

USER MANUAL

UNDERBRACED WALL JIB CRANES

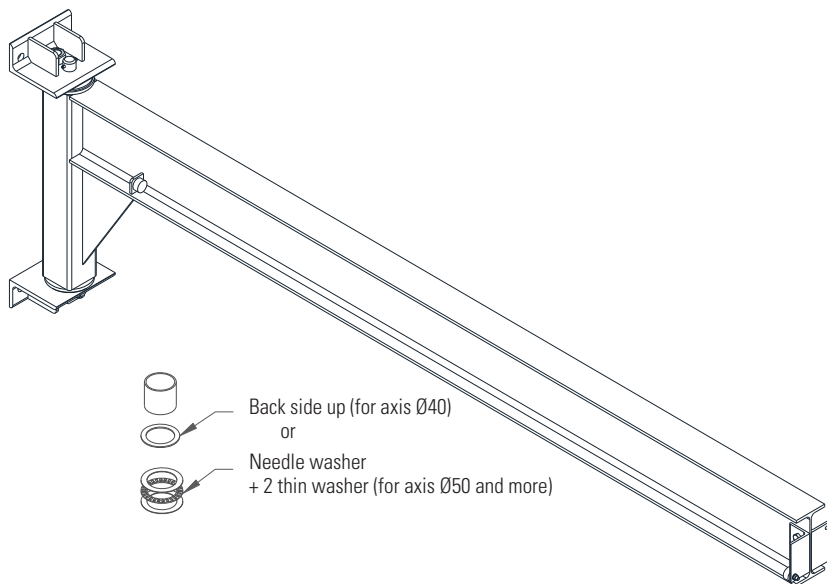


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ASSEMBLY INSTRUCTIONS

UNDERBRACED WALL JIB CRANES



1. Fixing support has to be previously calculated and prepared following instructions from our technical data-sheet.
2. Lift the jib crane by means of appropriate lifting equipment and put it in front of its supporting structure. Insert fixing bolts (class 10.9 as mentioned in our catalog) and moderately screw up the nuts.
3. Check the horizontal positioning of the jib crane arm and the vertical positioning of the bracket. A slight camber of the arm is essential for the good performance of the equipment. Check the good functioning of the arm rotation and verify that the jib crane stays stable whatever its position.
4. Tighten M24 bolts at a nominal torque of 66 daN.m (or a nominal torque of 96 daN.m for M27 bolts) and then screw up lock nuts.

Note: the jib crane manufacturer would not be responsible for the supporting structure, on which the jib crane will be fitted on, nor the deformation that it could cause on this support.

MAINTENANCE

There is no particular maintenance procedure to apply on this type of crane, but it's appropriate to:

- Lubricate at regular intervals the rotation end stop.
- Once a year check that the fastening screws + nuts and generally all mounting screws are sufficiently tightened.

REMINDER

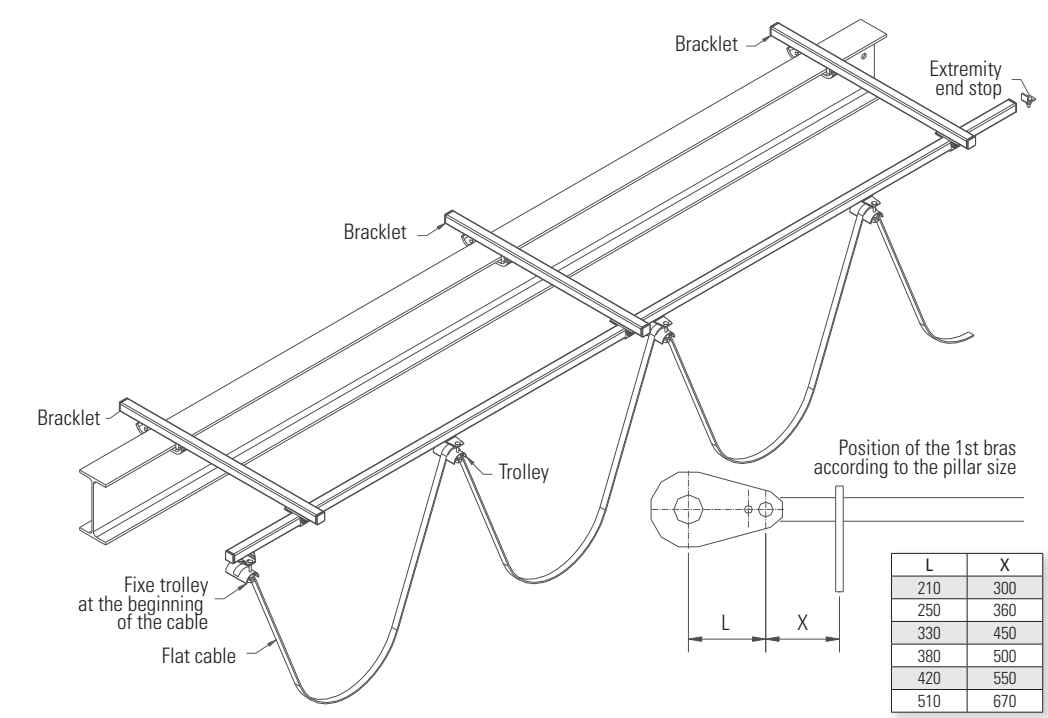
All lifting appliance must be receipted by a notified body before starting up.
It's strictly prohibited to use any lifting device with the aim of transporting personnel.

USE

Use accordingly to the safe working load (swf) define by the technical sheet.

ASSEMBLY INSTRUCTIONS

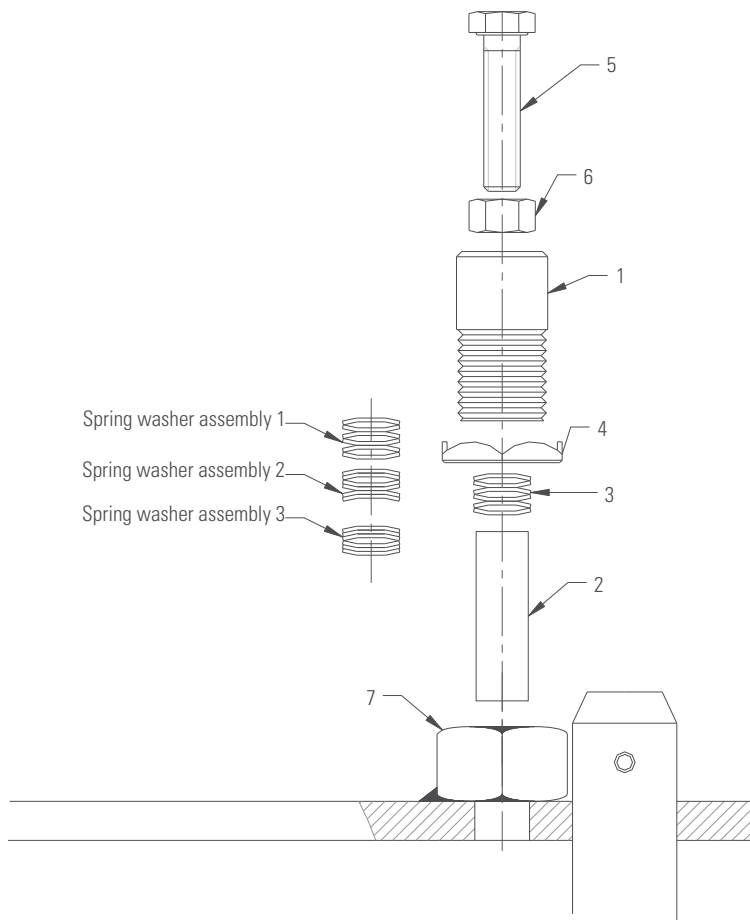
FEEDING LINE



1. Set the 1st bracket according to the position X of the attached drawing.
2. Put the next brackets with a maximum distance of 2m between them.
3. When the brackets are locked, engage the rail of the line in each bracket and fix it.
4. Insert first the fix trolley at the beginning of the line then the mobile trolley and finally the end stop.
5. Put the flat cable through the trolleys distributing them equally along the rail. Let 1m of cable at the end of the rail to plug in the hoist.

ASSEMBLY INSTRUCTIONS

SLOWING DEVICE



Installation

The slowing device can only be mounted once the arm is set.

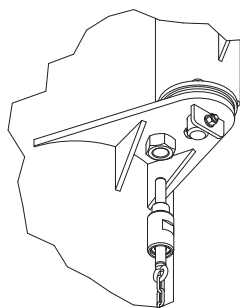
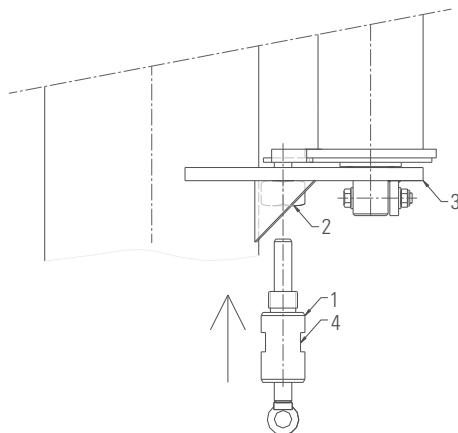
1. Place the rubbing finger in nylon (2) and the spring washers (3) according to the needed break in the body of the slower (1):
 - Assembly 1 : smooth breaking.
 - Assembly 2 : Normal breaking
 - Assembly 3 : hard breaking
2. Screw the body of the slower and his counter nut (4) on the existing nut M33 (7) and lock it.
3. Adjust the pressure thanks to the screw (5) provided to this purpose before locking it with the counter nut (6).

ASSEMBLY INSTRUCTIONS

LOCKING DEVICE

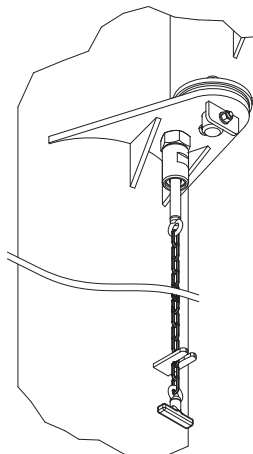
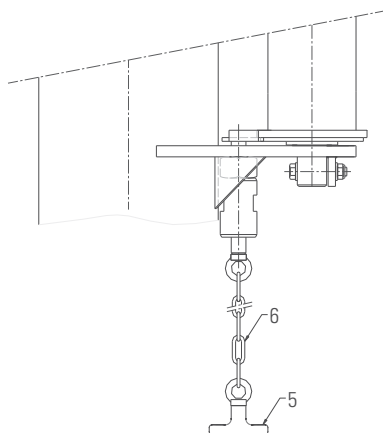
Installation

- Screw the lock body **1** in the nut **2** welded on the bracket (**3**).
- Block there squeezing using an appropriate key on the flats **4**.
- The hand chain and the handle are already mounted on the locking pin.



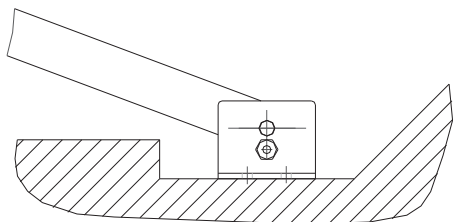
Utilisation

- Pull the handle **5** located at the end of the chain **6** to unlock.
- The locking position device finger is assembled on an internal spring. When the chain is released, the finger automatically comes up. During rotation, the locking will automatically matches in the indexing hole (if needed, adjust by cutting the locking finger extra length).
- If you want the lock does not come automatically, hanging chain in a stretched position on the flat welded at human height on the pillar of the jib crane.

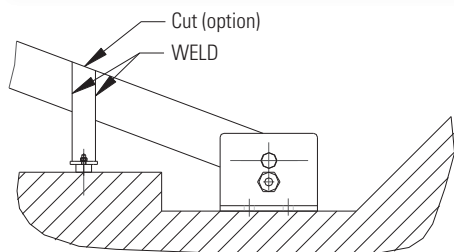


ASSEMBLY INSTRUCTIONS

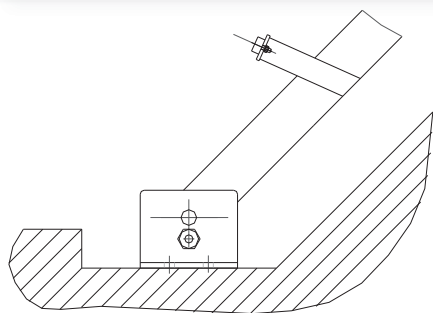
ADJUSTABLE ROTATION STOPS



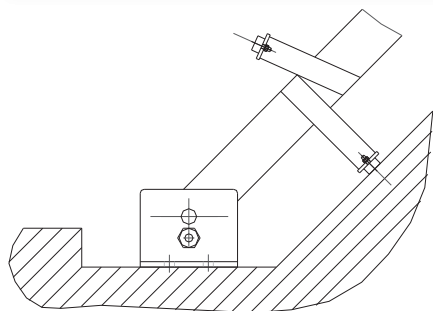
1. Put the arm in the first extrem needed position



2. Weld the first end stop on the upper part of the arm then cut the end of the U.
Important : Align the axis of the end stop and the diametral axis of the pillar.



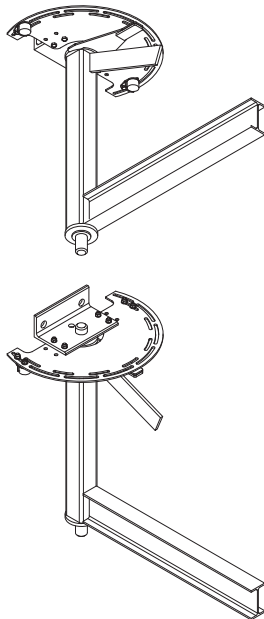
3. Place the arm in the second extrem position.



4. Cut the second end stop according to your need the weld it on the upper part of the arm like on step 2.

ADJUSTABLE STOP

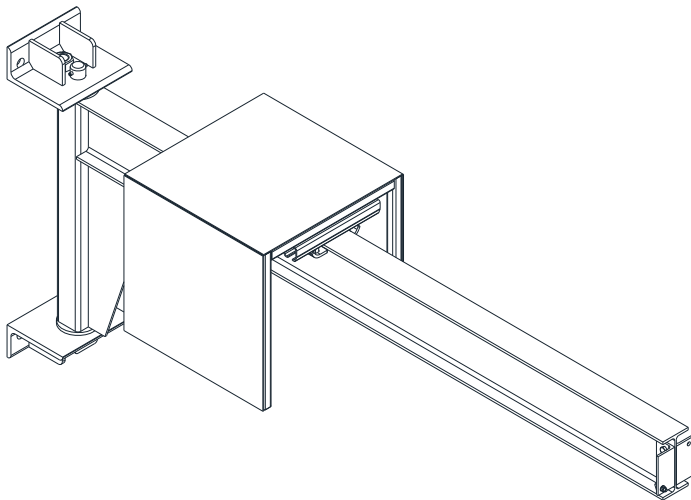
Attach the adjustable stop disc under the top bracket with the hardware provided.
Attach the stops with rubber buffer under the adjustable stop disc to the desired position



ASSEMBLY INSTRUCTIONS HOIST COVER

Installation

- Center the cover between the beam, the hoist and the line, before tightening the clamp.
- **Warning ! Do not position the cover to close to the axis, it would affect your slewing range.**



USER MANUAL FOR THE BELTING OF THE BRACKETS FOR WALL JIB CRANES

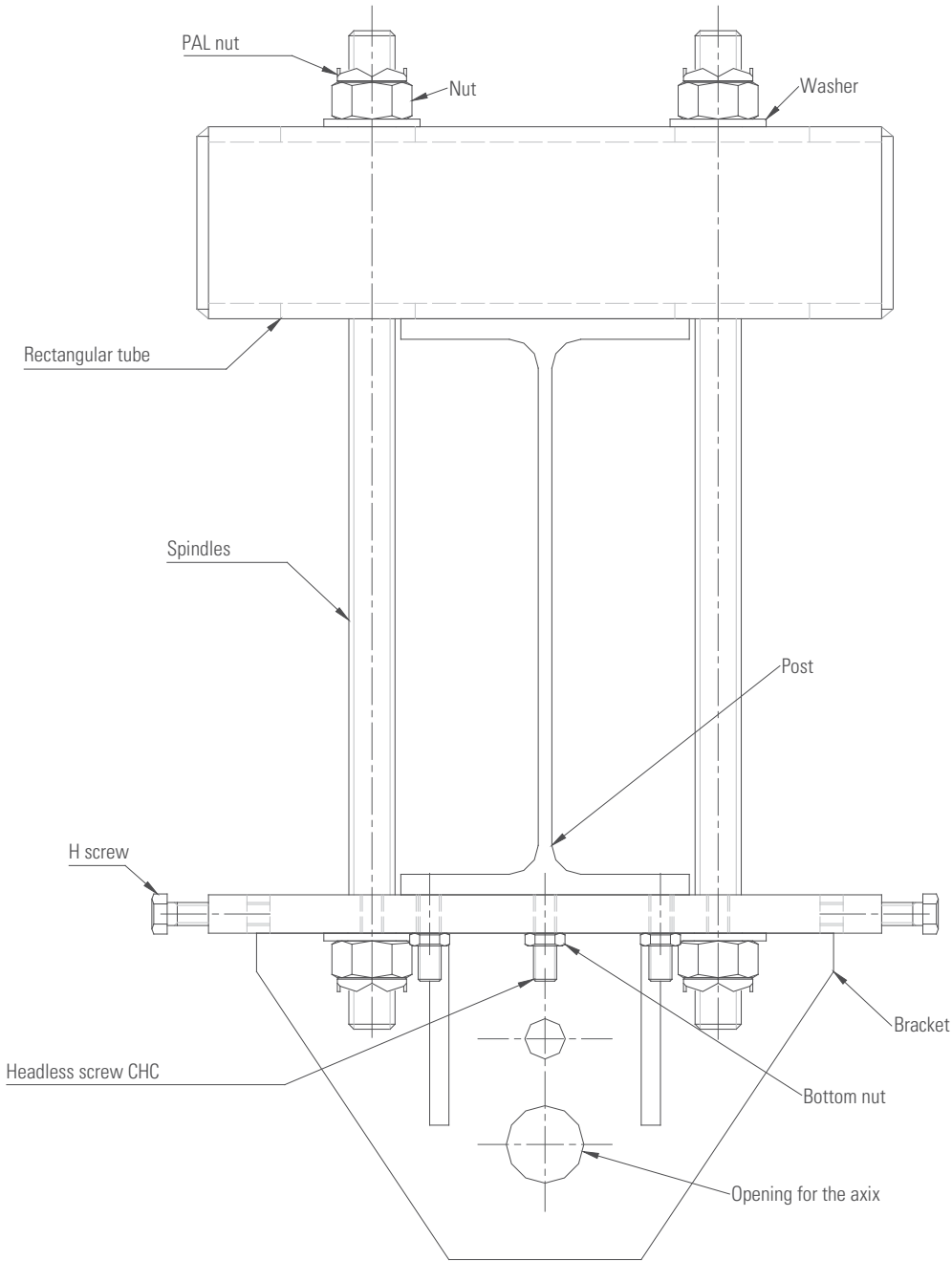
1. Determining the position (height) the lower bracket.
2. The determination of the height of the bottom bracket is equal to the HSF + 20mm.
3. Hold the bracket in position using a handscrew inside the post and the bracket.
4. Present the rectangular tube behind the post (in alignment with the bracket).
5. place each spindle in an opening of the bracket and the one corresponding to the tube.
6. Put the washers and tighten the nuts (8 washers and 8 nuts).
7. Tighten each nut to hold the 2 parts in position (do not lock the nuts).
8. Tighten the H screw of the bracket so as to support against the spindles.
9. Check the horizontal and vertical squareness of the bracket using of a spirit level.
10. Perform the same operation for the upper bracket.
11. Place the axis of the jib crane in each bracket to narrow your settings.
12. Check the squareness by taking the axis as a reference (make 2 checks at 90 ° from each other).
13. Act on the side H screw for horizontal adjustment.
14. Act on the set screws headless CHC (front) for vertical adjustment.
15. Adjust the squareness until a perfect verticalness.
16. Lock the screw of the spindles.
17. Screw the PAL nuts over these nuts.

Tightening torque:

M18 : 14 DaN.m
M20 : 20 DaN.m
M24 : 34 DaN.m
M27 : 49 DaN.m

18. Tighten the H screws.
19. Lock headless set screws CHC.
20. Screw and lock the bottom nut on the headless set screws CHC.
21. Remove the axis of the jib crane.
22. Place the stopper on the bottom bracket, taking care to guide the black face of the stopper in the right direction. This face serves as a support for the slewing of the arm. Oil or grease.
23. Engage the arm with the help of a suitable lifting means.
24. Lubricate the axis and insert it, and mount the key and screws. The safety pin is mounted last.
25. Mount the slowing device, the feeding line and the switch (optional).

Description of components



USER MANUAL FOR THE CLAMPING OF THE BRACKETS FOR WALL JIB CRANES

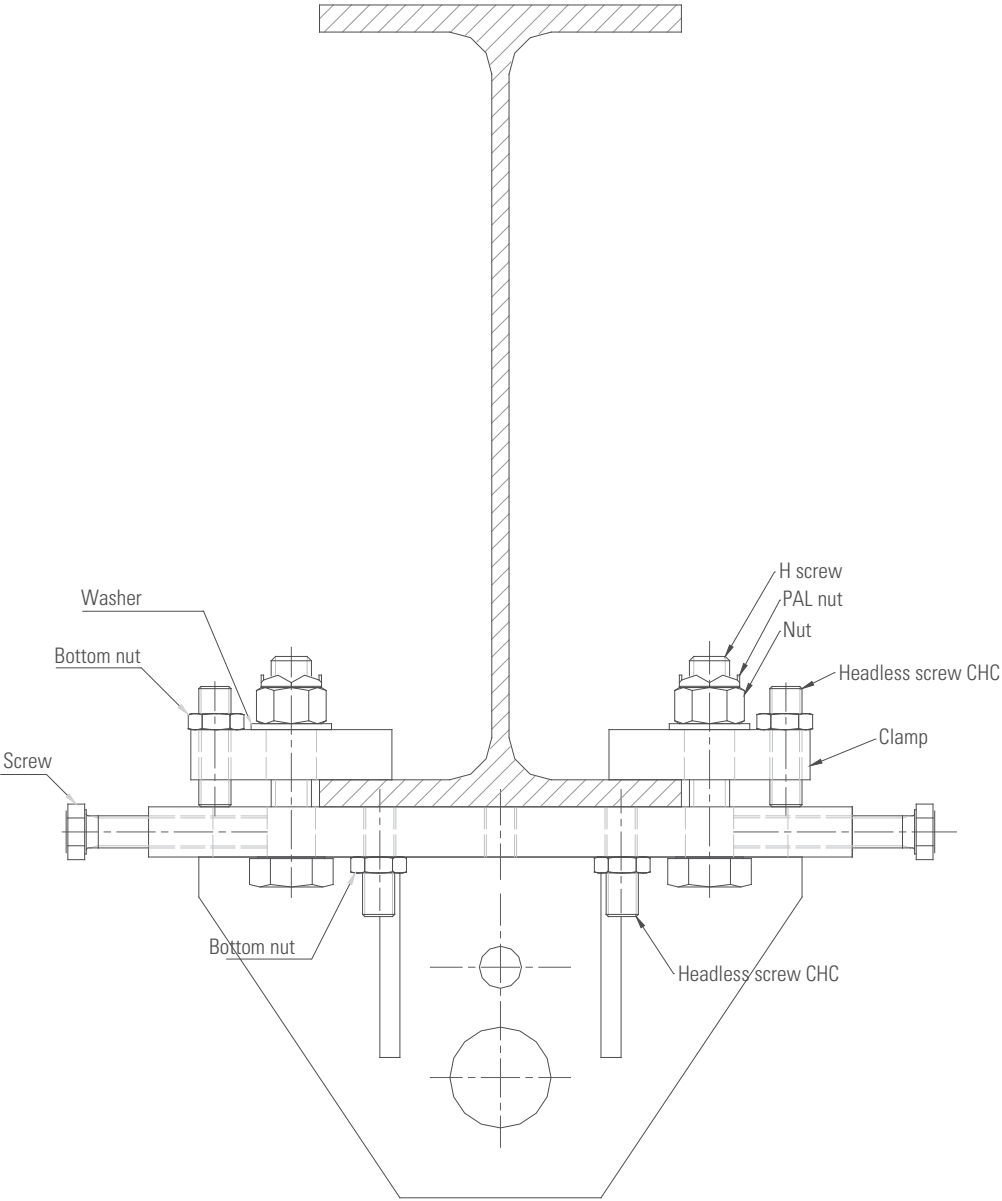
1. Determining the position (height) the lower bracket.
2. The determination of the height of the bottom bracket is equal to the HSF + 20mm.
3. Hold the bracket in position using a handscrew inside the post and the bracket.
4. Install the clamps behind each flange of the IPE or HEA (in alignment with the bracket)
5. Adjust the set screws headless CHC (back) so that they emerge to 1mm from the clamps
6. Place each H screw in an opening of the bracket and in the corresponding hole of the clamp.
7. Put the washers and tighten the nuts (8 washers and 8 nuts).
8. Tighten each nut to hold the 3 parts in position (do not lock the nuts).
9. Tighten the side H screw of the bracket so as to support against the H screw that maintain elements.
10. Check the horizontal and vertical squareness of the bracket using of a spirit level.
11. Perform the same operation for the upper bracket.
12. Place the axis of the jib crane in each bracket to narrow your settings.
13. Check the squareness by taking the axis as a reference (make 2 checks at 90 ° from each other).
14. Act on the side H screw for horizontal adjustment.
15. Act on the set screws headless CHC (front) for vertical adjustment.
16. Adjust the squareness until a perfect verticalness.
17. Tighten the nuts of the H screws to maintain in position.

Tightening torque:

M18 : 21 DaN.m
M20 : 29 DaN.m
M24 : 49 DaN.m
M27 : 71 DaN.m

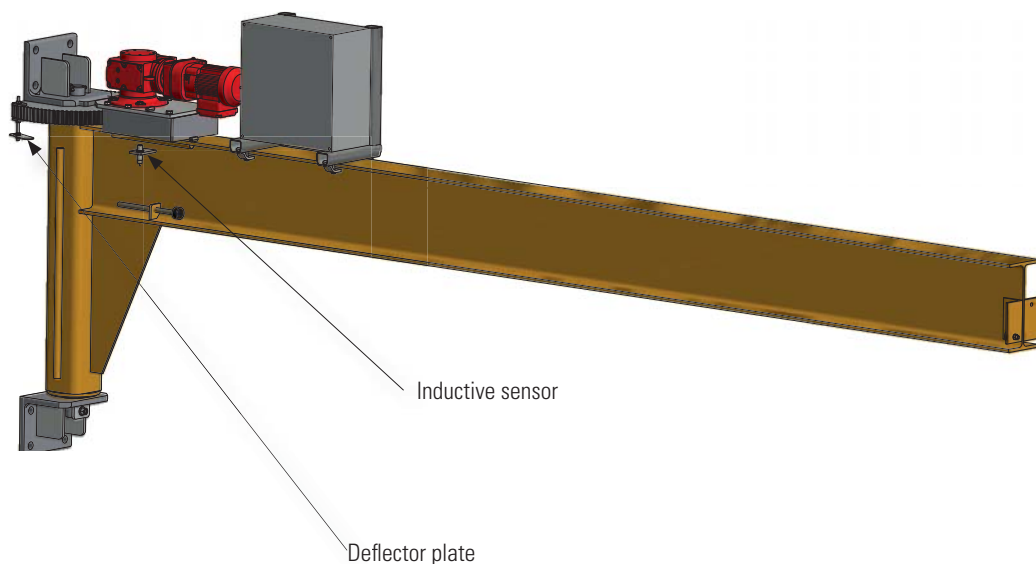
18. Screw the PAL nuts over these nuts.
19. Tighten the H screws (side).
20. Block headless set screws CHC (front) and then tighten and lock the bottom nut on them.
21. Remove the axis of the jib crane.
22. Place the stopper on the bottom bracket, taking care to guide the black face of the stopper in the right direction. This face serves as a support for the slewing of the arm. Oil or grease.
23. Engage the arm with the help of a suitable lifting means.
24. Lubricate the axis and insert it, and mount the key and screws. The safety pin is mounted last.
25. Mount the slowing device, the feeding line and the switch (optional).

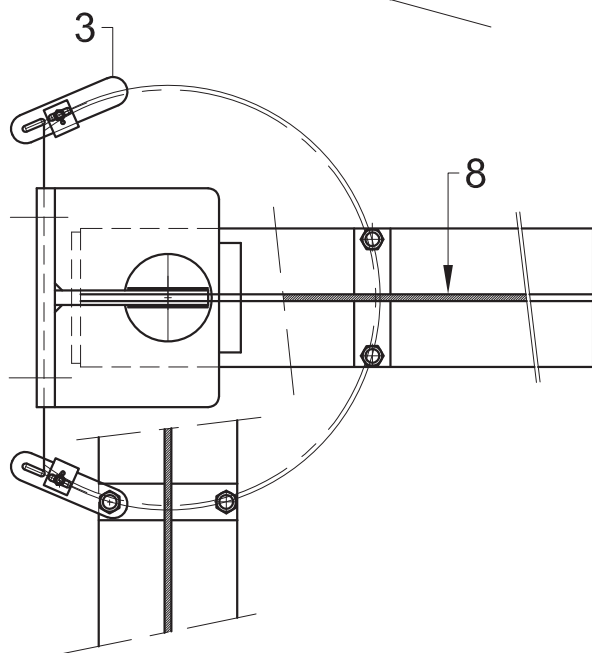
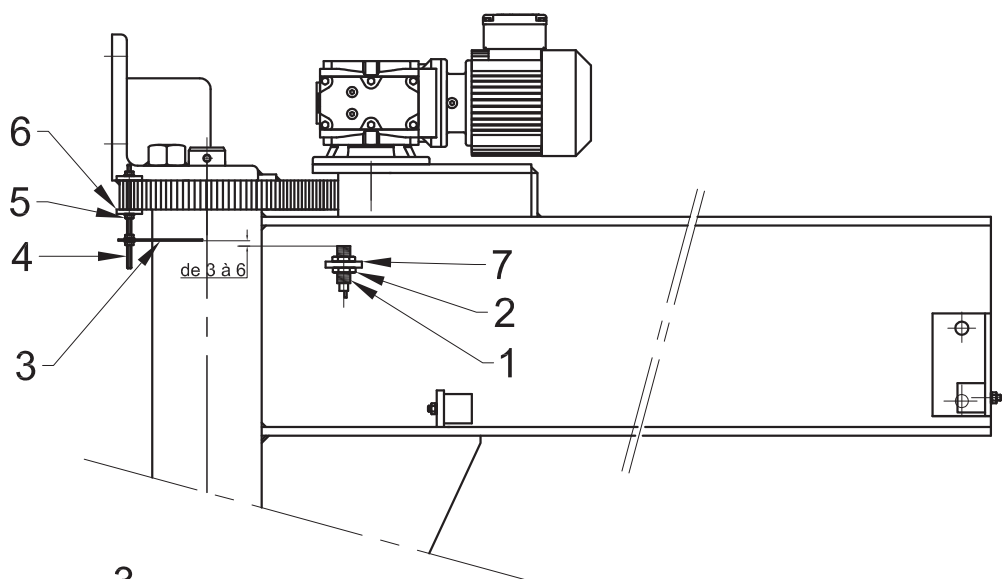
Description of components



INSTRUCTION ASSEMBLY OF INDUCTIVE LIMIT SWITCHES FOR MOTORIZED PMI

1. Define the two extreme arm rotation positions, knowing that the Max angle of rotation is 180° (90° each side of middle position).
2. Set up and weld the rotation stops (if option taken) based on operation 1.
3. Note electrically, by rotating, which inductive sensors ❶ corresponds to the stop of which rotation direction.
4. Screw the 1st nut ❷ and insert inductive sensor ❶ in their support ❷ (cable oriented on bottom), then screw the 2^d nut ❸. The inductive sensors ❶ will be approximately centered on their support ❷ then block the screw ❸.
5. Insert the SS reflector ❹ on the threaded rod ❺, block the nuts and washer ❻ and look for the best position by adjusting tooth by tooth until triggering of the inductive sensor. The blocking on the tooth ring is done by the screw ❽ supported on square washers ❾.
6. **KEEP IMPERATIVELY A GAP BETWEEN 3 and 6 mm between reflector bottom ❹ and the top of inductive sensor ❶. Over 6 mm, gap the inductive sensors will not trigger.**
7. **Be carefull that the reflectors ❹ do not hit the central arm part ❿** because of rotation inertia after motor stoppage. Where applicable, adjust commonly the tooth by tooth tuning of the threaded rods ❺ and with the reflectors elongated holes ❿.
8. Wrap carefully the extra inductive sensors cable length ❶.





WHAT TO DO AND WHAT NOT TO DO

It is very important to read these instructions carefully to enable you to install, use and maintain your equipment and reduce any risks caused by its incorrect use.
Any use that is not compliant with the following is dangerous and the manufacturer refuses to accept any liability in such cases.
Please comply with the instructions given below.

WHAT TO DO

GENERALLY

- Read and follow the instructions given in the introduction manual carefully, starting from initial commissioning. During repair or maintenance, use only «standard parts».
- Always keep the instructions manual and the user instructions near the equipment, available to the operator and the person in charge of maintenance.

TRANSPORT / STORAGE

- Handle the equipment and its structure either using the devices provided for the purpose or in the original package.
- Store the equipment away from any harsh environmental conditions (dust, damp...). It must be cleaned and protected from corrosion (lubrication...)

INSTALLATION / MAINTENANCE / INTERVENTIONS

- Have trained people who are electrically and mechanically competent deal with installation.
- Require absolute compliance with the safety rules (harnesses, clearance around working areas, cordoning off the area...)
- Ensure that the equipment attaching structure is rigid.
- Neutralize any sources of electric power.
- Keep strictly to the installation instructions mentioned in the equipment instructions manual.
- Connect directly the power supply cable to the power supply terminal of the electrical unit :
 - the cable must be assembled in accordance with the manual, greased and run in by several maneuvers without a load,
 - the line must be assembled in accordance with the manual, oiled and run in by several maneuvers without a load.
- Set out an inspection program and record all the maintenance work carried out on the equipment, and more particularly: hooks, sheave assemblies, chains or cables, brakes and travel end switches.
- Replace any suspicious or worn parts.

AFTER EXTENDED STOPPAGE OR DURING A CHECK :

- Check the operation and adjustment of the safety devices (brake, travel ends, limiters...) in accordance with the instruction manual.
- Regularly check the condition of the chain or cable and of the hooks.
- If a deformation or any wear is observed, replace the parts.
- Keep the cable clean and greased at all times.
- Check that all of the assembly components are tight.
- Check the condition of the lifting cable component wires.
- Check that the chains are not twisted and are free of any damage.
- Check that the steel cables strands supporting the pushbutton box fulfil their functions. The pushbutton box conductor cable is not a handling cable.

It is very important to read these instructions carefully to enable you to install, use and maintain your equipment and reduce any risks caused by its incorrect use.
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Please comply with the instructions given below.

WHAT NOT TO DO

TRANSPORT / STORAGE

- Never move or lift the equipment of using the electrical cables.
- Never put the hoist down without using a suitable support to avoid damage to the components on the underside.

INSTALLATION / MAINTENANCE / INTERVENTIONS

- Never modify the equipment without suitable study and the authorization of the manufacturer.
- Never change the values and settings of the safety devices outside the limits provided for in the manual or without the agreement of the manufacturer.
- Never bypass isolating switches, electrical switches, prevention or limiting equipment.

IN USE

- Never transport a load without keeping the personnel at a distance. Never have the book, loaded or empty, move above the personnel.
- Never let anybody unqualified use the equipment.
- Never lift a load exceeding the maximum operating load indicated on the equipment. Shock or accidental catching of the load being handled with the environment can generate overloads.
- Never remove the tab from the hook.
- Never block, adjust or remove switches or end of travel devices to go higher or lower than permitted by them.
- Never use the equipment to pull away, un-jam or pull sideways.
- Never use the equipment to transport people.
- Never touch any moving parts.
- Never use equipment that is in poor condition (wear, deformation...)
- Never use defective spare parts or whose origin is not fully known.
- Never swing the load intentionally.
- Do not cause abrupt movement on the equipment.
- Never use the mechanical stops as a means of repetitive stoppage.
- Never use the lifting chain or cable as a sling.
- Never sling anything from the nose of the hook (risk of damage to hook and falling of load)
- Never use the hook when cantilevered.
- Never twist the loading chains. (turn-around of the sheave...).
- Never use the electric cables to move the equipment around.
- Never leave a load hanging.
- Never use the equipment as a ground reference for welding.
- Never use the equipment for any purpose or in any place for which it was designed.
- Never use the safety devices as a means of measuring the carried weight.
- Never use the controls pointlessly (avoid keying on them). This can cause overheating or even the deterioration of the equipment.
- Never pull a load cross-wise or bring the equipment vertically above the load before lifting it.
- Never use the equipment with an electric power supply that is different from the one recommended (under or over voltage, absence of a phase...)

TEST UNDER LOAD OF THE JIB CRANES AND OF THE GANTRY CRANES

To ensure the good performance of the equipment, and in the absence of specific legislation, the following is recommended by the manufacturer in terms of dynamic and static load tests on standard devices.

Any other regulation, whether related to specific conditions of a country or a particular use should be specifications duly approved by the manufacturer.

DYNAMIC TESTS

For the dynamic tests will be added an overload of 10% at rated load, whether electric or manual lifting.

The tests are therefore performed on all movements (lifting, travelling, translation, rotation etc ...) It will not be necessary to lift the load to its maximum height but it is possible to do it and no time is imposed.

One move of each movement is necessary and sufficient.

Interpretation of dynamic tests :

During these tests the hoist + trolley must remain stable. Ensure no visible distortion too important.

Measure the height under beam or over beam empty before applying the load (Load at the end of the arm if it is a jib crane or at the center if it is a gantry crane) and remeasure under dynamic load.

Do the ratio to recalculate the measured deflection under dynamic load by dividing by 1.1 in order to interpret **Deflection under nominal load**, this deflection is directly proportional to the load.

Only the deflection under nominal load is interpretable to the exclusion of any other!

For pillar jib cranes, deflection observed (**interpreted under nominal load**) must not exceed $1/100^{\text{th}}$ of the span and $1/200^{\text{th}}$ of the sum Height + Span.

For wall jib cranes, deflection should not exceed $1/200^{\text{th}}$ of the span (it will not take into account the possible deformation of the post which is supposedly of sufficient size and have been calculated by the user).

For gantry cranes, deflection should not exceed $1/500^{\text{th}}$ of the span.

If the dynamic tests give satisfaction, there will be static tests.

To ensure the good performance of the equipment, and in the absence of specific legislation, the following is recommended by the manufacturer in terms of dynamic and static load tests on standard devices.

Any other regulation, whether related to specific conditions of a country or a particular use should be specifications duly approved by the manufacturer.

STATIC TESTS

Static testing has for single purpose to ensure the strength of the assembly and verify the absence of permanent deformation or residual.

No deflection measurement shall be interpreted during these tests if it is only to verify the absence of permanent deformation

Requirements during the static tests :

For static tests, it will be an overload applied **in more than 25% of the rated load**, whether it be a manual or electric lifting.

These tests will be performed only on the lifting arms of the bracket in the center position (end of the load arm in the case of jib crane and to the center of a gantry).

It is forbidden to lift the load increased by 25% with the device but additional weights are added to the dynamic load. In the case of a wall jib, the static test will be done in the sense that less strains the the building structure.

The duration of this test shall not exceed 30 min.

Interpretation of static tests:

If after static tests, no permanent or residual deformation is found, the device can be operated.

As defined in the European Machinery Directive, any calculation notes will not be issued unless requested to ordering and duly accepted by Comege, as well as the detailed plans, schedules etc. which are the subject of the information folder and as such are confidential documents.

Concerning electric chain hoists:

It is reminded that these devices are equipped with **torque limiters** and not **load limiters**.

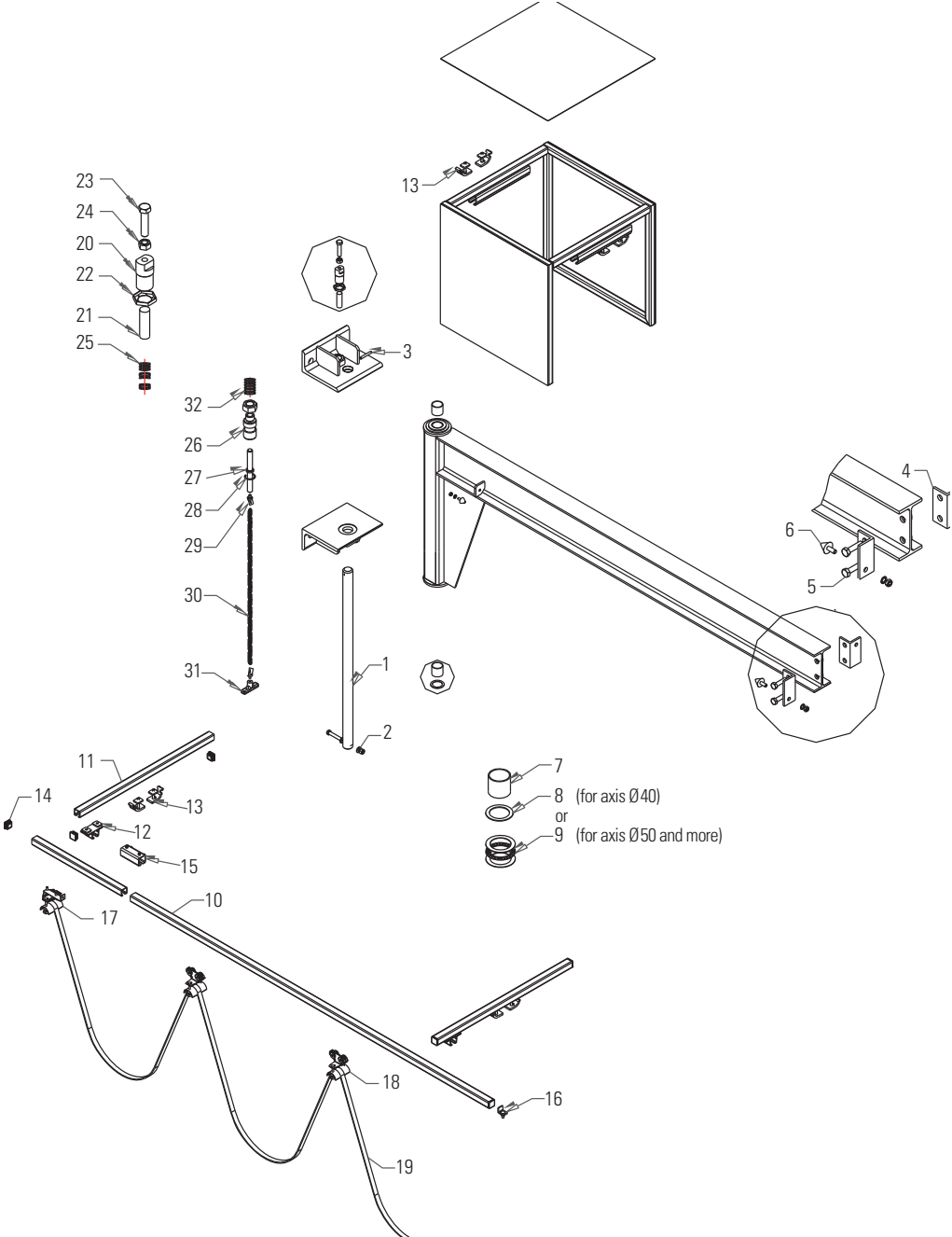
Also for security reasons, their setting far exceeds the trigger threshold 110% of the rated load.

It is quite acceptable that the torque limiters can be «*calibrated*» to 125 or even 130% of rated load.

This measure aimed to anticipate wear slip friction system providing torque limit and prevent and to the risk of «*slippage*» of the load.

SPARE PARTS

UNDERBRACED WALL JIB CRANES



	N°	Description	Standard	Option
Jib crane	1	Slewing axis	X	
	2	Bolt stop for the axis	X	
	3	Cotter	X	
	4	Extrem end stop	X	
	5	Bolts for the end stop	X	
	6	Rubber bump + bolts	X	
	7	Ring	X	
	8	End stop	X	
	9	Needle end stop + washers	X	

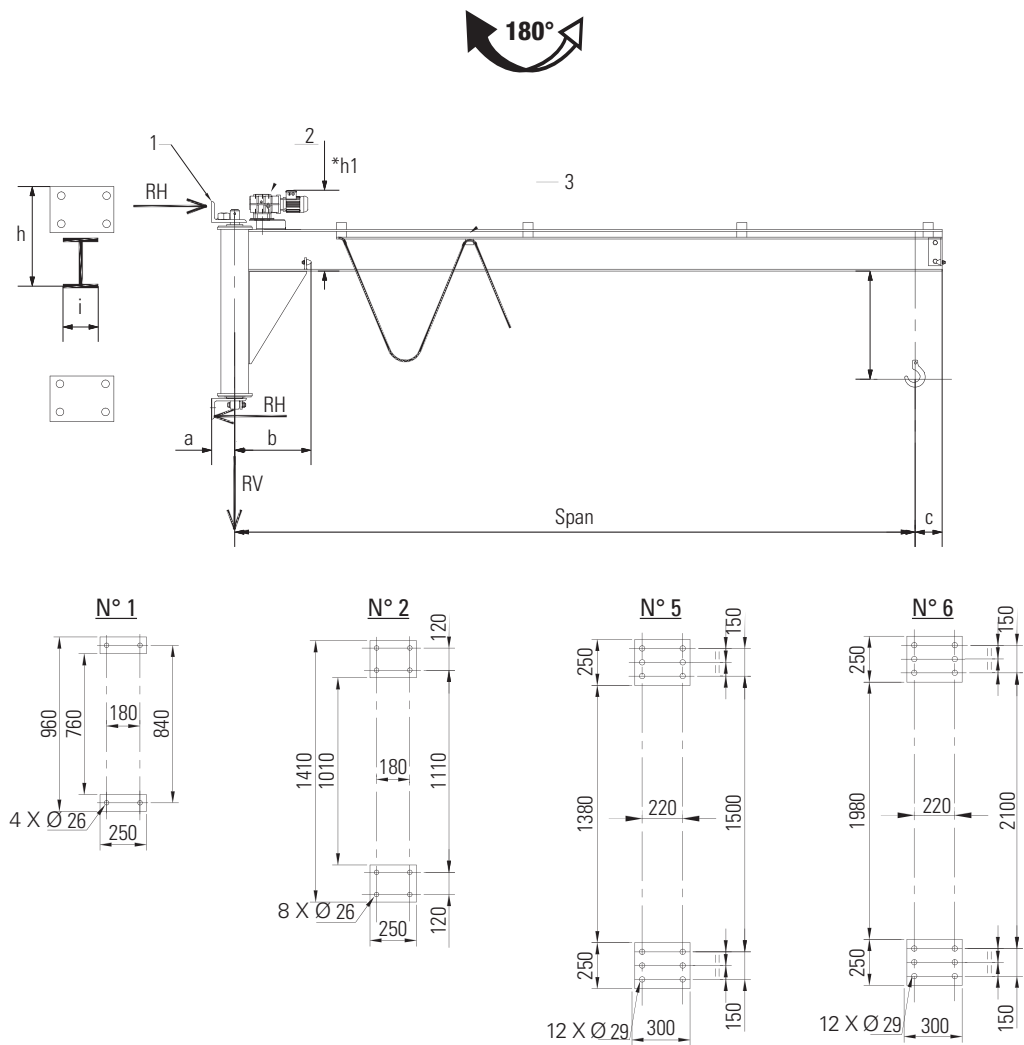
Feeding line (option)	10	Power supply rail		X
	11	Bracket		X
	12	Suspension claw		X
	13	Clamp		X
	14	Plastic cap		X
	15	Junction plate		X
	16	Power supply and stop		X
	17	Fixed cable trolley		X
	18	Mobile cable trolley		X
	19	Cable		X

Slowing device (option)	20	Body of the break		X
	21	Rubbing finger		X
	22	Bolt		X
	23	Adjustment screw		X
	24	Counter bolt		X
	25	Spring washer		X

Locking device (option)	26	Hub		X
	27	Shaft		X
	28	Elastic ring		X
	29	Ring screw		X
	30	Chain		X
	31	Handle		X
	32	Spring		X

SPECIFICATIONS

UNDERBRACED WALL JIB CRANES



1	Fixation N°
2	Motor gear box (option)
3	Feeding line (option)

Max. capacity	Span	a	b	c	h	h1	l	RH	RV	Maximum moment	Fixation	Fixation kit (option)	Weight
kg	m	m	m	mm	mm	mm		N°	m	N°	N°	Kg	Kg
150 (50)	2	100	280	150	300	460	91	616	288	491	1	KF2	73
	2,5	100	280	150	300	460	91	785	293	621	1	KF2	78
	3	100	280	150	300	460	91	961	297	755	1	KF2	82
	3,5	100	280	150	300	460	91	1143	302	894	1	KF2	87
	4	100	280	150	300	460	91	1332	306	1037	1	KF2	91
	4,5	100	420	150	330	480	100	1566	378	1217	1	KF2	163
	5	100	420	150	330	480	100	1776	390	1377	1	KF2	175
	5,5	130	420	150	370	540	120	2153	445	1675	1	KF3	230
	6	130	420	150	370	540	120	2408	460	1870	1	KF3	245
	6,5	130	420	150	370	540	120	2673	475	2072	1	KF3	260
	7	130	420	150	370	540	120	2947	490	2282	1	KF3	275
250 (50)	2	100	300	150	300	460	91	905	398	722	1	KF2	73
	2,5	100	300	150	300	460	91	1147	403	907	1	KF2	78
	3	100	300	150	300	460	91	1395	407	1096	1	KF2	82
	3,5	100	300	150	300	460	91	1650	412	1290	1	KF2	87
	4	100	300	150	300	460	91	1911	416	1488	1	KF2	91
	4,5	130	420	150	370	540	120	2324	525	1817	1	KF3	200
	5	130	420	150	370	540	120	2632	540	2052	1	KF3	215
	5,5	130	420	150	370	540	120	2949	555	2294	1	KF3	230
	6	130	420	150	370	540	120	3276	570	2544	1	KF3	245
	6,5	130	420	150	370	540	120	3613	585	2801	1	KF3	260
	7	130	480	150	540	660	150	3271	749	3365	2	KF4	424
500 (50)	2	100	300	150	300	460	91	1629	673	1300	1	KF2	73
	2,5	100	300	150	300	460	91	2052	678	1622	1	KF2	78
	3	130	420	150	370	540	120	2546	754	2019	1	KF3	154
	3,5	130	420	150	370	540	120	3005	769	2369	1	KF3	169
	4	130	420	150	370	540	120	3474	784	2726	1	KF3	184
	4,5	130	420	150	370	540	120	3952	799	3091	1	KF3	199
	5	130	480	150	540	660	150	3490	940	3617	2	KF4	340
	5,5	130	480	150	540	660	150	3896	962	4028	2	KF4	362
	6	130	480	150	540	660	150	4313	983	4450	2	KF4	383
	6,5	130	480	150	540	660	150	4740	1004	4883	2	KF4	404
	7	180	630	150	675	700	170	3998	1206	5740	5	-	606
1000 (100)	2	130	420	150	370	540	120	3237	1324	2620	1	KF3	124
	2,5	130	420	150	370	540		4071	1339	3255	1	KF3	139
	3	130	480	150	540	660	150	3751	1456	3953	2	KF4	256
	3,5	130	480	150	540	660	150	4413	1478	4623	2	KF4	278
	4	130	480	150	540	660	150	5085	1499	5303	2	KF4	299
	4,5	130	480	150	540	660	150	5768	1520	5994	2	KF4	320
	5	180	630	150	675	700	170	4795	1692	6887	5	-	492
	5,5	180	630	150	675	700	170	5330	1723	7706	5	-	523
	6	180	630	150	675	700	170	5876	1751	8473	5	-	551
	6,5	180	710	150	715	720	180	6567	1892	9449	5	-	692
	7	180	710	150	715	720	180	7155	1925	10275	5	-	725

Max. capacity	Span	a	b	c	h	h1	l	RH	RV	Maximum moment	Fixation	Fixation kit (option)	Weight
kg	m	m	m	mm	mm	mm		N°	m	N°	N°	Kg	Kg
1600 (150)	2	130		150	540	660	150	3866	2125	3904	2	KF4	215
	2,5	130	480	150	540	660	150	4858	2146	4907	2	KF4	236
	3	130		150	540	660	150	5861	2167	5920	2	KF4	257
	3,5	130		150	540	660	150	6875	2188	6943	2	KF4	278
	4	180		150	675	700	170	5783	2347	8096	5	-	437
	4,5	180	630	150	675	700	170	6552	2376	9172	5	-	466
	5	180	630	150	675	700	170	7330	2405	10263	5	-	495
	5,5	180	710	150	765	780	190	8342	2602	11679	5	-	692
	6	180	710	150	765	780	190	9183	2641	12857	5	-	731
2000 (200)	2	130	480	150	540	660	150	4836	2615	5201	2	KF4	215
	2,5	130	480	150	540	660	150	6071	2636	6450	2	KF4	236
	3	130	480	150	540	660	150	7316	2662	7709	2	KF4	262
	3,5	180	630	150	675	700	170	6249	2809	9199	5	-	409
	4	180	630	150	675	700	170	7185	2850	10060	5	-	440
	4,5	180	710	150	765	780	190	8278	3014	12053	5	-	614
	5	180	710	150	765	780	190	9268	3053	13442	5	-	653
	5,5	180	710	150	765	780	190	10271	3092	14850	5	-	692
	6	180	710	150	815	820	200	8019	3311	16519	6	-	911
2500 (250)	2	180	630	150	675	700	170	4367	3323	6664	5	-	323
	2,5	180	630	150	675	700	170	5484	3352	8231	5	-	352
	3	180	710	150	715	720	180	6641	3459	9855	5	-	459
	3,5	180	710	150	765	780	190	7841	3536	11542	5	-	536
	4	180	710	150	765	780	190	9017	3575	13192	5	-	575
	4,5	180	710	150	765	780	190	10207	3614	14861	5	-	614
	5	180	710	150	815	820	200	8069	3820	16718	6	-	820
3200 (320)	2	180	630	150	675	700	170	5567	4163	8495	5	-	323
	2,5	180	710	150	715	720	180	7004	4266	10512	5	-	426
	3	180	710	150	765	780	190	8479	4337	12583	5	-	497
	3,5	180	710	150	765	780		9941	4376	14634	5	-	536
	4	180	710	150	815	820	200	8044	4569	16812	6	-	729
	4,5	180	710	150	815	820	200	9101	4616	18929	6	-	776
	5	180	710	150	815	820	200	10169	4662	21070	6	-	822
4000 (00)	2	180	710	150	765	780	190	6969	5219	10634	5	-	419
	2,5	180	710	150	765	780		8746	5258	13125	5	-	458
	3	180	710	150	815	820	200	7405	5438	15698	6	-	638
	3,5	180	710	150	815	820	200	8679	5484	18250	6	-	684
	4	180	710	150	815	820	200	9964	5529	20825	6	-	729
	4,5	180	710	150	815	820	200	11261	5575	23422	6	-	775
	5	180	710	150	865	900	210	12663	5695	26237	6	-	895

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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