



Operating Instructions

Translation of original operating instructions

Pillar Swing Crane

ASSK-150-5



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Please note that the product may not be used / put into operation without these operating instructions in the national language. If you did not receive operating instructions in your national language with the delivery of the product, please contact us. In countries of the EU / EFTA we will send them to you free of charge. For countries outside the EU / EFTA, we will be pleased to provide you with an offer for an operating manual in the national language if the translation cannot be organised by the dealer/importer.

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1 Safety Instructions

1.1 Classification of safety instructions

Danger

This warning informs the user of a risk that will result in death or serious injury if it is not avoided.

 DANGER	
	<p>Type and source of danger</p> <p>Consequence</p> <p>▶ Remedial action</p>


Warning

This warning informs the user of a risk that could result in death or serious injury if it is not avoided.

 WARNING	
	<p>Type and source of danger</p> <p>Consequence</p> <p>▶ Remedial action</p>

Caution

This warning informs the user of a risk that could result in injury if it is not avoided.

 CAUTION	
	<p>Type and source of danger</p> <p>Consequence</p> <p>▶ Remedial action</p>










Attention

This warning informs the user of a risk that could result in damage to property if it is not avoided.

ATTENTION	
	<p>Type and source of danger</p> <p>Consequence</p> <p>▶ Remedial action</p>






1.2 Warnings

Explanation of the warning symbols used in the operating instructions.




Warning symbol	Description	Warning symbol	Description
	General warning symbol		Explosive atmosphere
	Electrical voltage		Flying debris
	Hand injury		Crushing injury warning
	Suspended load		Fall hazard
	Vacuum		



1.3 Mandatory symbol

Explanation of the mandatory symbols used in the operating instructions.

Mandatory symbol	Description	Mandatory symbol	Description
	Adhere to the operating instructions		Wear protective work shoes
	Wear protective gloves		Disconnect mains plug
	Wear head protection		

1.4 General safety instructions

 WARNING	
 	<p>Ignoring the general safety guidelines Personal injuries / damage to plants / systems</p> <ul style="list-style-type: none"> ▶ The operating instructions contain important information on using the system. Each user must have read and understood the operating instructions, and retain them for later reference. ▶ The operating instructions are tailored to the scope of delivery. They do not take into account any modifications to the system made by the customer, which are strictly prohibited ▶ The system may only be connected and operations started once the operating instructions have been read and understood. ▶ Use only the connections, mounting holes and attachment materials that have been provided. ▶ Carry out mounting or removal only when the device is in an idle, depressurized state. ▶ Only qualified specialist personnel, mechanics and electricians may perform the installation. Qualified specialist personnel are persons who have received technical training and have the knowledge and experience – including knowledge of corresponding regulations – necessary to enable him or her to recognize possible dangers and implement the appropriate safety measures while performing tasks. The same applies to maintenance! ▶ General safety regulations, European standards and VDE guidelines must be observed and complied with. ▶ Personnel and animals are not permitted to sit or stand in the danger zone ▶ The system should be used to lift and transport suitable workpieces only ▶ You are responsible for third parties in the working area of the system. In view of this, responsibilities for the various tasks to be carried out on the system must be clearly specified and adhered to. ▶ Protect the components from damage of any kind.

 WARNING	
	<p>Risk of injury due to parts installed incorrectly Incorrect installation may result in parts becoming loose or the maximum specified load-bearing capacity not being reached!</p> <ul style="list-style-type: none"> ▶ Systems with a load-bearing capacity of over 1000 kg or with their own traction drive may only be operated (in Germany) with the approval of a crane expert.



All applicable laws and regulations must be adhered to at all times.

When using the jib crane, the statutory regulations, safety regulations, standards and guidelines applicable at the location of use must be observed.

Check with the competent authorities for more information.

The other safety instructions in these operating instructions do not replace these laws and regulations, but should be seen as a supplement to them.

1.5 Intended use

The jib cranes are intended exclusively for the transporting of loads. The loads are raised via special load-bearing devices (e.g. tube lifter Jumbo or chain hoist with lifting device VacuMaster, if needed).

- Load-bearing devices may only be attached when hanging from the suspension bolt on the carrying hook or, with articulated-arm jibs, to the designated mounting plate.
- The load must be pushed and not pulled.
- Avoid carrying the load diagonally to the transport trolley's direction of travel at an angle of more than 5° from vertical.
- Avoid a build up of rocking in loads.
- Storing loads on the jib crane is prohibited.
- Only the designated mounting holes and attachment materials must be used.
- The operating, maintenance and servicing conditions prescribed in these operating instructions must be observed.
- The maximum permissible load may not be exceeded.
- The working area must be observed.
- The jib crane is designed for the hoisting class HC3 and hoist HD1 according to DIN EN 13001.



The jib crane is state of the art and operationally reliable, provided full compliance with these instructions is assured. Incorrect handling of the crane system could cause dangers to arise.



WARNING





Falling objects

The integrity and function of the jib crane can no longer be guaranteed due to unauthorized modifications or changes to the jib crane.


There is a risk that the load or gripper may fall, crushing body parts or fatally injuring people in the vicinity.

- ▶ Do not make any on-site modifications to the system!
- ▶ Use only the original connections, mounting holes and attachment materials that have been provided.

 WARNING	
	<p>Danger of death from falling if used as a means of transport for humans or animals, or as a climbing aid.</p> <p>This can result in broken bones, serious injury or even death.</p> <p>▶ Use of the jib crane as a climbing aid or to transport humans or animals is prohibited!</p>

1.6 Requirements and instructions for installation, maintenance and operating staff

The crane system should only be installed and maintained by qualified specialist personnel, mechanics and electricians. Work on electrical equipment must be carried out by qualified electrical specialists only.






- ⇒ The user's company must ensure by means of internal measures that all persons commissioned with the task of setting up, starting up, operating, maintaining and repairing the crane system at the company only employ insured persons who
 - are 18 years of age or over, physically and mentally capable,
 - have been trained in driving and maintaining the crane,
 - possess a crane driving license,
 - have read and understood the operating instructions,
 - have proven their ability in this regard
 - and from whom it can be expected that tasks assigned to them will be reliably performed.
- ⇒ The company must assign duties to the crane operator and maintenance personnel. For portable power-operated cranes, the company must instruct the crane operator in writing.
- ⇒ The operating instructions must be accessible at all times.




The responsibilities for the various tasks to be carried out on the crane system must be clearly specified and adhered to. Responsibilities must be clear.

A qualified employee is: an employee who has received technical training and has the knowledge and experience – including knowledge of corresponding regulations – necessary to enable him or her to recognize possible dangers and implement the appropriate safety measures while performing tasks. Qualified personnel must observe the relevant industry-specific rules and regulations.

An expert is: an employee who, as a result of his or her technical training and experience, has sufficient knowledge of cranes and crane technology and is familiar enough with the applicable state occupational safety regulations, accident prevention regulations, directives and generally accepted technical guidelines, such as BG regulations [German workmen's compensation], DIN standards, VDE guidelines, technical guidelines from other EU Member States or other European Economic Area member states, that he or she can determine whether or not the cranes are in good working condition.

Experts for the checking of cranes, apart from the technical monitoring experts, are considered to be those individuals who have been authorized by the trade association.

 DANGER	
 	<p>Electric shock resulting from incorrectly connected components</p> <p>This can result in death or serious injury from electric shock and fire.</p> <ul style="list-style-type: none"> ▶ All work on electrical equipment must be carried out by qualified electrical specialists only ▶ Suitable fire extinguishing equipment must be on hand!

 WARNING	
 	<p>Risk of injury due to misuse or non-observance of warning and safety notices</p> <p>Persons could be harmed</p> <ul style="list-style-type: none"> ▶ The equipment must be used by trained personnel only.

1.7 Installation location / workplace requirements

1.7.1 Installation location requirements

The jib crane is only designed for indoor installation (in closed rooms).

The jib crane may **not** be operated in rooms where there is a risk of explosion.

The ambient temperature must be between +0°C and +40°C (please consult the manufacturer before operating at temperatures outside of this temperature range).



Provide internal instructions and conduct checks to ensure that the area of the workplace is always clean and tidy.

When mounting using shear connectors it is essential that the base plate is placed directly on the concrete without an intermediary layer. For shear connectors, it is not permitted to hold lateral loads with the level arm (bending).



Verification of immediate application of force at the site across the concrete has been provided. The anchor load transfer in the component must be verified by the customer.

The following minimum requirements apply:

- Concrete floor without screed, bitumen floor covering or similar.
- Concrete grade B25-B55, C20/25 or C50/60
- Concrete thickness 200 mm
- Minimum distance to concrete edges 150mm

 DANGER	
	<p>Switching components not explosion-proof</p> <p>Risk of fire and explosion.</p> <ul style="list-style-type: none"> ▶ Product must not be used in potentially explosive atmospheres.

ATTENTION	
	<p>Damage to the crane system due to use outside the permitted temperature range</p> <p>If the crane system is used outside the permitted temperature range, it will become damaged and fail.</p> <ul style="list-style-type: none"> ▶ Only use the crane system at the permitted ambient temperature. ▶ Before operating outside of the permitted temperature range, outside of closed rooms or in an environment with an aggressive atmosphere, consult with the manufacturer.

 DANGER	
	<p>Falling objects</p> <p>These can result in death or serious injury</p> <ul style="list-style-type: none"> ▶ If loads are lifted higher than 1.8 m at their center of gravity, special additional safeguards must be implemented in the surrounding area.



1.7.2 Workplace requirements

The operator's workplace is in front of the control handle of the load bearing device. It must be ensured that the operator can continuously monitor the entire workspace.

Provide internal instructions and conduct checks to ensure that the area around the workplace is always clean and tidy.

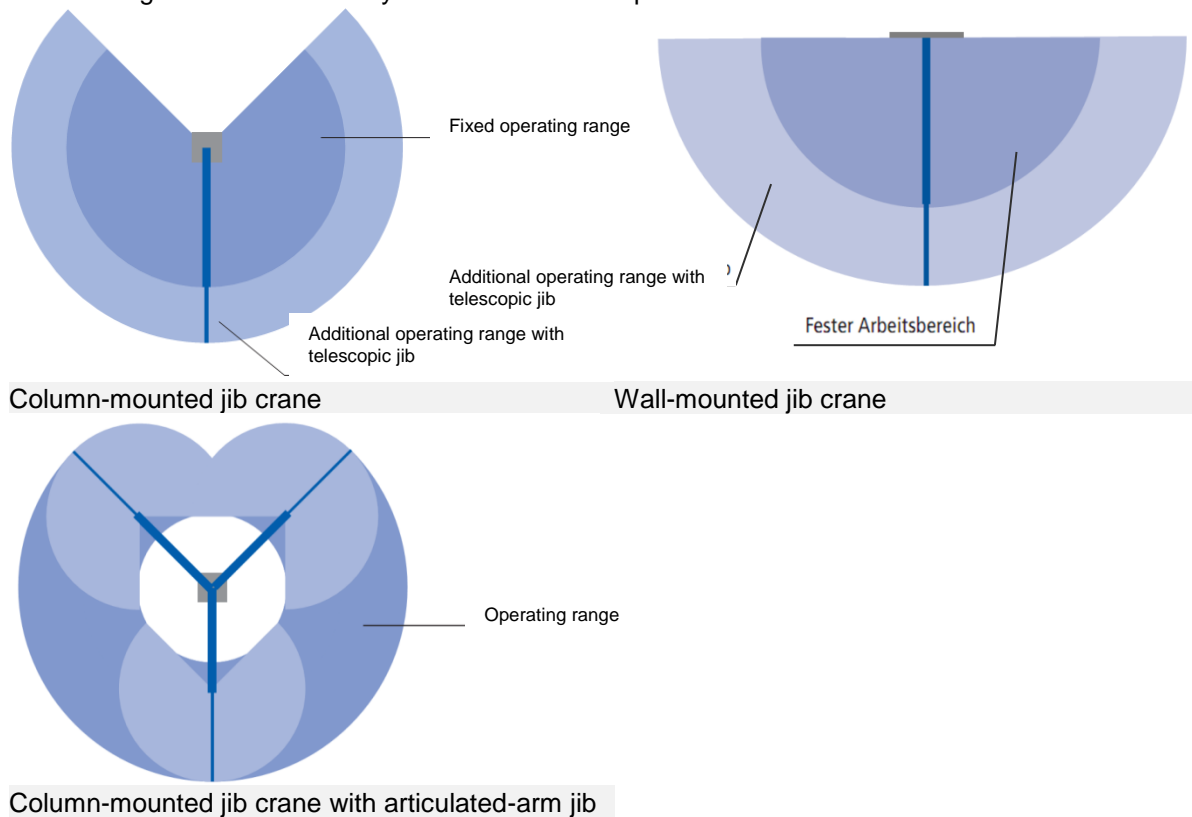
1.8 Definition of the danger zone

- The danger zone is the area inside, or in the vicinity of working equipment which poses a hazard or potential hazard to the health of persons located within this area.
- When lifting the load or transporting it, it is possible that the load could fall, which is why the swivel range of the jib crane and load-bearing device is always considered a danger zone.

 WARNING	
	<p>Risk of injury from falling objects if</p> <ul style="list-style-type: none"> - the load breaks off due to a collision - components fail due to incorrect loads and overloads or unauthorized modifications <p>There is a risk that people in the vicinity could be hit, causing death or</p> <ul style="list-style-type: none"> ▶ No person may sit or stand in the danger zone of the load. ▶ Only work when you have a good view of the entire working area. ▶ Pay attention to other people in the working area. ▶ Never transport the load above people. ▶ The swiveling point of the load must always be located within the working area of the jib crane. ▶ Never release the control handle of the load suspension device while lifting a load. ▶ The working area must be secured by the operator. The persons/equipment necessary to secure this area must be present during the lifting/transportation process.

1.9 Operating range of the jib crane

The operating range of the jib crane is the area in which the load bearing device is able to lift the load in accordance with its intended use and simultaneously transfer the load vertically into the crane jibs. The working area is restricted by the variable end stops and crane column or wall bracket



1.10 Emissions

These do occur with jib cranes.

- Potential emissions, however, from the load bearing device used in each case
- See the respective operating instructions in this regard

1.11 Personal protective equipment

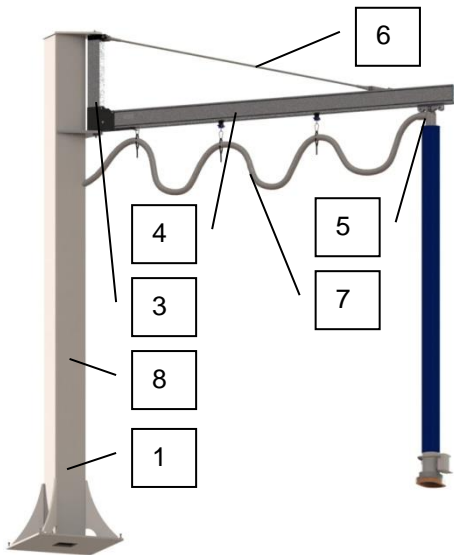
When operating the jib crane, always wear suitable protective equipment:

- Safety shoes (in accordance with EN 20345 safety class S1 or better)
- Sturdy work gloves (in accordance with EN 388 safety category 2133 or better)
- Industrial safety helmet (in accordance with EN 397)
- Other protective equipment as required by the situation or prescribed by national regulations.

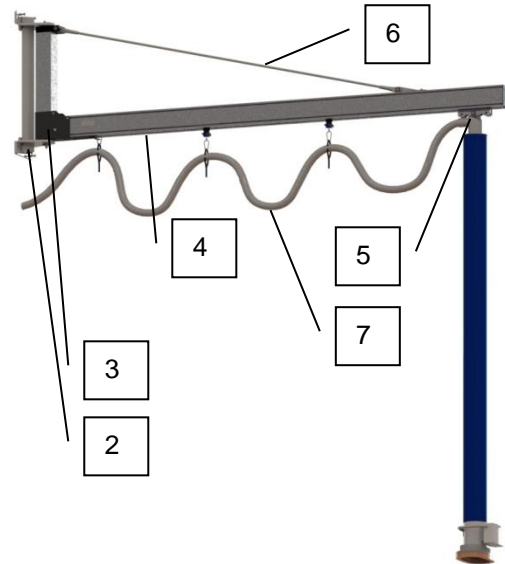
2 Product Description

2.1 Description

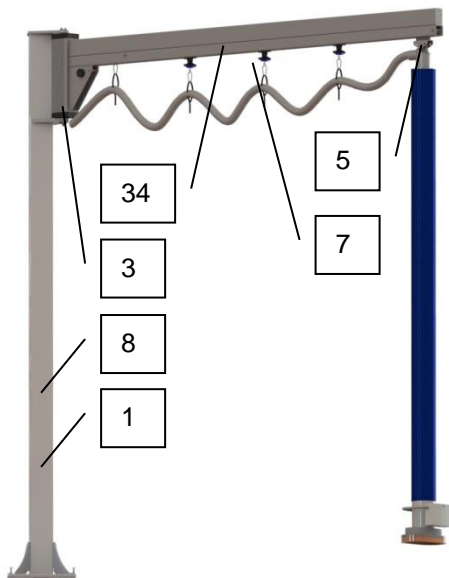
2.1.1 Column-mounted jib crane with aluminum jib



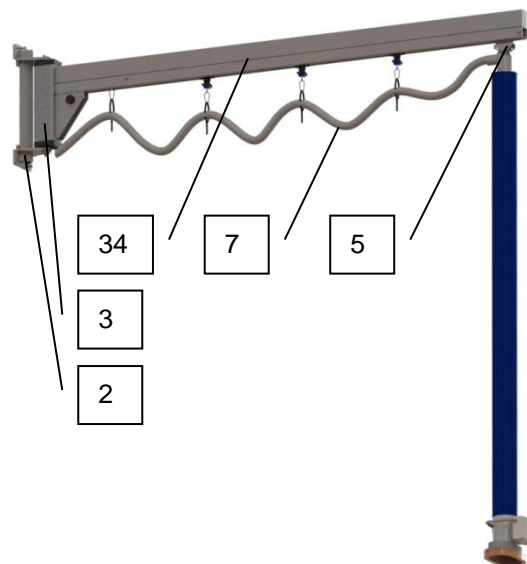
2.1.2 Wall-mounted jib crane with aluminum jib



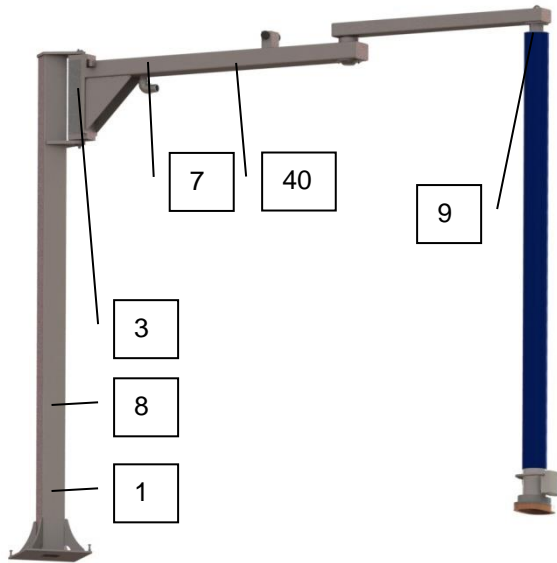
2.1.3 Column-mounted jib crane with flat jib



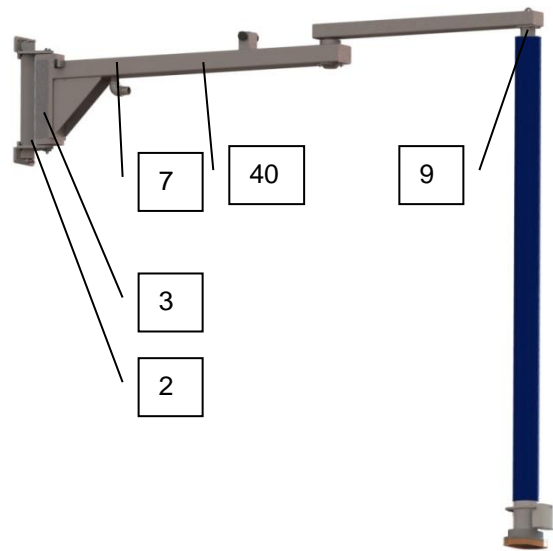
2.1.4 Wall-mounted jib crane with flat jib



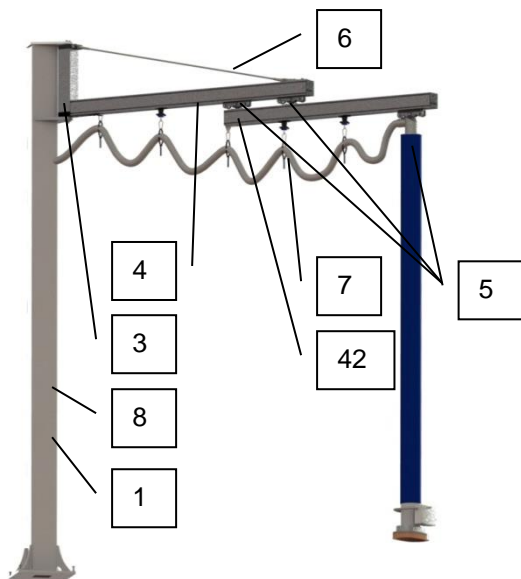
2.1.5 Column-mounted jib crane with articulated-arm jib



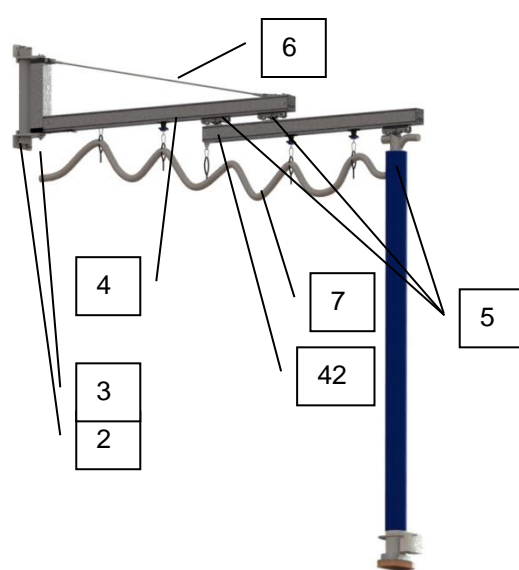
2.1.6 Wall-mounted jib crane with articulated-arm jib



2.1.7 Column-mounted jib crane with telescopic jib

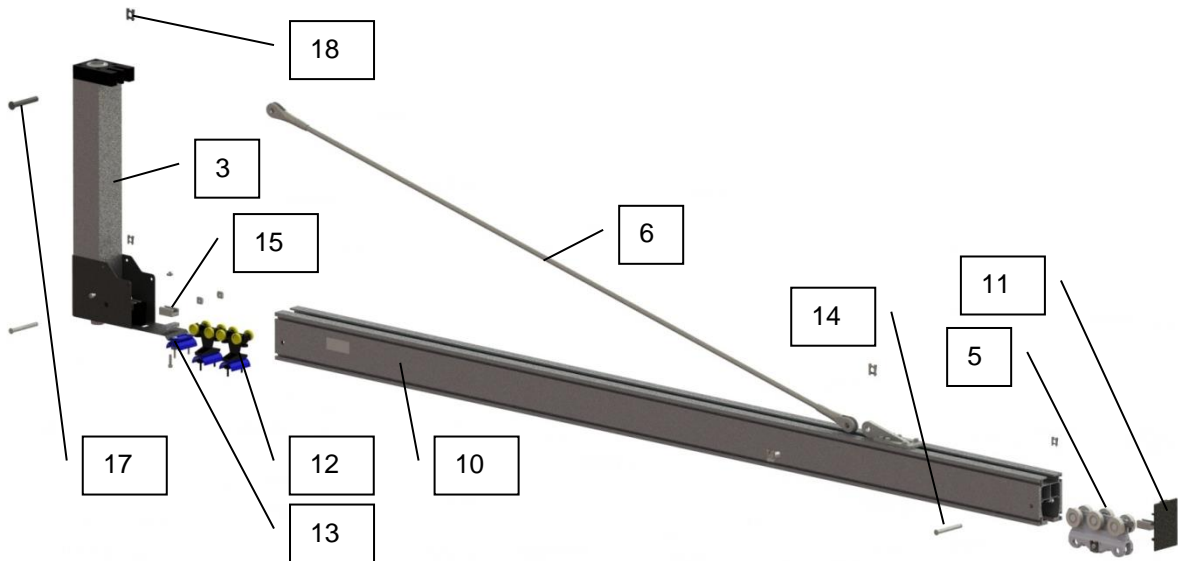


2.1.8 Wall-mounted jib crane with telescopic jib



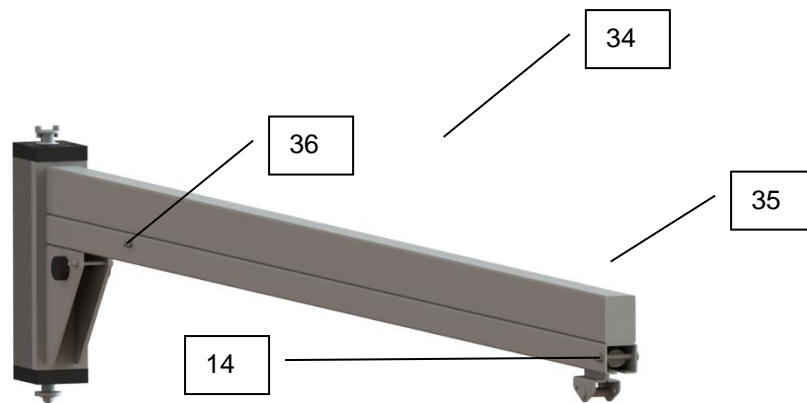
Item	Description	Section
1	Crane column	2.7.2
2	Wall bracket	2.7.3
3	Pivot bearing	2.7.1
4	Aluminum jib	2.2
34	Flat jib	2.3
40	Articulated-arm jib	2.4
42	Telescopic jib	2.5
5	Transport trolley	2.7.5
6	Bracing	2.7.6
7	Energy supply, vacuum hose	--
8	Power supply switch / motor-protection switch	--
9	Mounting plate	--

2.2 Aluminum jib



Item	Name	Section.
3	Pivot bearing	2.7.12.7.1
5	Transport trolley	2.7.5
6	Bracing	--
10	SRA	Fehler! Verweisquelle konnte nicht gefunden werden.
11	End plate	2.7.9
12	Cable trolley/flat cable	2.7.10
13	Terminal clamp	2.7.11
14	End stop	2.7.8
15	Variable end stop	2.7.8
17	Bolt for bracing	--
18	Lock washer	--

2.3 Flat jib

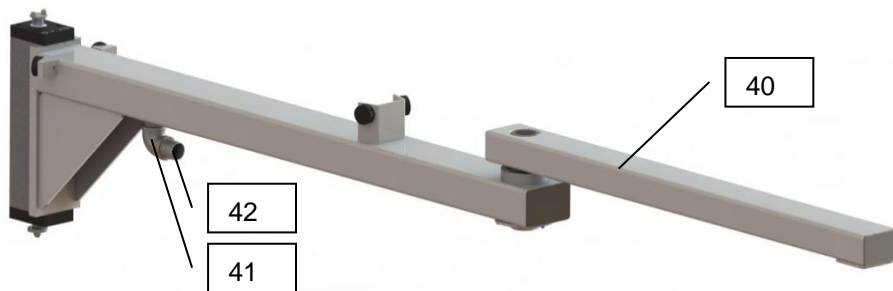


Item	Name	Section.
34	Pre-assembled flat jib	2.7.1
35	Transport trolley	2.7.5

PRODUCT DESCRIPTION

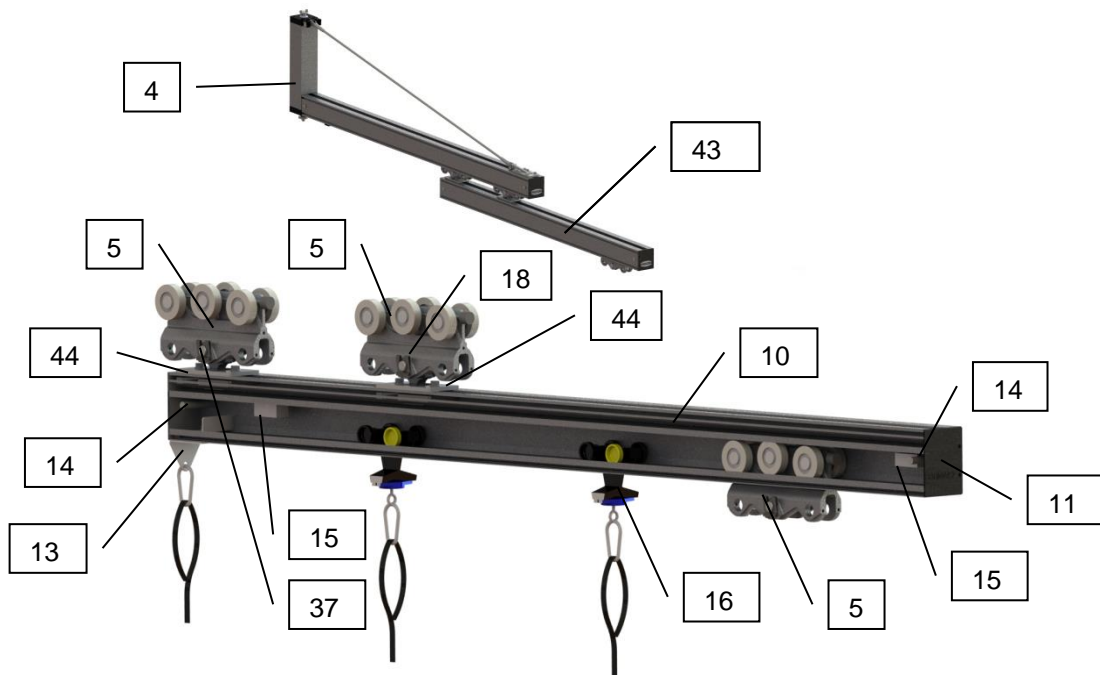
36	Cable trolley (not shown)	2.7.10
14	End stop	2.7.10
38	End caps (not shown)	--

2.4 Articulated-arm jib



Item	Name	Section.
40	Pre-assembled articulated-arm jib	--
41	Pipe elbow	--
42	Connection piece	--

2.5 Telescopic jib



Item	Name	Section.
4	Aluminum jib	2.2
5	Transport trolley	2.7.5
10	SRA	Fehler! Verweisquelle konnte nicht gefunden werden.
11	End plate	2.7.9
13	Terminal clamp	2.7.11
14	End stop	2.7.8
15	Variable end stop	2.7.8
16	Cable trolley for vacuum hose	2.7.10
18	Lock washer	--

PRODUCT DESCRIPTION

37	Bolt with groove	--
43	Telescopic crane girder	--
44	Telescopic crane girder suspension	2.7.6

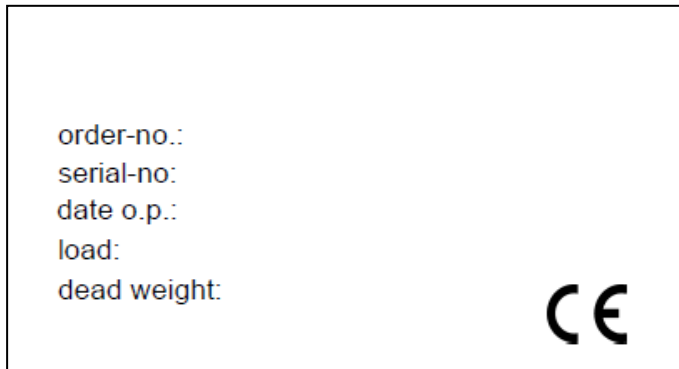
2.6 Type plate



The device type, device number and year of manufacture are specified on the type plate. This is important information for identifying the device, and must always be specified when ordering replacement parts, making warranty claims or other inquiries about the device.

The type plate is firmly attached to the exterior of the jib crane.

The type plate contains the following information:



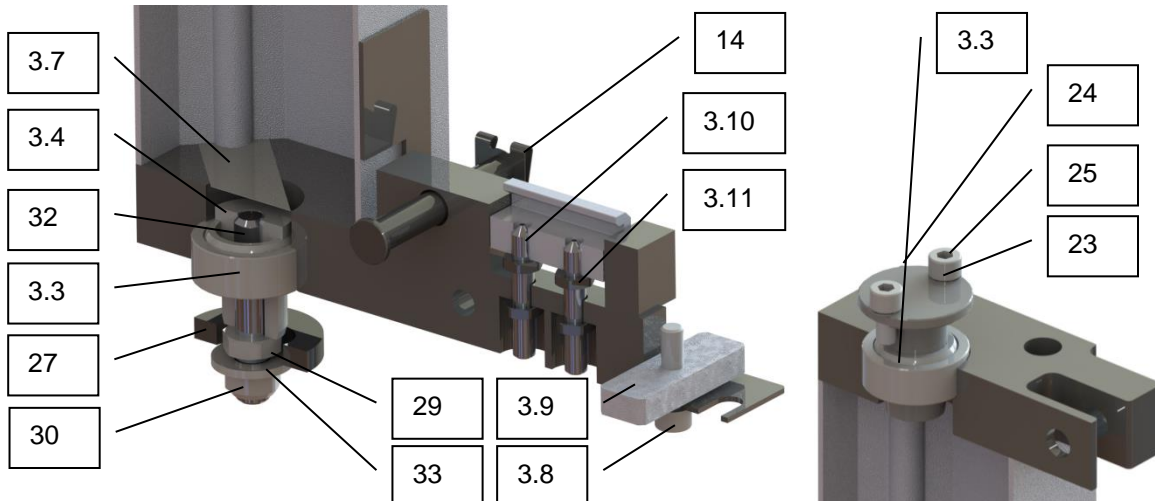
2.7 Description of component parts

2.7.1 Pivot bearing



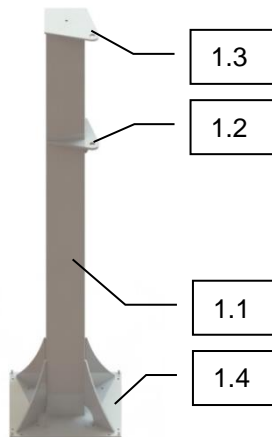
Pivot bearing for SRA 100, SRA 105

Pivot bearing for SRA 140, SRA 180



Item	Name
3.1	Aluminum section
3.2	Upper bearing plate
3.3	Bearing
3.4	Lower bearing bolt
3.5	Angle plate
3.6	Lower bearing plate, welded
3.7	Film
3.8	MB screw x30
3.9	Sliding block
3.10	Set screw M8x50
3.11	Nut M8 flat shape
14	End stop
15	Variable limit stop
24	Bolt for upper pivot bearing
25	Machine screw M8x16
27	Disc with slot
29	Flat hexagonal nut M13
30	Self-locking M12 nut
32	Set screw M12x70
33	Conical spring M12

2.7.2 Crane column



Item	Name
1.1	Crane column tube
1.2	Lower bearing plate
1.3	Upper bearing plate
1.4	Base plate

2.7.3 Wall bracket / clasp bracket

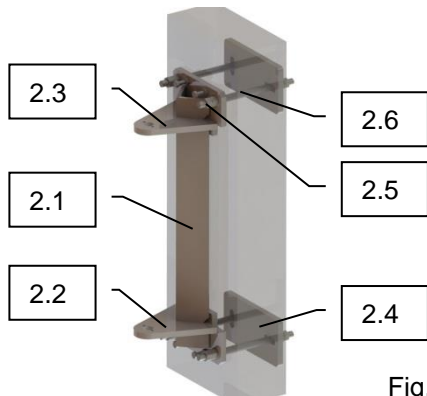


Fig.1

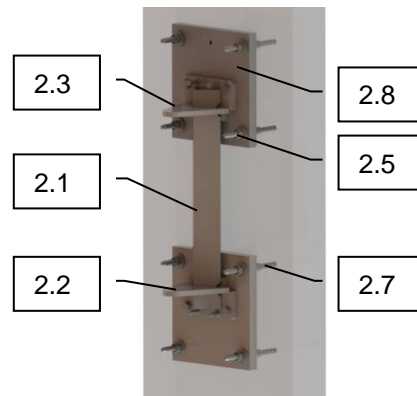


Fig.2

Wall bracket - push-through installation

Wall bracket - shear connector installation

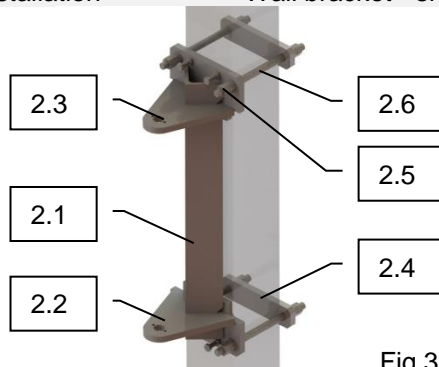
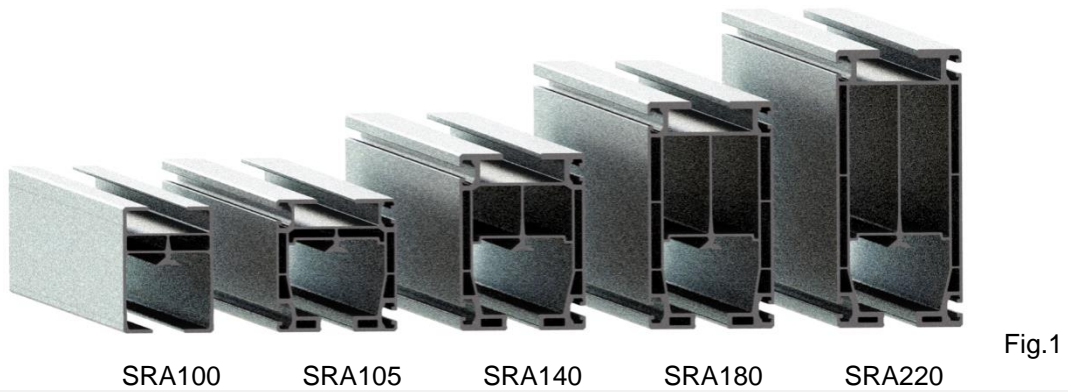


Fig.3

Clasp bracket

Item	Name
2.1	Crane bracket
2.2	Lower bearing plate
2.3	Upper bearing plate
2.4	Clamp plate
2.5	Hexagonal nut
2.6	Threaded rod
2.7	Shear connector
2.8	Mounting plate

2.7.4 SRA



Aluminum sections for crane runway and crane girders come in 5 sizes. The profile size is selected depending on the maximum load-bearing capacity and the jib length.

2.7.5 Transport trolley

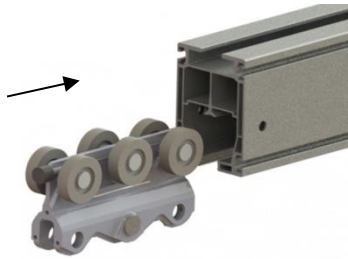


Fig.1

Transport trolley TRO-R
 Connecting component between crane runway and crane girder, flexibly designed. Designed as double transport trolley for larger forces.
 Maximum load-bearing capacity for single transport trolleys is 750 kg

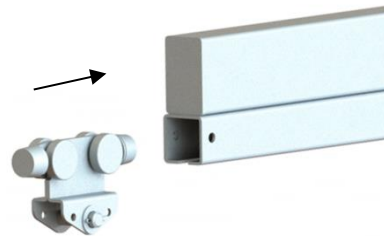


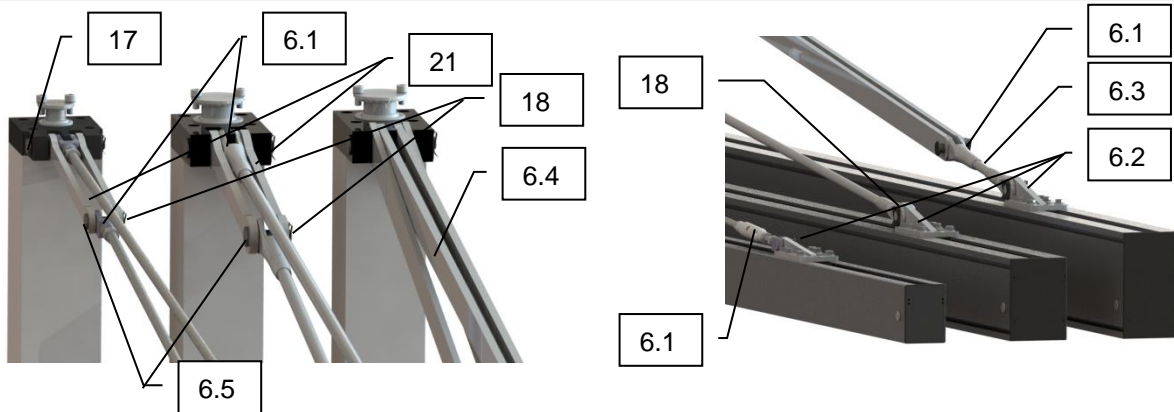
Fig.2

Flat jib transport trolley Connecting component between jib and load suspension, for direct connection of tube lifters (without shackles).
 Maximum load-bearing capacity is 250 kg

2.7.6 Bracings



Bracing for up to 65 kg / for up to 650 kg<4m / for over 650 kg>4m



Item	Name
6.1	Fork head
6.2	Pre-assembled lower brace attachment
6.3	Connecting rod
6.4	Flat bar
6.5	Bolt for fork head
18	Lock washer
17	Bolt for bracing
21	Bracket with inner bracing

2.7.7 Telescopic jib suspension

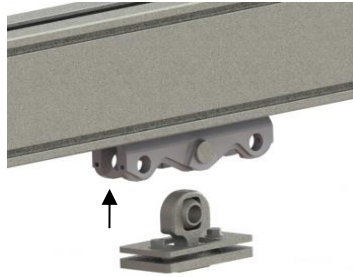


Fig.1

Crane girder SUS-B suspension
Component for connecting the transport trolley (ball) with the telescopic jib

2.7.8 End stops



Fig.1

End stop STO-VAR
Variable limit stop, attached in the dovetail inside main body, serves all transport trolleys as a variably adjustable limit stop. Line/hose trolleys can travel through under the travel limiter, the terminal clamps here serve as a limit stop.

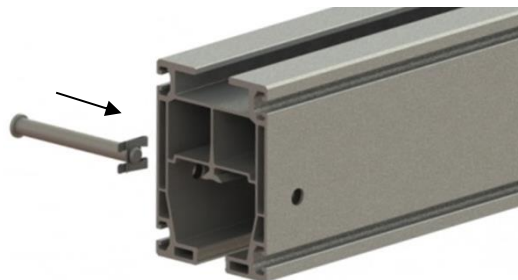


Fig.2

Fixed end stop STO bolt on both sides of the crane runway and crane girder at the end, serves as a secured end stop for carrying trolleys.



Fig.3

Variable spring-mounted end stop, STO-VAR-FED and STO-VAR can be used with telescopic jigs

2.7.9 End plate



Fig.1

Sealing plate VRS-PL, aluminum jib seal which prevents dirt from entering from the side.

2.7.10 Cable trolley

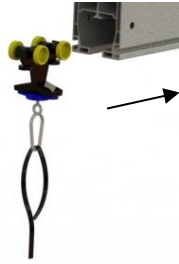


Fig.1

Cable trolley TRO-SRA-HOS enabling supply hoses for energy supply, e.g. for "Jumbo" the tube lifter, to be taken out safely and smoothly

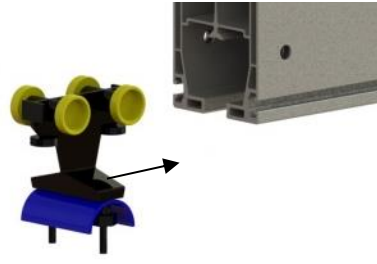


Fig.2

Cable trolley TRO-SRA-CAB enabling flat cable for energy supply, e.g. for chain hoists and lifting devices, to be taken out safely and smoothly



Fig.3

Cable trolley in flat jib

2.7.11 Terminal clamps

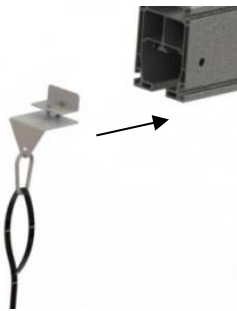


Fig.1

Terminal clamp ENDC-SRA-HOS limits the travel area of the supply hose at the end of the crane runway and crane girder. Serves simultaneously as a limit stop for the cable trolley with the telescopic jib



Fig.2

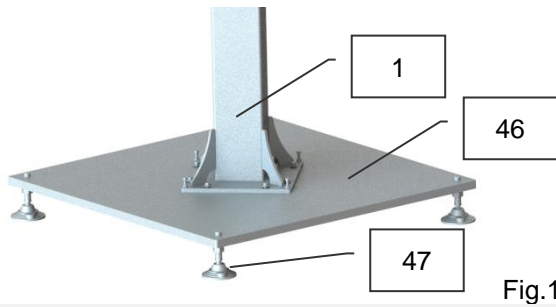
Terminal clamp ENDC-SRA-HOS limits the travel area of the supply hose at the end of the crane runway and crane girder. Serves simultaneously as a limit stop for the cable trolley with aluminum jibs



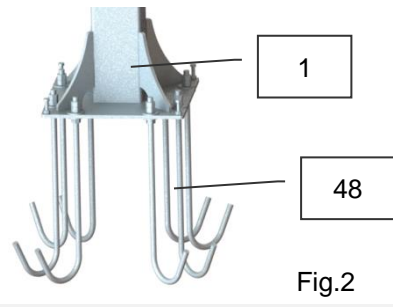
Fig.3

Terminal clamp ENDC-SRA-CAB limits the travel area of the flat cable at the end of the crane runway and crane girder. Serves simultaneously as a limit stop for the cable trolley with the aluminum jib

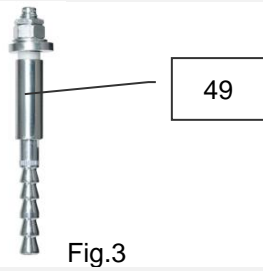
2.7.12 Attachments



Mobile base plate



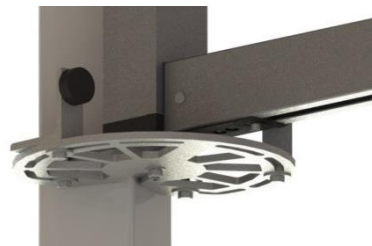
Anchor bolts



Shear connector

Item	Name
46	Mobile base plate
47	Machine foot
48	Anchor bolt
49	Shear connector
1	Crane column

2.7.13 Slewing angle limiter



Slewing angle limiter SWBG

2.7.14 Electrical switches



The crane mains supply switch is for disconnecting the power supply of electrical components (chain hoist, lifting device, etc.). The crane mains supply switch does not contain any protective elements.



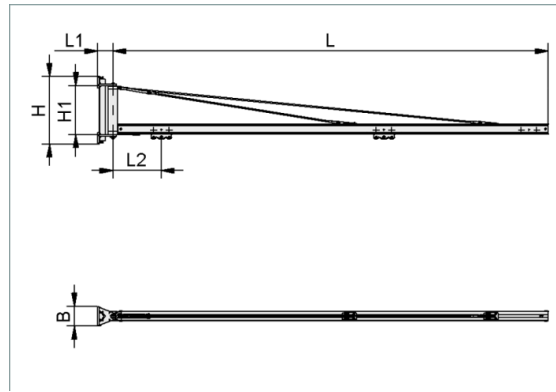
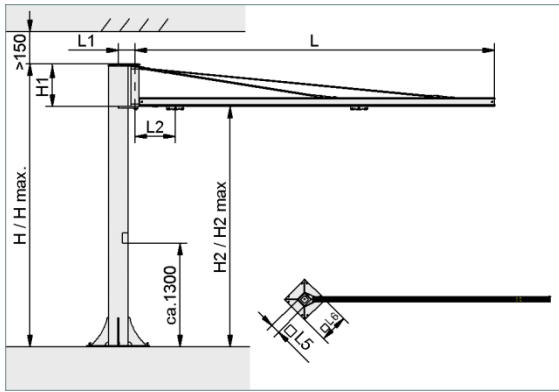
A motor protection switch is used when a vacuum blower or a vacuum pump is used. The motor protection switch serves to switch off the vacuum generator and simultaneously protects it. The motor protection switch is designed for the connected vacuum generator. No further consuming devices may be connected to the outlet of the motor protection switch.

2.7.15 Locking system for motor switch (optional)



When the motor protection switch is used as the main switch, this system must be installed as a supplement so that the switch can be locked in three positions. The operator of an electrical system mainly has to ensure that this switch is equipped with a central main switch. If the operator uses the motor protection switch MSS as the main switch as well, an optional padlock device or mechanical locking device can be installed.

3 Technical Data



Column-mounted jib crane SK

Wall-mounted jib crane WK

Type	Max. lift capacity [kg]	L [mm]	H* [mm]	H1 [mm]	H2** [mm]	W [mm]	L1 [mm]	L2 [mm]	L5 [mm]	L6 [mm]
SK-KZG-80	80	3,000-6,000	3,130	500	2,600	-	182	600-800	140-180	400
SK-KZG-125	125	3,000-6,000	3,130-3,380	500-750	2,600	-	210	600-800	180	400-550
SK-KZG-200	200	3,000-6,000	3,380	750	2,600	-	210-260	650-850	180-250	550-700
SK-KZG-350	350	3,000-6,000	3,385	750	2,600	-	260-290	650-850	250 300	700-860
SK-KZG-650	650	3,000-6,000	3,635	1,000	2,600	-	280-350	700-900	300-350	860
WK-KZG-80	80	3,000-6,000	695	500	-	205	155	650-850	-	-
WK-KZG-125	125	3,000-6,000	695-945	500-750	-	205	155	650-850	-	-
WK-KZG-200	200	3,000-6,000	945	750	-	250	155	700-900	-	-
WK-KZG-350	350	3,000-6,000	945	750	-	250	155	700-900	-	-
WK-KZG-650	650	3,000-6,000	1,195	1,000	-	400	155	750-950	-	-

*H max. = 5,000 mm **H2 max. = 4,000 mm

3.1 Jib cranes specifically for vacuum tube lifter Jumbo

Only use in combination with Jumbo vacuum tube lifters.

The load classes correspond to the nominal load-bearing capacities of the tube lifter, the tube lifter's weight has already been taken into account.



Type	Max. lift capacity [kg]	L [mm]	H* [mm]	H1 [mm]	H2** [mm]	W [mm]	L1 [mm]	L2 [mm]	L5 [mm]	L6 [mm]
SK-JU-45	45	2,000-6,000	3,525	500-505	3,000	-	182	450-750	140	400
SK-JU-65	65	2,000-6,000	3,525-3,530	500	3,000	-	182-210	450-750	140-180	400
SK-JU-85	85	3,000-6,000	3,525-3,530	500	3,000	-	182-210	550-750	140-180	400
SK-JU-110	110	3,000-6,000	3,530	500	3,000	-	182-210	550-750	140-180	400-550
SK-JU-140	140	3,000-6,000	3,730-3,980	500-750	3,200	-	210	550-750	180	400-550
SK-JU-200	200	3,000-6,000	3,980	750	3,200	-	210	550-750	180	550-700
SK-JU-300	300	3,000-6,000	3,980-3,985	750	3,200	-	210-260	550-750	250	700-860
WK-JU-45	45	2,000-6,000	695	500-505	-	205	155	450-750	-	-
WK-JU-65	65	2,000-6,000	695	500	-	205	155	450-750	-	-
WK-JU-85	85	3,000-6,000	695	500	-	205	155	650-850	-	-
WK-JU-110	110	3,000-6,000	695	500	-	205	155	650-850	-	-

4 Delivery, Packaging and Transport

4.1 Delivery

4.1.1 Included in delivery

Refer to the order confirmation for specific details about the scope of delivery. The weights and dimensions will be listed in the delivery notes.



The operating instructions are an integral part of the crane system and must accompany the device whenever it moves to a new location.

4.1.2 Checking for completeness

Using the enclosed delivery documents, check the entire shipment to ensure that it is complete!

4.1.3 Reporting damage

Following delivery of the shipment, damage caused by defective packaging or in transit must be reported immediately to the carrier.

4.2 Packaging

Column-mounted jib crane:

- 2 bundles (1x crane column, 1x crane jib with bracing if needed)
- 1 pallet (80 cm x 60 cm or 120 cm x 80 cm)





Wall-mounted jib crane:

- 1 bundle (1x crane jib with bracing if needed)
- 1 pallet (80 cm x 60 cm or 120 cm x 80 cm)

Column-mounted jib crane with telescopic jib:

- 3 bundles (1x crane column, 1x crane jib with bracing if needed, 1x crane jib with suspension)
- 1 pallet (80 cm x 60 cm or 120 cm x 80 cm)




4.3 Transport

 WARNING	
  	<p>Risk of injury due to improper transportation and unloading</p> <p>This can result in personal injury or material damage.</p> <ul style="list-style-type: none"> ▶ Unloading and transport must only be carried out by trained forklift truck drivers who have also completed all the necessary safety training ▶ Hoists and slings must have the necessary specifications for the particular ▶ Transport materials must be secured in accordance with country-specific regulations (BAG guidelines in Germany). ▶ Personal protective equipment


4.4 Removal of crane components

The packaging of the individual components and the disposable pallets must be opened carefully!

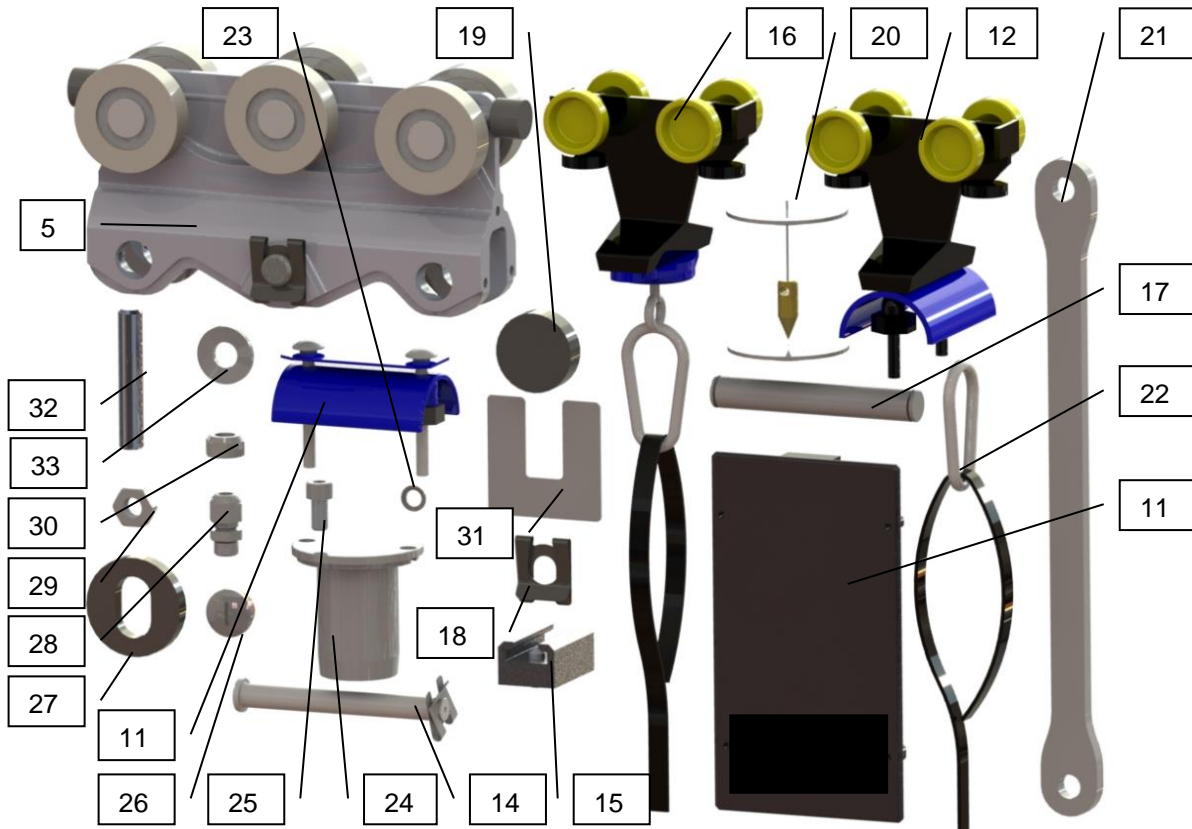
- When using knives or blades to open the packaging, take care not to damage any of the components. Do not take the parts out of the packaging until you are ready to begin installation (to protect against physical damage).
- Remove the packaging from the crane jibs and crane columns.
- Lay the components on a base, e.g. cardboard, so that they cannot be damaged.
- Avoid undertaking any other mechanical tasks in the area of the sections; otherwise there is a danger that chips and dirt could get into the section grooves.

 CAUTION	
 	<p>Heavy components in the transportation box</p> <p>When opening the transportation box, parts can splinter or fall. This can cause crushing wounds and lacerations.</p> <p>▶ Wear protective footwear (S1), work gloves (safety category 2133)!</p>

ATTENTION	
	<p>Improper removal of system from the transportation box</p> <p>System damage</p> <p>▶ Do not apply force</p> <p>▶ Observe the instructions for removing the system from the transportation box</p>

	<p>The packaging material must be disposed of in accordance with country-specific laws and guidelines. Labeled transport aids and safety mechanisms must be removed.</p>
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4.5 Scopes of delivery



4.5.1 Scope of delivery for aluminum jib

Item	Jib length up to	2m	3m	4m	5m	6m
5	Transport trolley	1	1	1	1	1
11	Plastic cover plate with fastening pins	1	1	1	1	1
12	Cable trolley for flat cable (for KZG)	1	2	3	3	4
13	Terminal clamp for flat cable (for KZG)	1	1	1	1	1
14	End stop (long bolt)	2	2	2	2	2
15	Variable limit stop	2	2	2	2	2
16	Cable trolley for vacuum supply (for JU)	1	2	3	3	4
17	Bolt for bracing	1	1	1	1	1
18	Safety washer for bolt	var.	var.	var.	var.	var.
19	Crane buffer	2	2	2	2	2
20	Plumb line	1	1	1	1	1
21	Bracket for inner bracing	2x for 2 bracings, otherwise 0				
22	Snap hook and strap for the vacuum supply (for JU)	1	1	1	1	1
23	Safety washer M8	2	2	2	2	2
24	Upper bolt for pivot bearing	1	1	1	1	1
25	Machine screw M8x16	2	2	2	2	2
26	Plug	var.	var.	var.	var.	var.
27	Disc with slot	1	1	1	1	1
28	Cable screw union	var.	var.	var.	var.	var.
29	Flat hexagonal nut M12	1	1	1	1	1
30	Stop nut M12	1	1	1	1	1
31	Bearing plate	var.	var.	var.	var.	var.
32	Set screw M12x70	1	1	1	1	1
33	Safety washer M12	1	1	1	1	1

4.5.2 Scope of delivery for flat jib

Item	Jib length up to	Quantity
34	Flat jib	1
35	Transport trolley	1
36	Cable trolley for vacuum supply (for JU)	1
38	End cap	1
20	Plumb line	1
22	Snap hook and strap for the vacuum supply (for JU)	1
23	Safety washer M8	2
24	Upper bolt for pivot bearing	1
25	Machine screw M8x16	2
27	Disc with slot	1
29	Flat hexagonal nut M12	1
30	Stop nut M12	1
31	Bearing plate	var.
32	Set screw M12x70	1
33	Safety washer M12	1

4.5.3 Scope of delivery for articulated-arm jib

Item	Jib length up to	Quantity
40	Articulated-arm jib	1
41	Pre-assembled connection piece	1
42	Pre-assembled pipe elbow	1
20	Plumb line	1
23	Safety washer M8	2
24	Upper bolt for pivot bearing	1
25	Machine screw M8x16	2
27	Disc with slot	1
9	Flat hexagonal nut M12	1
30	Stop nut M12	1
31	Bearing plate	var.
32	Set screw M12x70	1
33	Safety washer M12	1

4.5.4 Scope of delivery for telescopic jib

Item	Name	Quantity
4	Aluminum jib	1
5	Transport trolley	3
11	Plastic cover plate with fastening pins	2
14	End stop (long bolt)	3
15	Variable limit stop	4
16	Cable trolley for vacuum supply (for JU)	3
17	Bolt for bracing	1
18	Safety washer for bolt	var.
19	Crane buffer	2
20	Plumb line	1
22	Snap hook and strap for the vacuum supply (for JU)	2
23	Safety washer M8	2
24	Upper bolt for pivot bearing	1
25	Machine screw M8x16	2
27	Disc with slot	1
29	Flat hexagonal nut M12	1
30	Stop nut M12	1
31	Bearing plate	var.
32	Set screw M12x70	1
33	Safety washer M12	1

4.5.5 Scope of delivery for motor-protection switch



Quantity	Name
1	Mounting frame with installation material and cover
2	Cable clamp
1	Neutral terminal
1	Ground cable for connection to crane column
1	Motor protection switch

4.5.6 Scope of delivery for power switch







Quantity	Name
1	Mounting frame with installation material and cover
2	Cable clamp
1	Neutral terminal
1	Ground cable for connection to crane column
1	Main switch
1	Identification plate

5 Installation



Please read section 1.6 (Requirements & instructions for installation, maintenance and operating staff) before starting installation

 WARNING	
	<p>Danger due to parts with sharp edges and heavy components</p> <p>There is a risk that you may cut yourself when installing the parts, these may also fall or topple over thereby hitting and injuring people.</p> <ul style="list-style-type: none"> ▶ Wear industrial safety helmet (in accordance with EN 397) ▶ Wear work gloves (in accordance with EN 388 safety category 2133) ▶ Wear safety shoes (in accordance with EN 20345 safety class S1)

 WARNING	
	<p>Risk of injury from falling parts or personal fall</p> <p>This can result in serious injury</p> <ul style="list-style-type: none"> ▶ When performing work on the jib crane, the entire crane area must be cordoned off! ▶ When performing work on the jib crane an appropriate climbing aid, lifting platform or fall prevention device must be used.

5.1 Preparation of parts



- Identify all parts with the aid of the description in section 2 or the scope of delivery lists in section 4
- Sort all parts according to their intended use for the respective installation location.
- Do not start the assembly until you understand how **all components** are used. (All parts have been designed according to your requirements in the project planning and parts list, i.e. **there should therefore be no parts left over**).

Please contact the manufacturer in the event of any problems (telephone no. +497443 2403 0).


5.2 List of tools

- 1x combination wrench SW10, SW13, 2xSW19, SW24, SW36, SW46
- 1x hexagon pin spanner
- 1x spirit level
- 1x torque wrench (25-200Nm)
- 1x hexagon socket wrench bit SW10, SW13, 2xSW19, SW24, SW36, SW46
- 1x Phillips head PH2x100
- 1x flat screwdriver
- 1x carpet cutter
- 1x wire cutter
- 1x tape measure 10m
- 1x plumb with centering discs (included in scope of delivery)
- 1x plastic tip hammer
- 1x drill hammer
- 1x percussion drill \varnothing 14 mm min 200mm long
- 1x air ejector (oil free compressed air)
- 1x cartridge gun

5.3 Electrical installation

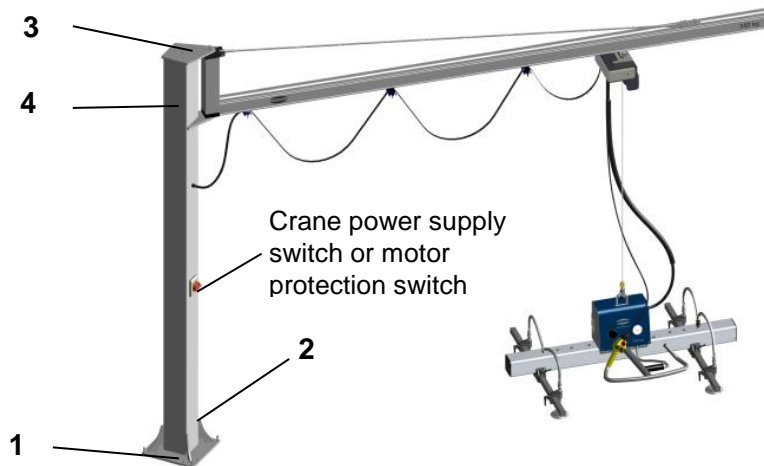
 WARNING	
	<p>Risk of injury from falling parts</p> <p>If a load bearing device is installed on the crane with an EMERGENCY STOP, then if the load falls, the EMERGENCY STOP is incorrectly connected.</p> <p>This can result in serious injury</p> <p>► The electrical connection must be downstream from the crane mains connection switch and upstream from the chain hoist's EMERGENCY STOP. The vacuum of the lifting device must not be deactivated when the EMERGENCY STOP is activated!</p>

ATTENTION	
	<p>The motor-protection switch overloads if incorrectly connected</p> <p>Damage to motor-protection switch</p> <p>► The motor protection switch is designed for the connected vacuum generator. No further consuming devices may be connected to the outlet of the motor protection switch.</p>

	<p>To make work easier, it is best to carry out all preparatory activities at working height on a storage rack.</p>
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5.3.1 Installation of electrical supply lines

The electrical supply line can be fed at four points on the crane column to the crane mains connection switch or motor protection switch. A flexible connection line (not included in the scope of delivery) with a diameter suited to the capacity of the consuming device (usually 5 x 2.5 mm²) must be used.



[1] Ground supply through the base plate

Before erecting the crane column, the line must be fed through the base plate to the hole for the switch. When erecting the crane column, the line must not be pinched or cut at any point.

[2] Ground supply from the side

Before erecting the crane column, the line must be pulled through the cable screw connection and bore hole into the crane column and fed through to the switch. Secure and tighten the cable screw union. The cable screw connection provides strain relief for the cable.

[3] Top cover supply

The line must be pulled from above through the cable screw connection and bore hole into the pillar's top plate and fed through to the switch. This task can also be carried out after erecting the crane column. Secure and tighten the cable screw union. The cable screw connection provides strain relief for the cable.

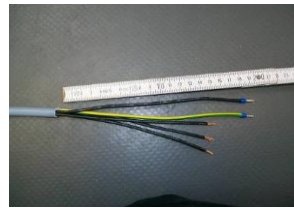
[4] Installation of electrical outgoing cable to the consuming device

The outgoing line must be pulled through the cable screw connection and boreholes on the underside of the crane jib and fed through to the switch. This task can also be carried out after erecting the crane column. Secure and tighten the cable screw union. The cable screw connection provides strain relief for the cable.

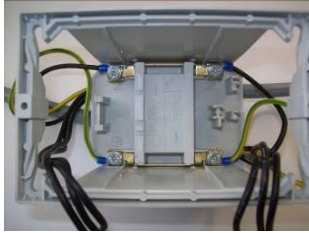
5.3.2 Installation instructions for the motor protection switch in the crane column



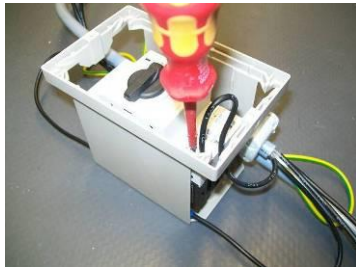
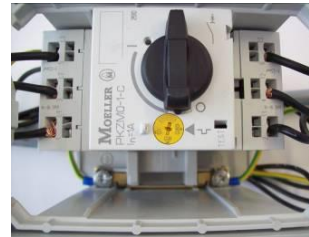
1. Attach the ground cable to the inner side of the crane column using nuts and the washers that are included with the crane column.



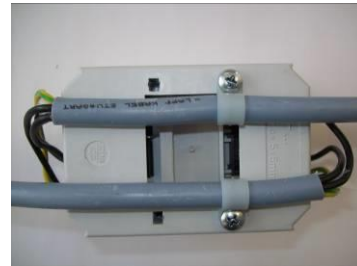
2. Pull the cables through the opening and prepare them for connection. Stripping around 25 cm of the cables is recommended.



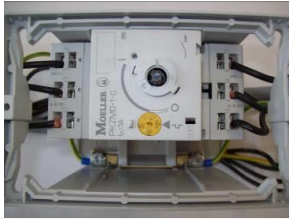
3. Connect the neutral and ground cables to the mounting frame and press the motor protection switch into the mounting frame and connect it.



4. The motor protection switch has spring terminals. Use a small screwdriver for these, as shown in the illustration. The terminal opens when pressed down, and the cable can be inserted into this opening.



5. Lay the cables back around the mounting frame and secure them using the cable clamps.



6. Remove the black rotary knob from the motor protection switch. To do this, carefully place a small screwdriver under the knob and lift it off.



7. Push the cables back through into the column and place the mounting frame into the crane column. Then screw the mounting frame to the column using the clips that are provided.
8. Set the motor protection switch to the rated value of the motor



9. Place the cover onto the mounting frame and screw it on.



10. Installation of the locking system according to the installation instructions included with the system.

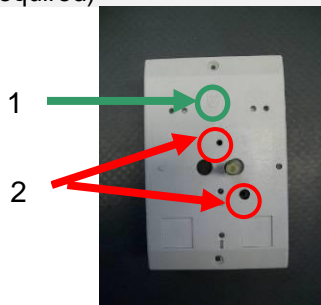


When the motor protection switch is used as the main switch, the supplemental locking system (21.01.04.00005/6) must be installed. The operator of an electrical system mainly has to ensure that this switch is equipped with a central main switch. If the operator uses the motor protection switch MSS as the main switch as well, an optional padlock device or mechanical locking device can be installed.

5.3.3 Installation instructions for crane mains supply switch



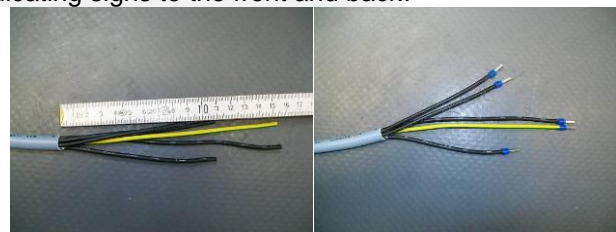
1. Remove the additional terminal block for the neutral and ground connection from the switch (this is not required)



2. Screw the mounting frame cover onto the switch. Screw through the yellow mounting plate of the main switch. Use the marked holes (2) in the cover for this. The Glöckner Möller logo (1) can be used as an orientation aid.



3. Screw on the red rotary knob and attach the indicating signs to the front and back.



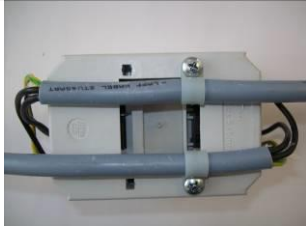
4. Attach the ground cable to the inner side of the crane column using nuts and the washers that are included with the crane column.

5. Prepare the cables for connection. Stripping around 25 cm of the cables is recommended

INSTALLATION



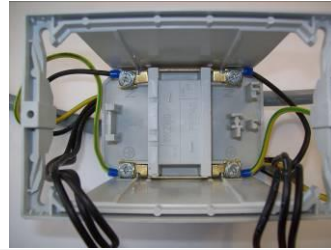
6. Install additional neutral terminal on the mounting frame. As with the grounding terminal, this terminal is only pressed in from the side.



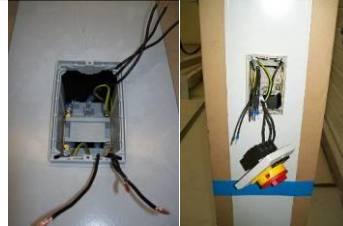
8. Lay the cables back around the mounting frame and secure them using the cable clamps.



10. Then place the cover onto the mounting frame and screw it on.





7. Connect the neutral and ground cables to the mounting frame



9. Insert the mounting frame into the crane column and guide the cables out before the frame is permanently fastened. Screw the mounting frame to the column using the clips that are provided and then install the sealing. Connect the main switch Set the motor protection switch to the rated value of the motor



5.4 Mechanical installation



 WARNING	
	<p>Danger due to falling objects</p> <p>Higher or lower torques than stated may result in screws breaking off or loosening.</p> <p>This can result in personal injury or material damage.</p> <p>Tighten screws with a torque wrench and comply with the torques stated.</p>

Tightening torques

	M8	M12	M16	M24	M30
Standard screws, standard nuts	23 Nm	80 Nm	194 Nm	725 Nm	1450 Nm
Anchor bolts	-	80 Nm	-	-	-

5.4.1 Positioning the crane column

5.4.1.1 Erecting the crane column with shear connectors (highbond anchor FHB-A dynamic)

 WARNING	
	<p>Danger due to falling objects</p> <p>Due to insufficient bearing capacity of the floor or the wall element, fastening points may shear or become loose.</p> <p>This can result in personal injury or material damage.</p> <p>The following applies when installing using anchors: Concrete floor or walls without shock-absorption layer, bitumen floor covering, screed or similar. Concrete grade B25-B55, C20/25 oder C50/60 concrete thickness 200 mm minimum. A minimum distance to the concrete edges of 150mm</p> <p>The customer must verify the static load bearing capacity of the building and, specifically, the individual fastening points!</p> <p>Wall-mounted jib crane with shear connector attachment only by request</p>

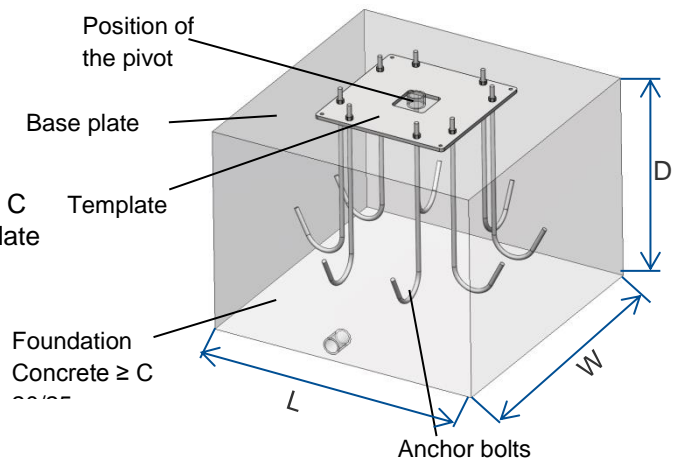
- The dimensions of the crane's base plates are designed for shear connectors (type: Fischer FHB dyn M12x100) with mortar cartridges (any other shear connectors must have the same properties as the aforementioned model).
- Instructions regarding installation of the shear connectors can be found on their packaging.

INSTALLATION

5.4.1.2 Erecting the crane column in the foundation using anchor bolts

The number and order of the anchor bolts depends upon the size of the crane and is defined in the template (included in product range)

After the concrete has hardened (for example, C 20/25 = 28 days), the nuts, washers and template are removed.

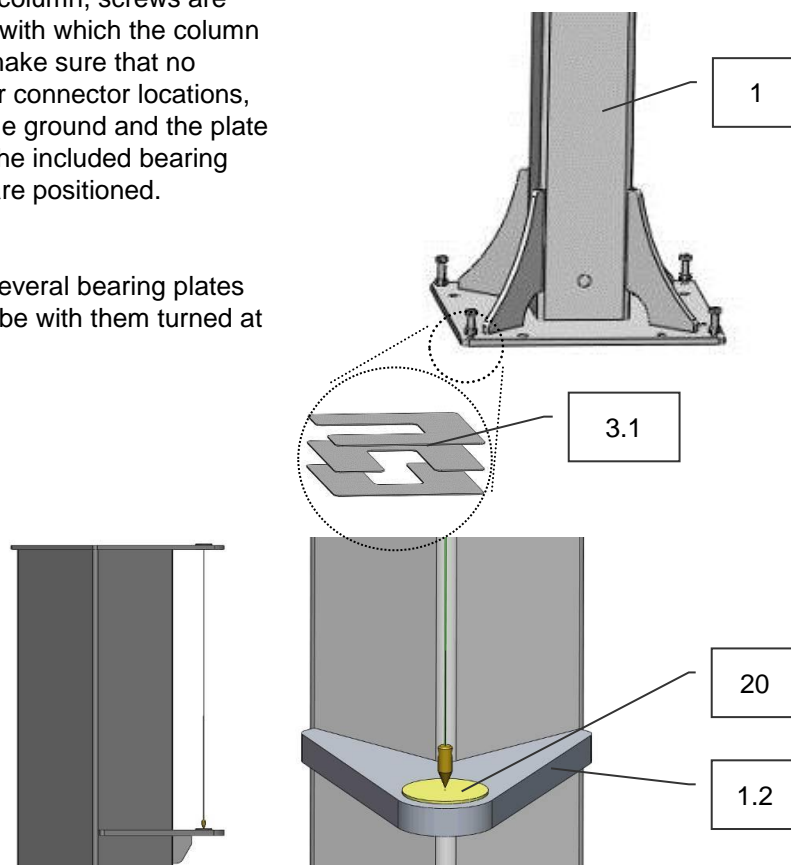


Crane load [kg]	Jib length [mm]	No. of anchor bolts	Depth D [mm]	L x W [mm]
140	4000	8	900	1200x1200
200	4000	8	900	1400x1400
300	4000	8	900	1500x1500
650	4000	8	900	1900x1900
650	6000	16	900	1900x1900

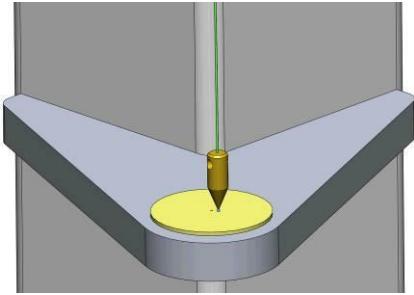
5.4.1.3 Aligning the Crane Column

For alignment of the crane column, screws are provided in the base plate, with which the column can be set up exactly. To make sure that no cavities appear at the shear connector locations, the gap created between the ground and the plate must be leveled out using the included bearing plates before the anchors are positioned.

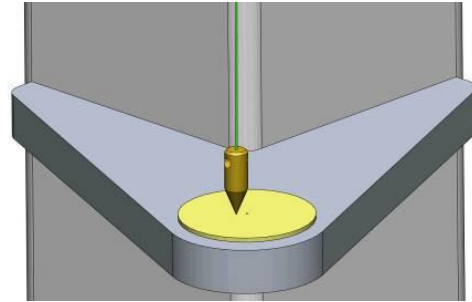
The best alignment when several bearing plates are stacked should always be with them turned at 90° to one another.



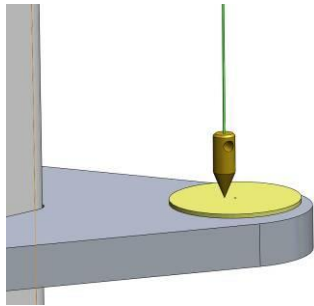
To ensure optimal performance for the jib crane, the crane column must be aligned correctly.



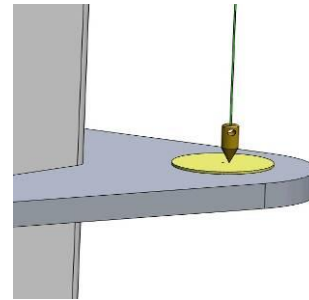
Column leaning to right: Raise the base plate on the right



Column leaning to left: Raise the base plate on the left

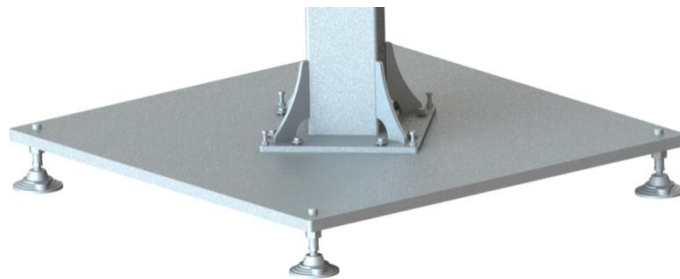


Pillar leaning backwards, i.e. raise base plate from the back



Column leaning forwards: Raise the base plate from the front

5.4.2 Erecting the crane column with mobile base plate



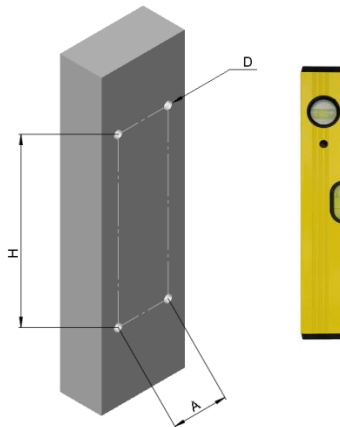
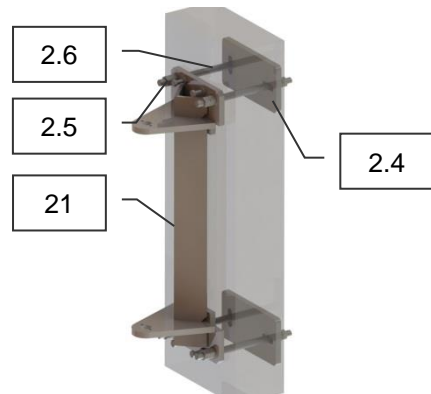
- ⇒ Place the base plate in the intended location and adjust using a spirit level
- ⇒ Place the crane column on the base plate and fasten with the M12 screws in the appropriate holes. Note the position of the axis of rotation.
- ⇒ Then align the crane column. (see section 5.4.1.3)
- ⇒ Align the crane column using the machine feet.

5.4.3 Mounting the wall bracket

5.4.3.1 Attach push-through installation with securing screws

In order to attach the jib crane by means of push-through installation, attach a drilling template to a wall segment (statical verification must be provided by the customer)

- ⇒ Pre-assemble wall bracket with threaded rods (2.6), nuts (2.5) and counter plates (2.4). Do not tighten nuts.
- ⇒ Align wall bracket (21) as described in section **Fehler! Verweisquelle konnte nicht gefunden werden..**
- ⇒ Tighten and lock nuts (2.5) to the torque specified.



Mounting height	A	H	D	Drill diameter
505 mm	160 mm	645 mm	M16	18 mm
755 mm	205 mm	855 mm	M24	26 mm
1005 mm	330 mm	1105 mm	M30	32 mm

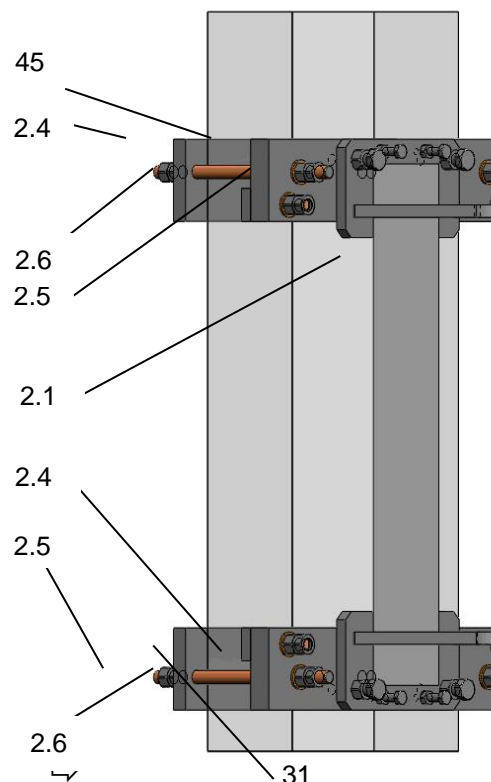
5.4.3.2 Installing the Wall-mounted Jib crane with Shear Connectors

Please note the following matrix before installing the wall-mounted jib crane with the shear connectors:

	Length [mm]								
	2000	2500	3000	3500	4000	4500	5000	5500	6000
WK-JU65	OK	OK	OK	OK	OK	OK	OK	OK	-
WK-JU65	OK	OK	OK	OK	OK	OK	-	-	-
WK-JU85	OK	OK	OK	OK	OK	-	-	-	-
WK-JU110	OK	OK	OK	-	-	-	-	-	-

5.4.3.3 Mounting the Clasp Bracket (for Wall-mounted Jib Crane WK)

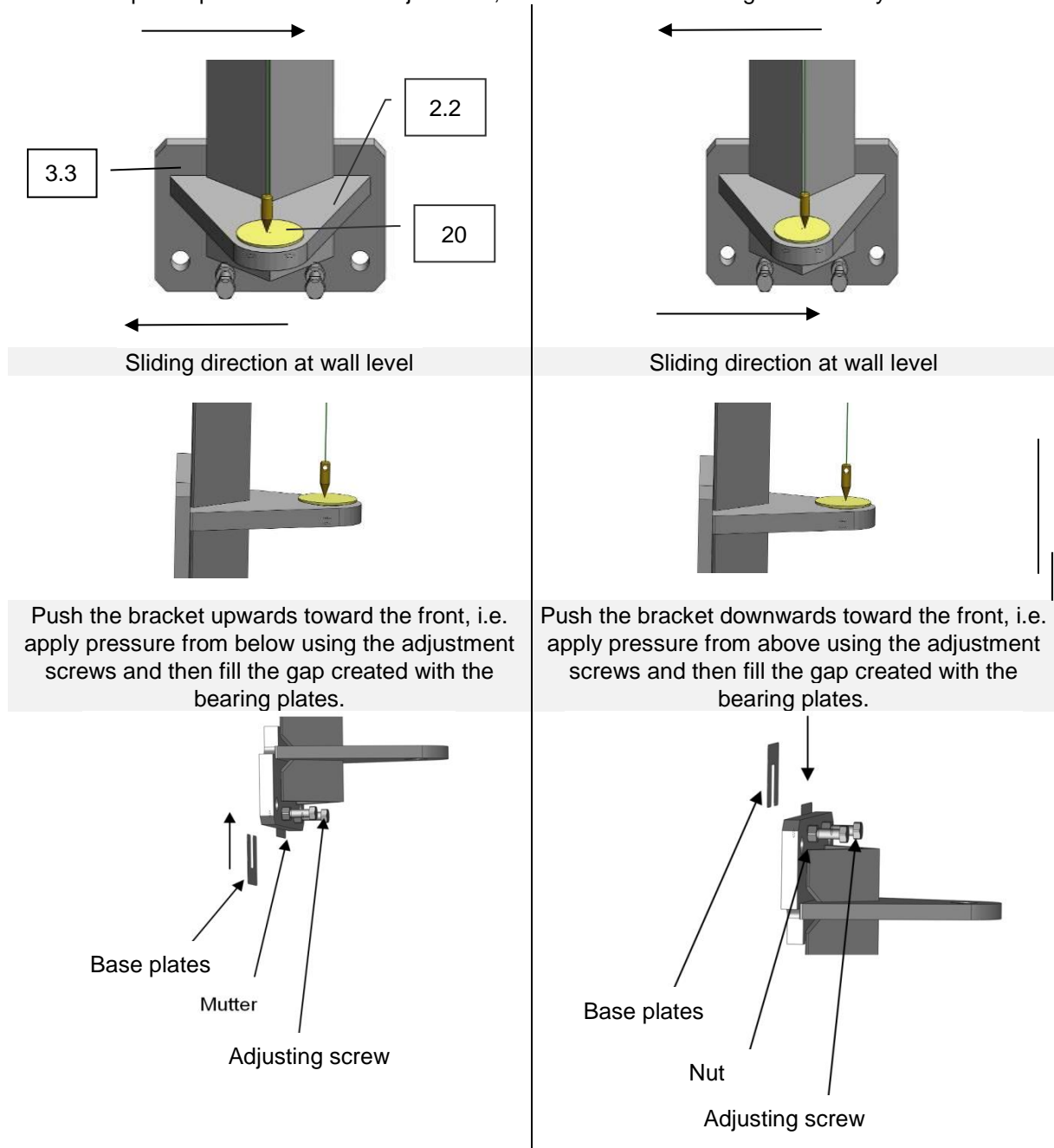
- ⇒ Clamp the two plates (2.4) and (45) with both threaded rods (2.6) and nuts (2.5).
- ⇒ Screw the wall bracket (2.1) onto the plate (45). Next, screw the lower clamp plate (50) to the wall bracket. Mount the rear clamp plate (2.4) with the two threaded rods (2.6) and nuts (2.5).
- ⇒ After aligning the wall bracket (2.1), move the side plates (31) onto the beam and tighten them until they are without play.
- ⇒
- ⇒ The screws must be tightened with the appropriate torque (see section 5.4).
- ⇒



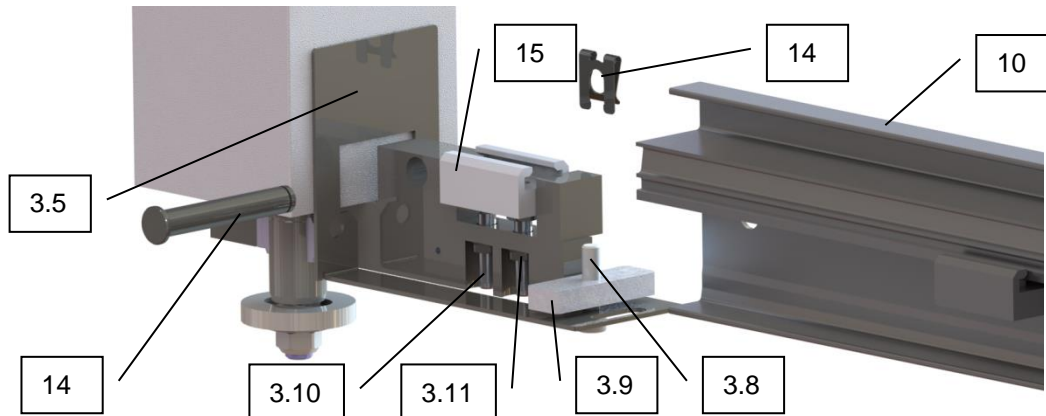
The customer must provide a suitable structure for securing the crane against vertical slipping and install it accordingly.

5.4.3.4 Aligning the wall and clasp brackets using a plumb line and centering disks

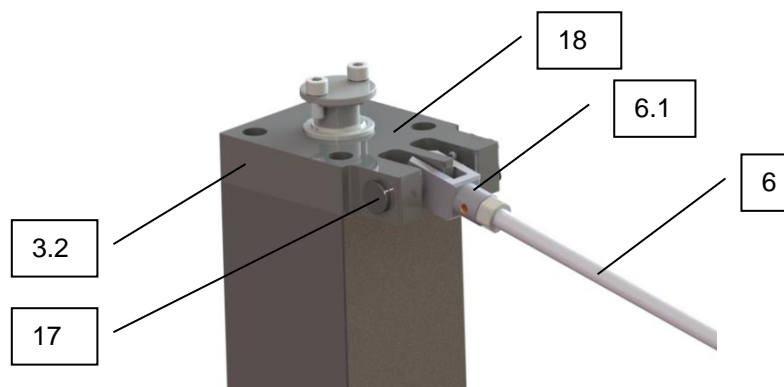
To ensure optimal performance for the jib crane, the console must be aligned carefully.



5.5 Pre-assembly of the aluminum jib

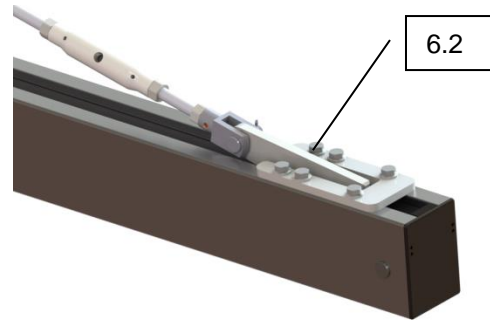
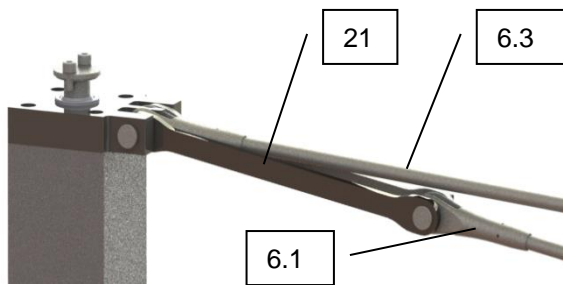


- ⇒ For crane with chain hoist: Screw the terminal clamp (26) (not shown) for the flat cable on to the angle plate (3.5) with the screws provided.
- ⇒ For cranes for JU Hang the snap hooks with hose strap (22) in the slot.
- ⇒ Release screw set (3.10) and nuts (3.11) of the variable end stop (15), and also screw (3.8) and the sliding block (3.9), then attach the pivot bearing (3) onto the aluminum rail (10) as far as the limit stop.
- ⇒ Push the fixed end stop (14) through the holes and secure with the safety washers provided.
- ⇒ Lightly tighten the screw set (3.10) and nuts (3.11) of the variable end stop (15) and the screw (3.8) with the sliding block (3.9).

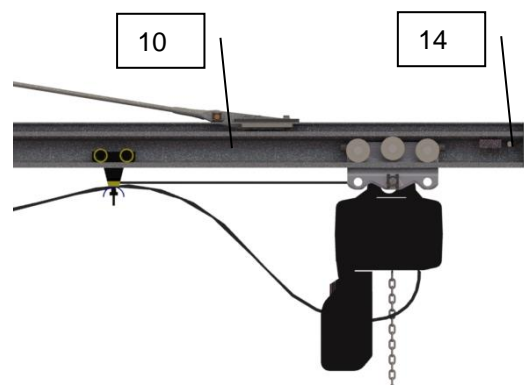
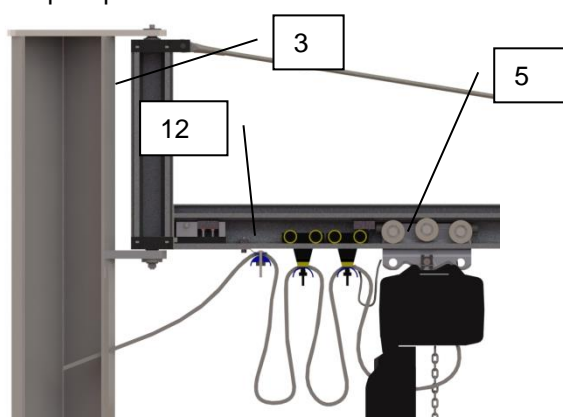


- ⇒ Lift the pre-assembled bracing (6) with the forked head (6.1) up to the center of the top bearing plate (3.2), push the securing bolt (17) through the hole and secure with the lock washers (18).

INSTALLATION



- ⇒ For two bracings, the brackets (21) are positioned to the left and right of the forked head (6.1).
- ⇒ The lower bracing attachment is already pre-assembled in the aluminum crane jib and tightened to the torque specified.



- ⇒ Insert the cable trolley for the flat cable (12) or hose (16) into the aluminum crane rail (10). For number, see section 4.5.1
- ⇒ Slide a variable limit stop (15) into the groove of the aluminum crane rail (10).
- ⇒ Insert the carrying hook (5) into the aluminum crane rail (10).
- ⇒ Slide all of the cable trolleys (12/16) and the transport trolley (5) as well as the variable limit stop (15) to the end of the crane rail (10) next to the pivot bearing (3). Use the screws provided to fasten the variable limit stop (15) between the last cable trolley (12/16) and the transport trolley (5). Set up the variable limit stop in such a way that the cable trolleys (12/16) cannot be damaged (forced together) by the transport trolley (5).
- ⇒ Slide the second limit stop (15) into the groove of the aluminum crane rail (10).
- ⇒ Put the end stop (14) into the designated bore hole of the aluminum crane rail (10) and secure with the lock washer provided.
- ⇒ Slide the second variable limit stop (15) against the end stop (10) and secure it with screws.
- ⇒ Put the sealing plate (11) onto the face of the aluminum crane rail (10) and secure with the molded pins.

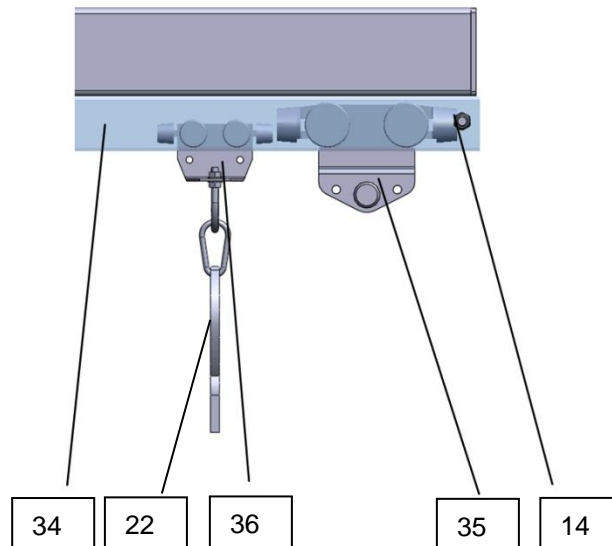


For a bolt diameter of 12 => use size 12mbo08 (No. 20.06.04.00036)
 For a bolt diameter of 20 => use size 16mbo08 (No. 20.06.04.00037)

5.6 Pre-assembly of articulated-arm jib

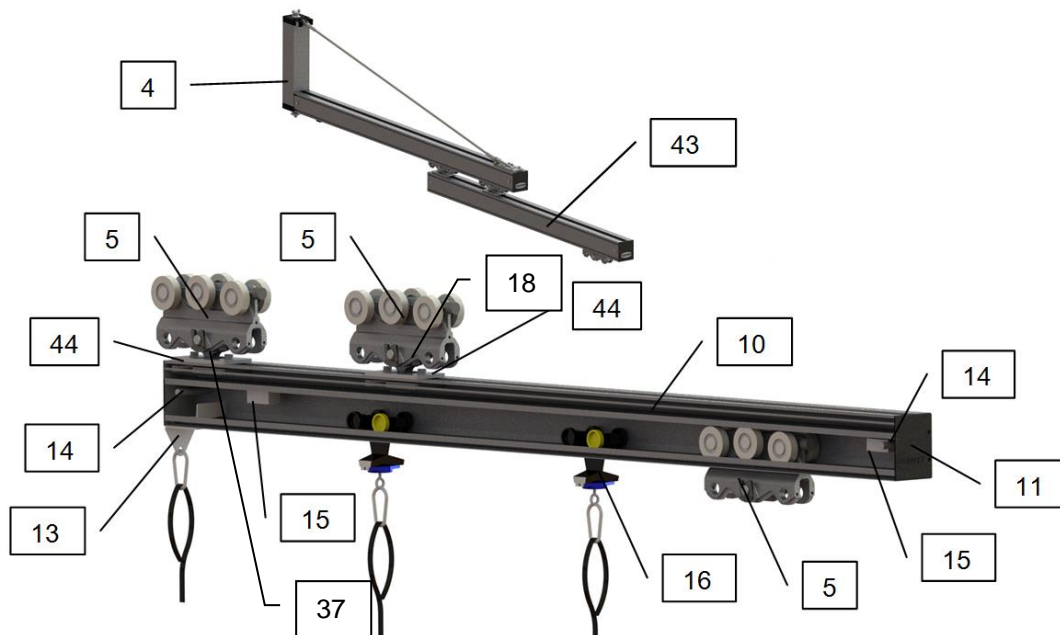
This is completely assembled upon delivery so that there is no pre-assembly.

5.7 Pre-assembly of flat jib



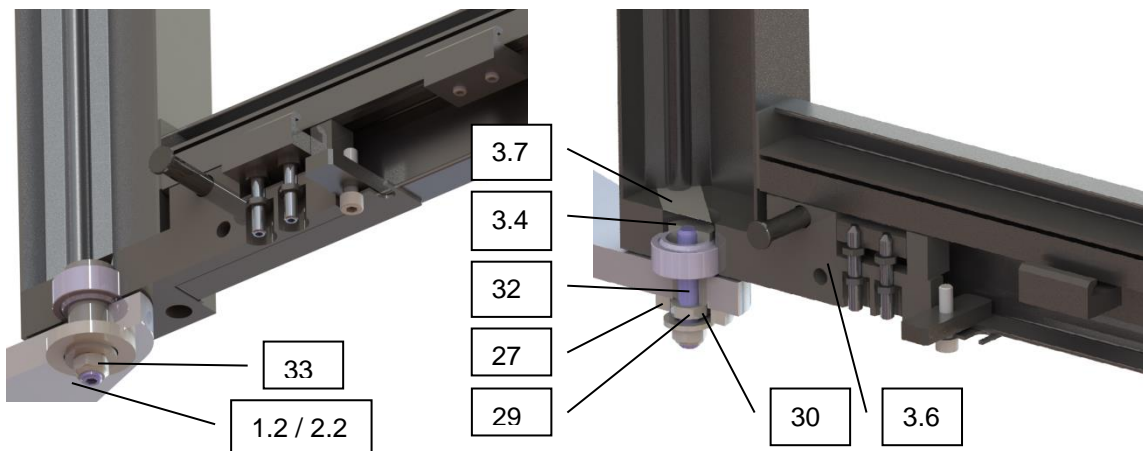
- ⇒ Insert the cable trolley (36) with snap hooks and strap (22) for the hose into the pre-assembled flat jib (34). Quantity according to scope of delivery.
- ⇒ Insert the transport trolley (35) into the flat jib (34).
- ⇒ Place the fixed end stops (14) on the inside and outside of the designated holes on the flat jib (34) and secure with lock washer (18).

5.8 Pre-assembly of telescopic jib

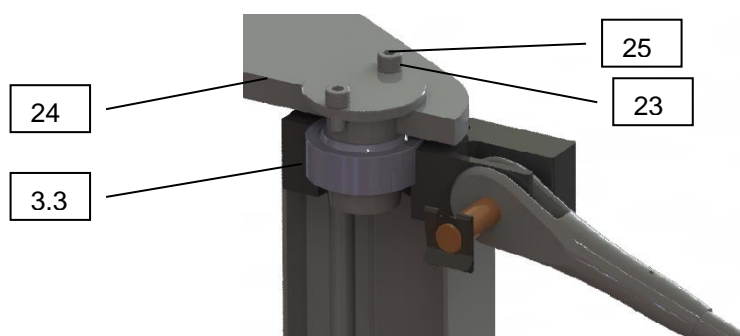


- ⇒ Slide a variable limit stop (15) into the groove of the aluminum crane rail (10).
- ⇒ Insert the cable trolley (12/16) for the flat cable or hose into the aluminum crane rail (10). Number: One less than extent of delivery
- ⇒ Insert one transport trolley (5) into each suspension (44) of the telescopic crane rail (43) and secure the bolt (37) with a lock washer (8).
- ⇒ Put end stop (14) into the designated boreholes of the aluminum crane rail (10) and secure with the corresponding lock washer.
- ⇒ Slide the terminal clamp (13) into the crane rail (10) and tighten.
- ⇒ Insert a cable trolley (12/16) for the flat cable or hose into the aluminum crane rail (10).
- ⇒ Slide a variable limit stop (15) into the groove of the aluminum crane rail (10).
- ⇒ Insert the transport trolley (5) for connecting the load bearing device into the aluminum crane rails (10).
- ⇒ Put end stop (14) into the designated boreholes of the aluminum crane rail (10) and secure with the corresponding lock washer.
- ⇒ Slide all cable trolleys (12/16) and the transport trolley (5) to the end of the crane rail (10). Use the screws to fasten the variable limit stop (15) between the last cable trolley (12/16) and the transport trolley (5). Set up the variable limit stop (15) in such a way that the cable trolleys (12/16) cannot be damaged (forced together) by the transport trolley (5).
- ⇒ Slide the two transport trolleys (5) of the telescopic crane rail (43) into the aluminum jib (10) and secure in the designated hole using the end stop (14).
- ⇒ Slide all cable trolleys (12/16) and the crane rail (43) towards the pivot bearing. Use the screws to fasten the variable limit stop (15) between the last cable trolley (12/16) and the transport trolley (5). Set up the variable limit stop (15) in such a way that the cable trolleys (12/16) cannot be damaged (forced together) by the transport trolley (5).

5.9 Mounting the crane jib on the crane column or wall bracket

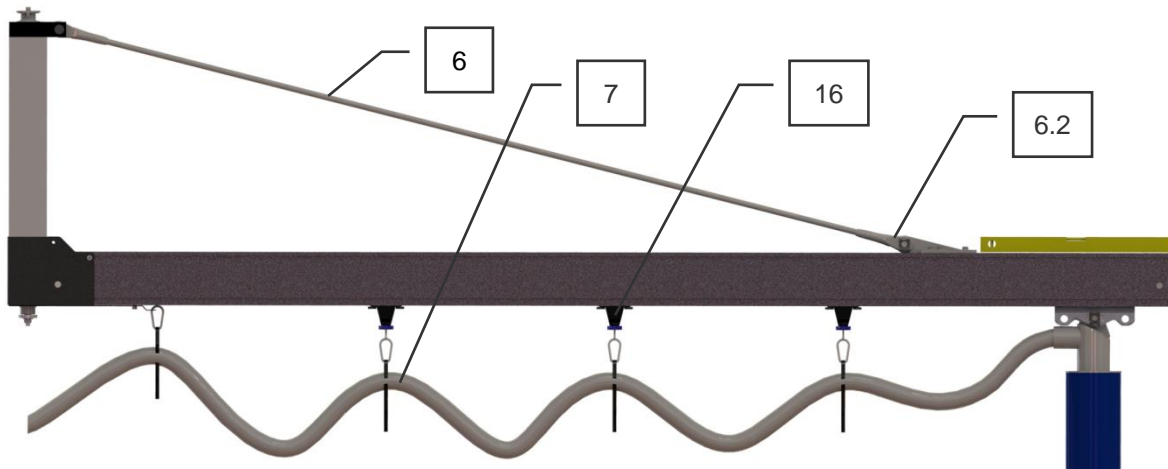


- ⇒ Raise the crane jib with the hoist to the height of the lower bearing plate of the wall bracket (2.2) / crane column (1.2)
- ⇒ Ensure that the inner ring of the pivoting bearing (3.3) does not become twisted during assembly; otherwise the bearing surfaces could become damaged or dirty.
- ⇒ Push the bolt (3.4) on the lower bearing (3.6) back until the bolt underside is flush with the underside of the bearing. The bolt is held by the plastic film (3.7) and cannot slip into the pivot bearing.
- ⇒ Insert the crane jib horizontally between the bearing plates of the wall bracket (2.2) / crane column (1.2).
- ⇒ Screw the set screw (32) into the bolt (3.4) from below through the bearing plate of the wall bracket (2.2) / crane column (1.2). Pull the bolt (3.4) through the hole in the bearing plate. Screw the set screw (32) until it protrudes approximately 30 – 35 mm. Tighten the flat nut (29) against the bolt (3.4). Ensure that the bolt (3.4) is positioned correctly; the entire bolt must be in the hole.
- ⇒ Attach the washers (27 and 33) and the stop nut (30). Tighten the stop nut (30) using the torque wrench (80 Nm).
- ⇒ Ensure that the inner ring of the pivoting bearing (3.3) does not become twisted during assembly.



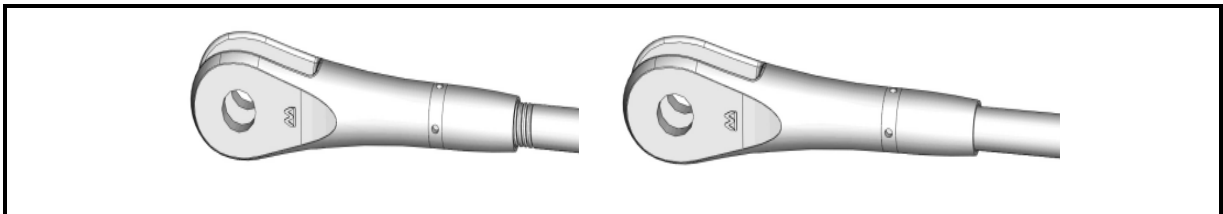
- ⇒ Insert the upper bolt (24) through the hole in the upper bearing plate of the wall bracket (2.3) / crane column (1.3) and through the bearing (3.3) in the pivot bearing.
- ⇒ Screw on the locking screws (9) with Schnorr safety washers (10) and tighten with the torque wrench.

5.10 Aluminum crane jib alignment for column-mounted or wall-mounted jib cranes

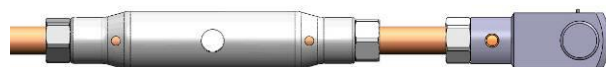


Completion of bracing

- ⇒ Insert the flat cable or hose (7) into the cable trolley (12/16) so that the loops are large enough (guideline for Jumbo Ø approx. 800mm; guideline for JumboFlex Ø approx. 500mm)
- ⇒ Lay the spirit level by the outer bracing (6.2) on the jib.
- ⇒ Align the aluminum section horizontally with the hexagonal mid section of the bracing (6) using the open-ended wrench.
- ⇒ For 2 bracings, repeat the process on the second.
- ⇒ Place the union nut on the fork head (6.1). Tighten with a drift punch or hook wrench and check to see if the thread is no longer visible.



Design with spanner nut



- ⇒ Loosen both nuts (10 and 11) on the spanner nut (12) and turn them back.
- ⇒ Set the length of the bracing (7) using the spanner nut (12).
- ⇒ Check whether the threaded rods (14 and 15) are visible in the holes (13) and then tighten using the nuts.





- ⇒ An exact alignment of the crane jib is required for optimal usage of the jib crane.

5.11 Aligning the aluminum telescopic jib for column-mounted or wall-mounted jib crane

See section 3.15.

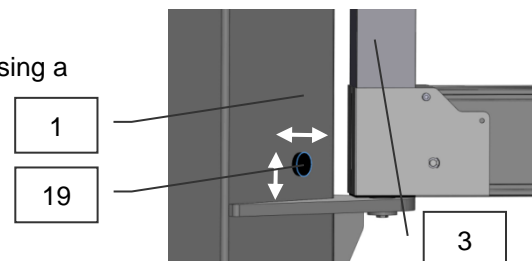
5.12 Aligning the flat or articulated-arm jib for column-mounted or wall-mounted jib crane

For flat and articulated-arm jibs, the jib is aligned with the column (see section 3.7) or the wall bracket (see section 3.8).

 WARNING	
	<p>Danger due to moving loads</p> <p>The outer part of the articulated-arm jib is very responsive and swivels in the direction in which the crane tilts when aligned. This may strike people in the area and may result in crushing.</p> <ul style="list-style-type: none"> ▶ Ensure the crane jib is secured by a second person when aligning ▶ Personal protective clothing must be worn

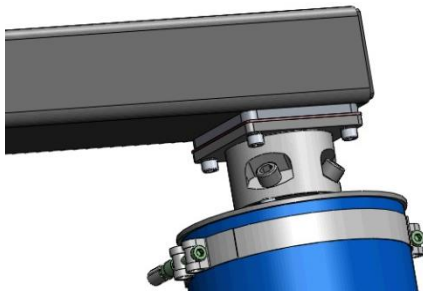
5.13 Installing the crane buffer for aluminum crane rails

- ⇒ Attach the self-adhesive crane buffer to the column to the left and right of the pivot bearing.
- ⇒ (Bring the crane buffer to the limit stop angle by using a slewing angle limiter)



5.14 Mounting load-bearing devices

- ⇒ Ensure that the suspension of the load suspension device is suitably set up for transport with the transport trolley; consultation with the load suspension device manufacturer may be required.
- ⇒ Insert load suspension into the designated transport trolley. Use U-shaped metal clamps for plastic designs (included in scope of delivery).
- ⇒ Attach with securing bolts.
- ⇒ If it is not possible to insert the load suspension directly into the transport trolley, shackles approved for the relevant load-bearing capacity should be used. In this case the U-shaped metal clamp must likewise be in the transport trolley.
- ⇒ Screw the tube lifter onto the articulated-arm jib (40) with the screws. Make sure that the sealing is inserted.



5.15 Mounting the energy supply

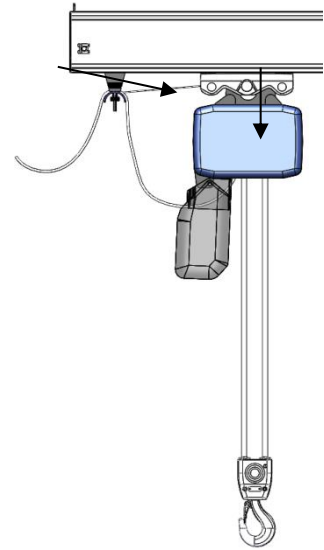
5.15.1 Vacuum power supply

Please note the number of cable trolleys in the parts list; these are specifically designated for the crane jib.

- ⇒ Prepare the vacuum supply hose in accordance with the specifications of the load suspension device manufacturer, e.g. strap sling around the supply hose, attach a carabiner to the strap, note the distance between strap slings.
- ⇒ Insert the cable trolley into the aluminum crane rail as specified in the parts list. A variable terminal clamp must be properly installed at the ends of the crane rail.
- ⇒ Insert snap hooks on the hose into the clip bolts of the cable trolley and terminal clamp.

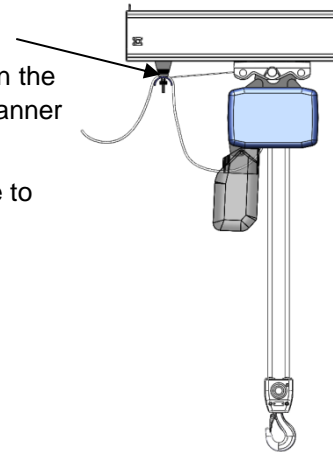
5.15.2 Power and compressed air supply

- ⇒ Attach the strain relief device for the chain hoist supply cable to the transport trolley and the
- ⇒ first cable trolley. Insert and secure the flat cable; ensure an even spacing.
- ⇒ Connection of flat cable to the crane runway's power plug.
- ⇒ The customer's power supply is to be connected to this component.

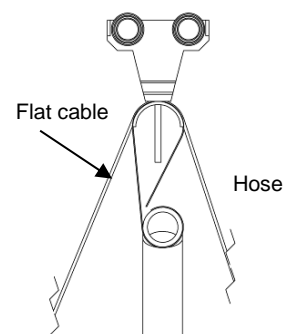


5.15.3 Cable trolley, terminal clamp for rail/support, transport trolley terminal clamp

- ⇒ Insert and secure the flat cable; ensure an even spacing.
- ⇒ Insert the cable trolley into the rail and support as specified in the parts list. A terminal clamp must be installed in the proper manner between the cable trolley and the end crane jib.
- ⇒ Attach the strain relief device for the chain hoist supply cable to the transport trolley and the first cable trolley.



- ⇒ At the same time, lay the flat cable and the double loops around the compressed air hose over one another and secure them, taking care to space evenly.
- ⇒ Connection of flat cable to the crane runway's power plug.
- ⇒ The customer's supply is to be connected to this component.



5.16 Preparing for operation



Prior to start of operations, check that

- ⇒ all mechanical connection elements have been correctly installed and secured
- ⇒ that all screws been tightened in accordance with torque specifications
- ⇒ that all components have been installed.



Conduct the following function test before the start of operations:

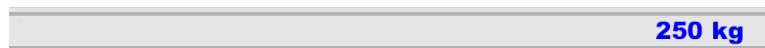
- ⇒ Manually slide the load suspension of the jib crane.
- ⇒ Is the variable limit stop set up in such a way that the cable trolleys can not be damaged?
- ⇒ Check that the media lines are functional and correctly laid. (Are loops and distances evenly spaced?)
- ⇒ Load suspension must travel evenly and easily within the entire travel area.
- ⇒ Swiveling smoothly must be possible throughout the entire area.
- ⇒ The aluminum crane jib must stop in every swivel position.

5.16.1 Other energy supply

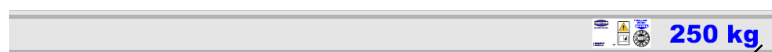
Please note the specifications of the load suspension manufacturer.

5.16.2 Attaching the type plate

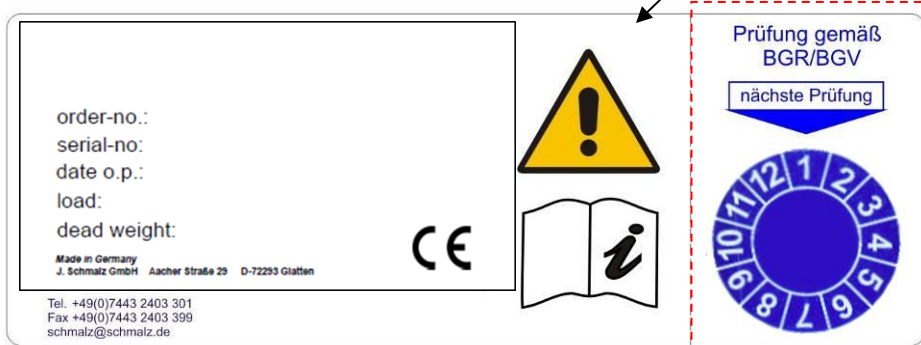
The type plate is attached to the crane jib



Rear of crane jib



Front of crane jib



Documentation sticker

only in Germany

In Germany the adhesive film carrying the industrial trade associations' BGV D6 crane standard operating procedure must be attached in the vicinity of the crane.



6 Operation



Local safety regulations apply. In Germany, these include, but are not limited to, BGV D6. The following work safety instructions do not replace these, but are to be considered as additions:



The following operating steps must be checked by a qualified electrician before the initial start of operations and section 1.6 (Requirements and instructions for installation, maintenance and operating staff) must be read.



6.1 General safety instructions regarding operation




 WARNING	
	<p>Non-observance of the general safety instructions regarding normal</p> <p>This can result in personal injury or material damage.</p> <ul style="list-style-type: none"> ▶ The system must only be operated by trained personnel who have read and understood both the jib crane and load suspension device operating instructions ▶ The operator may not leave the control handle of the load suspension device when a load is attached to the jib crane.



 WARNING	
	<p>Falling objects</p> <ul style="list-style-type: none"> - In the event of vacuum failure in the load suspension device - In the event of a collision, causing the load to break off - In the event of component failure resulting from overload or unauthorized modifications <p>There is a risk that people in the vicinity could be hit, causing death or serious</p> <ul style="list-style-type: none"> ▶ No person may sit or stand in the danger zone of the load. ▶ Suitable protective equipment must be worn prior to transport ▶ Do not work unless you have a clear view of the entire working area. ▶ Watch out for other people in the working area! ▶ Never lift loads at an angle and never drag or pull them. ▶ Only lift suitable loads (perform tests to check their intrinsic stability). ▶ The working area must be secured by the user/operator. The persons/equipment necessary to secure this area must be present during the lifting/transportation process. ▶ This maximum load must not be exceeded. ▶ Never transport the load over people. ▶ Keep to the working area! Do not run into the limit stops in normal operation. ▶ Do not set down any parts on the jib crane as they will fall off when working with jib crane

6.2 Operation

The jib crane enables load suspensions to be used within the operating range of the jib crane. Load bearing devices that have been designed for use on a jib crane are to be operated in accordance with the instructions of the load suspension device's manufacturer in observance of section 6.1. Observe the operating range of the jib crane.

 WARNING	
	<p>Danger of death from falling if used as a means of transport for humans or animals, or as a climbing aid.</p> <p>This can result in broken bones, serious injury or even death.</p> <ul style="list-style-type: none"> ▶ Use of the jib crane as a climbing aid or to transport humans or animals is prohibited!

 WARNING	
 	<p>Danger due to moving loads</p> <p>If components gather speed when guiding the load, they will not come to a stop themselves due to the responsiveness of the jib crane, persons may be hit or crushed as a result.</p> <ul style="list-style-type: none"> ▶ The operator may not leave the control handle of the load suspension device when a load is attached to the crane system ▶ The load must be pushed and not pulled in order to avoid persons being crushed if they fall. ▶ When working on the jib crane it must be secured against access by others! Working with the jib crane is prohibited.

 WARNING	
	<p>Risk from uncontrolled gripper movements</p> <p>This can result in serious injury.</p> <ul style="list-style-type: none"> ▶ The workpiece must be loose, it must never tilt. ▶ When parts are traveling out, e.g. a form, the demolding forces must not exceed the load-bearing capacity.



6.3 Erecting crane column on a more mobile base plate in another location

- ⇒ To position the crane in another location, no workpiece may be attached to any lifting device.
- ⇒ Move the lifting device to the crane column and secure it to the column.
- ⇒ Swivel the crane jib into an end position and secure it against accidental movement (a jib locking device is available in the accessory range)
- ⇒ Disconnect all power supplies that lead to the crane
- ⇒ Transport the base plate to the new location using a suitable transporter (lift truck, fork lift truck, etc.). In doing this, consult the regulations for the relevant transporter manufacturer.
- ⇒ Once positioned in the new location, the crane has to be aligned again.
- ⇒ Remove the fastening for the crane jib and the lifting device.
- ⇒ Align the base plate with the M20 screws so that the crane jib and lifting device remain still in every angle and position respectively.
- ⇒ Disconnect the power supplies according to regulations.

6.4 What to do in an emergency

An emergency may occur:

- ⇒ If there is a sudden power failure for the load suspension.
- ⇒ Take action as described in “What to Do in an Emergency” for your load suspension.

 WARNING	
	<p>Danger due to falling loads</p> <p>When operating a defective jib crane or load lifting device, the load or parts of the unit may fall and persons may be hit, injured or killed.</p> <ul style="list-style-type: none"> ▶ Rectify any faults before starting the jib crane. ▶ Should faults occur during operation, switch the jib crane off and rectify the faults.

7 Troubleshooting

The jib crane should only be installed and maintained by qualified specialist personnel, mechanics, and electricians. Work on electrical equipment must be carried out by qualified electrical specialists only.



After repair and maintenance work always check the end stops and lock washers, the torque of the screws which have been loosened and whether all the split pins of the suspensions have been reset.

If the **load cannot be lifted**, work through the following list to identify and rectify the problem.










Problem	Cause	Solution
Trolleys only roll with great difficulty or loudly on the rails	Overloading	Check whether overloading has occurred now or previously, and replace the affected trolley if necessary
	Dirt	Check the bearing surfaces of the sections for dirt; remove any dirt with a cloth
Check the bearing surfaces of the rollers for dirt; remove any trapped foreign bodies; replace rollers if required		
Jib runs incorrectly	Crane column or wall bracket not aligned exactly	Align crane column or wall bracket exactly Check the pivot bearing
Load suspension runs incorrectly	Crane jib not aligned exactly horizontally	Align rail exactly Check the pivot bearing
No power for tube lifter, chain hoist or lifting device	Compressed air supply line not working	Check hose length, replace the entire hose, check spacing between cable trolleys, use additional ones if required
	Power supply line not working	Check cable length, replace entire cable, check spacing between cable trolleys, use additional ones if required
Blower does not start No power for lifting device or chain hoist	Motor protection switch triggered	Turn on motor protection switch again Refer to the blower operating manual if this occurs again
	Connection line interruption or fault	Check connection lines for mechanical damage and electrical voltage, and replace if necessary
	Flat conductor not working	Check flat conductor for mechanical damage and replace if necessary

8 Maintenance

8.1 General notes



Please read section 1.6 (Requirements & instructions for installation, maintenance and operating staff) before starting maintenance.

 WARNING	
 	<p>Risk of injury due to system maintenance by untrained personnel</p> <p>This can result in serious injury</p> <ul style="list-style-type: none"> ▶ The system must only be maintained by trained personnel who have read and understood the operating instructions.
 WARNING	
 	<p>Risk of injury from worn, unmaintained parts</p> <p>Worn and unmaintained parts can cause damage, resulting in failure of the crane system and potentially causing severe injury.</p> <ul style="list-style-type: none"> ▶ Observe the operating, maintenance and servicing requirements specified in these operating instructions.
 WARNING	
 	<p>Risk of injury from falling parts or personal fall</p> <p>This can result in serious injury</p> <ul style="list-style-type: none"> ▶ When performing work on the jib crane, the entire installation must be cordoned off! ▶ When performing work on the jib crane an appropriate climbing aid, lifting platform or fall prevention device must be used.

8.2 Service table

	Interval				
	Daily	Weekly	Monthly	Every six	Annual check
Check all load-bearing parts (e.g. suspensions) for correct attachment as well as deformation, wear or other damage.					X
Test trolleys for wear (rollers, bolts, area of load suspension).				X	X
Test trolleys for ease of movement and noise level during travel					X
With vacuum energy line: Is the supply hose in good condition (not brittle, not kinked, no worn sections, i.e. not leaking)? Are all connections secure, hose clamps, etc.?			X		X
With compressed air energy line: Is the supply hose in good condition (not brittle, not kinked, no worn sections, i.e. not leaking)? Are all connections secure, hose clamps, etc.?			X		X
With electricity energy line: Is the flat cable in good condition (not brittle, not kinked, no worn sections)? Is the electrical installation OK? Are cable screw unions secure?			X		X
Are the type plate and maximum load plate still attached to the crane system?					X
Is the operating manual still available and are workers familiar with it?					X
Has the test label been updated?					X
General condition of the crane system					X

8.3 Cleaning

Use only cleaning solvents to clean the jib crane (do not use petroleum ether or corrosive liquids)

8.4 Expert approval

Please observe the national accident prevention laws and regulations.

Make sure that inspections and tests are arranged for the required times and never operate equipment if it does not have the relevant official approval documents.

In compliance with accident prevention regulations, the crane system must be tested in Germany once a year by an expert.



9 Dismantling and Disposal

9.1 Dismantling



Please read section 1.6 (Requirements & instructions for installation, maintenance and operating staff) before starting dismantling. Please observe the safety instructions in sections 5 & 8 (Installation and maintenance).

Procedure:

- Switch off the vacuum supply, depressurizing the compressed air line if applicable, arrange for electrical lines to be disconnected by a qualified electrician and secure to prevent it being switched back on.
- When dismantling the load lifting device, please observe the manufacturer's operating instructions.
- Take down and disassemble the jib crane's lines and hoses
- Remove the crane girder's sealing plates. When continuing to use the jib crane, ensure that the Schmalz Rail Aluminum is not damaged. In this case, new sealing plates must be purchased.
- Remove fixed and variable end stops, take the cable trolley and transport trolley out of the crane jib, release the terminal clamps and push out.
- Support the crane jib with a suitable lifting aid.
- Undo the connection to the crane column or wall bracket and bring this down to a safe level from the floor. For reuse store this in a suitable base without damage.
- Loosen the wall bracket and crane column screws and bring down safely to the floor or place the crane column on the floor using a suitable lifting aid.
- All components must be checked for damage and wear prior to reuse. In Germany, the reconstructed jib crane requires approval again by a crane expert. Please observe, in this case, regulations and laws specific to each state!



WARNING



Danger due to moving loads

When moving the crane column with the indoor crane, the indoor crane must not fall into the load bearing device!

- ▶ Tilt the column so that this cannot tilt at any point in time.

9.2 Disposal

⇒ Only qualified specialist personal may prepare the crane system for disposal.

⇒

Procedure:

- Dismantling the crane system
- Sort and separate materials for disposal in accordance with local regulations.
- The plastic in the sealing plates PA6 GF30 can be recycled.
- The transport trolleys fall under waste code 20 01 06 other plastics and is a non-toxic, non-biodegradable and water insoluble solid without any recognized harmful effect to the environment and can be sorted into separate materials and recycled, or can be disposed of through household waste in accordance with local regulations.

For proper disposal, please contact a company specializing in the disposal of technical goods and instruct it to observe the prevailing disposal and environmental regulations.

The manufacturer of the device will be happy to assist you in finding a suitable company.





EN

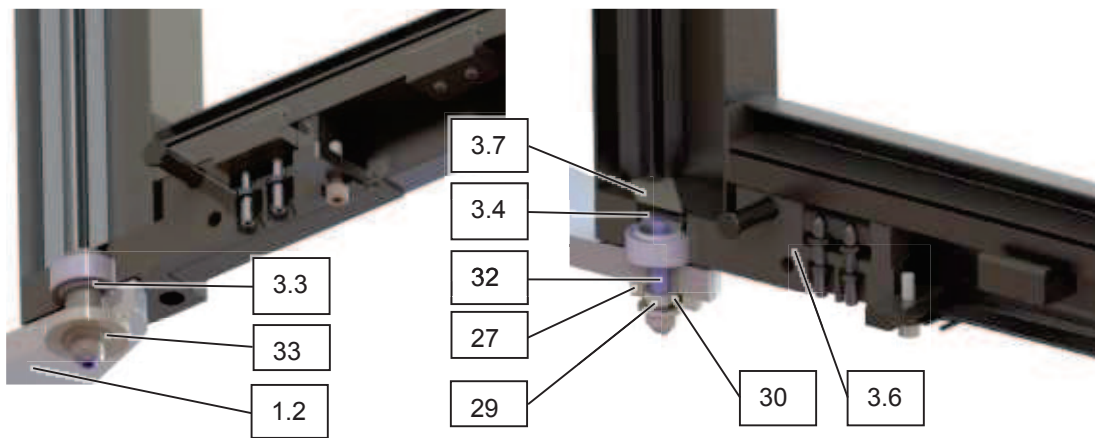
**Appendix to jib crane operating and maintenance
instructions**
Jib crane console mounting

Contents

- Crane Jib Mounting Appendix.....4
- List of tools4
- Lower bearing mounting.....5
- Upper bearing mounting.....8

Crane Jib Mounting Appendix

 CAUTION	
	<p>Falling crane components from improper mounting can result in injury.</p>
	<ul style="list-style-type: none"> ▶ The following information is considered an appendix to the jib crane mounting instructions (30.30.01.00224), section 5.9 “Crane jib mounting on crane column or wall bracket.” ▶ See “Jib crane operating instructions” (30.30.01.00224) for complete mounting

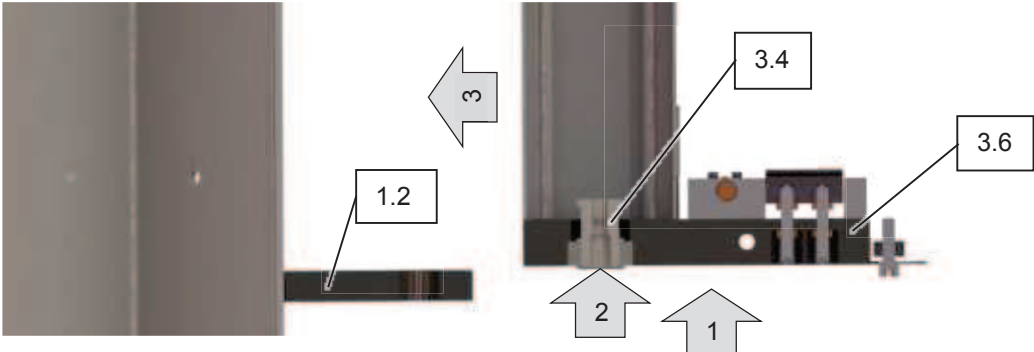


- | | | | |
|-----|---|----|-----------|
| 1.2 | Wall bracket/crane column lower bearing plate | 27 | Washer |
| 3.3 | Spherical bearings | 29 | Nut |
| 3.4 | Bolt | 30 | Stop nut |
| 3.6 | Bearing plate | 32 | Set screw |
| 3.7 | Plastic film | 33 | Washer |

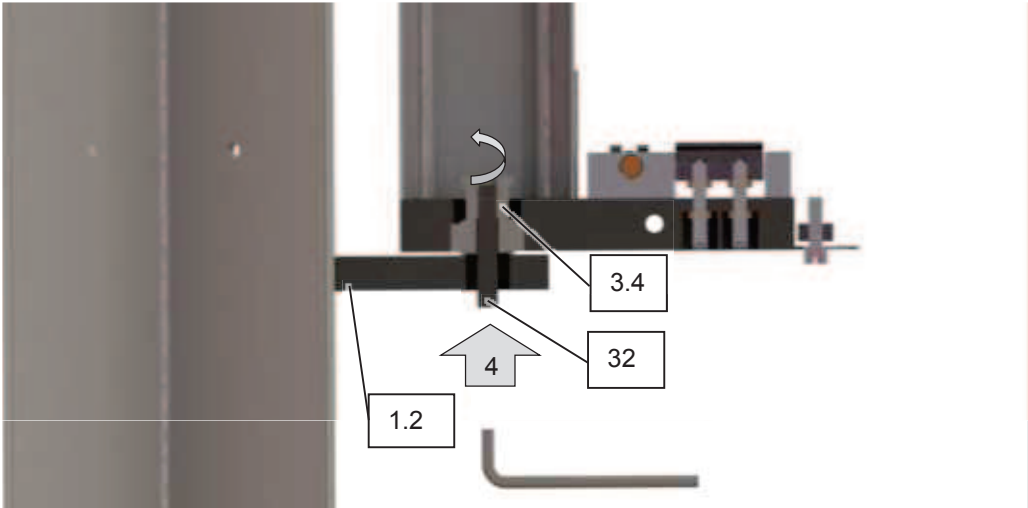
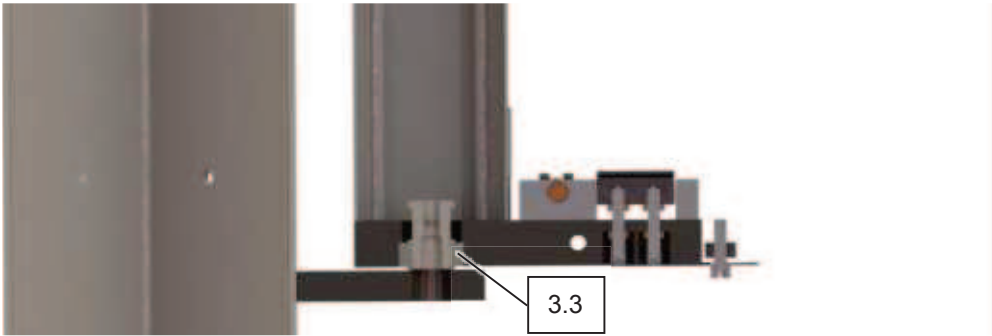
List of tools

- 1x Allan key
 See also “Jib crane operating instructions” (30.30.01.00224)

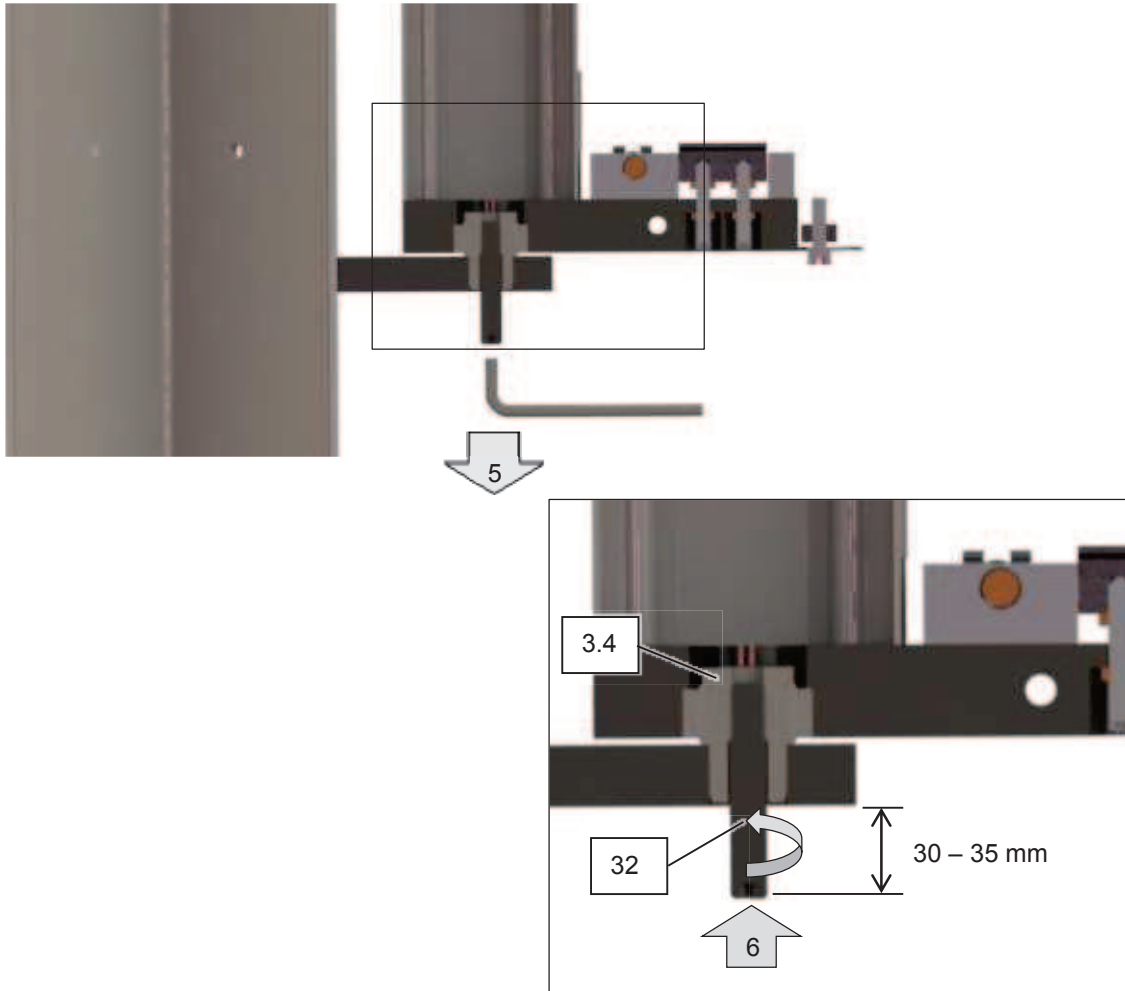
Lower bearing mounting




1. Lift the crane jib with appropriate hoist to the height of the lower bearing plate of the wall bracket / crane column (1.2).
2. Push the bolt (3.4) in the bearing plate (3.6) until the lower edge of the bolts is flush with the lower edge of the bearing plate. The plastic film (3.7) holds the bolt and the bolt cannot slip into the pivot bearing.
3. Insert the crane jib horizontally between the bearing plates of the wall bracket / crane column (1.2) until the bolt (3.4) is flush with the hole in the lower bearing plate (1.2).

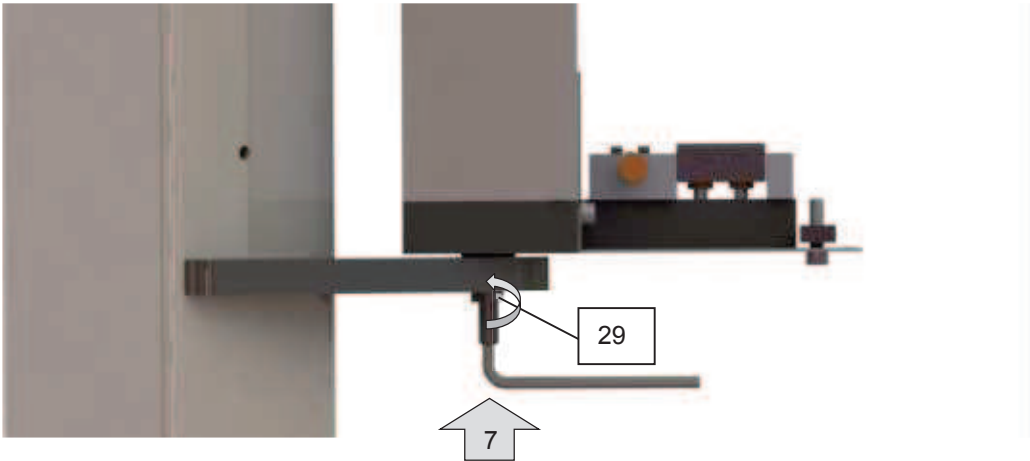


4. Screw the set screw (32) 10 mm into the bolt (3.4) from below through the lower bearing place of the wall bracket / crane column (1.2).

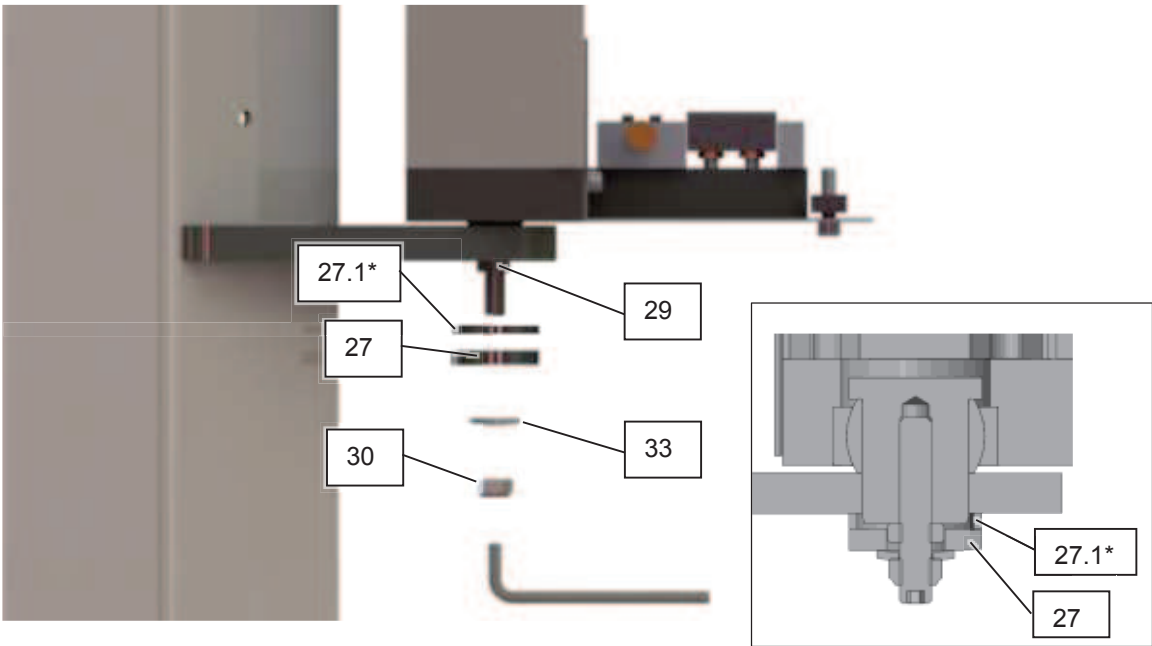


5. Pull the bolt (3.4) down through the hole of the lower bearing plate (1.2) using the set screw (32).
6. Screw the set screw (32) with the Allan key until it protrudes approximately 30 – 35 mm.

 CAUTION	
	<p>Falling crane components from improper mounting can result in injury.</p> <ul style="list-style-type: none"> ▶ Bolt (3.4) must be completely in the hole. ▶ The set screw (32) must protrude approximately 30 - 35 mm into the bearing plate (3.6) (see figure).



- 7. Tighten the flat nut (29) against the bolt (3.4). Hold the set screw (32) steady with the Allan key at the same time.
- 8. Check that the bolt (3.4) is in the correct position. The distance between the bolt (3.4) and the lower edge of the lower bearing plate is approximately 2-3 mm.
- 9. Hold the set screw firm with the Allan key during the next steps so the inner ring of the spherical bearing (3.3) does not turn.

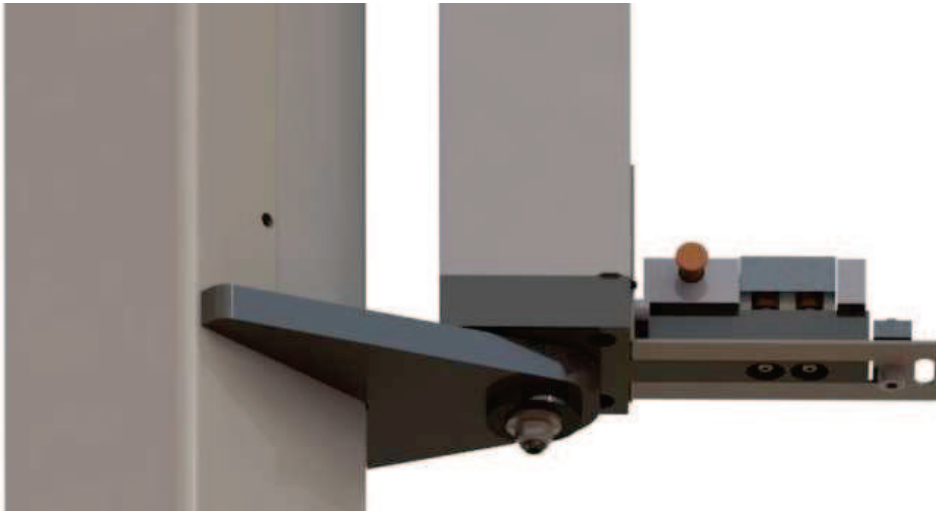


- 10. Attach the washers (27.1*, 27 and 33) and the stop nut (30).

	WARNING
	<p>Mounting in a way other than defined and falling parts can result in injury.</p> <p>▶ Special case for wall brackets with bearing heights of 500 or 700 mm. Insert washer 27.1* to maintain separation.</p>

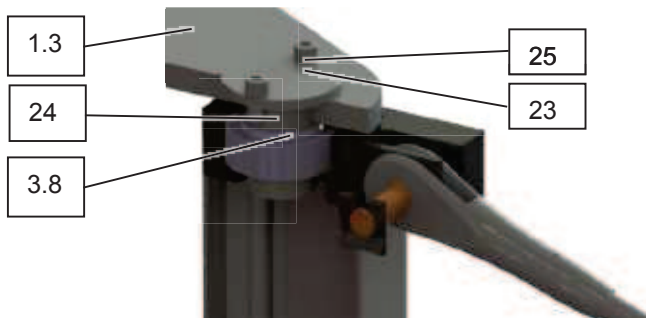
* Special case for wall brackets with bearing heights of 500 or 700 mm.

11. Tighten the stop nut (30) using the torque wrench (80 Nm). Hold the set screw (32) steady with the Allan key at the same time.



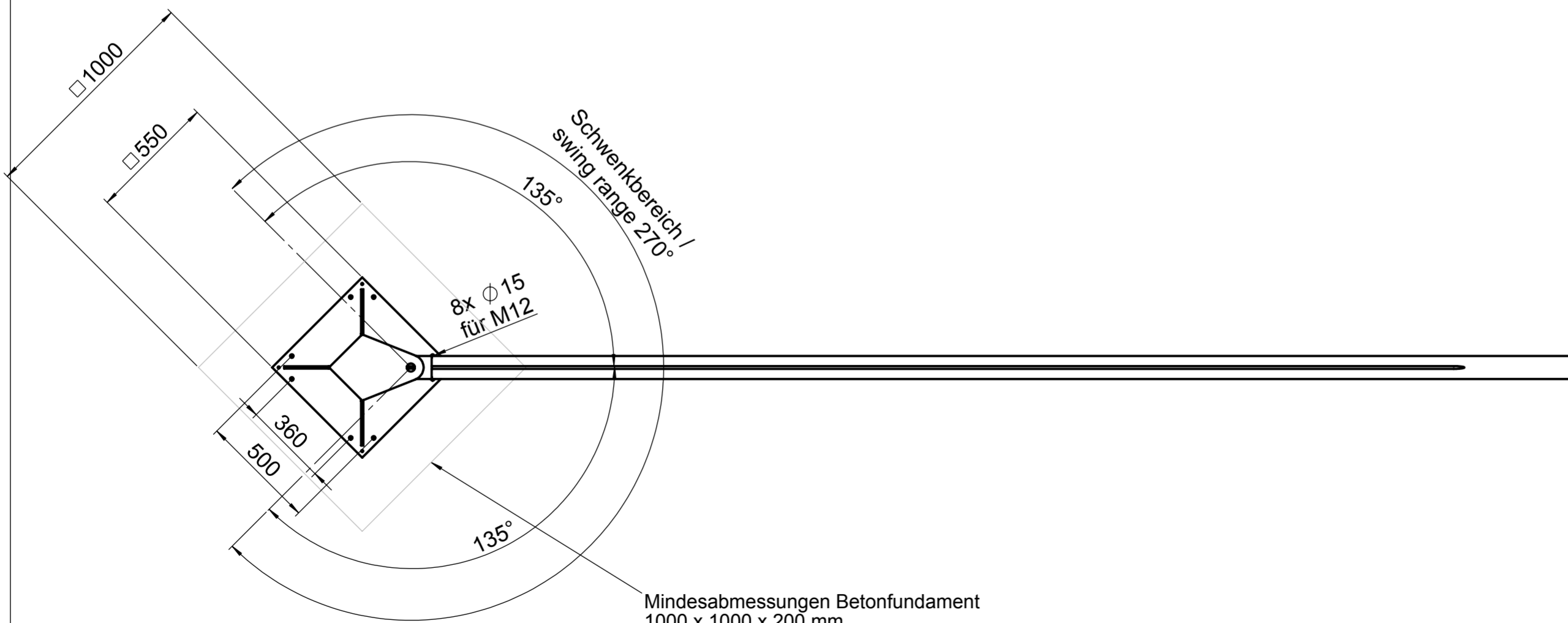
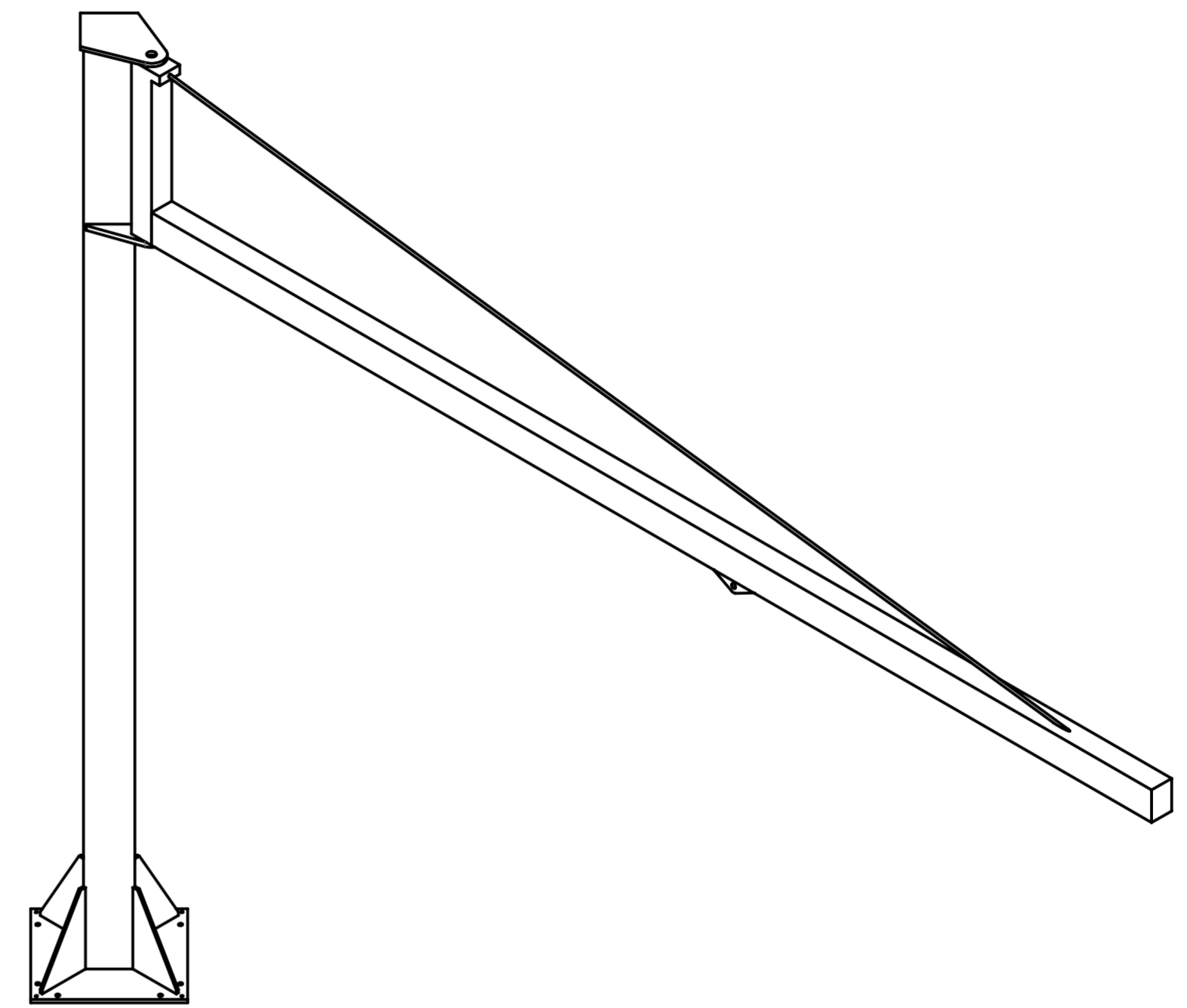
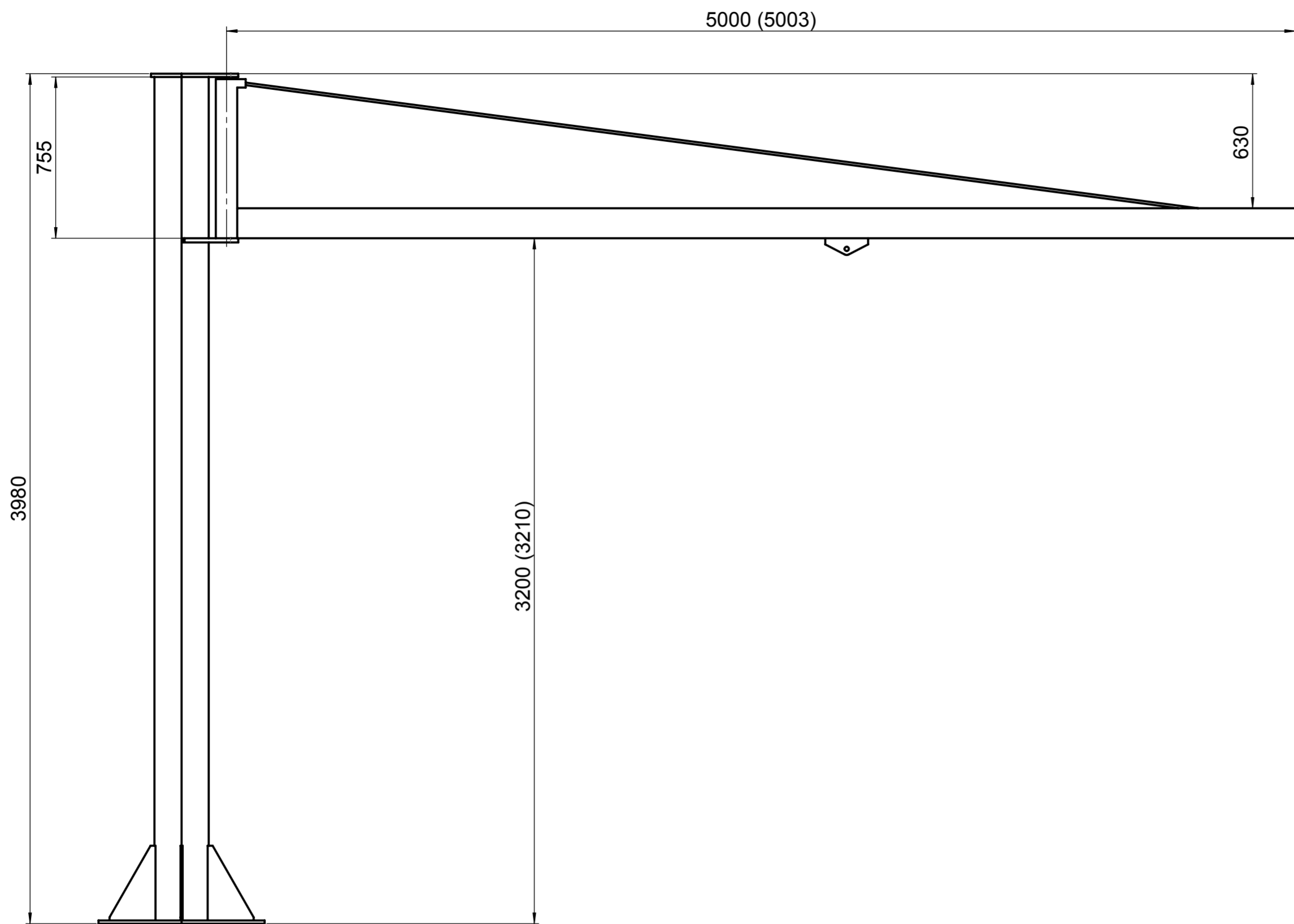
The lower console bearing is completely mounted.

Upper bearing mounting



1. Insert the upper bolt (24) through the hole in the upper bearing plate of the wall bracket / crane column (1.3) and in the upper bearing (3.8) of the pivot bearing.
2. Screw on the two M8 cylinder head screws (25) with Schnorr safety washers (23) and tighten with the torque wrench.

The pivot bearing of the crane jib is completely mounted.



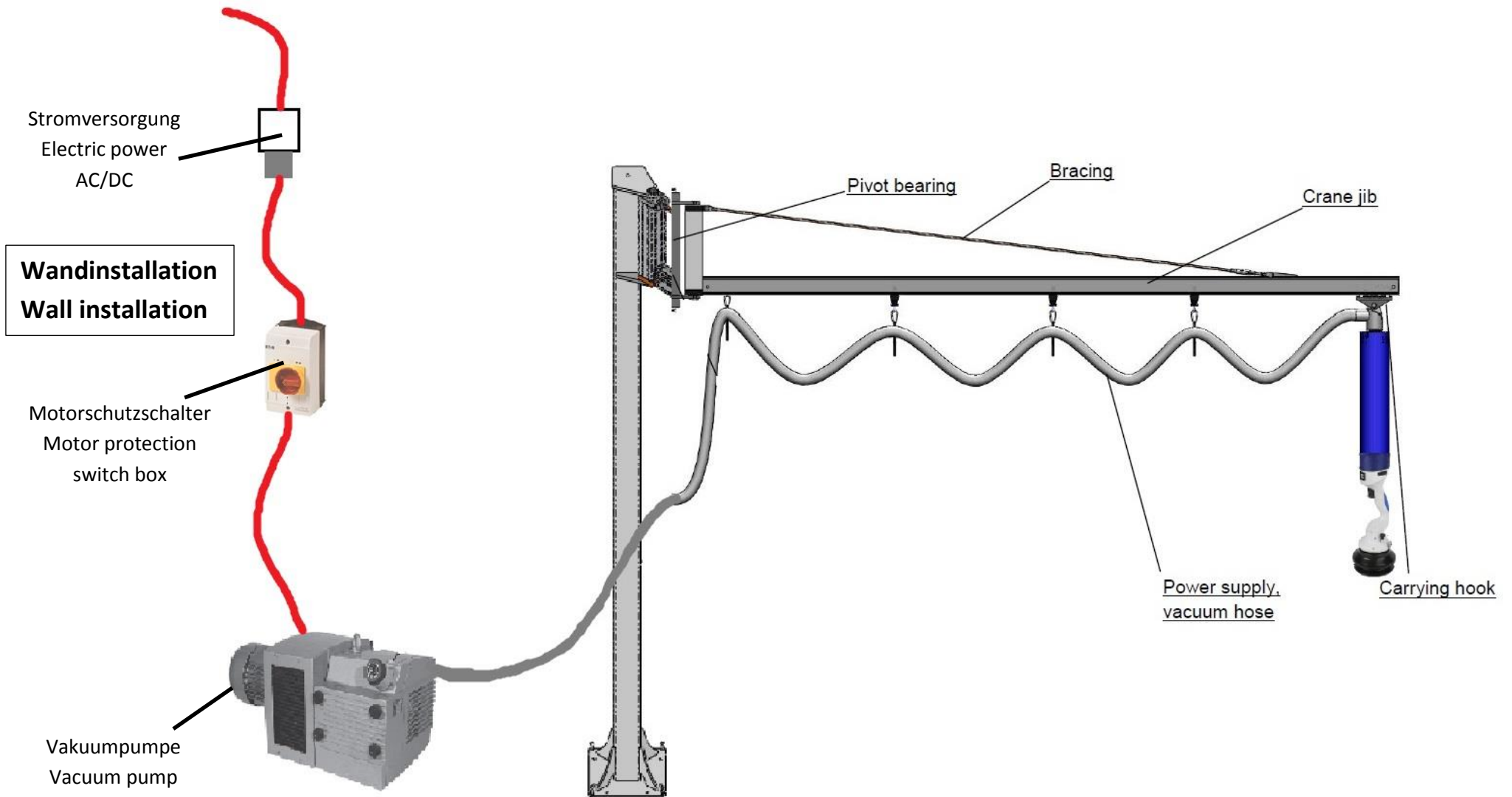
Mindestabmessungen Betonfundament
 1000 x 1000 x 200 mm
 Beton Festigkeitsklasse >=B25 bzw. >=C20/25
 Minimum dimensions of basement
 1000 x 1000 x 200 mm
 durability class of concrete >=B25 resp. C20/25

Tragfähigkeit: 150 [kg]
 Carrying Capacity: 150 [kg] / (330 [lbs.])

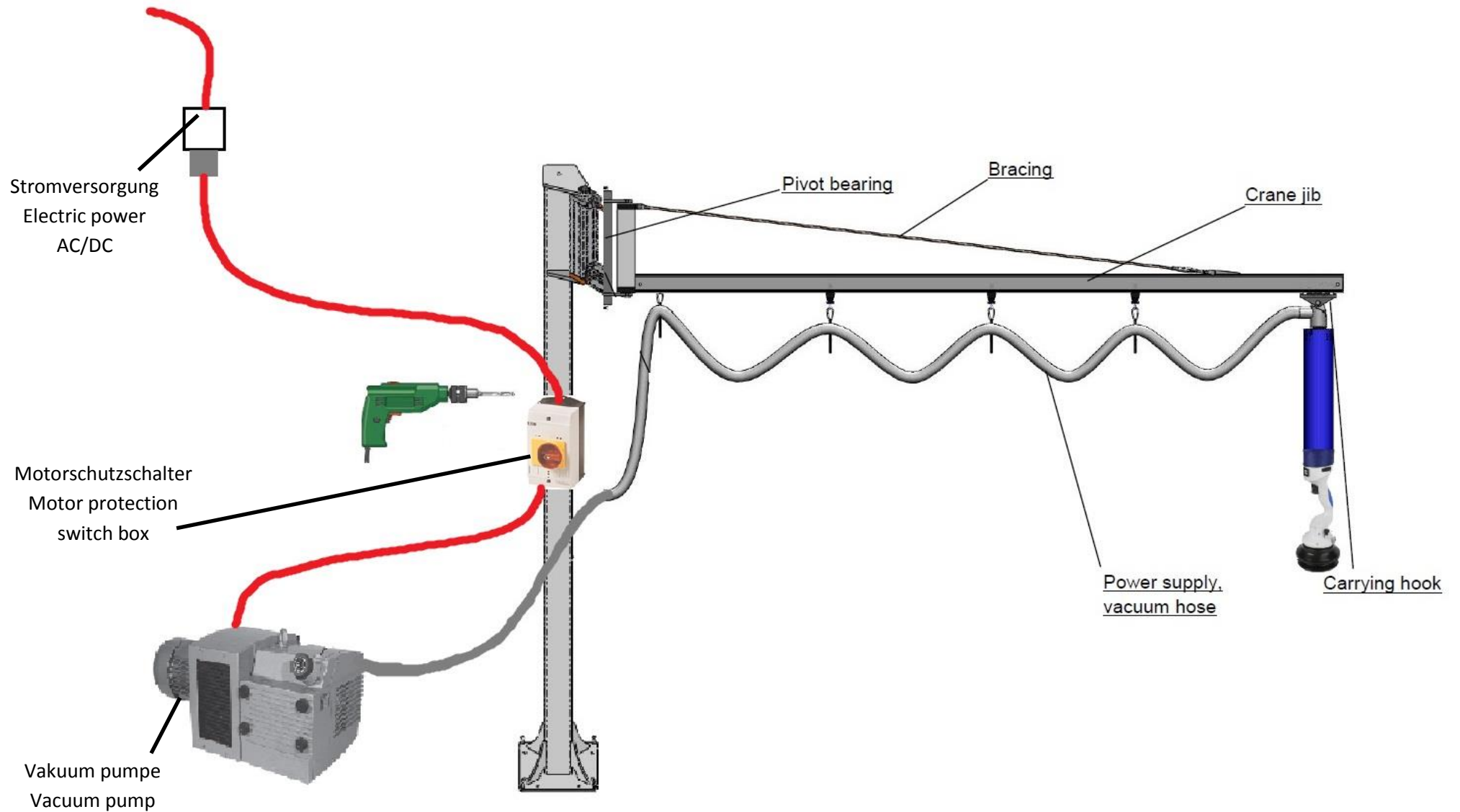
Pillar Swing Crane ASSK

		Bei Änderungen Rücksprache TB !	
		Gewicht: 221,0 kg	
		Schutzvermerk nach DIN 34 beachten! Nachdruck nur mit unserer Genehmigung!	
	Datum	Name	
	Erst. 6.9.2013	Michael.Wunder	
	Gepr. 21.10.2014	Joerg.Werner	
		Benennung	
		Säulenschwenkkran ASSK-150-5 für Schlauchheber Jumbo bis HE 150, Ausleger 5m	
	WA:	Artikelnummer/Zeichnungsnummer	
	Kunde:	D42000147	
Zust.	Urspr.	Ers. f.	Ers. d.
			Blatt 1 von 1

Installation Motorschutzschalter (Wandmontage) / Installation of motor protection switch box on the wall.



Installation Motorschutzschalter (Kransäule) / Installation of motor protection switch box at the swing crane by drilling of mounting holes in the column.



Montageanleitung

fischer Highbond-Anker dynamic FHB dyn



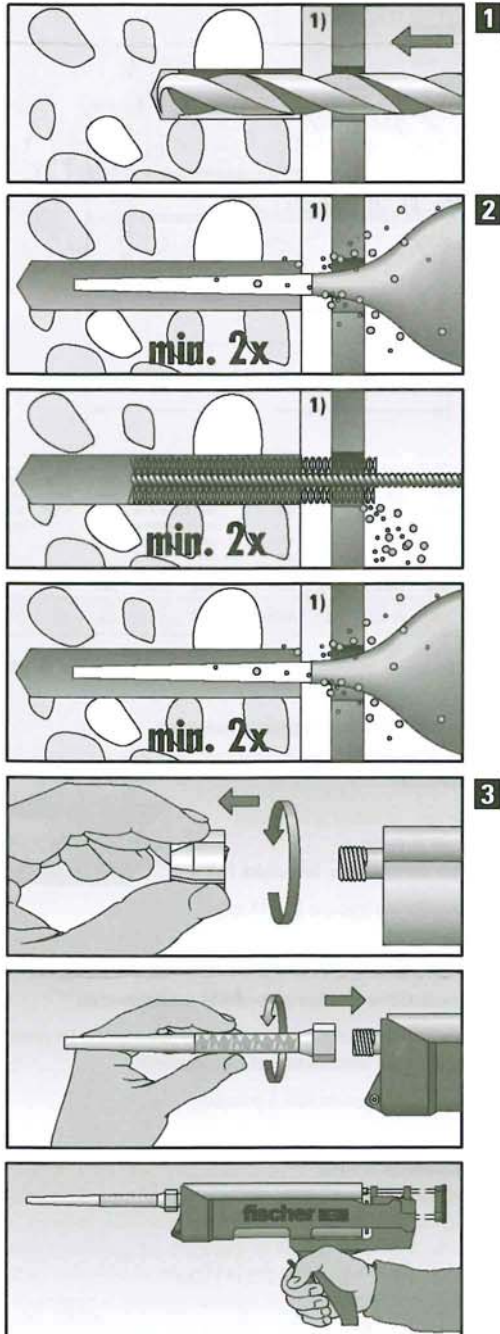
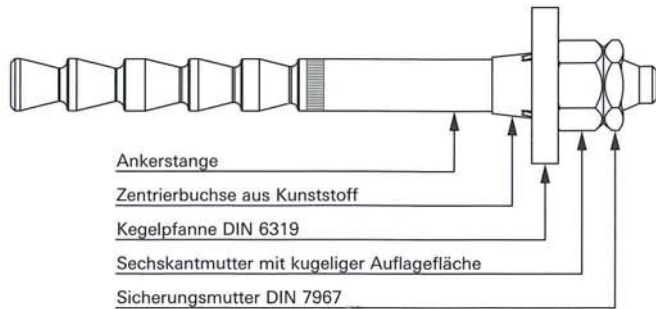
fischer Highbond-Injektions-Mörtel
FIS HB 150 C, Art. No. 77529

bestehend aus:

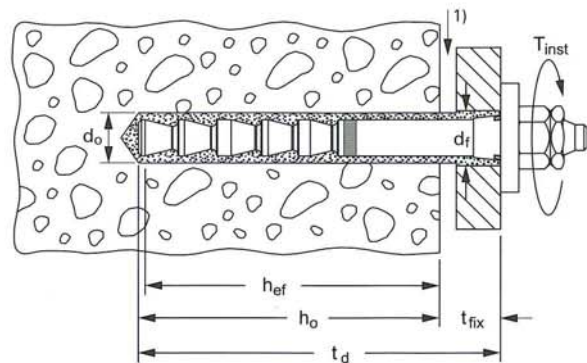
- fischer Highbond-Injektions-Mörtel FIS HB 150 C
- fischer Highbond-Ankerstange FHB-A dyn

Die fischer Highbond-Ankerstange FHB-A dyn darf nur in Verbindung mit dem fischer Injektions-Mörtel FIS HB 150 C verarbeitet werden.

Bestandteile der fischer Highbond-Ankerstange FHB-A dyn



Montagekennwerte



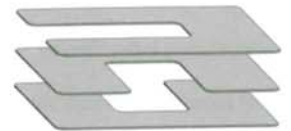
Ankerstangen- Abmessung	Ge- winde	Ver- an- ke- rungs- tiefe h_{ef} [mm]	Nutz- länge t_{fix} [mm]	Bohr- Ø d_o [mm]	Bohr- tiefe min.- max. h_o [mm]	Bohr- tiefe durch Anbau- teil t_d [mm]	Bohr- Ø im Anbau- teil d_f [mm]	Monta- dre- h- mo- ment T_{inst} [Nm]	Schlüs- sel- weite SW	Füll- menge (Skalen- teile auf Kar- tusche)	Erforder- liche Bürste
FHB-A dyn 12 x 100/25	M12	100	8-25	14	105-120	130	21	40	19	5	FHB-B12

Es sind 150 mm Mindestrandabstand zu Betonrändern einzuhalten!

Die Verankerung ist nur in der Durchsteckmontage möglich.

1. Bohrlocherstellung:

- Kransäule ausrichten → siehe Bedienungsanleitung Schwenkkrane.
Empfohlene Anordnung der Unterlegbleche übereinander.
- Bohrtiefe durch Klebeband am Bohrer $D = 14$ mm markieren → siehe Tabelle.

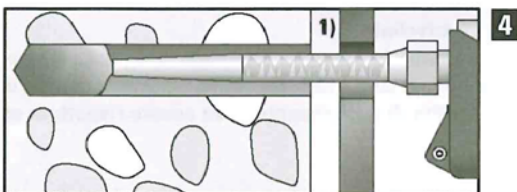
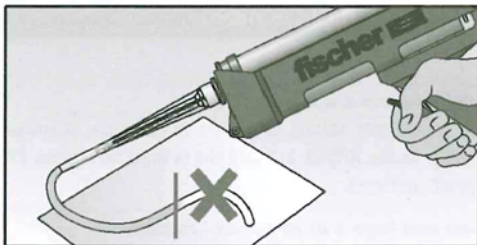


■ Die Bohrlöchtiefe ist exakt einzuhalten

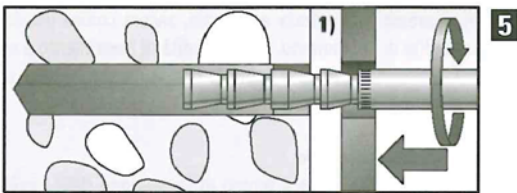
- Mit Hammerbohrer zylindrisches Bohrloch durch die Fußplatte erstellen.
Absaugung des Bohrmehls durch Staubsauger durchführen.
- Eine Verankerung in Vorsteckmontage ist nicht möglich.

2. Bohrloch gründlich reinigen:

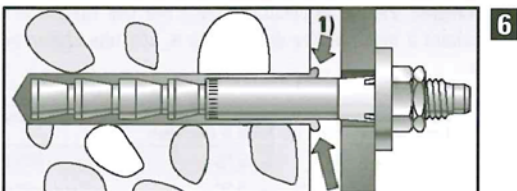
Vom Bohrlochgrund mind. 2 x ausblasen, 2 x bürsten und erneut 2 x ausblasen. Das Bürsten erfolgt mit der mitgelieferten Bürste. Beim Ausblasen ist nur ungeölte Druckluft zulässig. Einstellen der Dübel, dass Gewinde ca. 2 mm über der Kontermutter sichtbar ist. Probeeinstecken der Dübel in jeder Bohrung. Falls der Dübel noch nicht richtig gesetzt werden kann, ist ein Nachbohren mit anschließender erneuter Reinigung erforderlich. Alle Dübel entfernen.



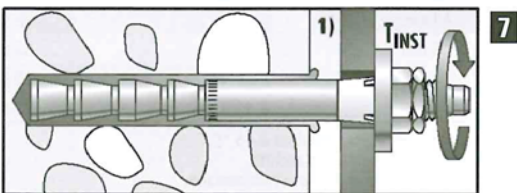
4



5



6



7

1) Unterfütterung nach Vorgabe der J. Schmalz GmbH

1) Calage selon préconisations de la société J. Schmalz GmbH

1) Ondersabelen van het aanbouwdeel volgens opgave van J. Schmalz GmbH

2) Nach Vorgabe der J. Schmalz GmbH

2) Selon préconisations de la société J. Schmalz GmbH

2) Volgens opgave van J. Schmalz GmbH

Ungenügende Reinigung = verminderte Tragfähigkeit

3. Bedienungsanleitung Injektions-Mörtel FIS HB:

Verschlusskappe abschrauben. Statikmischer aufschrauben. Einsetzen der Mörtelpatrone in eine Auspresspistole (fischer Kartuschenpistole KPM2), so dass die Skala sichtbar ist. Mörtel so lange auspressen, bis der austretende Mörtel gleichmäßig grau gefärbt ist.

Nicht grau gefärbter Mörtel bindet nicht ab und ist zu verwerfen.

4. Bohrlochverfüllung

Die Bohrlochverfüllung muss durch die Dübeldurchgangsbohrung in der Fußplatte erfolgen. Injektionsmörtel vom Bohrlochgrund ausgehend hubweise verfüllen. Füllmenge siehe Tabelle. **Die Füllmenge ist exakt einzuhalten.**

5. Ankerstangen setzen

Unmittelbar anschließend Highbond-Ankerstange FHB dyn komplettiert mit Sicherungsmutter, Sechskantmutter, Kegelpfanne (Unterlegscheibe) und Zentrierbuchse unter geringer Drehbewegung bis zur Setztiefe eindrücken. Die Setztiefe ist erreicht, wenn die Unterlegscheibe vollflächig an der Fußplatte anliegt und die Zentrierbuchse in die Durchgangsbohrung komplett eindringt.

6. Verarbeitungs- und Aushärtezeit

Die Ankerstange muss innerhalb der Verarbeitungszeit des Injektions-Mörtels eingesteckt sein. Die Aushärtezeit abwarten. Fußplatte mit vorgegebenem Montagedrehmoment auf die Sechskantmutter befestigen. Sicherungsmutter handfest aufschrauben und mit Schraubenschlüssel $\frac{1}{4}$ bis $\frac{1}{2}$ Umdrehung anziehen.

Kartuschentemperatur*	Offenzeit/ Verarbeitungszeit	Temperatur im Verankerungsgrund	Aushärtezeit**
		- 5 °C	360 Min.
		± 0 °C	180 Min.
+ 5 °C	15 Min.	+ 5 °C	90 Min.
+ 20 °C	6 Min.	+ 20 °C	35 Min.
+ 30 °C	4 Min.	+ 30 °C	20 Min.
+ 40 °C	2 Min.	+ 40 °C	12 Min.

* Kartuschentemperatur darf + 5 °C nicht unterschreiten.

** Die Wartezeiten gelten für trockenen Verankerungsgrund.

Im feuchten Verankerungsgrund sind die Wartezeiten zu verdoppeln.

Achtung: Nach Überschreiten der Offenzeit (Arbeiten mit Unterbrechungen), neuen Statikmischer verwenden. Falls in der Kartuschenöffnung verkrusteter Injektions-Mörtel vorhanden ist, diesen vorher entfernen.

Instructions de montage

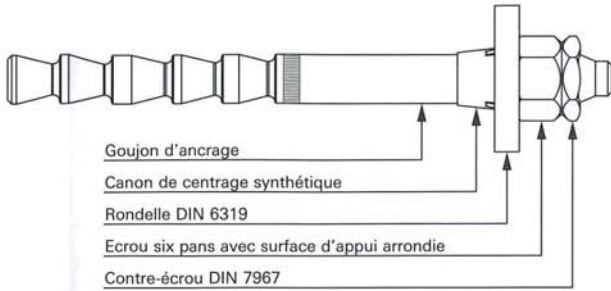
Ancrage fischer pour charges dynamiques Highbond FHB dyn

Il se compose de :

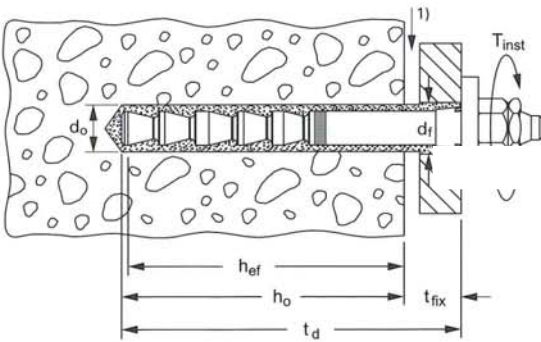
- mortier d'injection Highbond fischer FIS HB 150 C
- goujon d'ancrage Highbond fischer FHB-A dyn

Le goujon d'ancrage Highbond fischer FHB-A dyn ne doit être utilisé qu'en combinaison avec le mortier d'injection FIS HB 150 C.

Composants du goujon d'ancrage Highbond fischer FHB-A dyn



Caractéristiques de montage



Type de goujon d'ancrage	Filetage	Profondeur d'ancrage h_{ef} (mm)	Long. utile min.-max. t_{fix} (mm)	Dia-mètre de forage d_o (mm)	Profondeur de forage min.-max. h_o (mm)	Prof. de forage au travers de l'élément à fixer t_d (mm)	Diamètre de forage dans l'élément à fixer d_f (mm)	Couple de serrage T_{inst} (Nm)	Ouverture de clé SW	Nombre de graduations nécessaires au remplissage	Écouvillon adapté
FHB-A dyn 12 x 100/25	M12	100	8-25	14	105-120	130	21	40	19	5	FHB-B12

Respecter une distance au bord minimale de 150 mm par rapport aux rebords en béton!

L'ancrage n'est possible qu'en montage traversant.

1. Mode de perçage :

- Aligner la colonne support de grue → Voir conseils d'utilisation. Grue pivotante Disposition conseillée des rondelles les unes sur les autres.



- Profondeur du perçage par ruban adhésif sur le foret D = marquer 14 mm → voir tableau.

■ La profondeur du perçage doit être respectée avec précision

- Avec un foret à marteau percer un trou cylindrique au travers de la plaque d'assise. Aspirer la poussière de perçage à l'aide d'un aspirateur.
- L'ancrage n'est pas possible en montage à fleur.

2. Nettoyer soigneusement le trou de perçage :

Purger depuis le fond du trou de perçage min. 2 x, brosser 2 x puis purger à nouveau 2 x. Le brossage s'effectue avec la brosse livrée. Lors de la purge, seule l'utilisation d'air comprimé non lubrifié est autorisée. Placer la cheville afin que le filetage soit visible à env. 2 mm au dessus du contre-écrou. Placer la cheville à titre d'essai dans chaque perçage. Si la cheville ne peut pas encore être placée correctement, un perçage ultérieur avec un nouveau nettoyage est nécessaire. Ôter toutes les chevilles.

Montage-instructies voor de

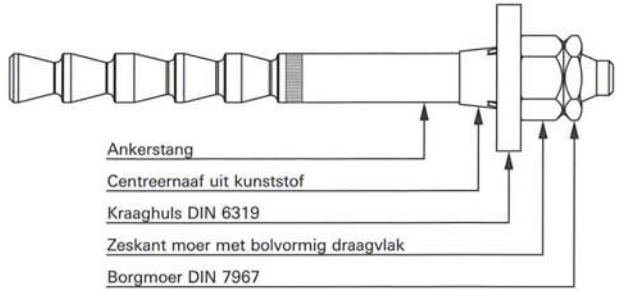
fischer Highbond-Anker dynamic FHB dyn

Bestaan uit de volgende delen:

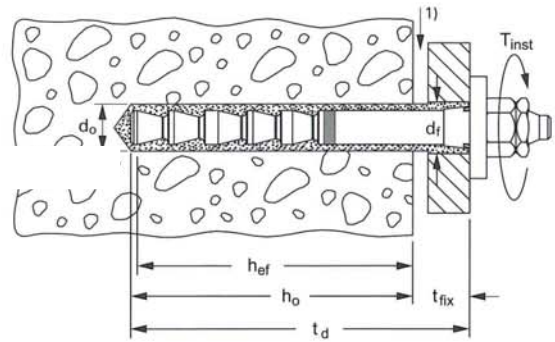
- fischer Highbond-Injectiemortel FIS HB 150 C
- fischer Highbond ankerstang FHB-A dyn

De fischer Highbond ankerstang FHB-A dyn mag alleen in combinatie met de fischer Injectiemortel FIS HB 150 C worden gebruikt.

Bestanddelen van de fischer Highbond ankerstang FHB-A dyn



Montagewaarden



Ankerstang afmeting	Draad	Ver-ankers-rijns- diepte h_{ef} (mm)	Ge-bruiks- lengte min.-max. t_{fix} (mm)	Boor \varnothing d_o (mm)	Boor- diepte min.-max. h_o (mm)	Boor- diepte door de anker- plaat t_d (mm)	Boor \varnothing in anker- plaat d_f (mm)	Monta- ge- aan- draai- moment T_{inst} (Nm)	Sleutel- breedte SW	Vul- mengsel (schaal- verdeling op patroon)	Vereiste borstel
FHB-A dyn 12 x 100/25	M12	100	8-25	14	105-120	130	21	40	19	5	FHB-B12

Er dient een minimale randafstand van 150 mm tot betonranden in acht genomen te worden!

Verankering is alleen in doorsteekmontage mogelijk.

1. Boren boorgat:

- De kraan uitlijnen → zie de bedieningshandleiding van de kraan. De aanbevolen plaatsing van de tussenringen is op elkaar.



- De boordiepte m.b.v. plakband op de boor D = 14 mm aangeven → zie de tabel.

■ De boordiepte moet exact worden aangehouden

- Maak met behulp van de hamerboor een cilindrisch gat in de voetplaat. Zuig het boorstof weg met een stofzuiger.
- Een verankering door middel van voorsteekmontage is niet mogelijk.

2. Boorgat goed reinigen:

Het boorgat vanaf de onderkant ten minste 2 x uitblazen, 2 x borstelen en nogmaals 2 x uitblazen. Gebruik de meegeleverde borstel voor het borstelen. Voor het uitblazen is alleen olievrije perslucht toegestaan. Stel de ankerhulzen zo in, dat de schroefdraad tot ca. 2 mm boven de borgmoer zichtbaar is. Instelling van de ankerhulzen bij ieder boorgat proefondervindelijk controleren. Als de ankerhulzen niet correct kan worden aangebracht, moet worden nageboord en is een hernieuwde reiniging noodzakelijk. Verwijder alle ankerhulzen.

Nettoyage insuffisant = capacités de charge réduites

3. Conseils d'utilisation du mortier d'injection FIS HB :

Dévisser le capuchon. Visser le mélangeur statique. Placer la cartouche de mortier dans un pistolet d'injection (pistolet à cartouches fischer KPM2) de manière à ce que la graduation soit visible. Presser le mortier jusqu'à ce que le mortier sortant soit uniformément teinté en gris.

Le mortier d'injection non teinté en gris ne lie pas et doit être jeté.

4. Remplissage du forage

Le remplissage du forage doit être effectué au travers du forage de passage de la cheville dans la plaque d'appui. Comblé avec le mortier d'injection par jets à partir du fond du forage. Quantité de remplissage : voir tableau. **La quantité de remplissage doit être respectée avec précision.**

5. Placer les goujons d'ancrage

Ensuite, enfoncer immédiatement le goujon d'ancrage Highbond FHB dyn complété par le contre-écrou, l'écrou six pans, la rondelle et la bague de centrage en effectuant un faible mouvement de rotation jusqu'à la profondeur de pose. La profondeur de pose est atteinte lorsque la rondelle est complètement plaquée sur toute sa surface contre la plaque d'appui et que la bague de centrage est complètement introduite dans le forage de passage.

6. Temps de traitement et de durcissement

Le goujon d'ancrage doit être introduit pendant le temps de traitement du mortier d'injection. Attendre pendant le temps de durcissement. Fixer la plaque d'appui à l'écrou six pans avec le couple de rotation du montage indiqué. Visser le contre-écrou solidement et serrer avec une clé plate ¼ jusqu'à ½ tour.

Température de la cartouche*	Temps de manipulation/ Temps de mise en œuvre	Température du support	Temps de prise**
		- 5 °C	360 min.
		± 0 °C	180 min.
+ 5 °C	15 min.	+ 5 °C	90 min.
+ 20 °C	6 min.	+ 20 °C	35 min.
+ 30 °C	4 min.	+ 30 °C	20 min.
+ 40 °C	2 min.	+ 40 °C	12 min.

* Température mini de la cartouche : + 5 °C.

** Les temps de prise sont donnés pour un support sec. Il convient de les doubler pour un support humide.

Attention : Après dépassement du temps de manipulation (travaux avec interruption), il convient de mettre en place un nouvel embout mélangeur. Retirer les éventuels résidus de mortier durcis présents au niveau de la sortie de la cartouche.

Onvoldoende reiniging = verminderd draagvermogen

3. Gebruiksaanwijzing van de Injectiemortel FIS HB:

Schroef de dop los. Schroef de statische menger erop. Plaats de mortelpatronen in een doseerpistool (fischer patronenpistool KPM2), zodat de schaalverdeling zichtbaar is. Net zo lang mortel uit het pistool drukken, tot de uittredende mortel een gelijkmatige grijze kleur heeft.

Mortel die niet grijs is, bindt niet en moet worden weggegooid.

4. Boorgatvulling

Het boorgat moet via het gat van de ankerhuls in de voetplaat worden gevuld. De injectiemortel slagsgewijs vanaf de onderkant in het boorgat spuiten. Zie de tabel voor de te vullen hoeveelheid. **De te vullen hoeveelheid moet exact worden aangehouden.**

5. Ankerstangen aanbrengen

Direct aansluitend de Highbond ankerstang FHB dyn samen met de borgmoer, zeskante moer, conische ring (tussenring) en centreerbus door voorzichtig draaien tot aan de plaatsingsdiepte indrukken. De plaatsingsdiepte is bereikt, als de tussenring volledig tegen de voetplaat rust en de centreerbus volledig in het doorgaande boorgat zit.

6. Verwerkings- en uithardingstijd

De ankerstang moet binnen de verwerkingstijd van de injectiemortel zijn ingestoken. De uithardingstijd afwachten. De voetplaat met het aangegeven montagekoppel op de zeskante moer bevestigen. De borgmoer handvast opschroeven en met behulp van een ringsleutel een ¼ tot ½ slag vastdraaien.

Patroon-temperatuur*	Verwerkingstijd	Temperatuur in de verankeringsondergrond	Uithardingstijd**
		- 5 °C	360 min.
		± 0 °C	180 min.
+ 5 °C	15 min.	+ 5 °C	90 min.
+ 20 °C	6 min.	+ 20 °C	35 min.
+ 30 °C	4 min.	+ 30 °C	20 min.
+ 40 °C	2 min.	+ 40 °C	12 min.

* Patroontemperatuur mag niet lager zijn dan + 5 °C.

** De wachttijden gelden voor droge verankeringsgronden.

In vochtige verankeringsgronden moeten de wachttijden worden verdubbeld.

Let op: Na het overschrijden van de verwerkingstijd (werken met onderbrekingen), dienen nieuwe mengtuig gebruikt te worden. Indien er in de opening van het patroon aangekoekte injectiemortel aanwezig is, dient deze eerst te worden verwijderd.

Instrucciones de montaje

Anclaje Highbond dynamic fischer FHB dyn



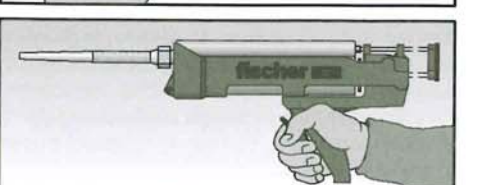
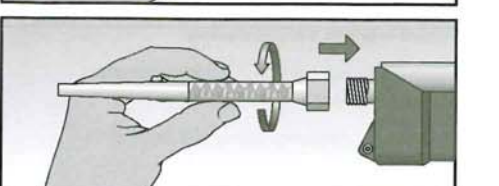
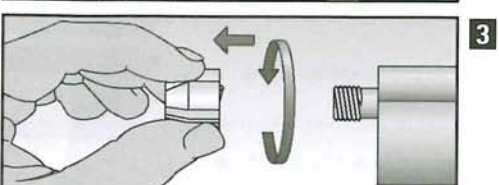
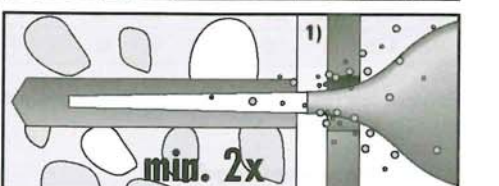
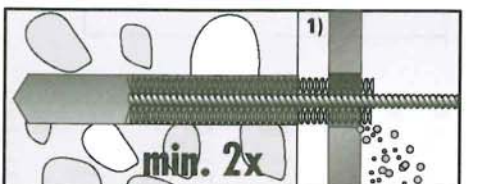
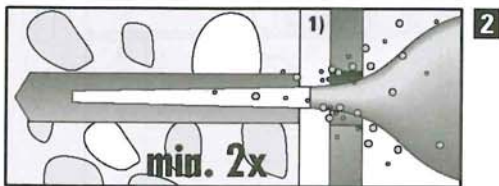
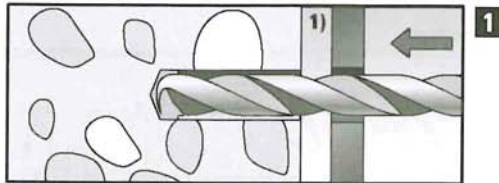
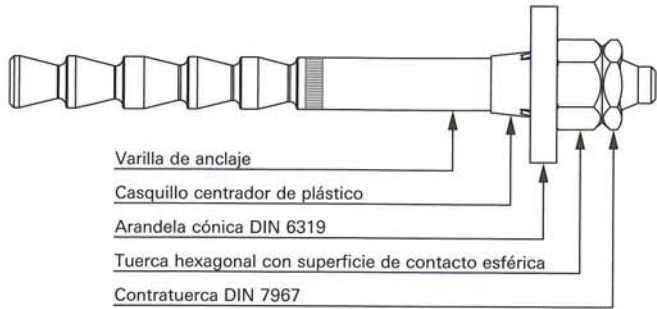
fischer Highbond-Injektions-Mörtel
FIS HB 150 C, Art. No. 77529

Compuesto por:

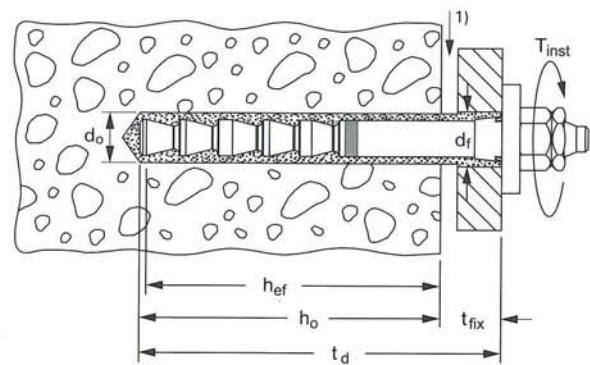
- Mortero de inyección Highbond fischer FIS HB 150 C
- Varilla de anclaje Highbond fischer FHB-A dyn

La varilla de anclaje Highbond fischer FHB-A dyn sólo puede utilizarse en combinación con el mortero de inyección fischer FIS HB 150 C.

Componentes de la varilla de anclaje Highbond fischer FHB-A dyn



Datos de montaje



Dimensiones de la varilla de anclaje	Rosca	Prof. de anclaje	Espesor máximo a fijar min.-max.	Diámetro de taladro	Prof. de taladro min.-max.	Prof. de taladro a través de objeto a fijar	Diámetro de taladro en el objeto a fijar	Par de apriete	Ancho de llave	Volumen de relleno (graduación de escala del cartucho)	Escobilla necesaria
		h_{ef} (mm)	t_{fx} (mm)	d_o (mm)	h_o (mm)	t_d (mm)	d_f (mm)	T_{inst} (Nm)	SW		
FHB-A dyn 12 x 100/25	M12	100	8-25	14	105-120	130	21	40	19	5	FHB-B12

¡Se tiene que observar una distancia mínima de 150 mm a los bordes del hormigón!

Sólo se puede efectuar la fijación en montaje a través.

1. Ejecución del taladro:

- Alinear la columna de la grúa. → Ver el manual de servicio de grúas orientables. Disposición recomendada de las chapas base, una encima de otra.



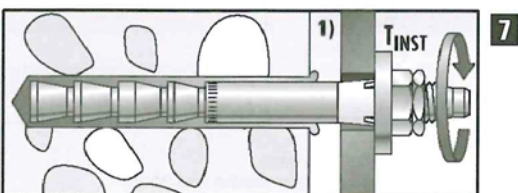
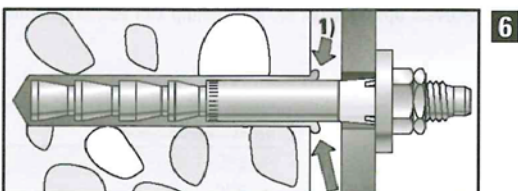
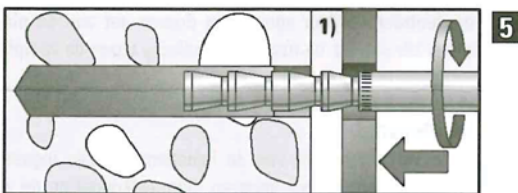
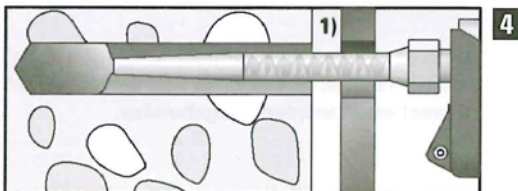
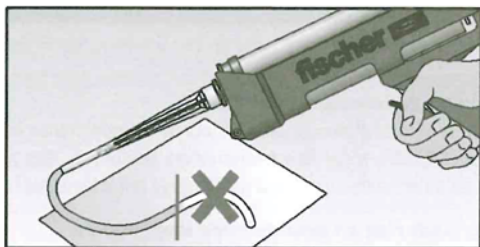
- Marcar la profundidad de percusión mediante una cinta adhesiva que se coloca en el taladro $D = 14$ mm. → Ver la tabla.

■ Debe cumplirse exactamente la profundidad de taladrado.

- Realizar un orificio cilíndrico a través de la placa basal, mediante un taladro de percusión. Eliminar el polvo producido mediante una aspiradora.
- No es posible efectuar el anclaje mediante un preposicionado.

2. Limpieza a fondo del taladro:

Soplar como mín. 2 veces mecánicamente desde el fondo del orificio, cepillar 2 veces y volver a soplar 2 veces. Se debe cepillar con el cepillo suministrado. Al soplar, sólo es permisible usar aire comprimido sin aceite. Ajustar los tacos, de forma que la rosca sobresalga aprox. 2 mm sobre la contratuercas. Efectuar la prueba de colocar el taco en cada orificio. Si aún no se pudiera insertar correctamente un taco, es necesario retaladrar y volver a limpiar a continuación. Extraer todos los tacos.



1) Relleno interior según las indicaciones dadas por J. Schmalz GmbH

1) Underlay in accordance with the requirements of J. Schmalz GmbH

1) Letto di posa conforme alla direttiva di J. Schmalz GmbH

2) Según las indicaciones dadas por J. Schmalz GmbH

2) In accordance with the requirements of J. Schmalz GmbH

2) Conforme alla direttiva di J. Schmalz GmbH

Limpeza insuficiente = menor capacidad de carga

3. Instrucciones de uso del mortero de inyección FIS HB:

Desatornillar la tapa de cierre. Atornillar la mezcladora estática. Insertar el cartucho de mortero dentro de la pistola exprimidora fischer KPM2, de forma que sea reconocible la escala. Exprimir, hasta que el mortero emergente tenga un color gris homogéneo.

El mortero que no es de color gris, no fragua y debe desecharse.

4. Relleno del taladro

Los orificios deben rellenarse a través del orificio de paso del taco de la placa basal. Rellenar el mortero a inyección por chorros, partiendo desde el fondo del orificio. Ver la tabla de las cantidades a rellenar. **Debe cumplirse exactamente la cantidad a rellenar.**

5. Fijar los vástagos de anclaje

Inmediatamente después, completar el vástago de anclaje Highbond FHB dyn con la tuerca de fijación. Introducir a presión la tuerca hexagonal, el cojinete cónico (arandela) y el casquillo de centrado hasta la profundidad correspondiente mediante un ligero giro. La profundidad se ha alcanzado, cuando la arandela queda completamente asentada sobre la placa basal, y el casquillo de centrado atraviesa completamente el orificio de paso.

6. Tiempo de trabajabilidad y endurecimiento

El vástago de anclaje debe quedar insertado mientras se esté manipulando el mortero de inyección. Esperar a que endurezca. Fijar la placa basal sobre la tuerca hexagonal, con el par de montaje prescrito. Atornillar la tuerca de fijación a mano, y apretarla de ¼ a ½ vuelta con la llave.

Temperatura de los cartuchos*	Tiempo de trabajabilidad	Temperatura en la base de anclaje	Tiempo de endurecimiento**
		- 5 °C	360 min.
		± 0 °C	180 min.
+ 5 °C	15 min.	+ 5 °C	90 min.
+ 20 °C	6 min.	+ 20 °C	35 min.
+ 30 °C	4 min.	+ 30 °C	20 min.
+ 40 °C	2 min.	+ 40 °C	12 min.

* La temperatura de los cartuchos nunca debe ser inferior a + 5 °C.

** Los tiempos de espera son válidos para una base de anclaje seca.

En el caso de bases de anclaje húmedas, se deberán duplicar los tiempos de espera.

Atención: si se supera el tiempo de trabajabilidad (trabajos con interrupciones), utilizar un boquilla mezcladora nueva. En el caso de que haya incrustaciones de mortero en la boca del cartucho, éstas deberán eliminarse previamente.

Installation

fischer highbond anchor dynamic FHB dyn

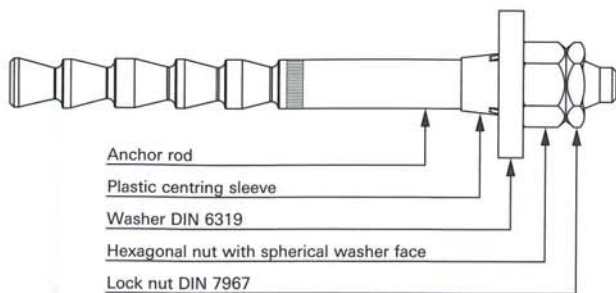
Consisting of:

■ fischer highbond injection mortar FIS HB 150 C

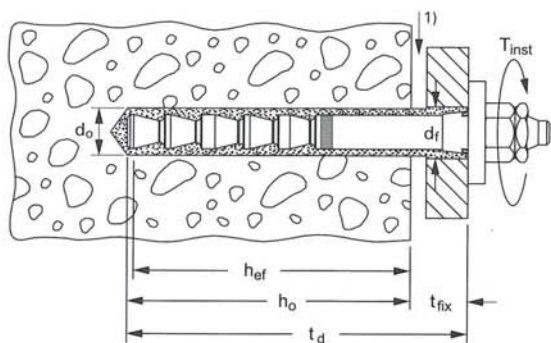
■ fischer highbond anchor rod FHB-A dyn

The fischer highbond anchor rod FHB-A dyn may only be used in conjunction with fischer injection mortar FIS HB 150 C.

Components of fischer highbond anchor rod FHB-A dyn



Installation parameters



Anchor rod dimensions	Thread	Anchoring depth		Diameter of drill bit	Drilling depth		Min. drill hole depth for through fixings	Diam. drill bit for through fixings	Installation torque	Width across flats	Capacity (scale divisions on cartridge)	Brush required
		h_{ef} [mm]	t_{fix} [mm]		min.-max.	d_o [mm]						
FHB-A dyn 12 x 100/25	M12	100	8-25	14	105-120	130	2)	40	19	5	FHB-B12	

A minimum edge distance of 150 mm from concrete edges must be observed!

Anchoring is only possible for through type installations.

1. Drilling the hole:

■ Align crane post → see operating instructions for slewing cranes.
Recommended layout of shims: on top of each other.

■ Use tape to mark drilling depth on drill, $D = 14$ mm → see table

■ **The drilling depth is to be exactly adhered to**

■ Use hammer drill to create a cylindrical drill hole through the base plate.
Use a vacuum cleaner to extract the drill dust.

■ It is not possible to anchor in pre-installation.

2. Cleaning the drill hole thoroughly:

Blow down, brush and repeat blow down on the drill hole base at least twice. Brush using the brush supplied. Only unoiiled compressed air may be used for blowing down. Position the anchor bolt so that the screw thread is visible approx. 2 mm above the lock nut. Make sure the anchor bolt fits in each drill hole. If the anchor bolt cannot be positioned properly, the hole must be drilled and then cleaned again. Remove all anchor bolts.



Istruzioni di montaggio

Ancorante fischer Highbond (ad elevato potere di fissaggio) dinamico FHB dyn

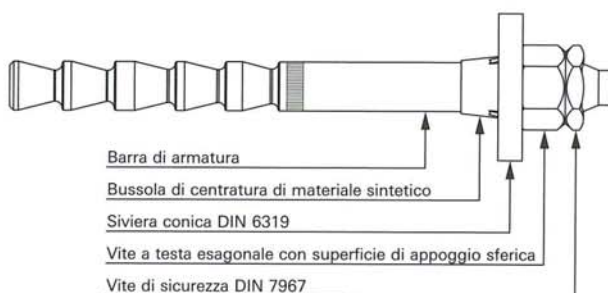
Formato da:

■ Resina ad iniezione fischer Highbond (ad elevato potere di fissaggio) FIS HB 150 C

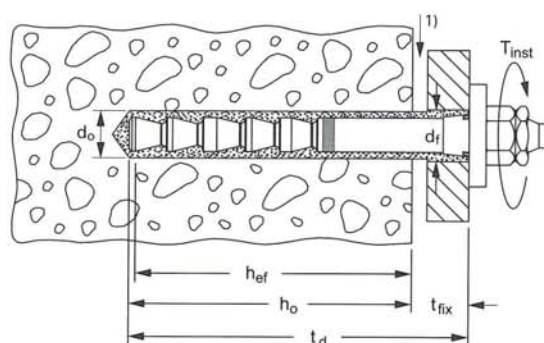
■ Barra di armatura Highbond (ad elevato potere di fissaggio) fischer FHB-A dyn

La barra di armatura Highbond (ad elevato potere di fissaggio) fischer FHB-A dyn deve essere utilizzata solo in combinazione con resina fischer ad iniezione FIS HB 150 C.

Elementi della barra di armatura fischer Highbond FHB-A dyn



Dati di montaggio



Misura della barra di armatura	Filettatura	Prof. à di ancoraggio		d_o [mm]	Prof. à di utilizzo		Prof. à del foro	Prof. à del foro nell'elemento strutturale	Prof. à del foro nell'elemento strutturale	Momento torcente	Passo della chiave	Riempimento (cartuccia graduata)	Spazzola necessaria
		h_{ef} [mm]	min.-max.		min.-max.	h_o [mm]							
FHB-A dyn 12 x 100/25	M12	100	8-25	14	105-120	130	2)	40	19	5	FHB-B12		

Si deve rispettare una distanza minima dai bordi in calcestruzzo di 150 mm!

L'ancoraggio è possibile solo nel montaggio a incastro.

1. Come eseguire la foratura:

■ Orientare la colonna della gru → vedere le istruzioni per l'uso delle gru a braccio girevole.
Disposizione raccomandata delle lamiere: una sopra l'altra.

■ Con del nastro adesivo segnare sul trapano $D = 14$ mm la profondità di foratura → vedere la tabella.

■ **La profondità di foratura deve essere rispettata esattamente**

■ Praticare un foro cilindrico nella piastra di base, servendosi di un trapano a percussione.
Aspirare la polvere provocata dalla foratura con un'aspirapolvere.

■ L'ancoraggio nel montaggio non passante non è possibile.

2. Come pulire accuratamente il foro:

partendo dal fondo del foro soffiare almeno 2 volte, spazzolare 2 volte e soffiare altre 2 volte. Per la soffiatura utilizzare la spazzola in dotazione. Per la soffiatura è consentito utilizzare esclusivamente aria compressa non lubrificata. Regolare i tasselli in modo che sia possibile vedere ca. 2 mm di filettatura emergere dal controdado. Provare ad applicare i tasselli in ogni foratura. Se non dovesse essere ancora possibile applicare correttamente il tassello, ripetere la foratura e la successiva pulizia. Rimuovere tutti i tasselli.



Inadequate cleaning = reduced load-carrying capacity

3. Instructions for using injection mortar FIS HB:

Unscrew screw cap. Screw on static mixer. Place the mortar cartridge in a mastic gun (fischer KPM2 applicator gun) so that the scale is visible. Press the mortar until the emergent mortar is an even grey colour.

Mortar that is not grey does not bind and should be discarded.

4. Filling the drill hole

The drill hole filling must be inserted via the anchor bolt through hole in the base plate. Fill in the injection mortar from the drill hole base stroke by stroke. See table for fill quantity. **The fill quantity is to be exactly adhered to.**

5. Setting the anchor rod

Use a light circular motion to immediately press in highbond anchor dynamic FHB dyn – complete with lock nut, hexagonal nut, washer (flat washer) and centring sleeve – up to setting depth. The setting depth has been achieved once the washer fits fully on to the base plate, and the centring sleeve fully penetrates the through hole.

6. Processing and setting time

The anchor rod must be inserted within the injection mortar processing time. Wait for the setting time. Fit the base plate onto the hexagonal nut using the prescribed installation torque. Screw on the lock nut so that it is hand-tight, and then use a screw wrench to screw it through ¼ to ½ rotations.

Temperature of cartridge*	Open time/ setting time	Temperature in the keying surface	Setting time**
		- 5 °C	360 min.
		± 0 °C	180 min.
+ 5 °C	15 min.	+ 5 °C	90 min.
+ 20 °C	6 min.	+ 20 °C	35 min.
+ 30 °C	4 min.	+ 30 °C	20 min.
+ 40 °C	2 min.	+ 40 °C	12 min.

* The temperature of the cartridge must not fall below + 5 °C.

** The setting times apply to dry keying surfaces.
For damp surfaces, waiting times must be doubled.

Please note: if the open time is exceeded (work with interruptions) use a new static mixer. If the cartridge opening is encrusted with injection mortar, remove beforehand.

Pulizia insufficiente = capacità di carico ridotta

3. Istruzioni per l'uso della resina a iniezione FIS HB:

Svitare il tappo. Avvitare il miscelatore statico. Applicare la cartuccia di resina alla pistola applicatrice (pistola per cartucce fischer KPM2), in modo che la scala sia visibile. Premere finché non fuoriesce resina color grigio uniforme.

Se non è grigia, la resina non lega e deve essere gettata.

4. Riempimento del foro trivellato

Riempire il foro trivellato attraverso il foro passante del tassello nella piastra di base. Partendo dal fondo, applicare la resina a iniezione poco a poco. Per quanto concerne la quantità di riempimento consultare la tabella. **La quantità di riempimento deve essere rispettata esattamente.**

5. Applicazione delle barre di armatura

Subito dopo, esercitando un leggero movimento rotatorio, introdurre la barra di armatura Highbond FHB dyn, completa di vite di sicurezza, vite a testa esagonale, siviera conica (rondella) e bussola di centratura, per tutta la profondità di inserimento. La profondità di inserimento è stata raggiunta quando tutta la superficie della rondella si trova a contatto con la piastra di base e la bussola di centratura è completamente penetrata nel foro passante.

6. Tempi di lavorazione e di indurimento

La barra di armatura deve essere inserita entro il tempo di lavorazione della resina a iniezione. Attendere il tempo di indurimento. Fissare la piastra di base alla vite esagonale con la coppia di montaggio prescritta. Avvitare a mano la vite di sicurezza e, con una chiave per viti, serrare praticando ¼ – ½ rotazione.

Temperatura della cartuccia*	Tempo di apertura/ Tempo di lavorazione	Temperatura del fondo di ancoraggio	Tempo di indurimento**
		- 5 °C	360 min.
		± 0 °C	180 min.
+ 5 °C	15 min.	+ 5 °C	90 min.
+ 20 °C	6 min.	+ 20 °C	35 min.
+ 30 °C	4 min.	+ 30 °C	20 min.
+ 40 °C	2 min.	+ 40 °C	12 min.

* La temperatura della cartuccia non deve essere inferiore a +5 °C.

** I tempi di attesa si riferiscono a fondi di ancoraggio asciutti.
In caso di fondi di ancoraggio umidi i tempi di attesa si raddoppiano.

Attenzione: una volta scaduto il tempo di apertura (lavoro ad interruzioni) utilizzare un nuovo miscelatore statico. Se all'apertura della cartuccia sono presenti incrostazioni di resina ad iniezione, eliminarle prima dell'utilizzo.

EC-Declaration of Conformity / UKCA-Declaration of Conformity

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The machine described above complies with the relevant requirements of the following EU directives:
The object of the declaration described above is in conformity with the relevant UK-Regulations and UK-Guidelines:

EC-machinery directive 2006/42/EC (Reference: OJ L 157, 09.06.2006)

UK-Regulation: Supply of Machinery (Safety) Regulations 2008 (SI 2008 No. 1597)

2014/30/EU (Electromagnetic compatibility) / (Reference: OJ L 96, 29.03.2014)

UK-Regulation: Electromagnetic Compatibility Regulations 2016 (SI 2016 No. 1091)

The following standards and technical specifications were used:

DIN EN ISO 12100

Safety of machinery - General principles for design - Risk assessment and risk reduction

UK-Regulation: BS EN ISO 12100-1:2003+A1:2009

DIN EN ISO 13857

Safety of machinery - safety distances to prevent hazard zones being reached by upper and lower limbs.

UK-Regulation: BS EN ISO 13857:2019

2014/30/EU (Electromagnetic compatibility) / (Reference: OJ L 96, 29.03.2014)

UK-Regulation: Electromagnetic Compatibility Regulations 2016 (SI 2016 No. 1091)

DIN EN 60204-1 (IEC 60204-1)

Safety of machinery, electrical equipment of industrial machines. Part 1: General requirements.

UK-Regulation: BS EN 60204-1:2018

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Erdmannhausen, 02.08.2021.....

(Eric Wilhelm, Managing director)

