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OWNERS MANUAL

SCRAPER FLOOR

Clemco
International GmbH

Carl-Zeiss-Straße 21
83052 Bruckmühl
Germany

Tel.: +49 (0) 8062 – 90080
Mail: info@clemco.de
Web: www.clemco-international.com

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A.GENERAL DESCRIPTION.

The scraper floor system consists of one or more floor drive modules, which covers the entire floor area, to extend possible with respect to the module sizes, and an underneath the floor drive lines positioned cross drive line.

I.e. The scraper floor system is not recommended as a partial floor system.

The floor drive modules moves the abrasive media towards and into an underneath positioned cross drive module, which again moves the material towards and into a floor recessed collection hopper.

The cross drive module can be positioned at either one end, or alternatively near the centre of the floor system.

All drive modules are driven by electric/pneumatic operated air cylinder/s

From the floor recessed collection hopper further transport is carried out by either vacuum -or mechanical transport system

B.INSTALLATION INSTRUCTION

WARNING:

Never stand between the scraper vanes when compressed air is connected to the system.

GENERAL:

- Follow the main drawings dimensions.
- It's important to follow the right assembly order for side stringer & scraper frame. See main drawing.
- Pre-assemble: side stringers, scraper frames, cylinder bracket front, and cylinder bracket rear end.
- Check that the foundation floor area is flat and level (accuracy +/- 3 mm), That's within a 2 metre distance
- Check that the depth of foundation for cross drive module is no less than 140 mm deeper than the foundation for the floor drive module/s.

To allow for the installation the foundation drawing secures a tolerance of 50 to 75 mm free space around the finally installed scraper floor system. When installation is finished this space can be either filled up or covered by steel plate.

IF BUCKET ELEVATOR:

1.Installation of bucket elevator.

- Place bucket elevator in foundation pit.
- Connect the floor hopper outlet to the bucket elevator inlet. To secure trouble free flow of the abrasive media, the angle of the connection between the outlet of the floor hopper and the inlet of the bucket elevator must be minimum 45 degree.

See drawing MB-2994, Page 2.

- Finally align and fix the bucket elevator/floor hopper unit according to the main drawing.

IF SUCTION UNIT:

2.Fitting of floor hopper (drawing MB-2995, Page 2).

- Position the floor hopper with the suction nozzle/hose support pointing towards the wall bushing / vacuum silo inlet.
- Make sure that the top of the floor hopper does not exceed the cross drive module floor level.

SCRAPER FLOOR:

CROSS DRIVE MODULE:

3.Fitting of the side stringers for the cross drive module (drawing MB-2995, Page 3).

- Sweep/clean the foundation.
- Level eventually uneven spots in the foundation.
- Assemble the side stringer to full length, if supplied in more sections. It's important to follow the right assembly order, see main drawing.
- Fix the brackets (2310-41, 2310-42, 2310-43), between the two side stringers and ensure a proper alignment (cross measure)
- The centre line of the cross drive module must follow the centre of the floor hopper.
- Drill the holes for the concrete anchors, and fix the stringer properly making sure that it is properly aligned in a strait line.

4.Fitting the scraper frame (drawing MB-2995, Page 4).

- Position the scraper frame between the side stringers.
- Assemble the scraper frame into one full length using the assembling brackets 2310-52 if supplied in more sections. It's important to follow the right assembly order, see main drawing.

- Check that the scraper frame moves smoothly on the Nonfric guide.
- Should the foundation have uneven spots where one or more scraper vanes touches, the edge of the scraper blade must be grinded to ensure a clearance of app. 2 mm

5.Fitting of the air cylinder/s (drawing MB-2995, Page 4).

IMPORTANT. Before fitting of the air cylinder it must be checked that the scraper blade carrier can move unrestricted to the outer positions of the air cylinder stroke. (Stroke = 400 mm).

- Mount the air cylinder rear mounting to the 860 mm Cylinder bracket rear end (2310-41), extend the piston and mount the front mounting to the scraper frame.
- Support the air cylinder by adjusting the angel of the 860 mm Cylinder bracket middle (2310-43).

6.Fitting the air cylinder/s protection shields (drawing MB-2995, Page 5).

- Mount the air cylinder protection shields

FLOOR DRIVE MODULES.

7.Fitting of the side stringers for the floor drive module (drawing MB-2995, Page 6).

- Sweep/clean the foundation.
- Level eventually uneven spots in the foundation.
- Assemble the side stringers to complete length, if supplied in more sections. It's important to follow the right assembly order, see main drawing.
- Measure out to find the position for one of the centre floor drive lines
- Start positioning the first side stringer, which becomes the measure reference for remaining girders. Align very carefully and make sure it is positioned in a 90 degree angle against the cross drive module already installed.
- Drill the holes for the concrete anchors, and fix the side stringer, making sure that it is properly aligned in a straight line.
- Fix the brackets (If 860 mm module = 2310-41, 2310-42, 2310-43 or if 610 mm module = 2310-31, 2310-32, 2310-33), to the side stringer.

8.Fitting of remaining side stringers for floor drive module (drawing MB-2995, Page 7).

- To install the remaining side stringers the brackets (If 860 mm module = 2310-41, 2310-42, 2310-43 or if 610 mm module = 2310-31, 2310-32, 2310-33) must be mounted section by section before fixing the side stringers. It's important to follow the right assembly order, see main drawing.
- **IMPORTANT:** it is essential that the side stringers are absolutely parallel and aligned (cross measure).
- Drill the holes for the concrete anchors, and fix the side stringers, making sure they are straight.
- This is done side stringers by side stringers until they are all installed.
- To install the cover plates for the cross drive module, place them at the edge, and spot weld them to the side stringers.

9. Fitting the scraper frames (drawing MB-2995, Page 8).

- Position the scraper frames between the side stringers.
- Assemble the scraper frame into one full length using the assembling brackets 2310-52 if supplied in more sections. It's important to follow the right assembly order, see main drawing.
- Check that the scraper frame moves smoothly on the Nonfric guide.
- Should the foundation have uneven spots where one or more scraper vanes touches, the edge of the scraper blade must be grinded to ensure a clearance of app. 2 mm

10. Fitting of the air cylinders (drawing MB-2995, Page 8).

IMPORTANT. Before fitting of the air cylinder it must be checked that the scraper frame can move unrestricted to the outer positions of the air cylinder stroke. (Stroke = 400 mm).

- Mount the air cylinder rear mounting to the Cylinder bracket rear end, extend the piston and mount the front mounting to the scraper frame.
- Support the air cylinder by adjusting the angel of the Cylinder bracket middle.

11. Fitting the air cylinder/s protection shields (drawing MB-2995, Page 9).

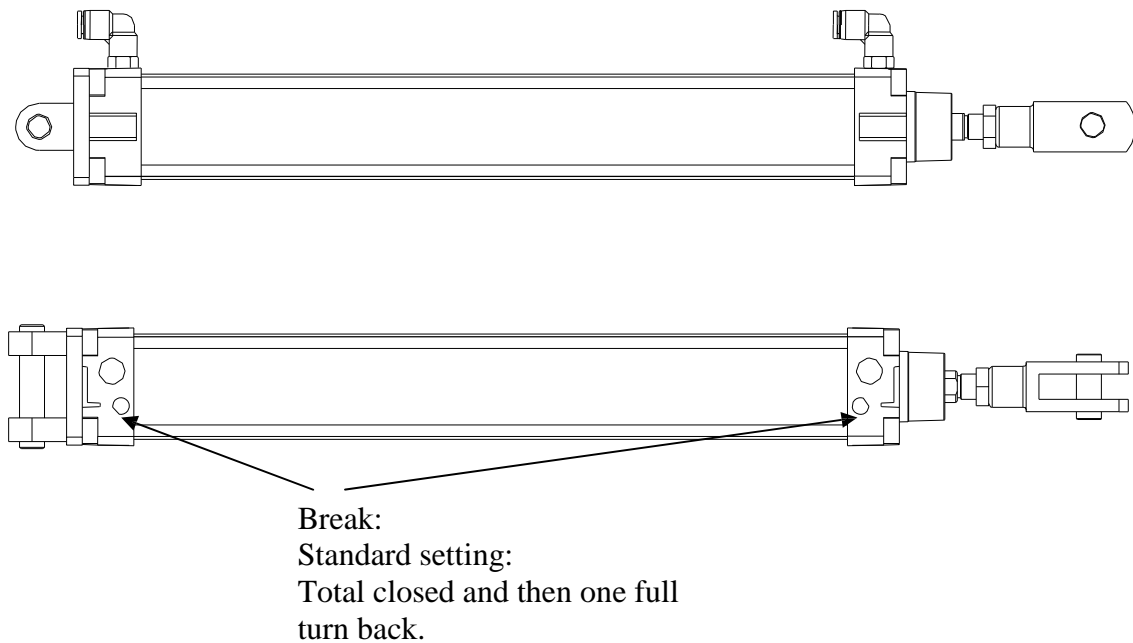
- Install the air cylinder protection shields on top of the gratings, and spot weld them.

12. Connection of the compressed air hoses to the air cylinders.

- Connect the air hoses between the air cylinders and the solenoid valves according to the pneumatic diagram.
- The pneumatic control panel must preferably be installed as near to the air cylinders as possible, although outside the blast room.
- Where 90 degree bends can not be avoided, angle fittings should be used.

13. Connect electric power and compressed air to the electric/pneumatic control panel and make a test run.

- Minimum air supply per scraper line is 125 lt. / min. At 6 bar pressure and stroke every 4 sec.
- Air supply to be adjusted for 6-bar pressure if nothing else stated.
- Check against any air leaks.
- The air cylinder brakes must be adjusted for smooth end stop (the preset adjustment is adjustment screw closed completely and then opened one full turn back).



- Throttling of the air cylinders must be adjusted for a stroke period of approx. 3 sec. done individual on each scraper line to ensure a mutual stroke pattern.
- Check air cylinder stroke = 400 mm.
- Fill oil into the lubricator for the compressed air system.
- Oil supply must be adjusted to an absolute minimum.

C. OPERATING INSTRUCTIONS

The scraper floor should be activated before start of the blasting operation, the scraper floor System is not designed for transportation of bulk load of abrasive media.

START:

- Check that the power supply is connected. The white signal lamp “*POWER*” on the electrical control panel lights up.
- Check that the compressed air is connected, and the pressure is correct (6 bar).
- Check that all gratings are in correct place on top of the scraper modules.
- Start the system (bucket elevator, suction system), which recovers the abrasive from the scraper floor collection pit.
- Turn the button “*START - STOP*” on the electrical control panel to “*START*”.

STOP:

- Check that the scraper modules are empty for abrasive.
- Turn the button “*START - STOP*” to “*STOP*”.
- White lamp “*POWER*” switches off.

ADJUSTMENT:

The scraper cycle can be adjusted in the electrical control panel, if it is not suitable for the actual volume of abrasive. A correct adjustment will minimize compressed air consumption.

D.MAINTENANCE INSTRUCTIONS.

In order to maintain a reliable and well functioning system we recommend that skilled person/group check and maintain the system.

WARNING:

Never stand between the scraper vanes when compressed air is connected to the system.

PNEUMATIC SYSTEM:

Weekly

- Check the system for leakages. Replace parts if necessary.

Monthly

- Check filter and oil in compressed air control panel.
- Check air cylinders for wear of shaft / scraper ring.
- Replace worn or defective parts.
- Check air cylinder shaft protection against leakage and proper function.

Every 3rd month

- Check / adjust the brake setting of the air cylinders.
- Check / adjust the throttling on the air cylinders.

SCRAPER MODULES:

Weekly

- Check / remove remains of abrasive in the scraper floor system.

Monthly

- Check the scraper vanes for wear. Replace worn or defective parts.

Every 3rd month

- Check the nonfric guides against wear.

Every 6th month

- Check all bolts. Tighten if necessary

1

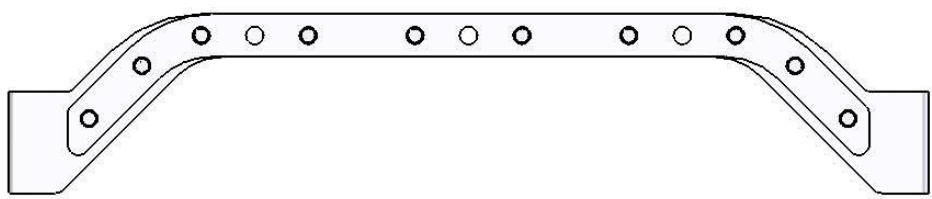
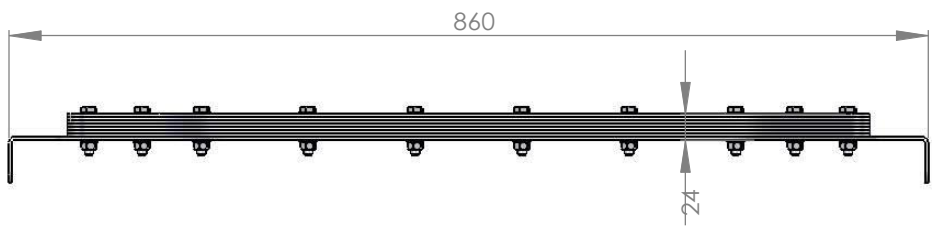
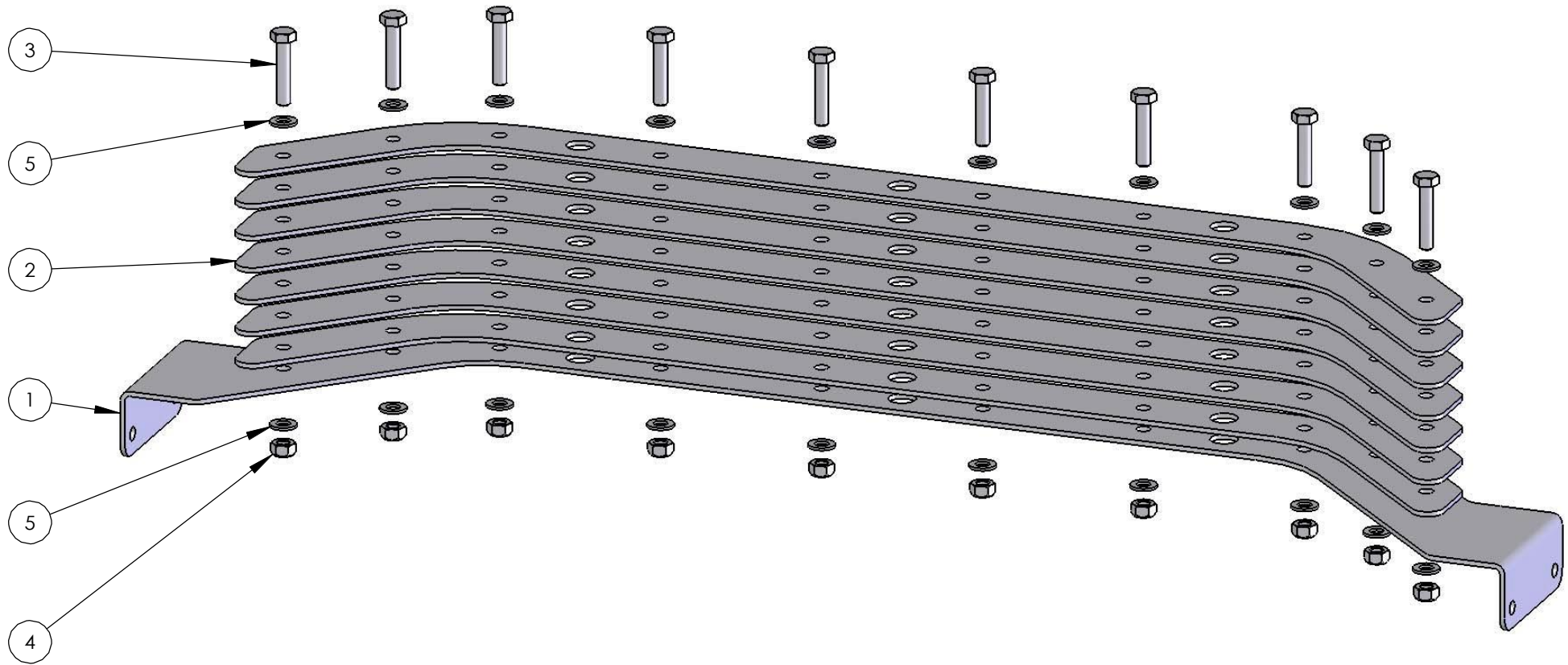
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2

4

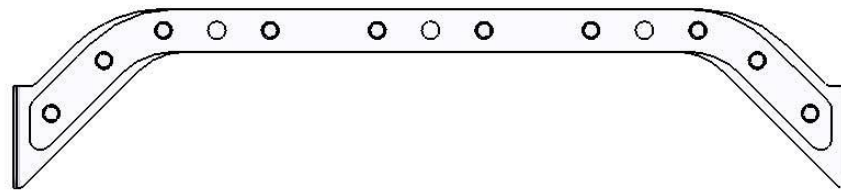
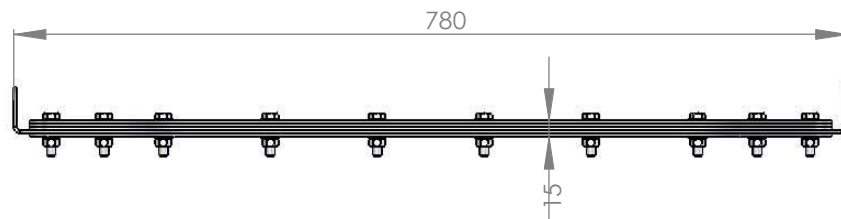
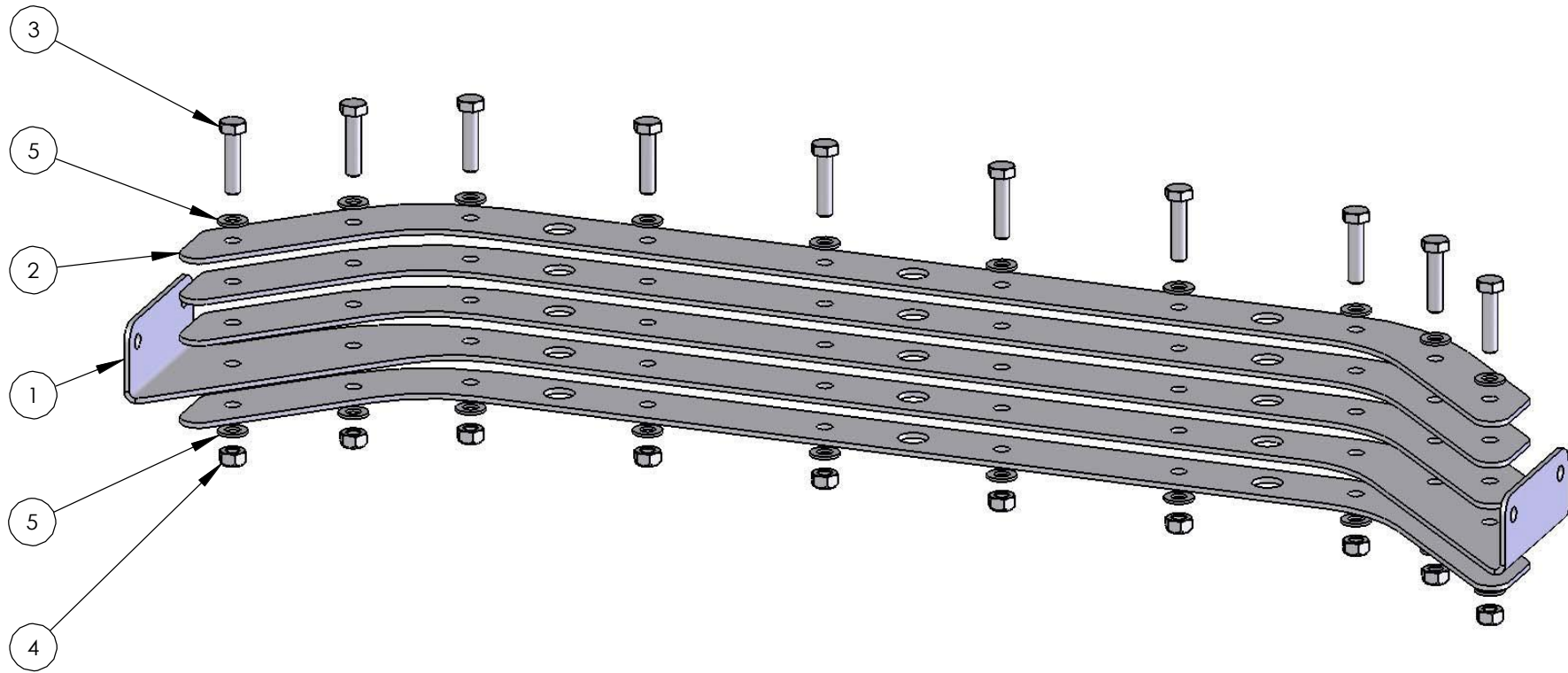
4	2	Air hose	9,6367
3	1	Cylinder	9,6344AA
2	2	Nonfric guide	9,2310-08
1	1	Scraper blade (version 860)	9,2310-47
		Scraper blade (version 610)	9,2310-37

Pos.	Pcs.	Description	Part no	Remark
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			A4	JDF
SMEDELØKKEN 5-7 TLF.:+45 65 97 43 80			18.12.08	
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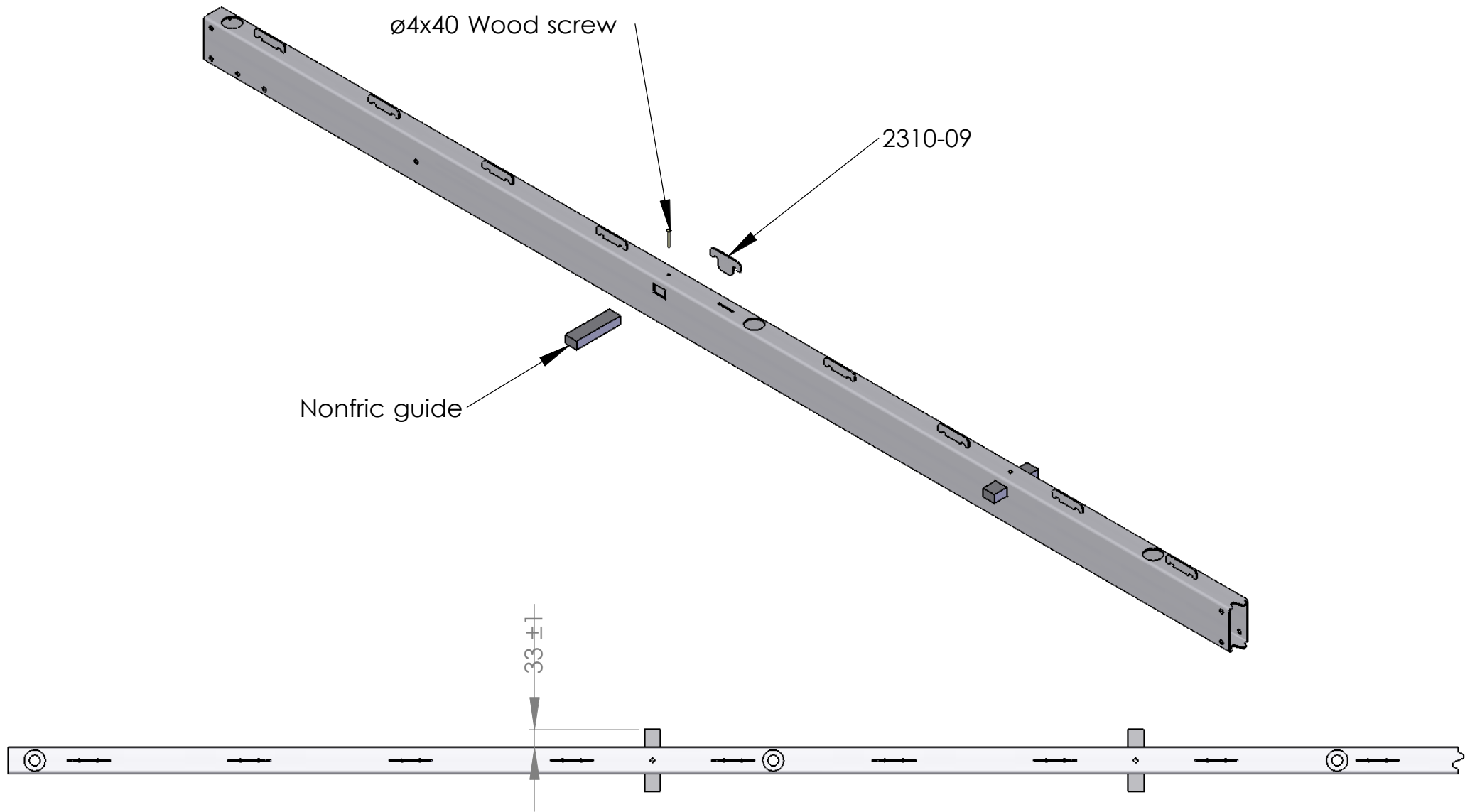
Total weight:
7 kg

5	20	Washer	ø8		0
4	10	Lock nut	M8		0
3	10	Bolt M8	L=40		0
2	7	Distance bracket	2310-4402		1
1	1	Base bracket	2310-4201		1
Pos.	Pcs.	Description	Part No.	Remark	Weight
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SMEDELØKKEN 5-7 TLF.:+45 65 97 43 80			A3	19.11.08	LA
DK-5330 MUNKEBO FAX: +45 65 97 47 45			Page:	Rev. date:	Scale:
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Description:			Drawing no.:		
860mm Cylinder bracket Rear end			2310-42		



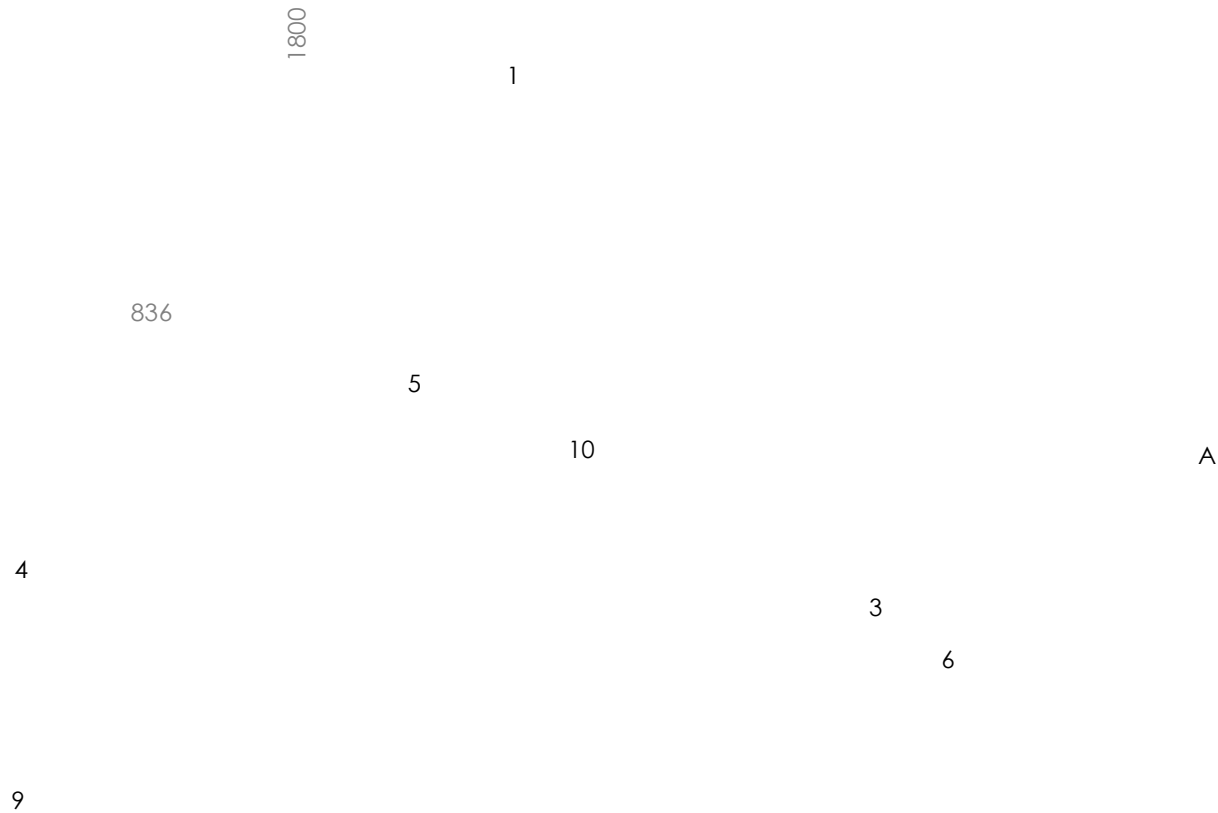
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4	10	Lock nut	M8		0
3	10	Bolt	M8x35		0
2	4	Distance bracket	2310-4402		1
1	1	Base bracket	2310-4401		1
Pos.	Pcs.	Description	Part No.	Remark	Weight
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860mm Cylinder bracket Front			2310-44		

Total weight:
4 kg

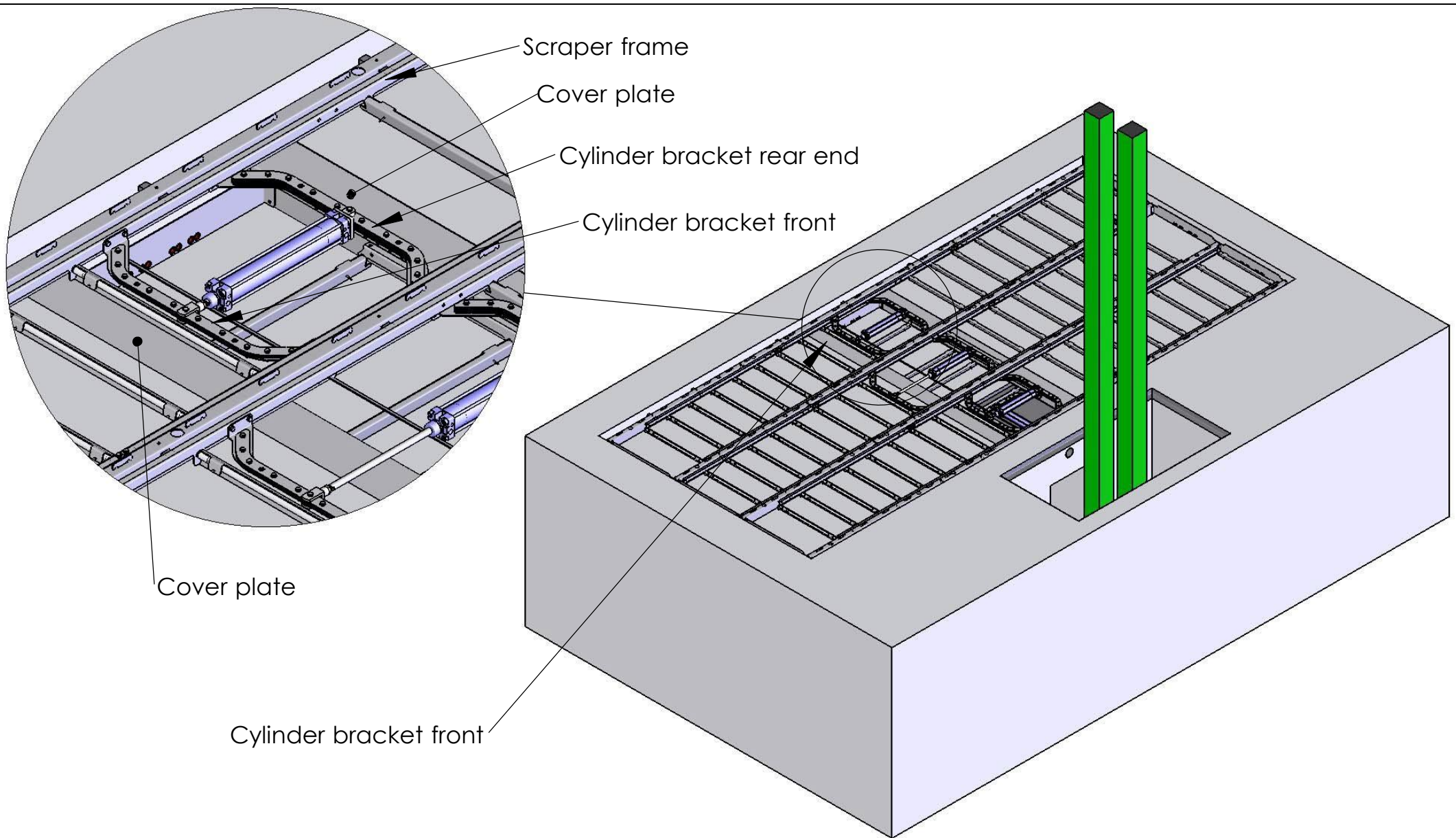


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19 kg

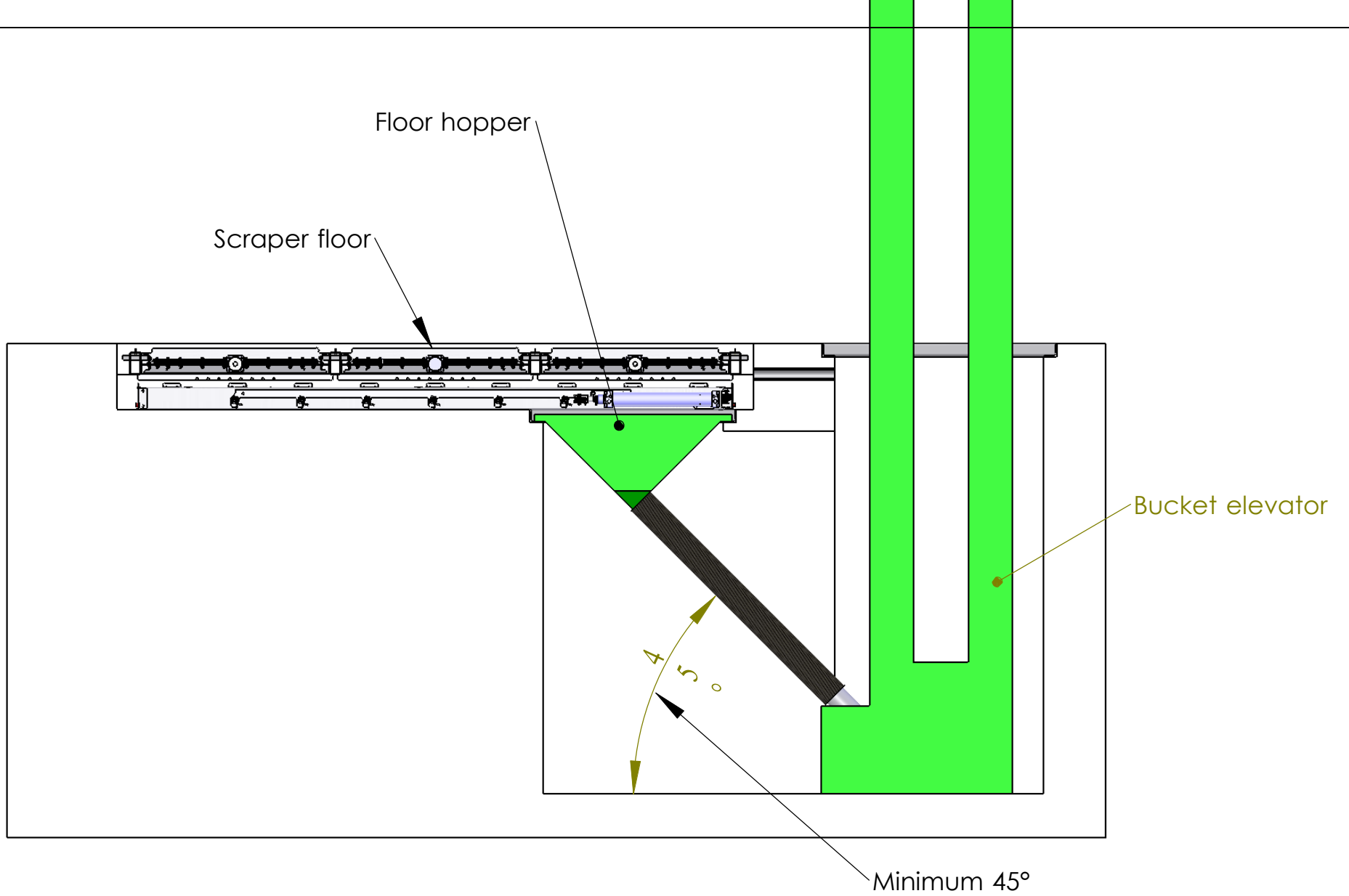
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Description: Side stringer L=2700 mm		Drawing no.: 2310-01	



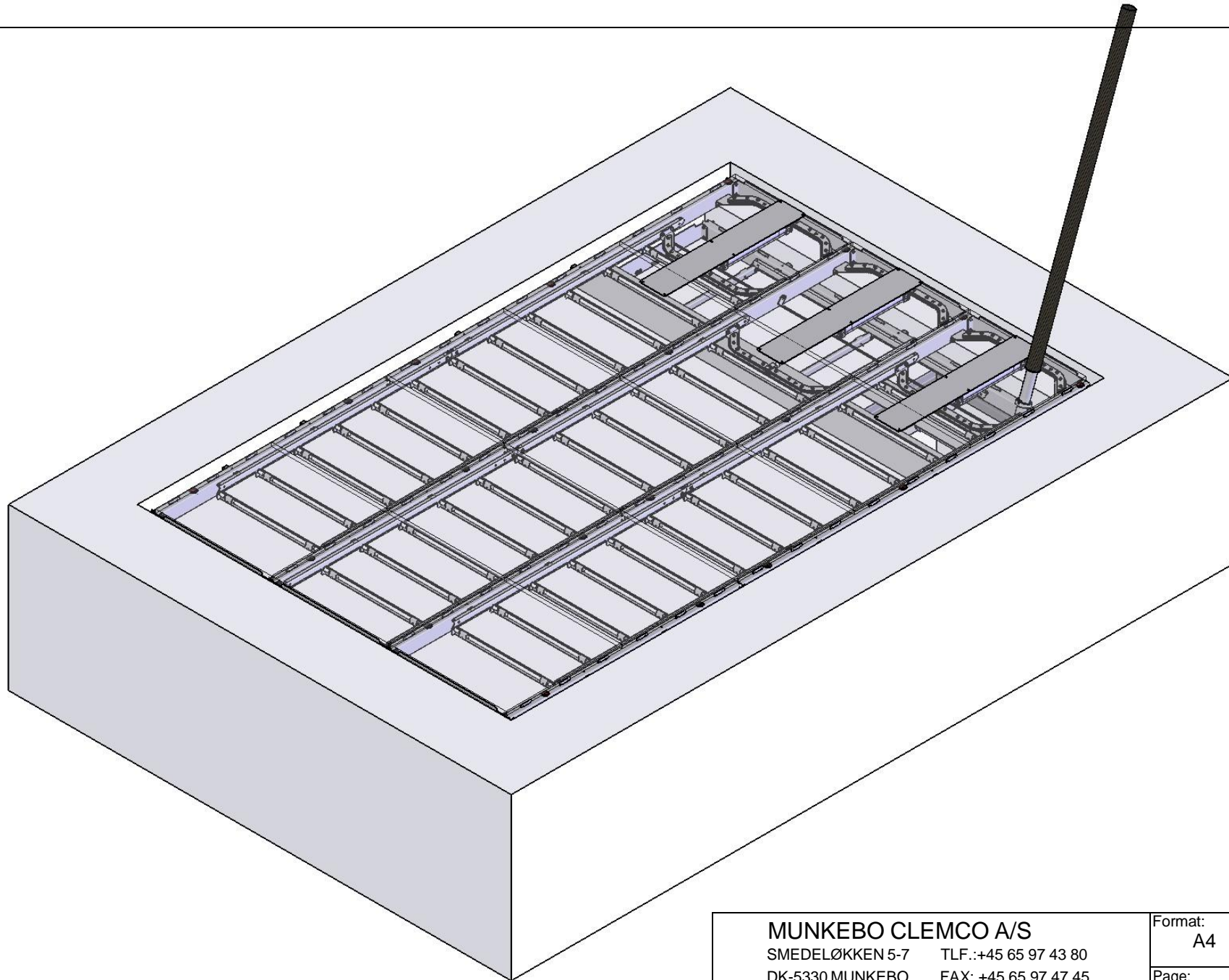
Pos.	Pcs.	Description	Part No.	Remark	Weight
10	12	Bolt, lock not + 2 pcs.			
9	4	washer	M8x20		0
8	12	Washer	ø8		0
7	12	Bolt	M8x45		0
6	12	Inset ø22,5x1,5 860mm	RS22*1,5M8/1 1,280-		0
5	6	Scraper blade 860mm	2310-47		1
4	1	Cylinder bracket Front 860mm	2310-44		4
3	6	Distance pipe	2310-28	Bukkes	1
2	1	Side string L=1800 mirrored	mirror2310- 1101	spejlvend af 2310-1101	3
1	1	Side string L=1800	2310-1101		3



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	Page: 1 of 2	Rev. date:	Scale: 1:50
	Description: Scraper floor with bucket elevator		Drawing no.: MB-2994



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	Page: 2 of 2	Rev. date:	Scale: 1:25
Description: Scraper floor with bucket elevator		Drawing no.: MB-2994	



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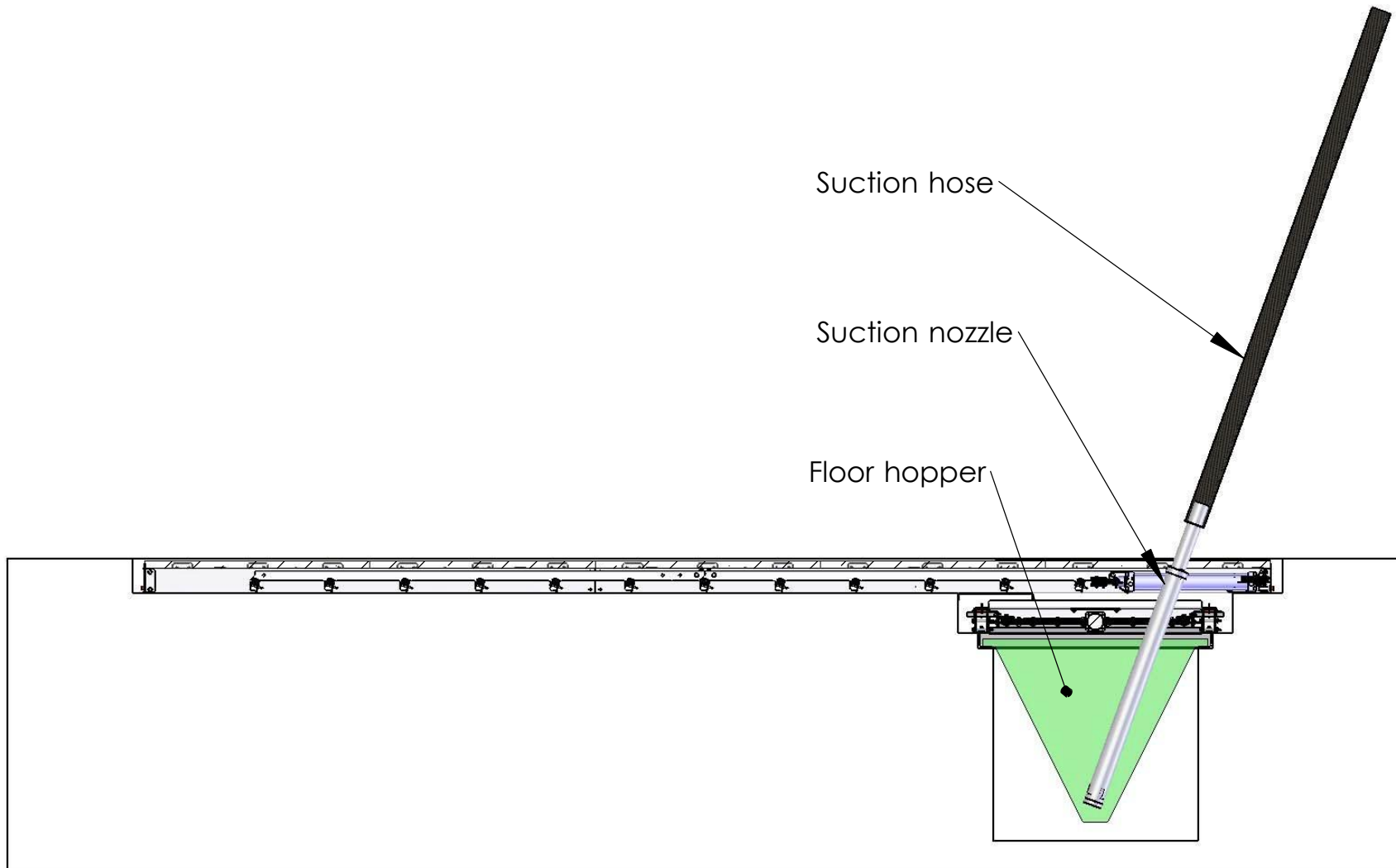
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Description:

**Scraper floor with suction unit
Installation instruction**

Drawing no.:

MB-2995



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M8x75 bolt + lock nut + 2 pcs. washer

DBI-DUT

2310-41

Side stringer

Concrete anchor M12x80

2310-43

Big washer ø12

Outer girder

Nonfric guide

Side stringer

1100

860

> 140

2310-41

2310-42

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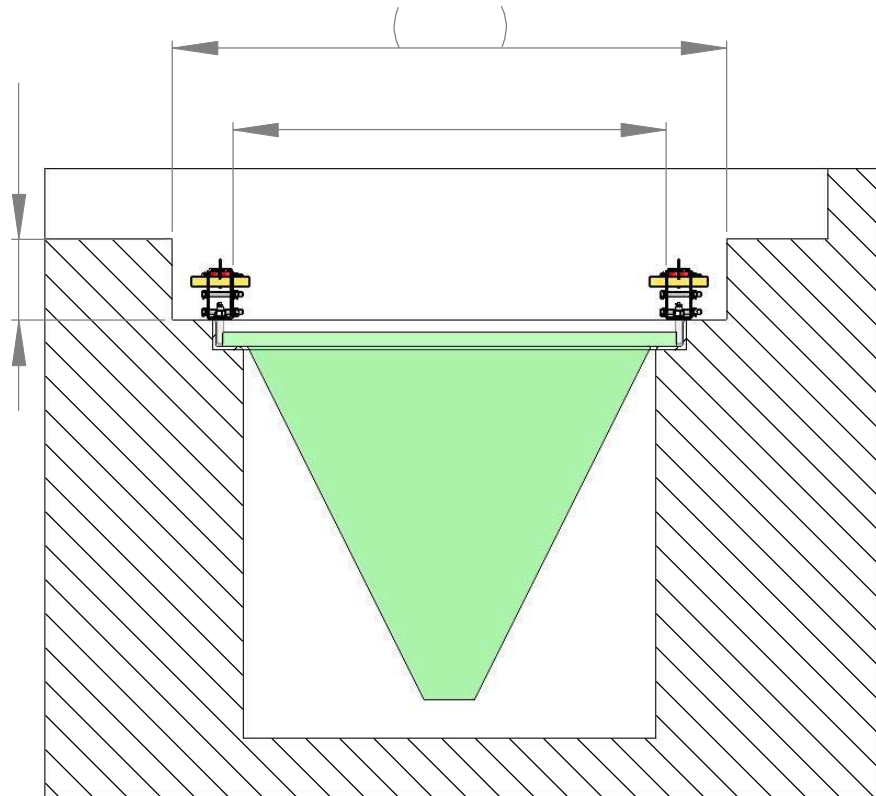
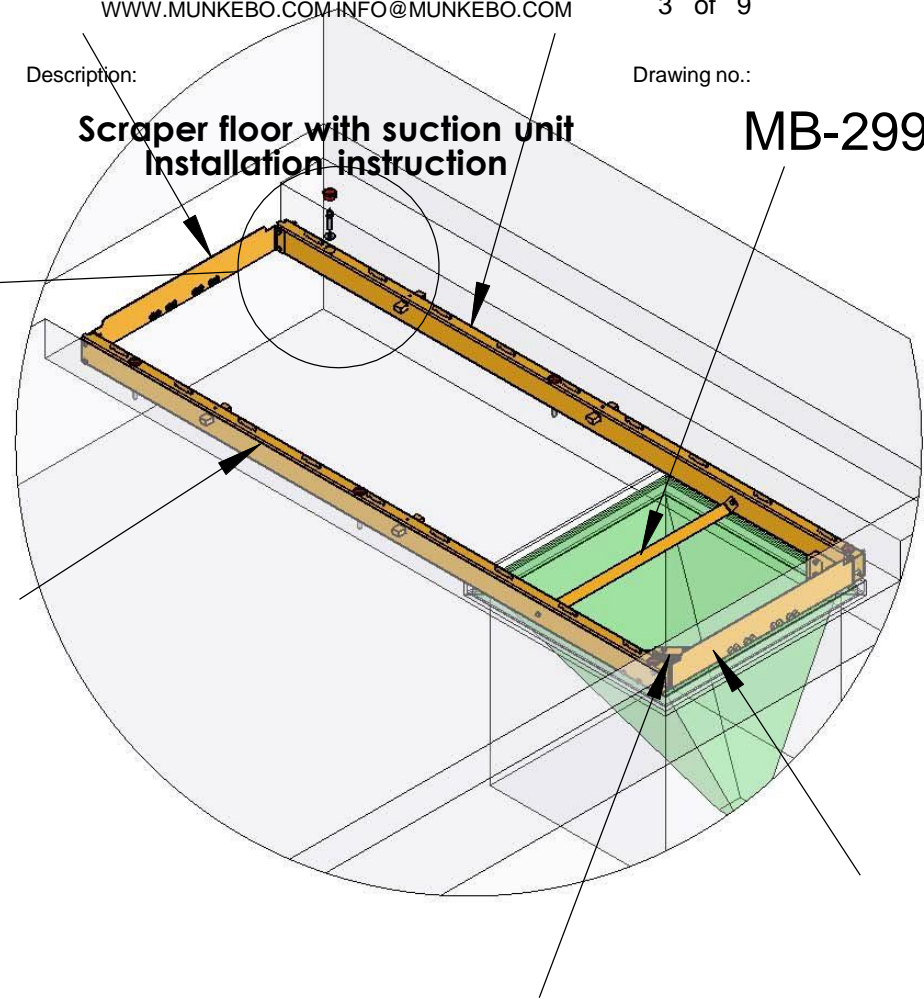
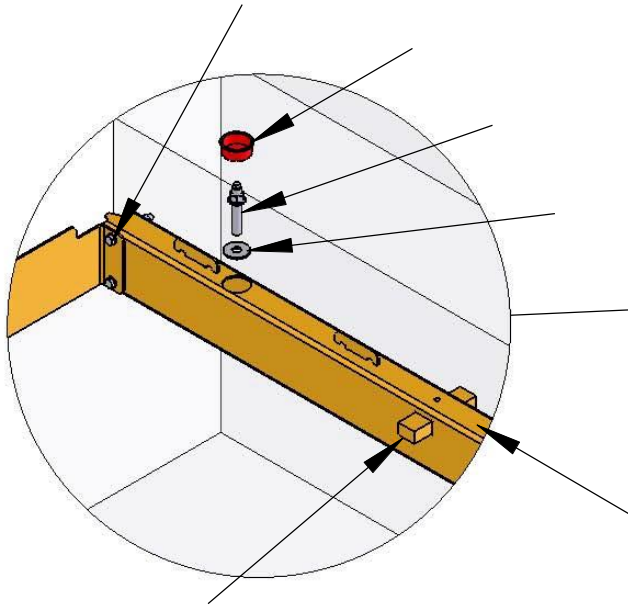
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Drawing no.:

Scraper floor with suction unit Installation instruction

MB-2995



Nonfric guide

Scraper frame

Scraper frame

Side stringer

2310-41

Side stringer

2310-43
To be adjusted for
support for air cylinder

400 mm stroke

2310-43
To be adjusted for
support for air cylinder

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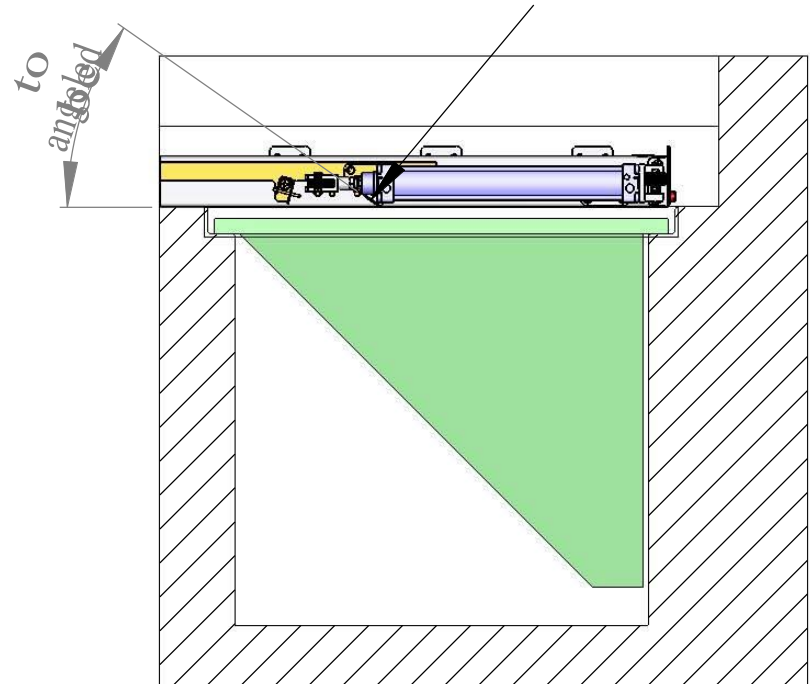
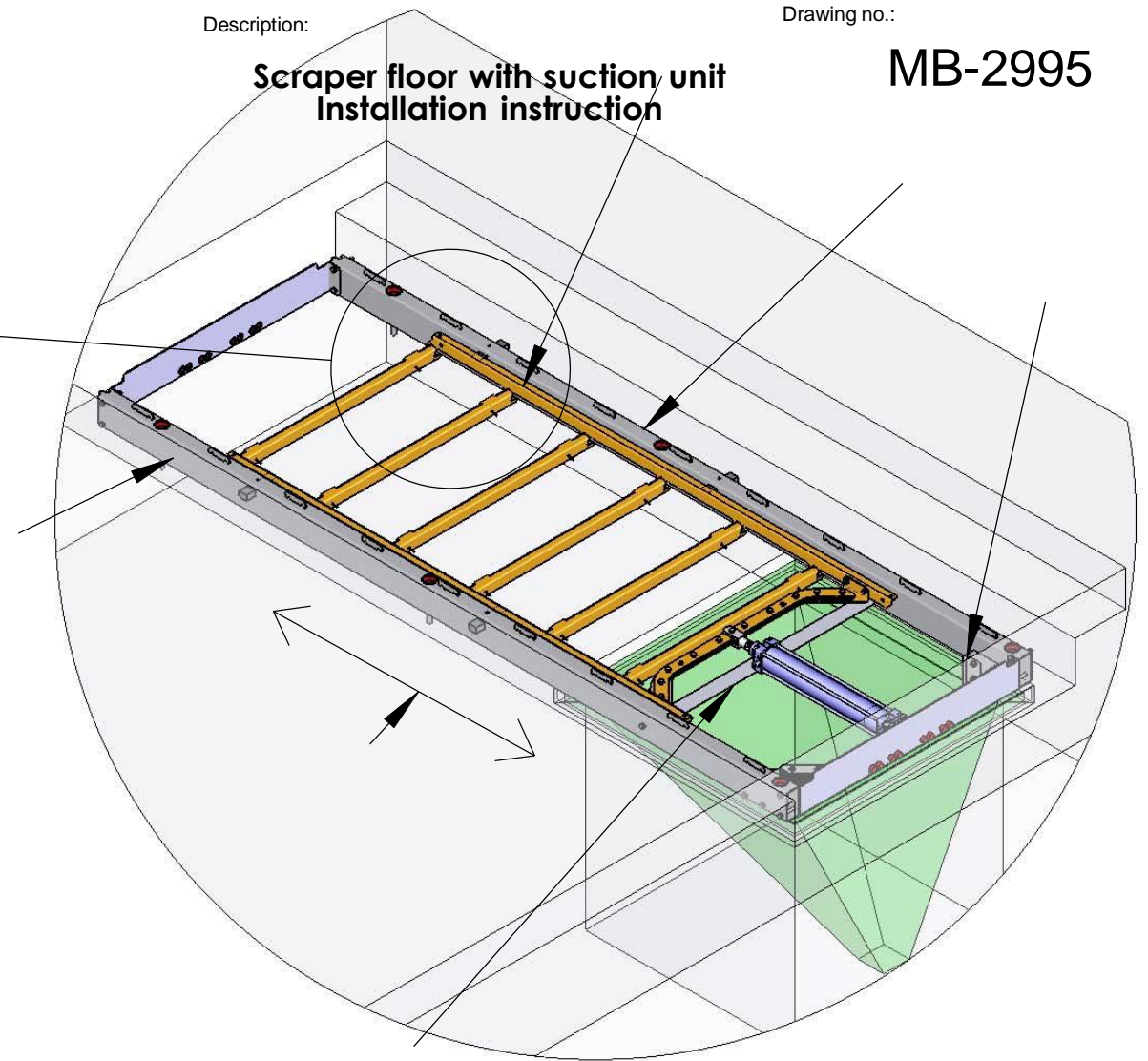
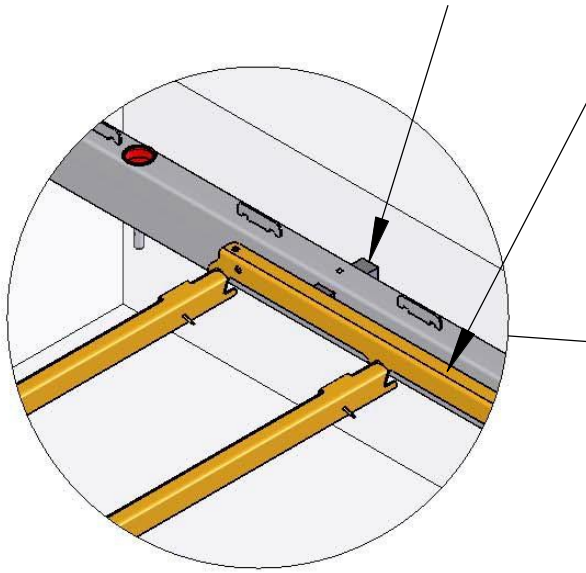
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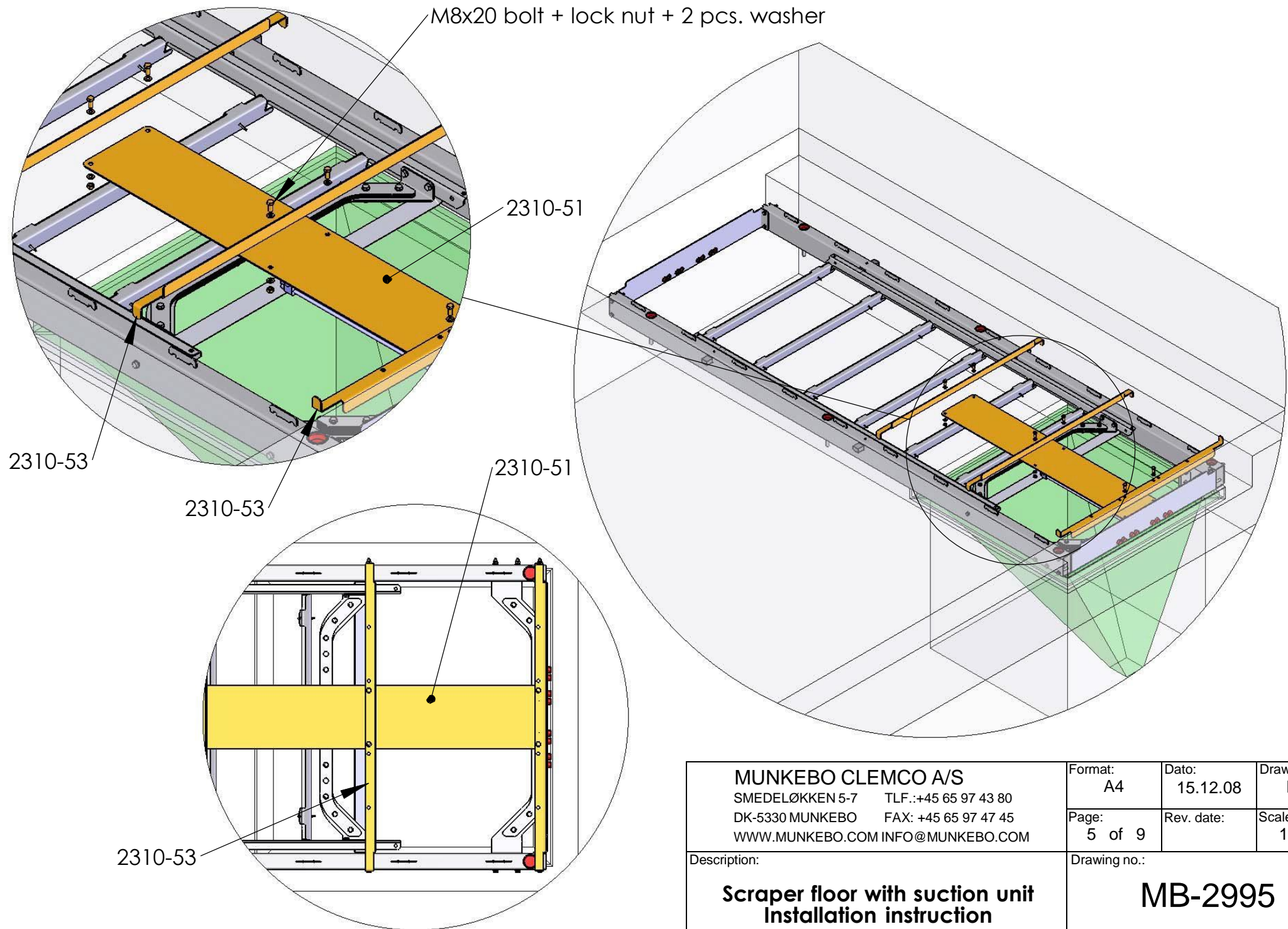
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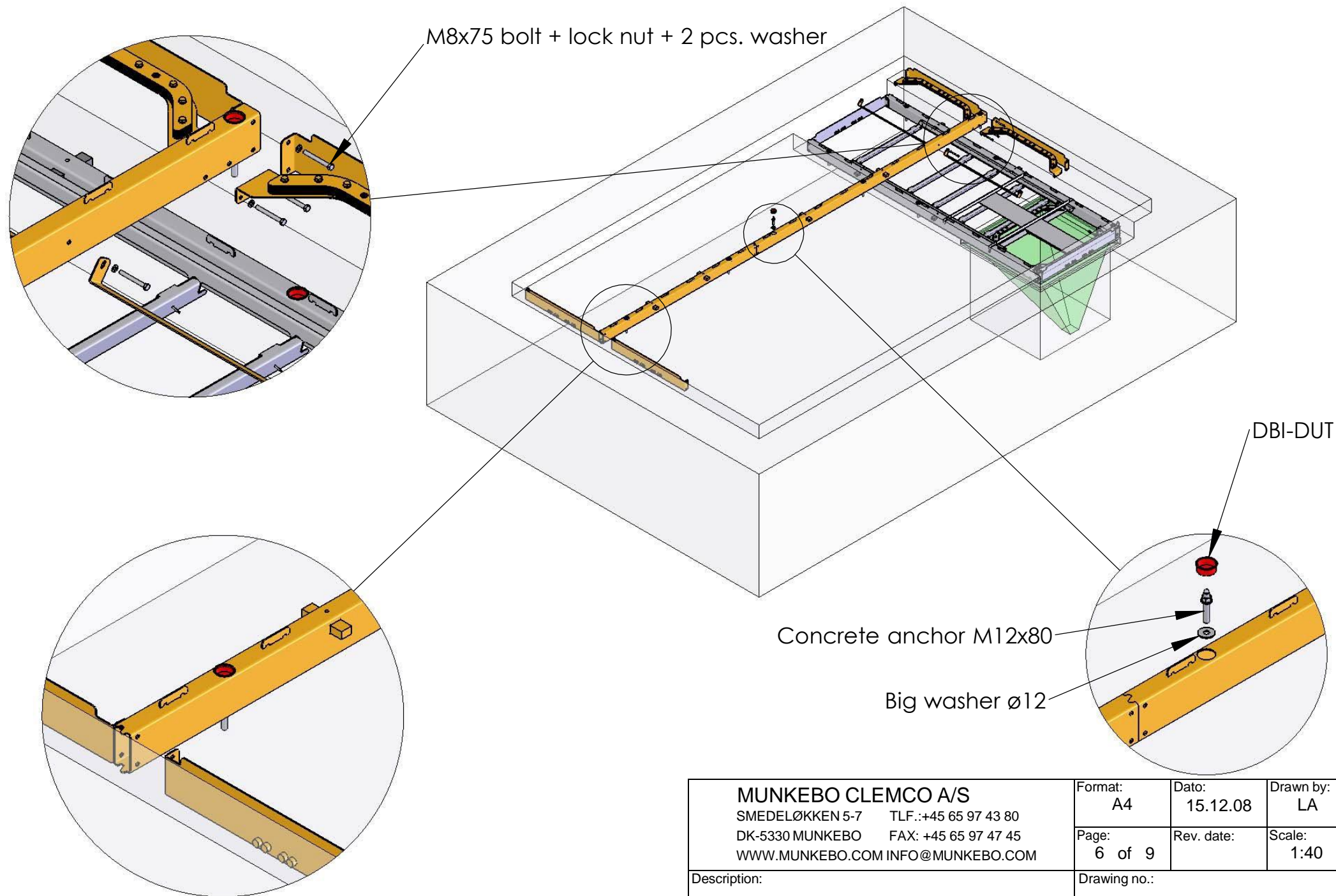
Scraper floor with suction unit Installation instruction

MB-2995





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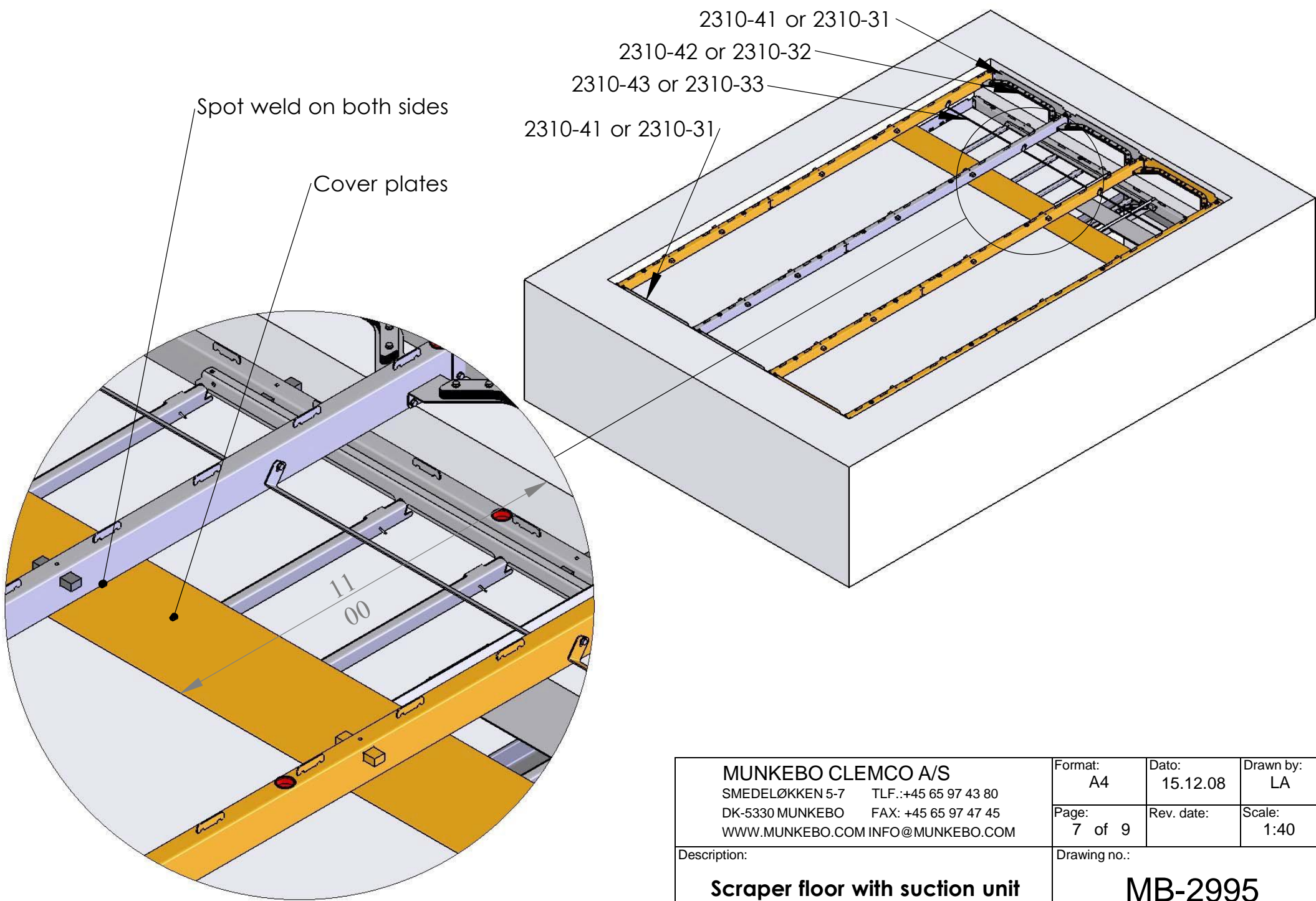
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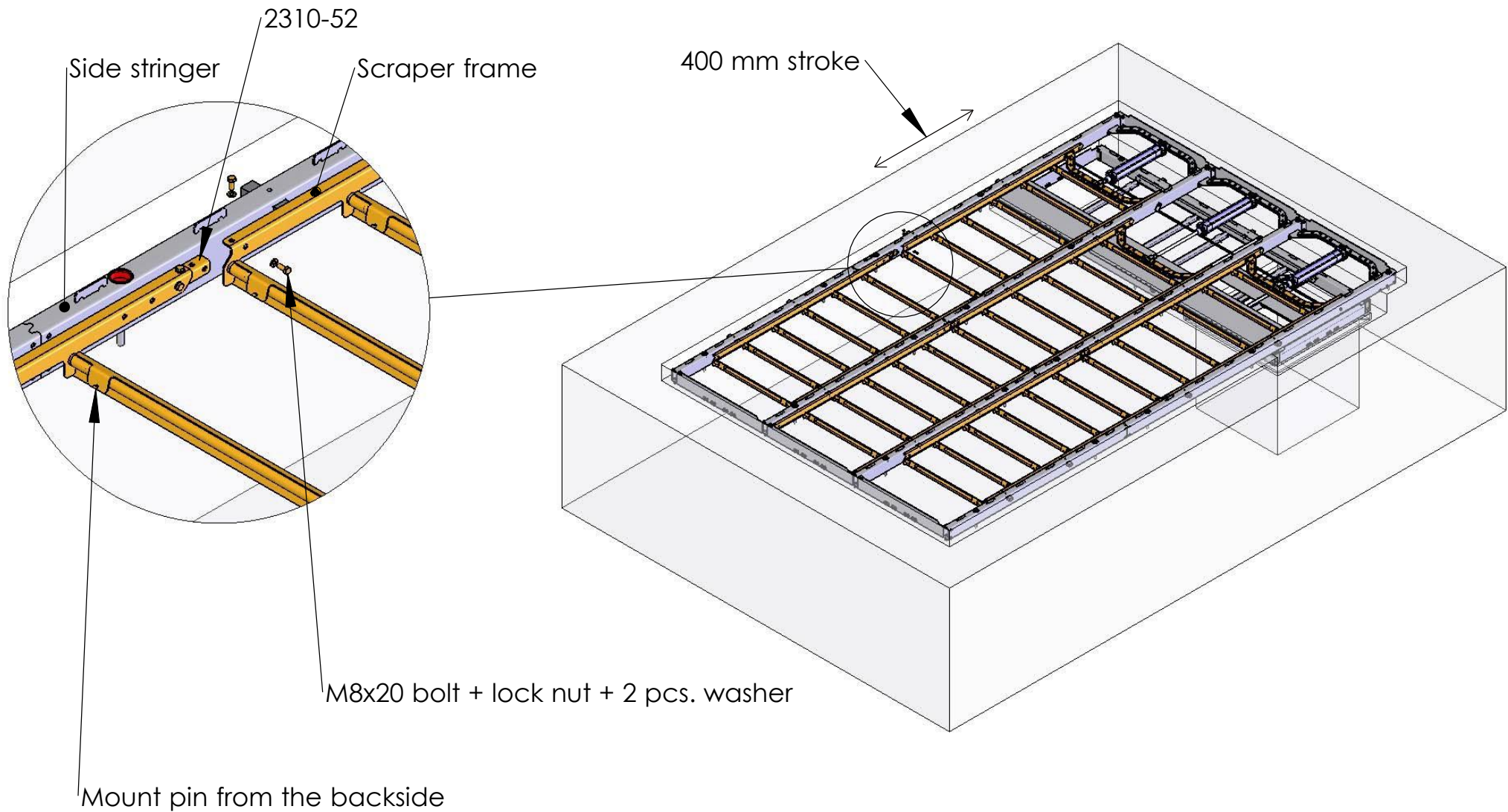
**Scraper floor with suction unit
Installation instruction**

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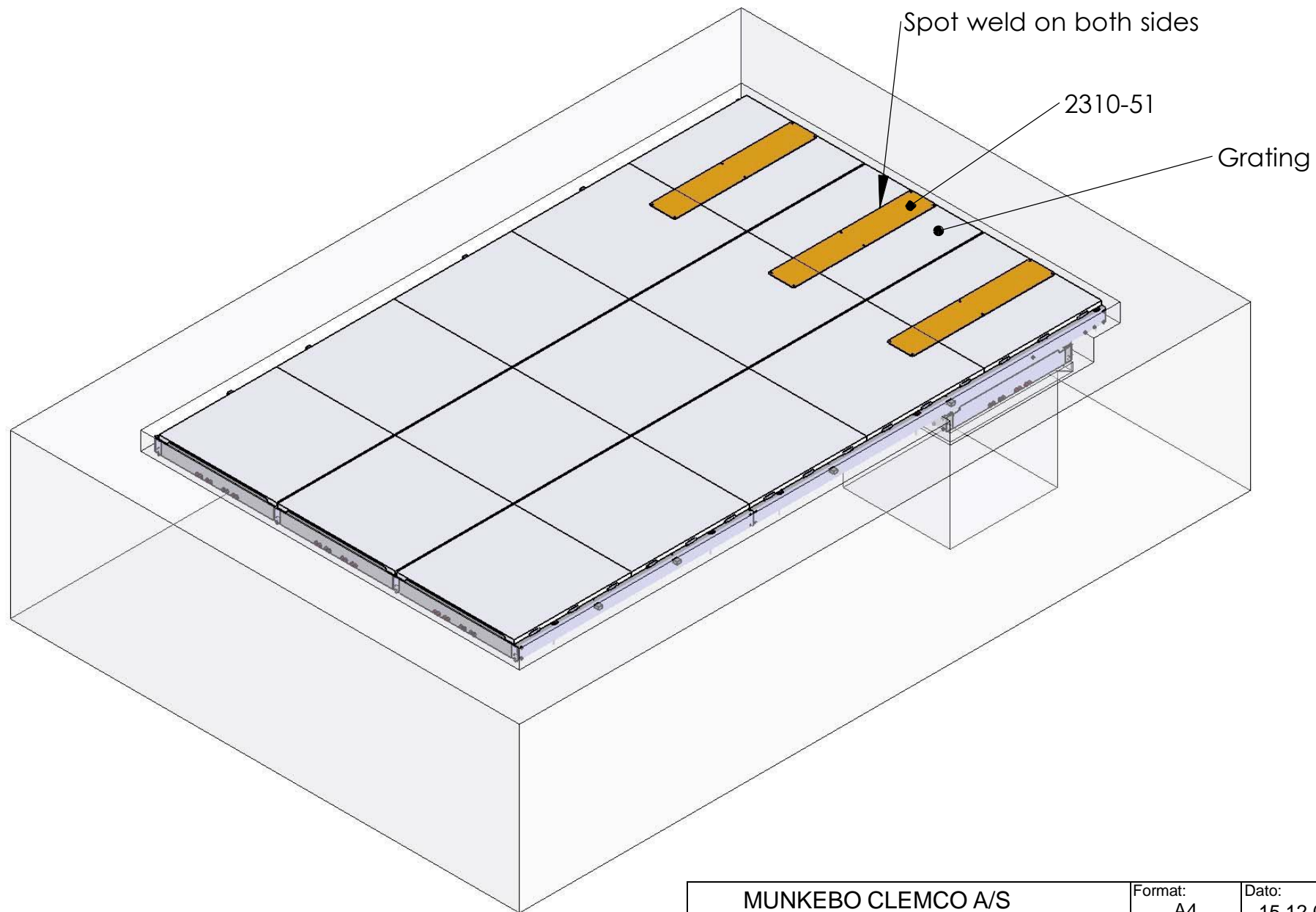
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