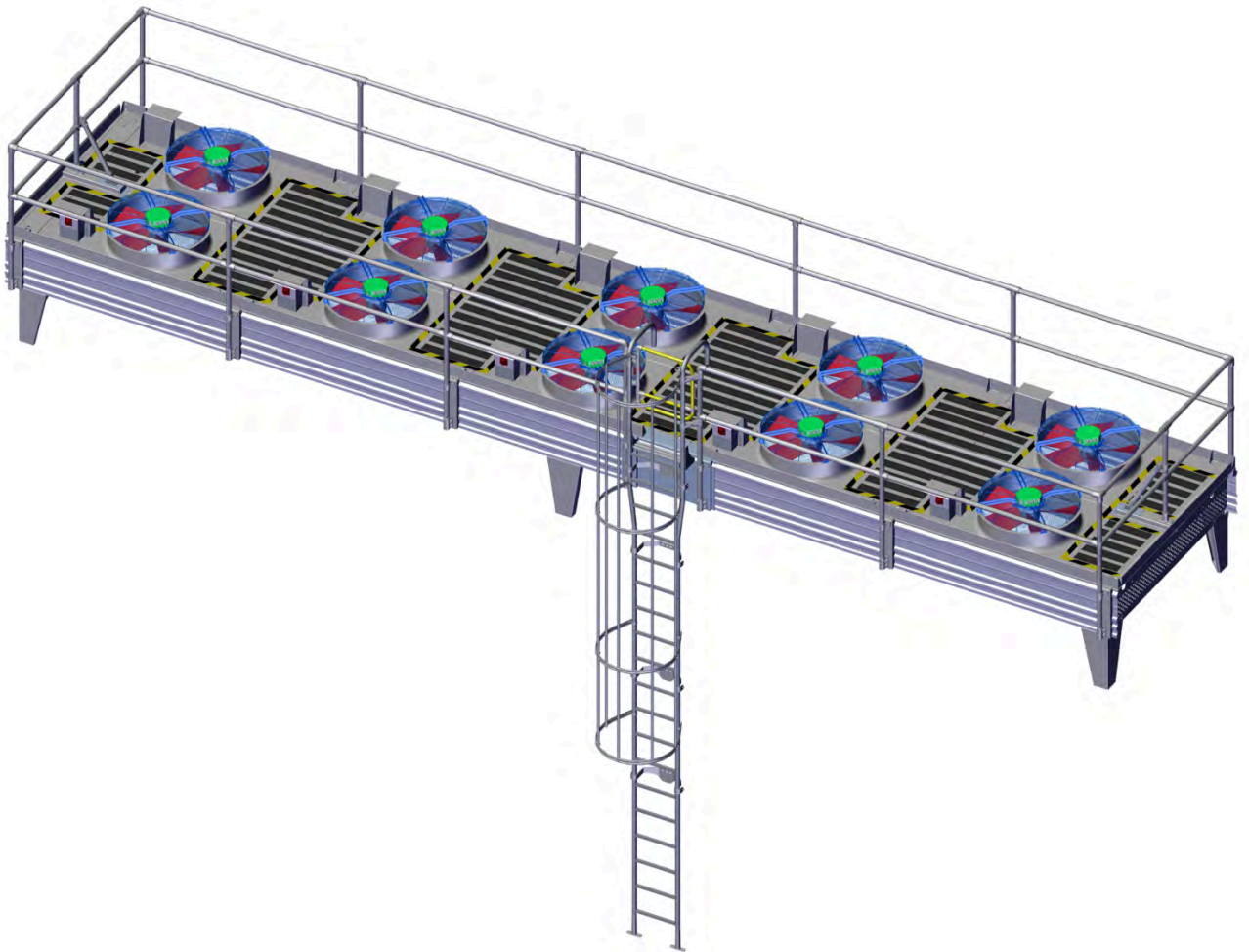


Installation instructions

Transport | Installation | Operation | Maintenance | Disposal



Fall protection – GxHV

guntner.com/uk

About us

Fall protection GxHV

Version number: 1.2
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Installation instructions

These instructions have been compiled in several languages.

The German version applies as the **original installation instructions**. All other language versions are **translations** of the **original installation instructions**.

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1 General

1.1 Importance of the instructions

About the fall protection for the GxHV

The fall protection for the GxHV is intended for attachment to condensers/gas coolers/dry coolers manufactured by Güntner GmbH.

Requirement for mounting and use

The basic requirement for the safe mounting and use of this fall protection is knowledge of the basic safety instructions and safety regulations.

Important notes on mounting and use

- These instructions include the most important notes on how to safely mount and use the fall protection.
 - These instructions, especially the safety instructions, must be observed by everyone who uses the fall protection.
 - The accident prevention rules and regulations that apply for the place of installation must also be observed.
 - These instructions must be kept in a safe place and it must be ensured that they are available to all fitters or maintenance personnel of the fall protection.
-

1.2 Set-up and applicable documents

The following documents are applicable:

- These instructions that include the following information.
 - Intended use
 - Mounting and use
 - Safety instructions and warnings
- Manufacturer's documentation
- Drawing specifying the customer, project number and order number

These instructions are part of the system's operating instructions, which are provided by the system's installer.

1.3 Legal notes

Warranty

The warranty claim expires as follows:

- In the event of faults and damage that can be attributed to non-compliance with the requirements set out in these instructions.
- In the event of complaints that can be attributed to the use of spare parts other than the original spare parts specified in the order documents.
- In the event of changes to the fall protection compared to the order-related information specified in the order documents without the prior consent of the manufacturer.

1.4 Applicable standards and technical rules

Standards

- DIN 4426
- DIN EN 547-1
- DIN EN 547-3
- DIN EN 10240
- DIN EN ISO 14122-1
- DIN EN ISO 14122-2
- DIN EN ISO 14122-3
- DIN EN ISO 14122-4

Technical rules

- ASR A1.3
- ASR A1.5/1.2
- ASR A2.1
- DGUV 108-003

1.5 Document conventions

Mark-up elements for special information

bold	Requires special attention!
grey triangle	Instructions

1.6 List of abbreviations

Abbreviation	Meaning
ASR	German Technical Rule for Workplaces
DGUV	German Social Accident Insurance
DIN	German industrial standard (specification of a standard)
EN	European standard

2 Safety

2.1 Intended/improper use

2.1.1 Intended use

Installation location

Condensers/gas coolers/dry coolers manufactured by Güntner GmbH are designed to be integrated into a refrigerating plant and for outdoor installation. The fall protection (railing, ladder, etc.) is intended for attachment to condensers/gas coolers/dry coolers manufactured by Güntner GmbH.

Conditions of use

The fall protection is designed for the following ambient conditions:

- Ambient temperatures ranging from -30 °C to +50 °C
- Relative humidity ranging from 0 % to 90 %

The operator must be trained and experienced in handling the fall protection. The customer is responsible for any installations and mounted parts retrofitted to the fall protection by him or herself, and for the associated risks to the overall construction.

Safety measures

Observe the following to prevent personal injury and damage to property:

- The fall protection may be used only in acc. with the proper intended use. The operator must ensure that during use, visual inspection and maintenance of the fall protection system, the design must not deviate from the order-specific information specified in the order-related offer document.
- The operator must ensure that maintenance measures are performed in compliance with the system's operating instructions.

2.1.2 Improper use

The mounting and use of the fall protection is improper if:

- the instructions and the safety instructions contained therein are not observed,
- the main dimensions, weight, distances and recommended fixing sizes are not taken into account/adhered to during mounting,
- The wrong fixing elements or not all of the fixing points provided were used for mounting
- the fall protection is set up improperly or by untrained personnel,
- standard parts are reworked due to incorrect fit,
- the fall protection is walked on without authorisation,
- the maintenance schedule is not adhered to.

2.1.3 Further information

Space limits

A stable and flat floor area is required for mounting.

The mounting location has to be accessible without risk.

The designated paths on the fall protection for maintenance and servicing are marked with safety markings on the floor. Persons moving on the fall protection must observe the safety markings and keep to the marked paths.

Lifting gear (crane) is required for maintenance/servicing and must be provided by the operator of the system.

Main dimensions and weight:

- According to the offer drawing and order confirmation

Assembly drawing:

- According to the offer drawing

Layout plan:

- Outdoor mounting only. The layout plan must be drawn up by the system operator. The fall protection is manufactured on the basis of the site map provided by the customer.


Time limits

Service life: 10 – 12 years




Further limits

- Mounting and maintenance must be performed only by skilled workers who have been instructed in the specific hazards.
- The operator must prevent access by unauthorised persons and anyone under 14 years old (children etc.).
- Only trained persons (specialised fitters) are allowed to use the fixed double-stile ladder. An occupational health examination G41 "Arbeiten mit Absturzgefahr" ("Work involving the risk of falling") or relevant national exams are required.
- At the end of its life cycle, the fall protection requires proper disposal of the materials used.
- All applicable laws, regulations, directives and standards must be complied with when disposing of materials.

2.2 Conventions for safety signs and instructions

NOTICE	
	<p>The operator of the installation is responsible for attaching the following prohibitory, warning and mandatory signs.</p>

2.2.1 General safety signs and their meaning in these instructions

⚠ DANGER	
	<p>This signal word is used to show an immediately dangerous situation which, if not avoided, will cause severe injury or death.</p>
⚠ WARNING	
	<p>This signal word is used to show a potentially dangerous situation which, if not avoided, could cause severe injury or death.</p>
⚠ CAUTION	
	<p>This signal word is used to show a potentially dangerous situation which, if not avoided, could cause minor or moderate injury.</p>
ATTENTION	
	<p>This signal word without any safety symbols is used to show a possible risk of damage to property.</p>

NOTICE



This signal word indicates additional information that is useful for the reader, such as operator tips and cross references.

2.2.2 Warning signs and their meaning in these instructions



Warning of dangerous electrical voltage

Risk of an electric shock if live parts are touched.



Warning of the risk of falling

Risk of falling when working high up.



Warning of the risk of tripping

There is a risk of tripping if there are obstacles on the floor or the ground.



Warning of the the risk of slipping

After defrosting, after cleaning work or due to other circumstances, there is a risk of slipping.



Warning of extreme cold

The temperature is below 0 °C and can cause frostbite.



Warning of falling objects

Standing under falling objects can cause injury or death.

2.2.3 Prohibitory signs and their meaning in these instructions



No climbing!

Climbing is prohibited for unauthorised persons.



Unauthorised access prohibited!

Access is prohibited for unauthorised persons.



Do not enter!

Do not enter the marked area.

2.2.4 Mandatory signs and their meaning in these instructions



Wear protective gloves!

Protective gloves must protect against mechanical and chemical dangers.



Wear safety shoes!

Safety shoes must protect against mechanical and chemical dangers.



Wear safety helmet!

The protective headgear protects from falling objects.

2.2.5 Other safety signs



Safety marking

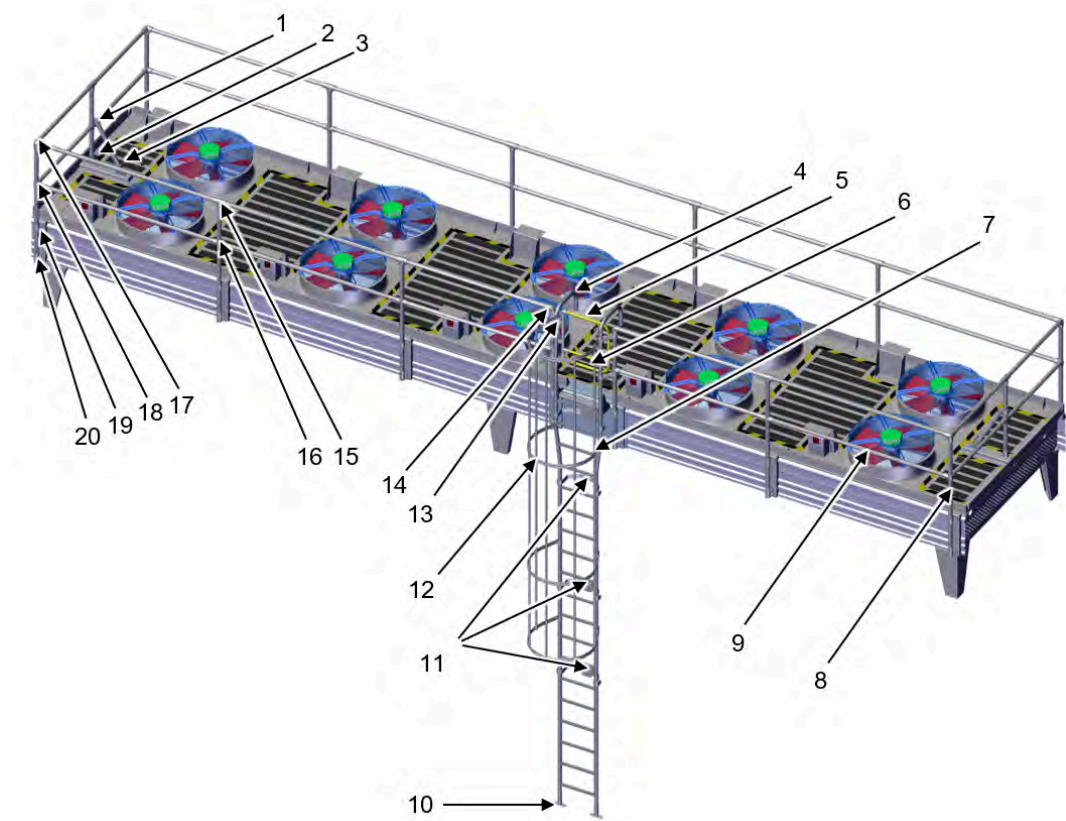
The safety markings indicate obstacles and dangerous spots that must be paid attention to.

3 Description

3.1 Overview of the fall protection

The following illustrations show examples of fall protection applications.

3.1.1 Single-row fall protection

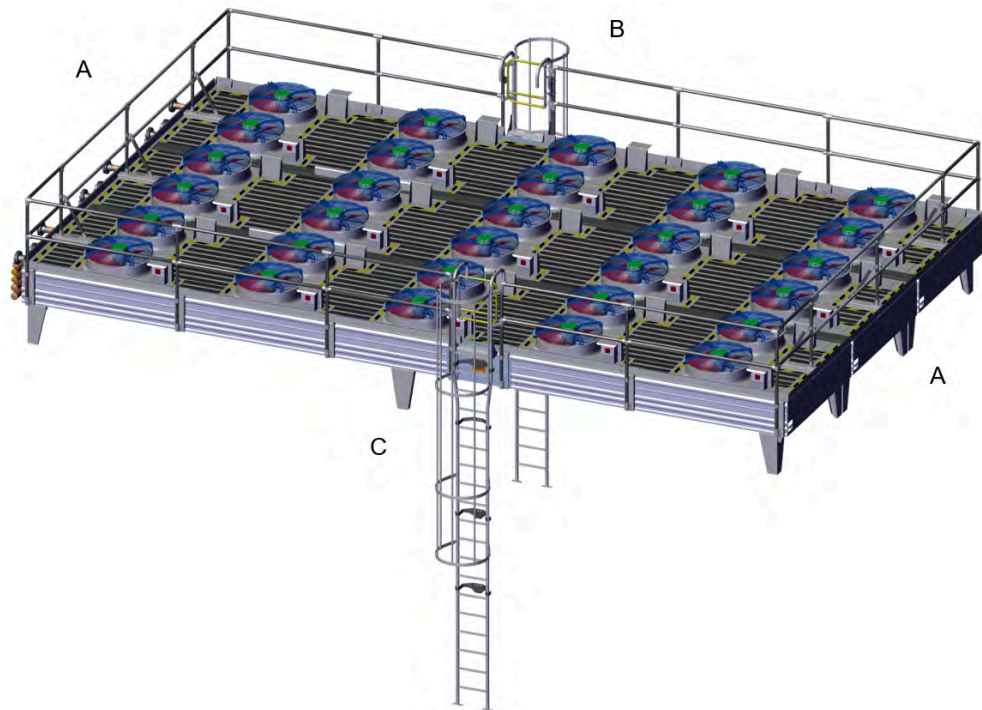


Single-row fall protection

No.	Designation
1	Single swivel socket
2	Floor mounting
3	Swivelling fitting (0° – 160°)
4	Handrail bend
5	Safety gate
6	Access platform
7	Ladder
8	Post

No.	Designation
9	Horizontal tube
10	Foot plates
11	Wall mounting brackets
12	Ladder cage
13	90° fitting
14	90° elbow fitting
15	Three-socket tee fitting
16	Two-socket cross fitting
17	90° side outlet elbow fitting
18	90° side outlet tee fitting
19	Rail support
20	Railing base

3.1.2 Multi-row fall protection




Multi-row fall protection

Pos.	Side
A	Short sides
B	Back

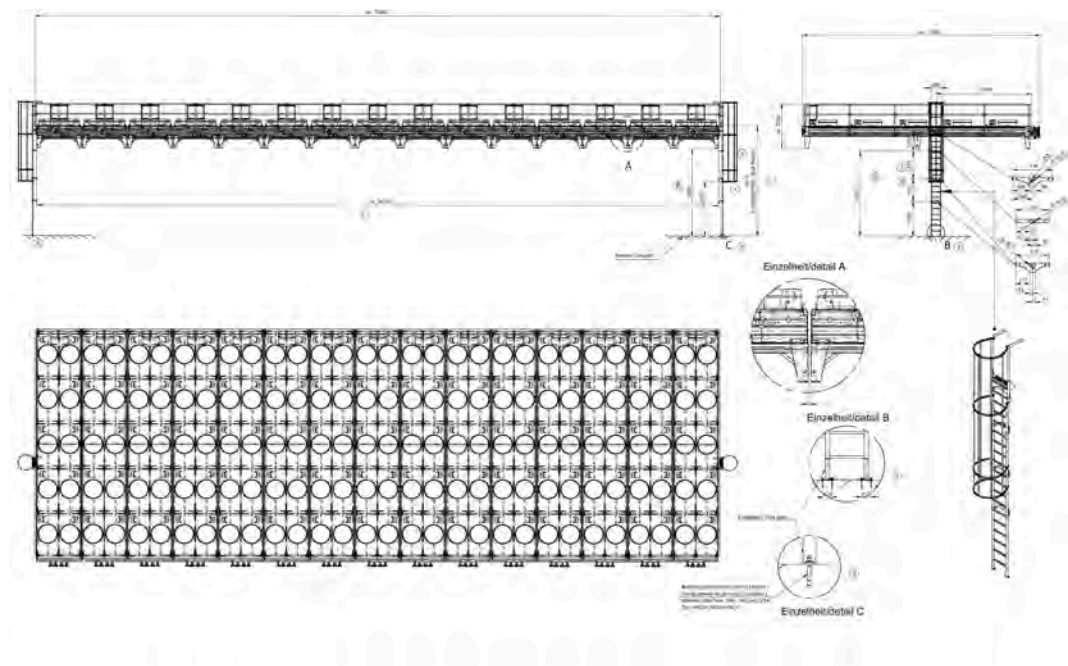
Pos.	Side
C	Front

3.2 Installation plan

NOTICE









When mounting, observe the dimensions and information shown in the following illustration.











Installation plan

4 Mounting

4.1 Safety instructions

⚠ WARNING		
	<p>WARNING OF ELECTRIC SHOCK! Due to a potential shift between components, it can happen that a person gets a little shock when touching the ladder/railing.</p> <ul style="list-style-type: none"> • Connect the ladder/railing to the equipotential bonding of the building at the earthing clamp. 	
⚠ WARNING		
	<p>WARNING OF FALLING OBJECTS! Objects can fall from the unit due to improper mounting or human error and injures a person standing under the unit.</p> <ul style="list-style-type: none"> • Wear personal protective equipment (safety helmet). • Attach toeboards to both short and long sides of the unit. 	
⚠ WARNING		
	<p>WARNING OF THE RISK OF SLIPPING! The operator or other specialist staff can slip when accessing the unit or on the unit surface if adverse weather conditions prevail (water on the unit, black ice, gusts of wind).</p> <ul style="list-style-type: none"> • Wear personal protective equipment (safety shoes, work gloves). • Before walking on the unit surface for maintenance or servicing, check for snow/ice and remove it if necessary. • Never step on the fans. 	 

 WARNING		
	<p>WARNING OF THE RISK OF TRIPPING!</p> <p>The operator or other specialist staff can trip over a protruding part when accessing the unit or on the unit surface and fall if adverse weather conditions prevail (water on the unit, black ice, gusts of wind).</p> <ul style="list-style-type: none"> Wear personal protective equipment (safety shoes, work gloves). Watch out for marked obstacles and tripping hazards. Never step on the fans. 	 
 WARNING		
	<p>WARNING OF FROSTBITE!</p> <p>Severe frostbite can result from contact with the surface of the designated path/side surface or fall protection (railings, ladder, etc.).</p> <ul style="list-style-type: none"> Wear personal protective equipment (safety shoes, work gloves). 	 

4.2 Requirements for the mounting location

Dimensions/weights

For dimensions and weights, refer to the documents supplied and the illustration in the section "Installation plan".

Mounting conditions

- Mount the fall protection in such a way that it cannot be damaged by in-house traffic or transport procedures.
- Place the fall protection in such a way that it can be inspected from all sides at all times.
- Ensure that sufficient space is available for mounting.
- Ensure that the space for mounting is free of obstacles.
- Observe the dimensions in the installation plan when mounting the foot plates and the ladder.

Provisions for fixing

- Prevent mechanical stress on the fall protection as follows:
 - Ensure that all fixing points have the same distance to the fixing level.
 - Ensure that all fixing points maintain the same distance to the fixing level, under load and permanently.
- Mount the fall protection at the fixing points provided for this purpose and tighten it with fixing bolts. The operator or fitter of the equipment is responsible for ensuring that the bolted connections are of an adequate strength.
- Observe the following instructions when fixing the fall protection:
 - The fixing bolts must be secured against loosening by means of an appropriate screw-locking device.
 - The fixing bolts must not be overtightened.
 - All fixing bolts must be tightened equally.
- Prevent the fall protection from shifting in its position. Fix the fall protection.
- Use the intended fixing points to fix the fall protection.
- Tighten the bolts at the fixing points with the following tightening torques:
 - Setscrew of the Kee Klamp fittings: 40 Nm
 - M6 bolt: 7.7 Nm
 - M10 bolt: 63 Nm
 - M12 bolt: 73 Nm

4.3 Mounting the fall protection

4.3.1 Mounting the safety railing


Required staff

- Specialist staff
- No more than 2 persons are allowed on a fan plate at any time.

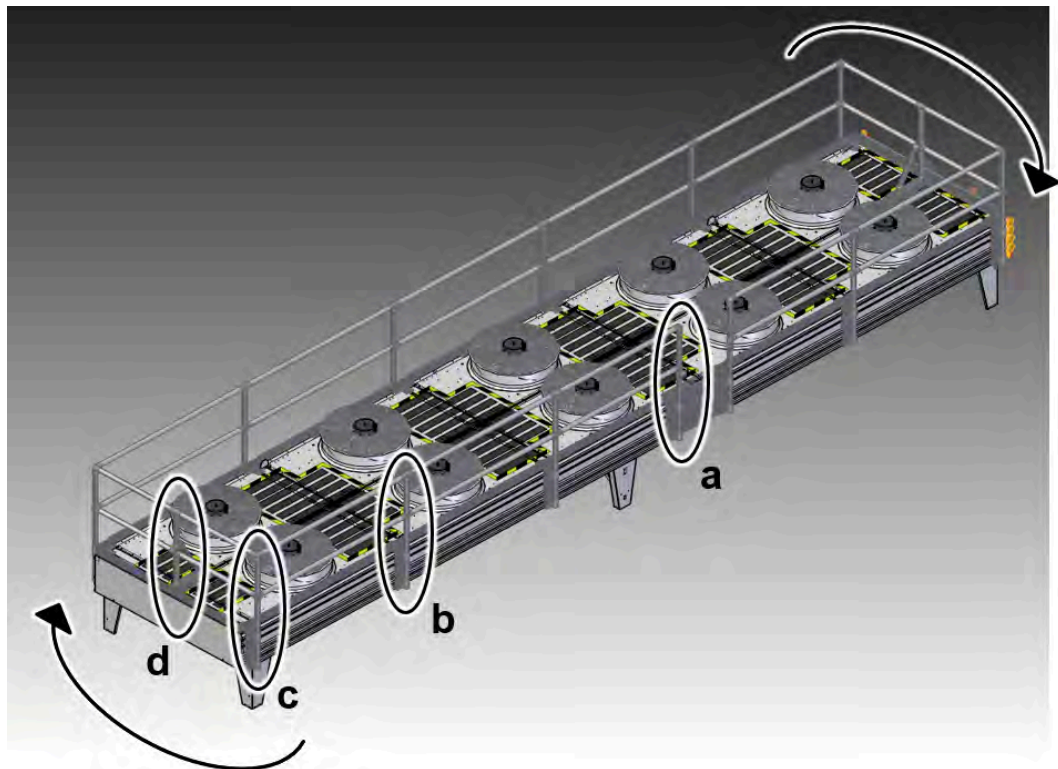
Auxiliary equipment/tools

- Lifting accessories and lifting gear
- Climbing aids
- Fixing bolts
- Wall plugs
- Percussion drilling machine
- Socket wrench set
- Ratchet
- Pipes (material: aluminium)
- Post (material: galv. st.)

Important notes on mounting

NOTICE	
	<p>All connecting pieces are already adjusted to dimension on delivery! In case it is necessary to loosen the tubular fittings for assembly, it is imperative to tighten the grub screw with a ratchet and then with the torque wrench. Therefore, observe the notes on mounting in the manufacturer's documentation, particularly the calculation of the correct tube lengths.</p>

4.3.1.1 Mounting sequence



Mounting sequence

⇒ Start assembling the railing at the access point (a), then continue clockwise until you have reached the access point (a) again.

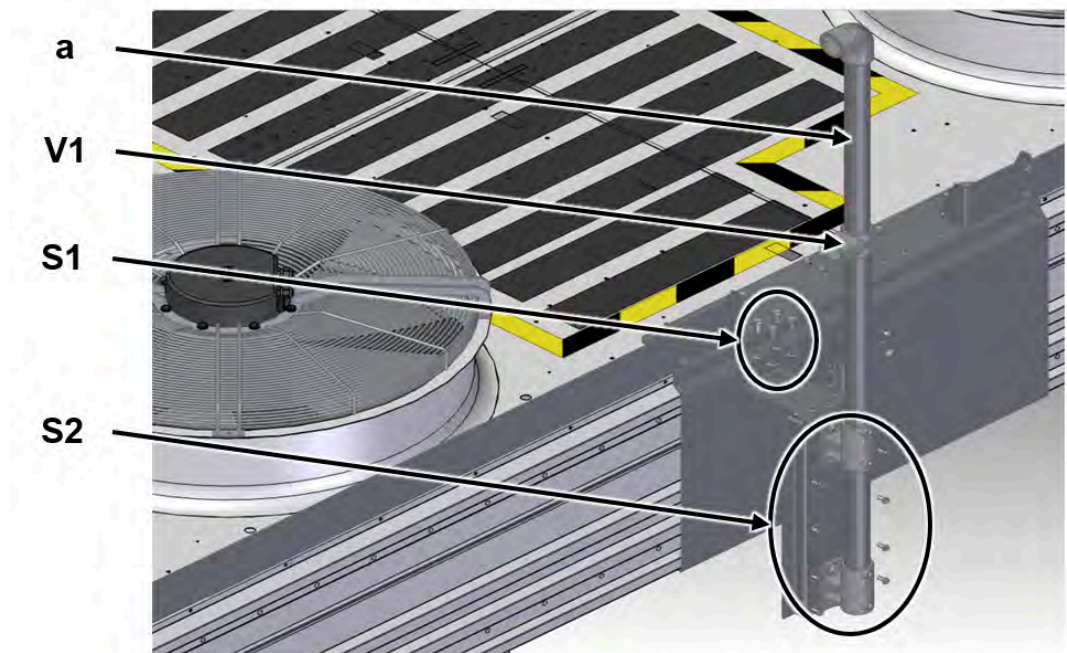
The following table provides an overview of the mounting sequence of the components:

Mounting steps	See section
Mounting the railing, mounting the access and middle section	4.3.1.2
Mounting the railing, mounting the middle section	4.3.1.3
Mounting the railing, mounting the stiffener	4.3.1.4
Mounting the railing, mounting the corner brackets	4.3.1.5

The following table provides an overview of the components required for the mounting steps:

Components	
Tubular fitting assembly "access"	a
Tubular fitting assembly "middle section"	b
Tubular fitting assembly "corner bracket"	c
Tubular fitting assembly "stiffener"	d

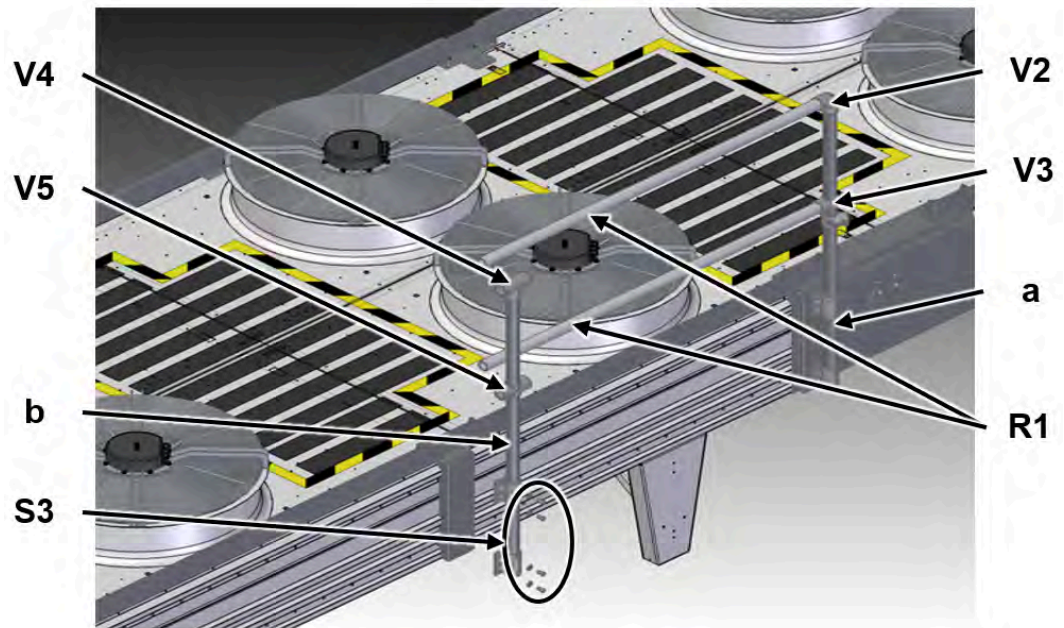
4.3.1.2 Mounting the railing, mounting the access and middle section



Mounting the railing, start/end of mounting at the access

- ⇒ Mount the tubular fitting assembly "access" on the unit at the access point. For this purpose, use the fixing elements (S1) and (S2).
- ⇒ The tubular fitting (V1) is intended for connecting the ladder.
- ⇒ Tighten the fixing elements according to the specified tightening torque (see section "Requirements for the mounting location")!

Components	Abbreviation
Tubular fitting assembly "access"	a
Tubular fitting type 10-8/90° fitting	V1
Fixing elements: Hexagon bolt M10x30 (4 pieces) / detent edged washer 10 (4 pieces)	S1
Fixing elements: Hexagon bolt M6x20 (8 pieces) / detent edged washer 6 (8 pieces)	S2

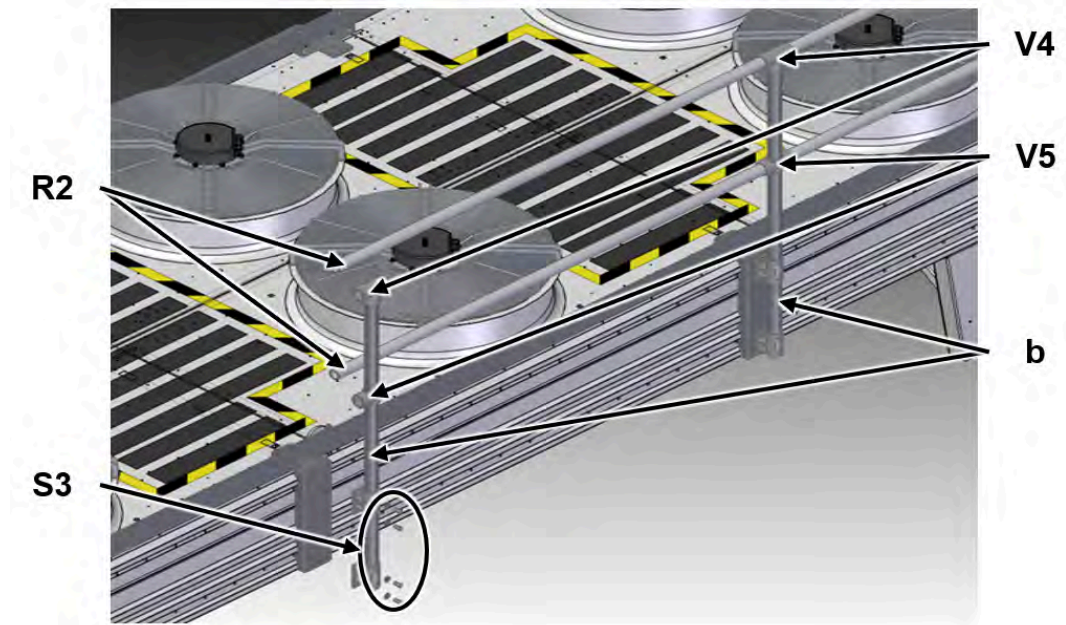


Mounting the railing, mounting the handrail and kneerail and the tubular fitting assembly "middle section"

- ⇒ Insert the tubes for the handrail and kneerail (R1) into the tubular fittings (V2/V3) of the tubular fitting assembly "access" (a).
- ⇒ Then mount the tubular fitting assembly "middle section" (b). For this purpose, first insert the tubes for the handrail and kneerail (R1) into the tubular fittings (V4/V5) and then mount the assembly "middle section" with fixing elements (S3).
- ⇒ Tighten the fixing elements and setscrews according to the specified tightening torque!

Components	Abbreviation
Tubular fitting assembly "access"	a
Tubular fitting assembly "middle section"	b
Tubular fitting type 15-8/90° elbow fitting	V2
Tubular fitting type 10-8/90° fitting	V3
Tubular fitting type 25-8/tee fitting	V4
Tubular fitting type 26-8/cross fitting	V5
Tube handrail and kneerail – "access" area	R1
Fixing elements hexagon bolt M12x30 (4 pieces) / detent edged washer 12 (4 pieces)	S3

4.3.1.3 Mounting the railing, mounting the middle section

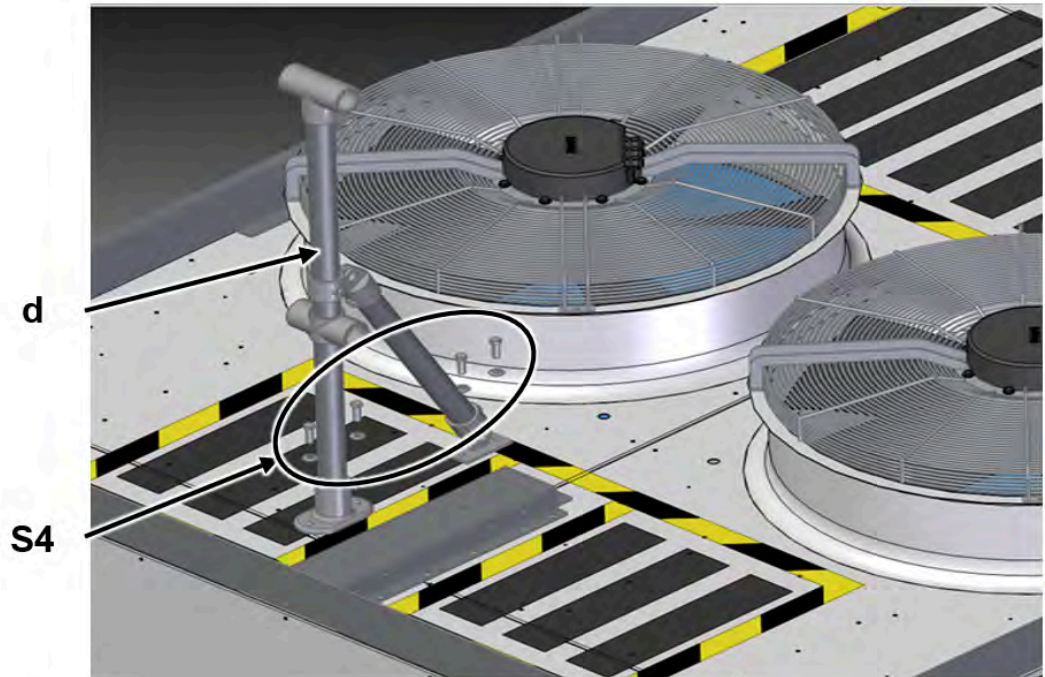


Mounting the railing, mounting the handrail and kneerail and the tubular fitting assembly "middle section"

- ⇒ Insert the tubes for the handrail and kneerail (R2) into the tubular fittings (V4/V5) of the tubular fitting assembly "middle section" (b).
- ⇒ Mount the next tubular fitting assembly "middle section" (b). For this purpose, first insert the tubes for the handrail and kneerail (R2) into the tubular fittings (V4/V5) and then mount the assembly "middle section" with fixing elements (S3).
- ⇒ Repeat these steps up to the corner of the unit.
- ⇒ Tighten the fixing elements and setscrews according to the specified tightening torque (see section "Requirements for the mounting location")!

Components	Abbreviation
Tubular fitting assembly "middle section"	b
Tubular fitting type 25-8/tee fitting	V4
Tubular fitting type 26-8/cross fitting	V5
Tube handrail and kneerail – "middle section" area	R2
Fixing elements hexagon bolt M12x30 (4 pieces) / detent edged washer 12 (4 pieces)	S3

4.3.1.4 Mounting the railing, mounting the stiffener

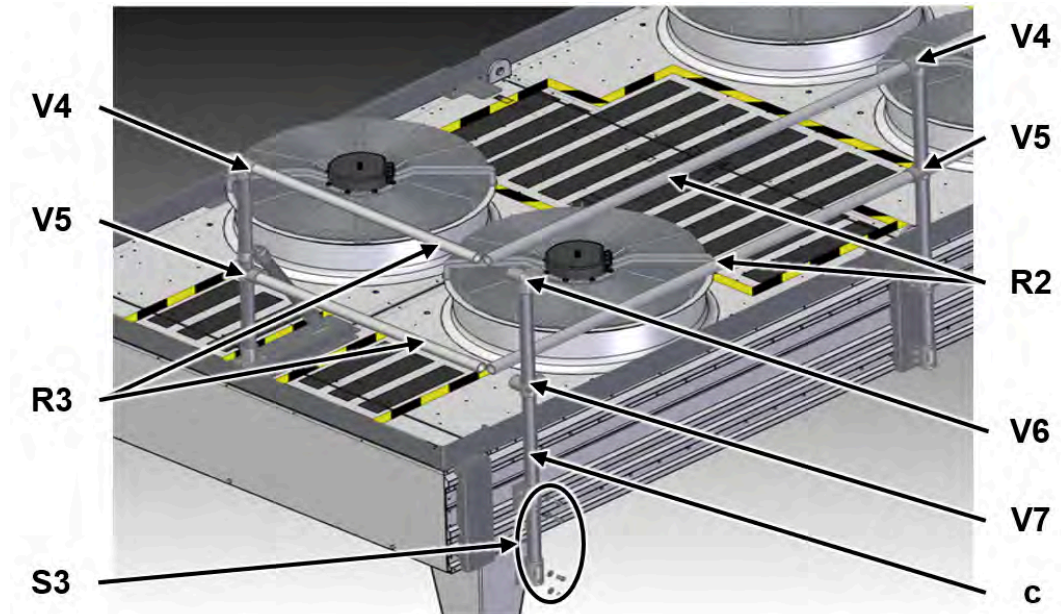


Mounting the railing, mounting the stiffener

- ⇒ First mount the tubular fitting assembly "stiffener" (d) before mounting the tubular fitting assembly "corner bracket" (c).
- ⇒ Mount the tubular fitting assembly "stiffener" (d) on the unit with the fixing elements (S4).
- ⇒ Tighten the fixing elements according to the specified tightening torque (see section "Requirements for the mounting location")!

Components	Abbreviation
Tubular fitting assembly "stiffener"	d
Fixing elements hexagon bolt M12x35 (4 pieces) / detent edged washer 12 (4 pieces)	S4

4.3.1.5 Mounting the railing, mounting the corner brackets



Mounting the railing, mounting the corner brackets

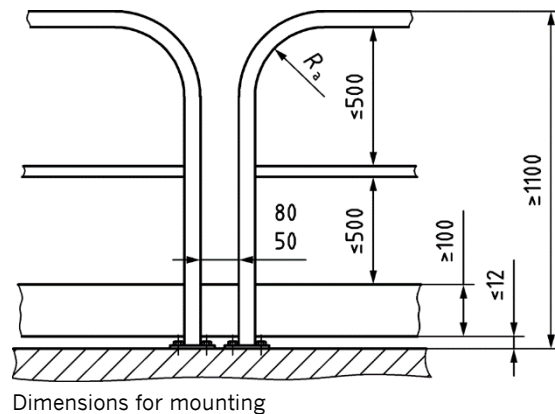
- ⇒ After mounting the tubular fitting assembly "stiffener" (d), insert the tubes for the handrail and kneerail (R3) into the tubular fittings (V4/V5) at the corners of the unit. Then insert the tubes for the handrail and kneerail (R2) at the tubular fitting assembly "middle section" (b).
- ⇒ For this purpose, first insert the tubes for the handrail and kneerail (R2/R3) into the tubular fittings (V6/V7) and then mount the assembly group "corner bracket" with fixing elements (S3).
- ⇒ Tighten the fixing elements and setscrews according to the specified tightening torque (see section "Requirements for the mounting location")!

Components	Abbreviation
Tubular fitting assembly "corner bracket"	c
Tubular fitting type 25-8/tee fitting	V4
Tubular fitting type 26-8/cross fitting	V5
Tubular fitting type 20-8/90° side outlet elbow fitting	V6
Tubular fitting type 21-8/90° side outlet elbow fitting	V7
Tube handrail and kneerail – "middle section" area	R2
Tube handrail and kneerail – "stiffener" area	R3
Fixing elements hexagon bolt M12x30 (4 pieces) / detent edged washer 12 (4 pieces)	S3

4.3.1.6 Excerpt from the EN ISO 14122-3:2016-10 standard, railing: Handrail and kneerail

Dimension for the kneerail

When mounting the kneerail, ensure that the dimension between kneerail and handrail (= 500 mm) is observed (see manufacturer's documentation).



4.3.2 Mounting the ladder and ladder cage


Required staff

- Specialist staff
- At least 2 persons are required for mounting.

Auxiliary equipment/tools

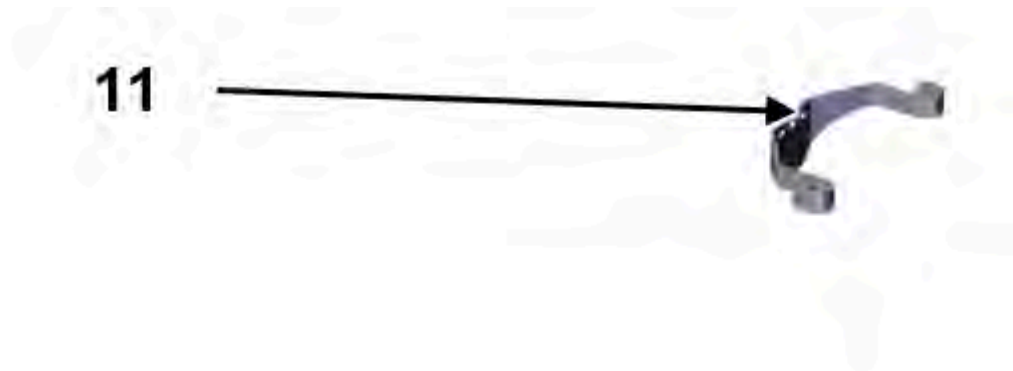
- Lifting accessories and lifting gear
- Climbing aids
- Fixing bolts
- Wall plugs
- Hole pattern
- Set of wrenches

Important notes on mounting

NOTICE	
	<p>The number and type of rawlplugs for the foot plates and the wall mounting brackets are specified in the manufacturer's documentation. Follow the instructions for mounting the access platform and the handrail bends in the manufacturer's documentation.</p>

4.3.2.1 Preparing the ladder for mounting

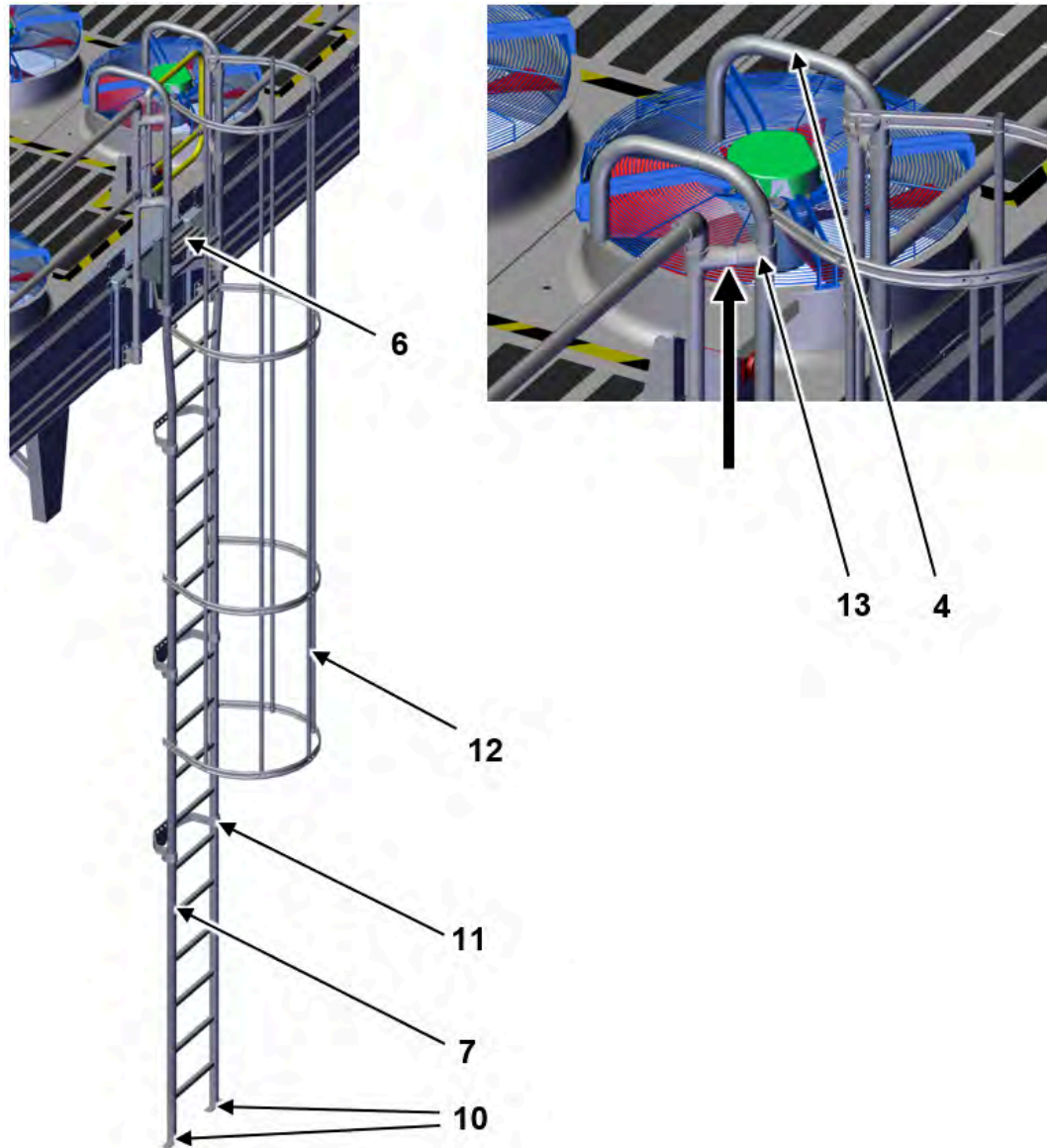
- ⇒ Make the dimensional division from above. The top rung must be level with the access platform.
- ⇒ Make hole markings for the wall mounting brackets and the foot plates.
- ⇒ Drill holes in the wall and the floor and insert rawlplugs.



Foot plates and wall mounting brackets

- ⇒ Secure the base plates (10) to the floor with fixing bolts.
- ⇒ Secure all wall mounting brackets (11) to the wall with fixing bolts.

4.3.2.2 Mounting the ladder



Ladder with ladder cage and handrail bend

- ⇒ Place the ladder (7) in the foot plates (10) and clip it into the wall mounting brackets (11).
- ⇒ Mount the ladder cage (12) on the ladder.
- ⇒ Mount the access platform (6) on the last rung.
- ⇒ Push the tubular fitting assembly "ladder" (see thick arrow) onto the left and right rail and insert and fix it to the already fixed tubular fitting (13) of the safety railing.
- ⇒ Push the handrail bends (4) onto the upper, open rails and fix them.

4.3.3 Mounting the safety gate


Required staff

- Specialist staff
- At least 2 persons are required for mounting.

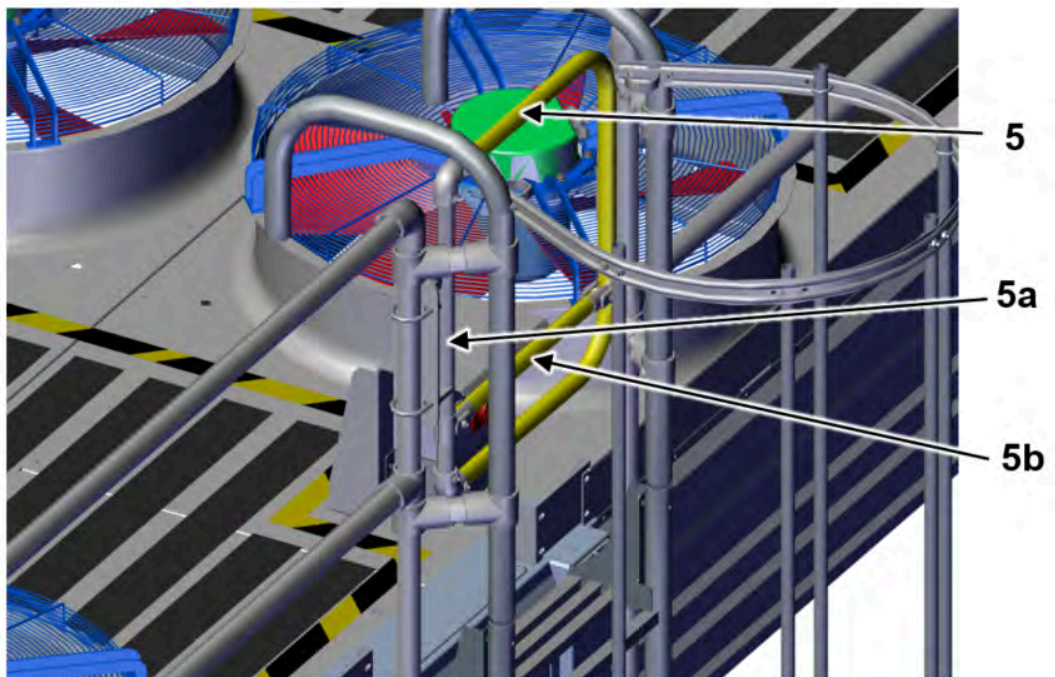
Auxiliary equipment/tools

- Lifting accessories and lifting gear
- Spanner set
- Ring spanner set
- Socket wrench set

Important notes on mounting

NOTICE	
	Follow the detailed instructions for mounting the safety gate in the manufacturer's documentation.

Procedure



- ⇒ Mount the safety gate (5) (see the manufacturer's mounting and operating instructions).
- ⇒ Tension the spring of the safety gate (5a) (see the manufacturer's mounting and operating instructions).
- ⇒ Mount the tube in the middle (5b) (see the manufacturer's mounting and operating instructions).

4.4 Performing an acceptance test

Operator obligation

The acceptance test must be performed by the operator of the system.

Requirement

- The mounting conditions and mounting rules correspond to the requirements of the mounting location (see section "Requirements for the mounting location").
-

Time of the acceptance test

- After mounting the fall protection
 - After replacing parts of the fall protection
-

Procedure










- ⇒ Perform an initial inspection in acc. with the applicable standards and rules (see section "Applicable standards and technical rules").
 - ⇒ Perform a visual inspection of the design, the brackets and the fixing devices.
 - ⇒ Check all threaded connections and tighten if necessary.
 - ⇒ Check the mounting of the railing, the ladder, the ladder cage and the safety gate.
 - ⇒ Ensure that the fall protection can be inspected at any time and is always freely accessible.
 - ⇒ Check the corrosion protection: Perform a visual inspection on all fixing elements and components. Document and archive the test results.
-




Procedure in case of defects

- ⇒ Report all defects to the Güntner company immediately.
- ⇒ Rectify defects following consultation with the manufacturer.

5 Maintenance

5.1 Safety instructions

⚠ WARNING		
	<p>WARNING OF THE RISK OF SLIPPING! The operator or other specialist staff can slip when accessing the unit or on the unit surface if adverse weather conditions prevail (water on the unit, black ice, gusts of wind).</p> <ul style="list-style-type: none"> • Wear personal protective equipment (safety shoes, work gloves). • Before walking on the unit surface for maintenance or servicing, check for snow/ice and remove it if necessary. • Never step on the fans. 	 
⚠ WARNING		
	<p>WARNING OF THE RISK OF TRIPPING! The operator or other specialist staff can trip over a protruding part when accessing the unit or on the unit surface and fall if adverse weather conditions prevail (water on the unit, black ice, gusts of wind).</p> <ul style="list-style-type: none"> • Wear personal protective equipment (safety shoes, work gloves). • Watch out for marked obstacles and tripping hazards. • Never step on the fans. 	 
⚠ WARNING		
	<p>WARNING OF FROSTBITE! Severe frostbite can result from contact with the surface of the designated path/side surface or fall protection (railings, ladder, etc.).</p> <ul style="list-style-type: none"> • Wear personal protective equipment (safety shoes, work gloves). 	 

⚠ WARNING	
	<p>WARNING OF THE RISK OF CORROSION! In the course of time, the fall protection (railing/ladder) can corrode. The time period depends on the corrosive factors in the ambient air. Due to the onset of corrosion, the fall protection (railing/ladder) can lose its stability and put bystanders at risk.</p> <ul style="list-style-type: none"> • Check load-bearing components, fixing elements of the fall protection (railing/ladder) at regular intervals for corrosion damage and load-bearing capacity and replace them if necessary. All work must be performed by specialist staff only.
⚠ WARNING	
	<p>WARNING OF THE RISK OF FALLING The operator or other specialist staff can slip and fall when climbing the ladder.</p> <ul style="list-style-type: none"> • Use the fixing elements of the fall protection (guardrail, ladder construction) only once, i.e. use new fixing elements after removal and before re-assembly. • Tighten all setscrews with a tightening torque of 40 Nm. • Before walking on the unit surface for maintenance or servicing, check for snow/ice and remove it if necessary. • In bad weather conditions (water on the unit, black ice, gusts of wind), walk on the unit surface with increased caution!
NOTICE	
	<p>Observe all safety instructions in the sections "Safety instructions".</p>

5.2 Maintaining and servicing the fall protection


Procedure


- ⇒ Clean the fall protection at regular intervals. The operator must determine the appropriate cleaning intervals.
- ⇒ Check the connection of the equipotential bonding to the building by performing a measurement. The operator must determine the inspection intervals on the basis of a job hazard analysis and in accordance with national standards and regulations.
- ⇒ Perform a visual inspection of the connection of the equipotential bonding to the building. The operator must determine the inspection intervals in accordance with national standards and regulations.

- ⇒ Before walking on the surface, check that the unit is free of snow and ice. Remove any snow and ice.
- ⇒ Perform corrosion test of the load-bearing fixing elements and components. Replace fixing elements and components if necessary (see section "Mounting the fall protection").

6 Removal

6.1 Safety instructions

NOTICE	
	Observe all safety instructions in the sections "Safety instructions" and "Safety instructions".

NOTICE	
	Observe the notes on mounting in the manufacturer's documentation.

6.2 Removing the fall protection

6.2.1 Removing the safety gate


Required staff

- Specialist staff
- No more than 2 persons are allowed on a fan plate at any time.

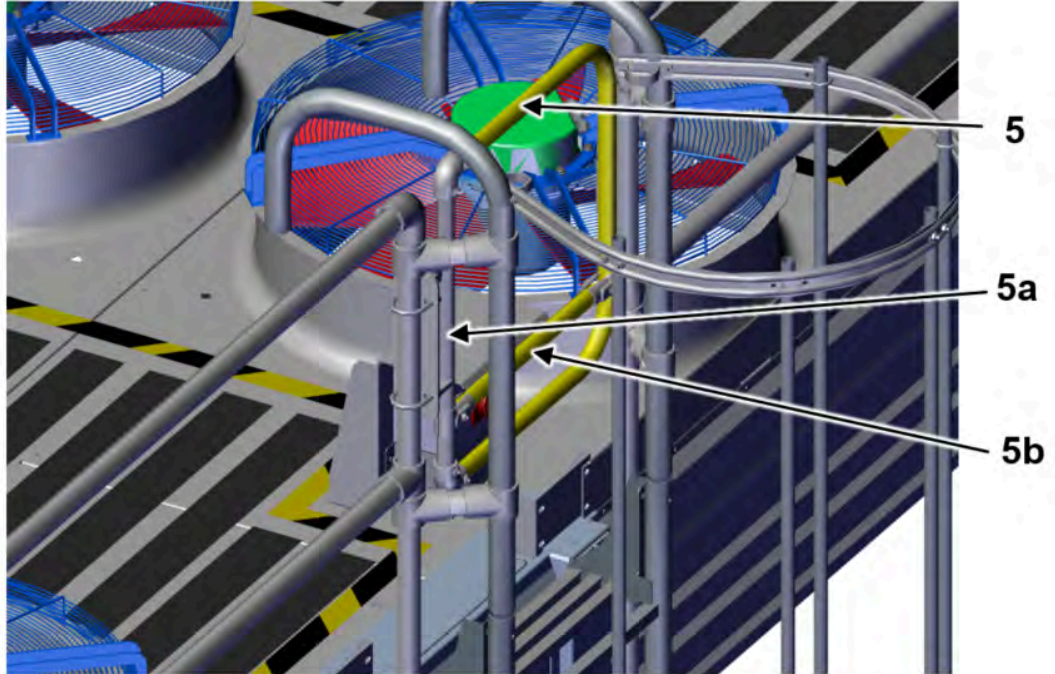
Auxiliary equipment/tools

- Lifting accessories and lifting gear
- Spanner set
- Ring spanner set
- Socket wrench set

Important notes on removal

NOTICE	
	For detailed instructions for mounting the safety gate, refer to the manufacturer's documentation. Please note that the notes on mounting in the manufacturer's documentation also apply to removal.

Procedure



Safety gate

- ⇒ Remove the tube in the middle (5b) (see the manufacturer's mounting and operating instructions (observe the reverse order)).
- ⇒ Release the spring of the safety gate (see the manufacturer's mounting and operating instructions (observe the reverse order)).
- ⇒ Remove the safety gate (5) (see the manufacturer's mounting and operating instructions (observe the reverse order)).

6.2.2 Removing the safety railing

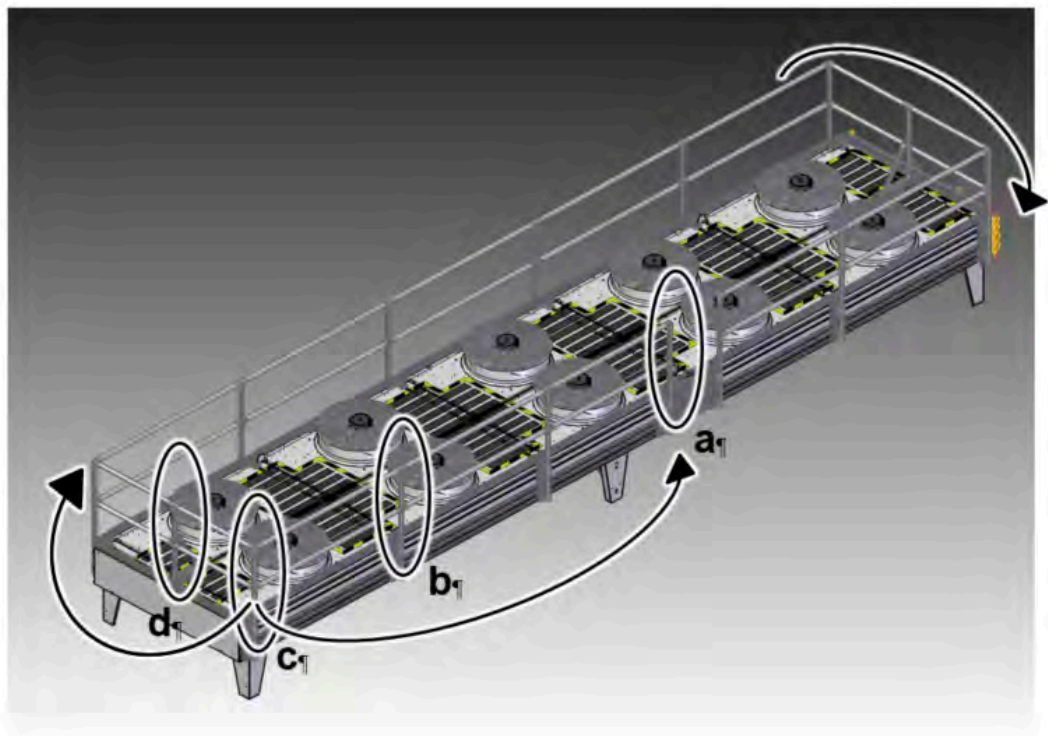
Required staff

- Specialist staff
- No more than 2 persons are allowed on a fan plate at any time.

Auxiliary equipment/tools

- Lifting accessories and lifting gear
- Climbing aids
- Tools for removing rawlplugs
- Socket wrench set
- Ratchet

6.2.2.1 Sequence of removing the safety railings



Removal sequence

- ⇒ Start removing the railing at the corner bracket (c), then continue clockwise/counterclockwise until you have reached the access point (a). In the course of removal, the individual steps must be repeated in reverse order.

The following table provides an overview of the removal steps of the components:

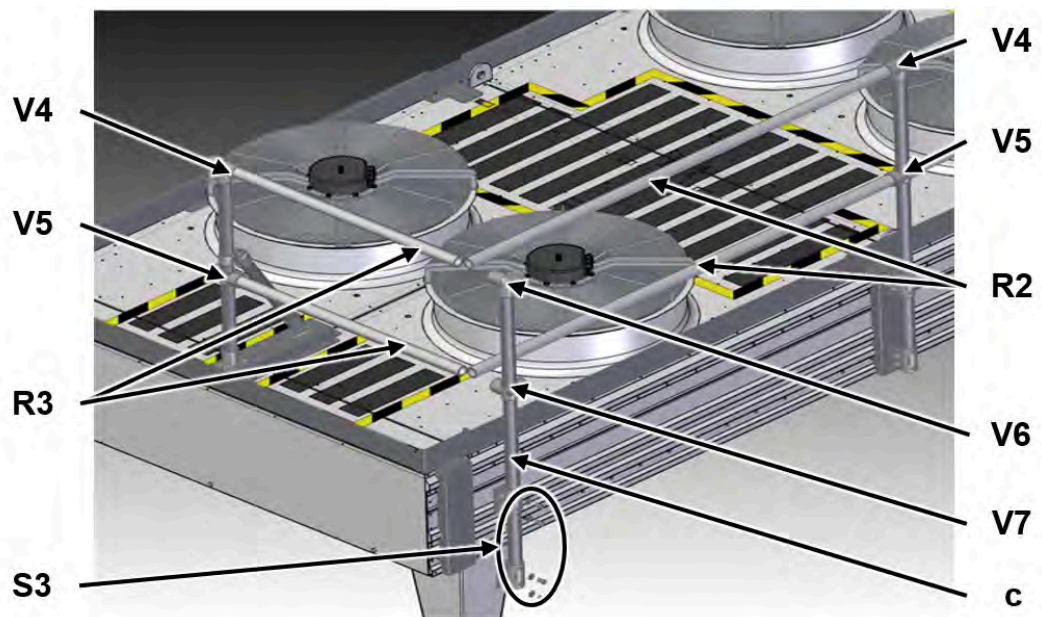
Removal steps	See section
Removing the railing, removing the corner brackets	6.2.2.2
Removing the railing, removing the stiffener	6.2.2.3

Removal steps	See section
Removing the railing, removing the middle section	6.2.2.4
Removing the railing, removing the access	6.2.2.5

The following table provides an overview of the components required for the removal steps:

Components	Abbreviation
Tubular fitting assembly "access"	a
Tubular fitting assembly "middle section"	b
Tubular fitting assembly "corner bracket"	c
Tubular fitting assembly "stiffener"	d

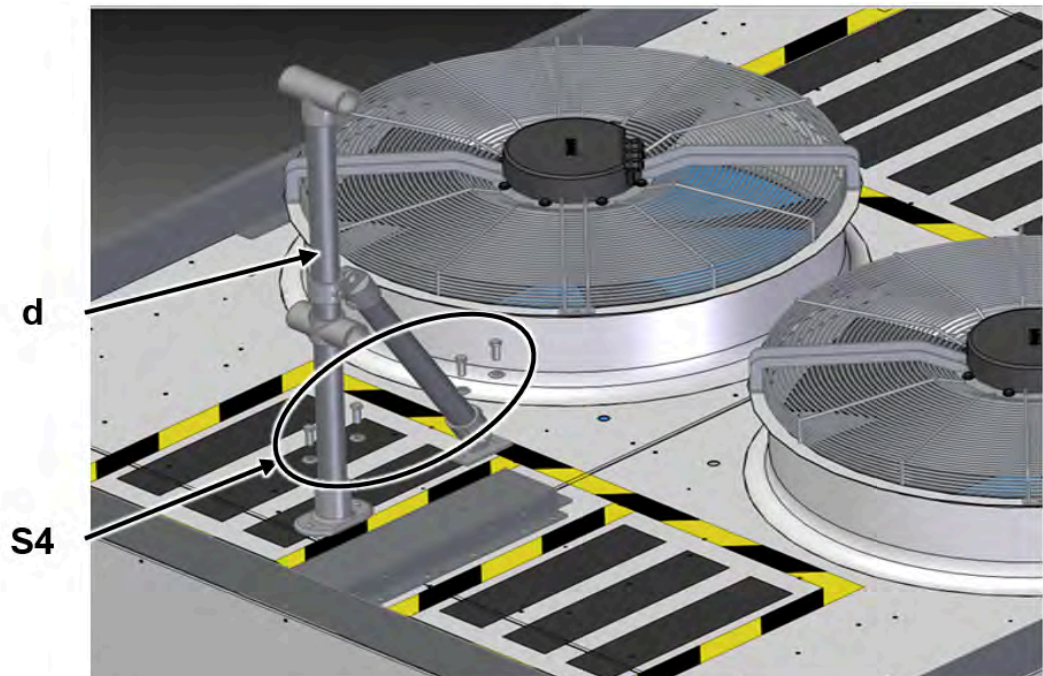
6.2.2.2 Removing the railing, removing the corner brackets



Removing the railing, removing the corner brackets

- ⇒ Loosen the setscrews and fixing elements (S3).
- ⇒ Remove the tubular fitting assembly "corner bracket" (c). For this purpose, pull the tubes of the handrail and kneerail (R2/R3) out of the tubular fittings (V6/V7).
- ⇒ Pull the tubes of the handrail and kneerail (R2/R3) out of the tubular fittings (V4/V5).

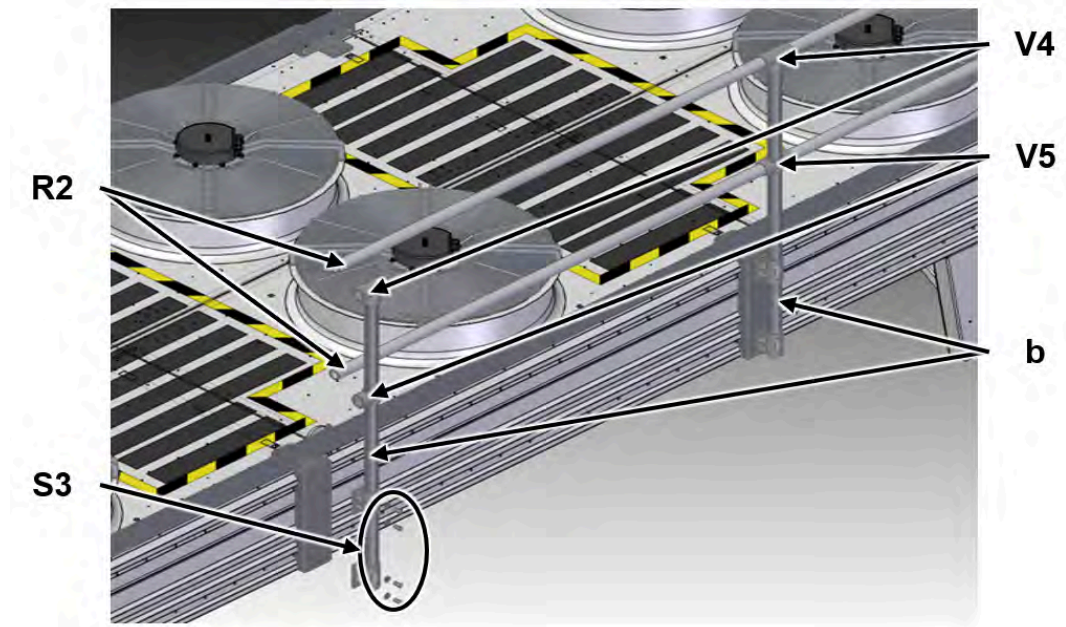
6.2.2.3 Removing the railing, removing the stiffener



Removing the railing, removing the tubular fitting assembly "stiffener"

- ⇒ First remove the tubular fitting assembly "corner bracket" (c) before removing the tubular fitting assembly "stiffener" (d).
- ⇒ Loosen the setscrews and fixing elements (S4).
- ⇒ Remove the tubular fitting assembly "stiffener" (d).

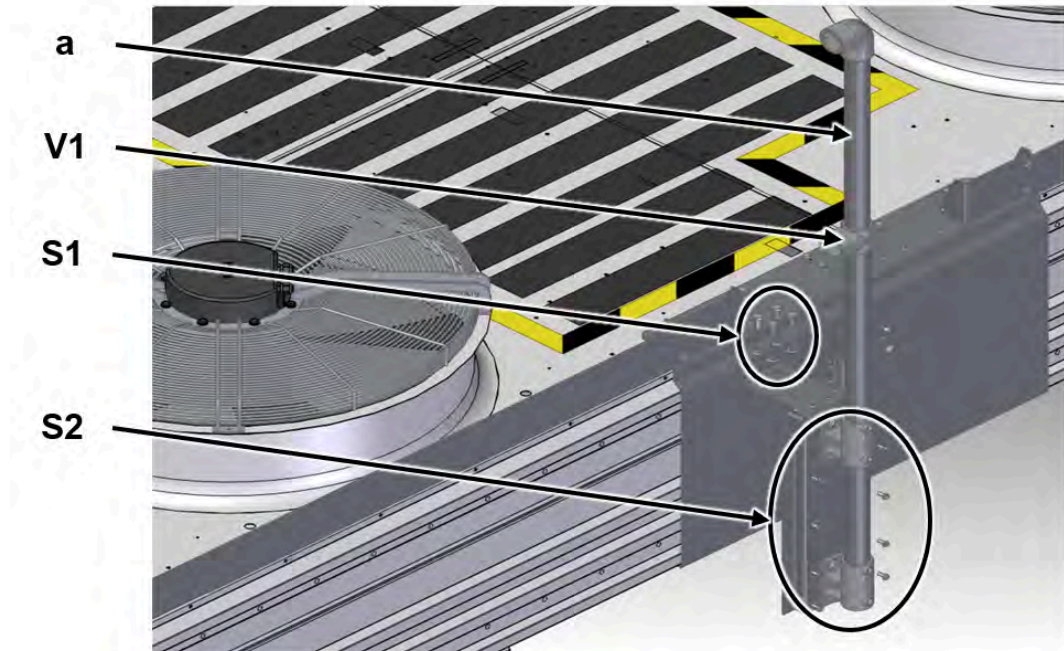
6.2.2.4 Removing the railing, removing the middle section



Removing the railing, removing the middle section

- ⇒ First remove the tubular fitting assembly "corner bracket" (c) before removing the tubular fitting assembly "middle section" (b).
- ⇒ Loosen the setscrews and fixing elements (S3).
- ⇒ Remove the tubular fitting assembly "middle section" (b). For this purpose, pull the tubes of the handrail and kneerail out of the tubular fittings (V4/V5).
- ⇒ Pull the tubes of the handrail and kneerail out of the tubular fittings of the next tubular fitting assembly.
- ⇒ Repeat these steps until you reach the access or the tubular fittings of another assembly group.

6.2.2.5 Removing the railing, removing the access



Removing the railing, end of removal at the access

- ⇒ Loosen the setscrews and fixing elements (S1/S2).
- ⇒ Remove the tubular fitting assembly "access" (a) from the unit at the access point.

6.2.3 Removing the ladder and ladder cage

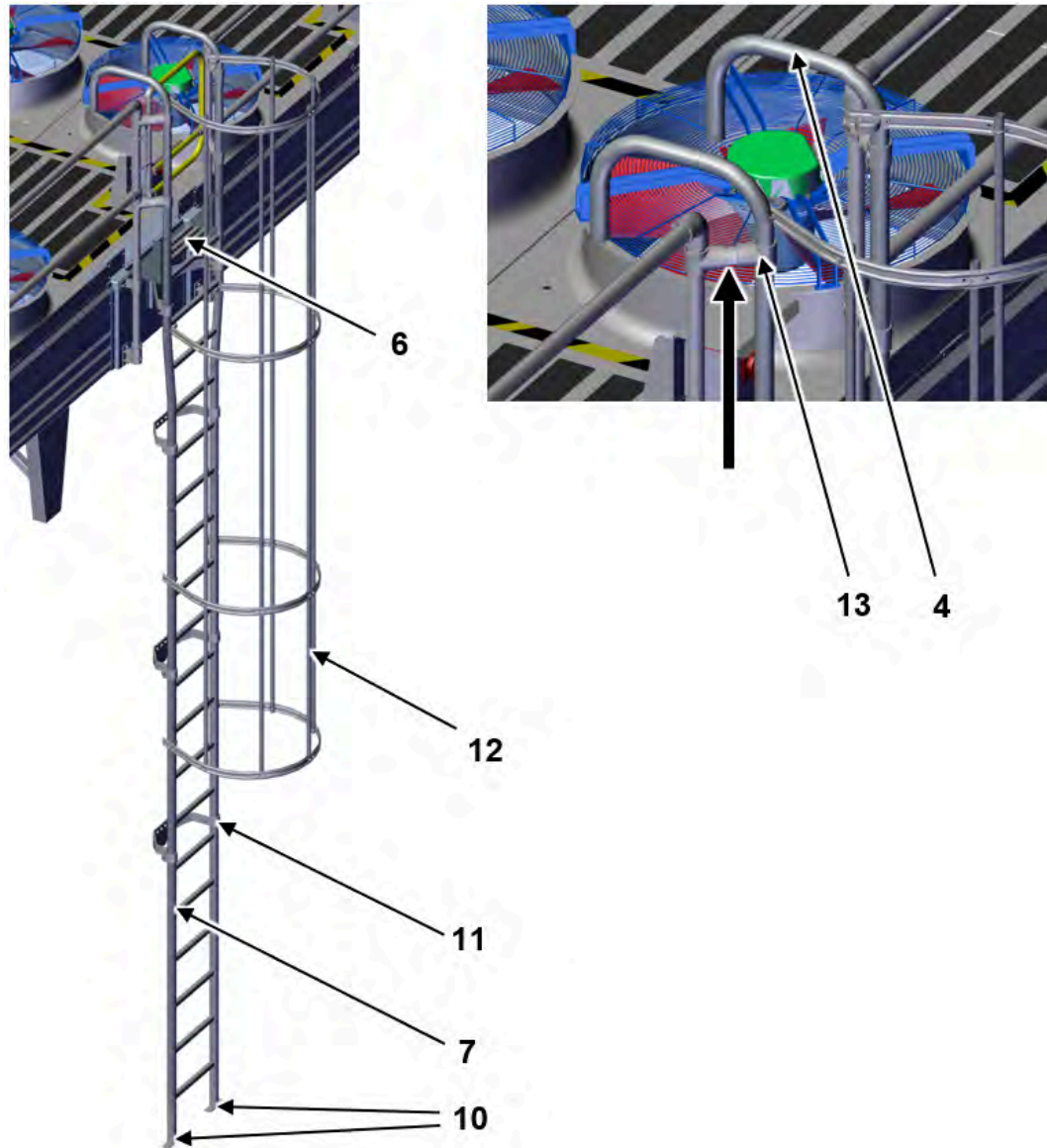
Required staff

- Specialist staff
- No more than 2 persons are allowed on a fan plate at any time.

Auxiliary equipment/tools

- Lifting accessories and lifting gear
- Climbing aids
- Set of wrenches
- Tools for removing rawlplugs

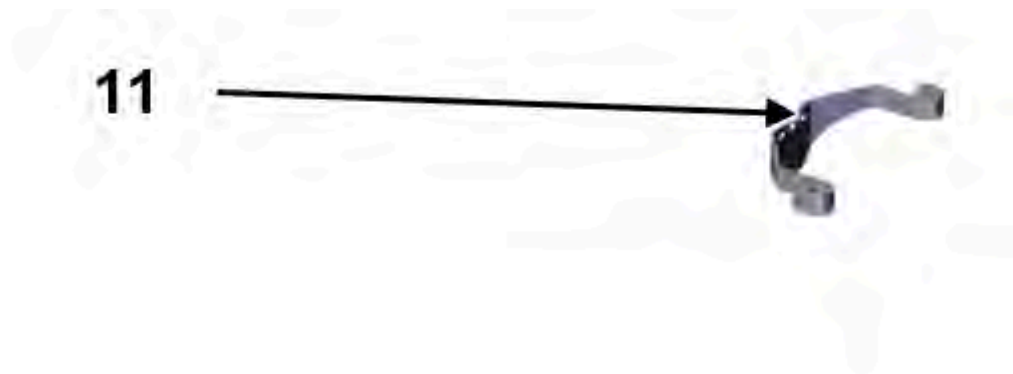
6.2.3.1 Removing the ladder



Ladder with ladder cage and handrail bend

- ⇒ Detach the handrail bends (4) from the top, open railing.
- ⇒ Detach the tubular fitting assembly "ladder" (see thick arrow) from the left and right railing and pull it out of the tubular fittings (13) of the safety railing.
- ⇒ Remove the access platform (6) at the last rung.
- ⇒ Remove the ladder cage (12) from the ladder.
- ⇒ Pull the ladder (7) out of the foot plates (10) and the wall mounting brackets (11).

6.2.3.2 Completing the removal of the ladder




Foot plates and wall mounting brackets

- ⇒ Remove foot plates (10) from the floor.
- ⇒ Remove all wall mounting brackets (11) from the wall.
- ⇒ Remove rawplugs.

7 Disposal

7.1 Safety instructions

ATTENTION	
<p>ENVIRONMENTAL POLLUTION! If the materials are not disposed of correctly, this could result in environmental damage.</p> <ul style="list-style-type: none">• Only dispose of materials in compliance with the waste disposal laws that are binding for the country of operation.	
NOTICE	
	<p>Observe all safety instructions in the sections "Safety instructions" and "Safety instructions".</p>

7.2 Disposing of the fall protection

- ⇒ Unless a take-back or disposal agreement has been made, recycle dismantled components.
- ⇒ Scrap metal residues.
- ⇒ Dispose of the remaining components sorted according to material properties.

8 Technical data

NOTICE



For technical data, refer to the documents supplied.