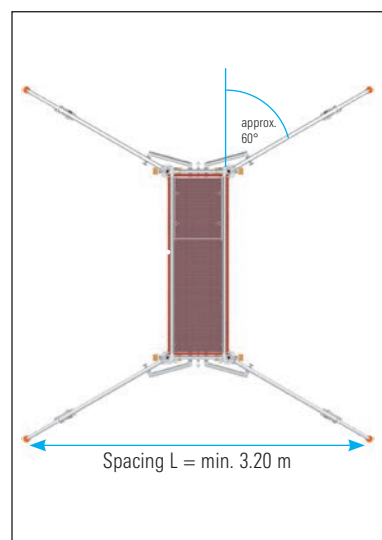


Fig. 7

Assembly against a wall

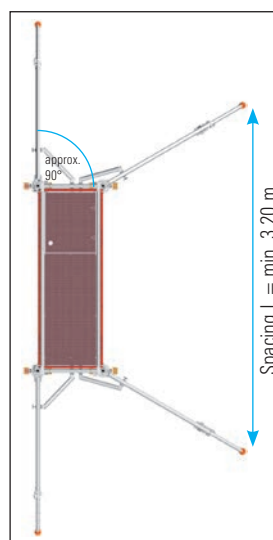


Fig. 8

11. WALL BRACING (under load) ANCHORING (under load and tension)



For work performed on a load-bearing wall, ballasting can be reduced in accordance with the table **Ballasting** (see pages 8 – 10). In this case, wall bracing or anchoring must be installed on both ladder frames of the tower.

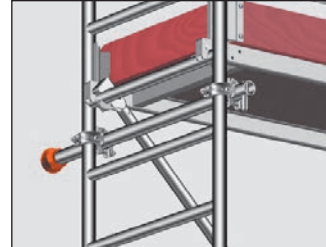
Use the Uni distance tube 22 and fix it to the ladder frame 11 using two couplers 30 in each case.

The rubber mount is positioned on the wall (see detail A) to provide support. The mobile beams must be installed here so that they project from the side facing away from the wall.

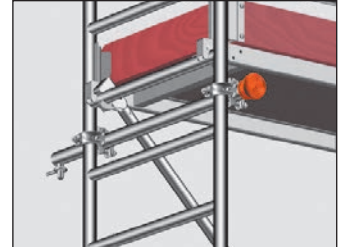
The Uni distance tube, rotated by 180°, is used for anchoring and is fitted in an eyebolt (see detail B) which was attached to the wall previously. The alignment of the mobile beam can be ignored in this case.

Note: In the case of anchoring, ballasting can be dispensed with.

The wall bracing/anchoring must be attached at the height of the top working platform or at most 1 m below that.



Detail A



Detail B

12. PARTS LIST

Tower models

1406200 – 1406216

Zifa P2

Tower model	Article No.	1406200	1406210	1406213	1406214	1406215	1406216
Guardrail 1.80 m	1205.180	0	2	4	9	8	13
Diagonal brace 2.50 m	1208.180	0	0	1	2	4	4
Diagonal brace 1.95 m	1208.195	0	0	0	1	0	1
Basic tube 1.80 m	1211.180	0	0	1	1	1	1
End toe board 0.75 m	1238.075	0	0	2	2	2	2
Toe board 1.8 m, with claw	1239.180	0	0	2	2	2	2
Deck 1.8 m	1241.180	1	0	1	0	1	0
Access deck 1.8 m	1242.180	0	1	1	2	2	3
Spring clip	1250.000	0	4	8	12	12	16
Ladder frame 75/4 – 1.00 m	1297.004	0	2	0	2	0	2
Ladder frame 75/8 – 2.00 m	1297.008	0	0	2	2	4	4
Uni assembly hook	1300.001	0	0	1	1	1	1
Zifa 75 basic tower	1300.006	1	1	1	1	1	1
Castor 400 – 4 kN	1308.150	4	4	4	4	4	4
Mobile beam 1.80 m with ledger	1323.180	0	0	2	2	2	2
Ballast	1249.000	For the number of ballasting weights see the ballasting table, page 8					

Tower models

620 – 625

Zifa – minimum requirements according to DIN EN 1004

Tower model	Article No.	620	621	622	623	624	625
Guardrail 1.80 m	1205.180	0	2	4	4	4	8
Diagonal brace 2.50 m	1208.180	0	0	0	0	2	3
Diagonal brace 1.95 m	1208.195	0	0	0	0	0	0
Horizontal diagonal brace 1.95 m	1209.180	0	0	0	0	0	1
Basic tube 1.80 m	1211.180	0	0	0	0	0	1
End toe board 0.75 m	1238.075	0	0	2	2	2	2
Toe board 1.8 m, with claw	1239.180	0	0	2	2	2	2
Deck 1.8 m	1241.180	1	0	0	0	0	0
Access deck 1.8 m	1242.180	0	1	1	1	1	2
Spring clip	1250.000	0	4	4	8	12	16
Ladder frame 75/4 – 1.00 m	1297.004	0	2	0	0	0	0
Ladder frame 75/8 – 2.00 m	1297.008	0	0	0	0	0	0
Zifa 75 basic tower	1300.006	1	1	2	2	3	4
Castor 400 – 4 kN	1308.150	4	4	4	4	4	4
Mobile beam 1.80 m without ledger	1214.180	0	0	0	2	2	2
Ballast	1249.000	For the number of ballasting weights see the ballasting table, page 9					

Tower models

1406233 – 1406237

Zifa P2 – with stabilizers

Tower model	Article No.	1406213	1406214	1406215	1406216
Guardrail 1.80 m	1205.180	4	9	8	13
Diagonal brace 2.50 m	1208.180	1	2	4	4
Diagonal brace 1.95 m	1208.195	0	1	0	1
End toe board 0.75 m	1238.075	2	2	2	2
Toe board 1.8 m, with claw	1239.180	2	2	2	2
Deck 1.8 m	1241.180	1	0	1	0
Access deck 1.8 m	1242.180	1	2	2	3
Aluminium tower support, extendable	1248.260	4	4	4	4
Tower rotation lock	1248.261	4	4	4	4
Spring clip	1250.000	8	12	12	16
Ladder frame 75/4 – 1.00 m	1297.004	0	2	0	2
Ladder frame 75/8 – 2.00 m	1297.008	2	2	4	4
Uni assembly hook	1300.001	1	1	1	1
Zifa 75 basic tower	1300.006	1	1	1	1
Castor 400 – 4 kN	1308.150	4	4	4	4
Mobile beam 1.80 m without ledger	1214.180	0	0	0	0
Mobile beam 1.80 m with ledger	1323.180	2	2	2	2
Ballast	1249.000	For the number of ballasting weights see the ballasting table, page 10			

13. COMPONENTS OF THE SYSTEM

1



1308.150 Castor 400

Plastic wheel dia. 150 mm, with simple brake lever, permissible load 4 kN (\approx 400 kg), weight 2.2 kg.

2



1309.150 Castor 400

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

3



1259.201 Castor 700 with baseplate and lock

Plastic wheel dia. 200 mm, permissible load 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 6.8 kg.

4



1260.202 Castor 700 with baseplate and lock

Plastic wheel with Vulkollan tyre, dia. 200 mm, permissible load 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 7.0 kg.

5



1260.200 Castor 1000 with baseplate and lock

Plastic wheel dia. 200 mm, permissible load 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.

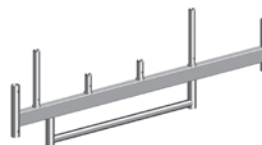
6



1268.200 Castor 1000 with baseplate and lock

Aluminium rim with Vulkollan tyre, dia. 200 mm, permissible load 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.

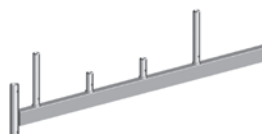
7



1323.180 Mobile beam w. ledger 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.

8



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.

9



1300.006 Zifa 75 basic tower, aluminium.

Width 0.75 m, length 1.8 m, height 1.5 m. Dimensions when folded together: 0.95 x 1.5 x 0.3 m, weight 20.2 kg.

10



1297.004 Ladder frame 75/4

aluminium. Rungs with non-slip grooving. Height 1.0 m, width 0.75 m, weight 4.7 kg.

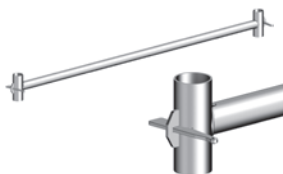
11



**1297.008
Ladder frame 75/8**

aluminium.
Rungs with non-slip grooving. Height
2.0 m,
width 0.75 m, weight 8.6 kg.

12



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

13



1344.002 Access ledger 0.3
aluminium, length 0.27 m,
weight 2.9 kg.

14



1249.000 Ballast (10 kg)
steel, hot-dip-galvanized with
half-coupler.

15



1250.000 Spring clip
steel.
Weight 0.1 kg.

16



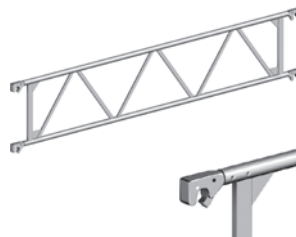
1205.180 Guardrail 1.8 m
aluminium.
Length 1.8 m,
weight 2.3 kg.

17



1206.180 Double guard-rail 1.8 m
aluminium.
Length 1.8 m, height 0.5 m,
weight 5.8 kg.

18



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.

19



1208.180 Diagonal brace 2.5 m
aluminium.
Length 2.5 m,
weight 3.3 kg.

20



1208.195 Diagonal brace 1.95 m
aluminium.
Length 1.95 m,
weight 2.8 kg.

21



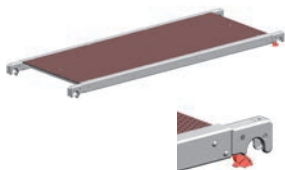
**1209.180
Horizontal diagonal brace 1.95 m**
aluminium.
Length 1.95 m, weight 3.5 kg.

22



1275.110 Uni distance tube
Aluminium tube with hook and
rubber foot. dia. 48.3 mm,
Length 1.1 m, weight 1.4 kg.

23

**1241.180 Deck 1.8 m**

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

24

**1242.180****Access deck 1.8 m**

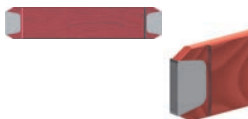
Aluminium frame, with plywood deck and hatch (BFU 100 G) with phenolic resin coating. Length 1.8 m, width 0.68 m, weight 15.0 kg.

25

**1239.180 Toe board 1.8 m with claw**

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

26

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

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

27

**1248.260 Stabilizer, extendable**

aluminium.
Length 2.6 m, weight 8.5 kg.

28

**1248.261 Rotation lock**

aluminium.
Length 0.5 m, weight 2.8 kg.

29

**1300.001 Uni assembly hook**

polyethylene,
Set of 2.
Weight 1.2 kg.

30

**1269.019/1269.022**

Special screw coupler, rigid
19 or 22 mm WS,
weight 1.1 kg.

31

**6344.200 Prohibition sign**

32

**6344.400 Identification notice**
for rolling towers.

14. CERTIFICATE

ZERTIFIKAT ◆ CERTIFICADO ◆ CERTIFICAT ◆ СЕРТИФИКАТ ◆ 認證證書 ◆ CERTIFICATE ◆

AI / 04.11

ZERTIFIKAT

Nr. Z1A 13 01 19959 075



Product Service

Zertifikatsinhaber: **Wilhelm Layher GmbH & Co. KG**
Ochsenbacher Straße 56
74383 Güglingen-Eibensbach
DEUTSCHLAND

**Produktions-
stätte(n):** 19959

Prüfzeichen:



Produkt: **Fahrgerüste**

Modell(e): **Zifa / Zifa P2**

Kenndaten: Fahrgerüste mit Klapprahmen

zul. Belastung: 2,00 kN/m²
Abmessungen: 0,75 x 1,80 m

Weitere Kenndaten siehe Anlagen.

Geprüft nach: DIN EN 1004:2005
DIN EN 11298:1996
PPP 62016A:2012
ZEK 01.4-08

Das Produkt entspricht hinsichtlich der Gewährleistung von Sicherheit und Gesundheit den Anforderungen des deutschen Produktsicherheitsgesetzes § 20 bis 22 ProdSG. Es kann mit den oben abgebildeten Prüfzeichen gekennzeichnet werden. Eine Veränderung der Darstellung der Prüfzeichen ist nicht erlaubt. Die Übertragung eines Zertifikates durch den Zertifikatsinhaber an Dritte ist unzulässig. Das Zertifikat ist gültig bis zum angegebenen Zeitpunkt, sofern es nicht früher gekündigt wird. Umseitige Hinweise sind zu beachten.

Prüfbericht Nr.: 028-713012285-001

Gültig bis: 2018-01-30

Datum, 2013-02-01

Thomas Fuchs
(Thomas Fuchs)



Seite 1 von 3

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