



Herkules



Assembly and maintenance manual for vehicle lifting platforms in potentially explosive atmospheres

Machine type	Article no.	Serial No.
K3213-HLS-DUO-11	HLS3213-DUO-11	
K3213-HLS-DUO-14	HLS3213-DUO-14	
K3213-HLS-DUO-16	HLS3213-DUO-16	



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Legal note

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1 General safety instructions

This manual is intended as a supplement to the current operating manual. It describes the additional measures which must be taken in order to achieve a platform with Atex conformity according to Directive 2014/34/EU from a standard lifting platform. Any safety and assembly measures from the original operating manual are just as authoritative and must be complied with as the additional measures in this manual.

The platform must be earthed according to the specifications of the applicable standards (see declaration of conformity) in order to prevent static charging. There are no other risks in regards to the danger of a potential ignition source.

The vehicle lifting platform has been measured and tested according to EN 1127-1 prior to delivery. In order to ensure safety in environments with potentially explosive atmospheres, it is essential that the points in this assembly manual are carried out and complied with.



Failure to follow the safety instructions can endanger life and limb.

2 EC Declaration of Conformity

According to ATEX directive 2014/34/EU

The manufacturer	Herkules Hebetchnik GmbH Miramstraße 68b 34123 Kassel, Germany			
Party responsible for documentation	Herkules Hebetchnik GmbH			
hereby declares that the machine described below	Lifting platform	Machine type K 3213-HLS-DUO-11 K 3213-HLS-DUO-14 K 3213-HLS-DUO-16	Article no. HLS3213-DUO-11 HLS3213-DUO-14 HLS3213-DUO-16	Serial no. see cover sheet see cover sheet see cover sheet
satisfies the requirements of the following EC Directives:	ATEX directive 2014/34/EU Atex level: EX II 3 G/D Ex c IIB T6 X			

Applied harmonised standards:

EN 1493 EN ISO 12100-1/2 EN 1127-1 EN ISO 80079-36	Vehicle lifting platforms Safety of Machinery Explosive atmospheres Explosive atmospheres – part 36: Non-electrical devices for use in a potentially explosive atmospheres
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3 Proper use

The lifting platform can be used according to its intended purpose as per the operating instructions. There are no further limitations.

The lifting platform has been categorised according to the procedure described in the ATEX directive 2014/34/EU and, with the installation of the ATEX kit by Herkules Hebetchnik GmbH and its certification, has the ATEX level:

EX II 3 G/D Ex c IIB T6 X

The lifting platform may therefore be used in a zone 2 (gas/vapour) or zone 22 (dust) and is in device category 3.

The lifting platform is protected by design safety.

The lifting platform does not generate any surface temperatures that are greater than 85°C.

4 Earthing assembly

The following assembly points must be carried out in order to establish the overall earthing of a lifting platform. If the platform has already been delivered pre-assembled (depending on the ordering process), certain points may be omitted. However, for the sake of safety, all points should be checked.

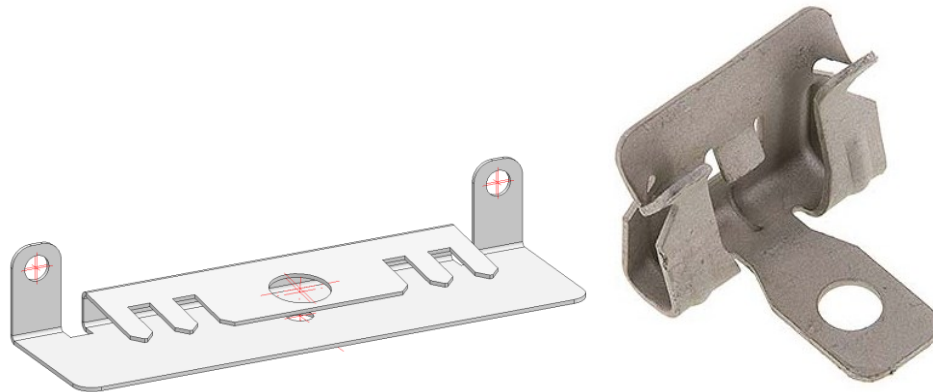
4.1 Platform earthing

An earthing cable must be connected to the hall earthing on the lower frame of the main body. Included in the delivery are a hole provided for this purpose, cables and screws. An earthing symbol marks the hole to which the earthing must be screwed.



4.2 Earthing metal gratings

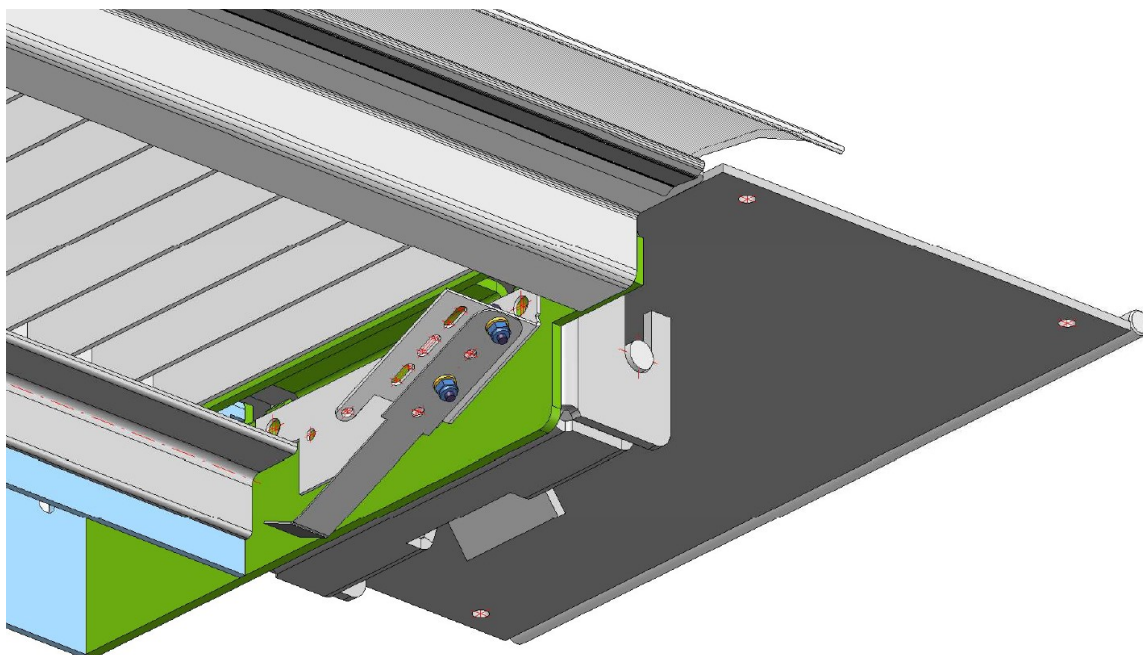
Clamp the earthing clamps under the metal gratings so that the metal gratings lie freely on the clamps. If necessary for continuity control, earthing cables can be screwed to the two lugs, which in turn can be connected to the platform earthing or others. The clamps can be screwed to the platform through the centre drill holes. A hole on the platform must be drilled for this purpose.



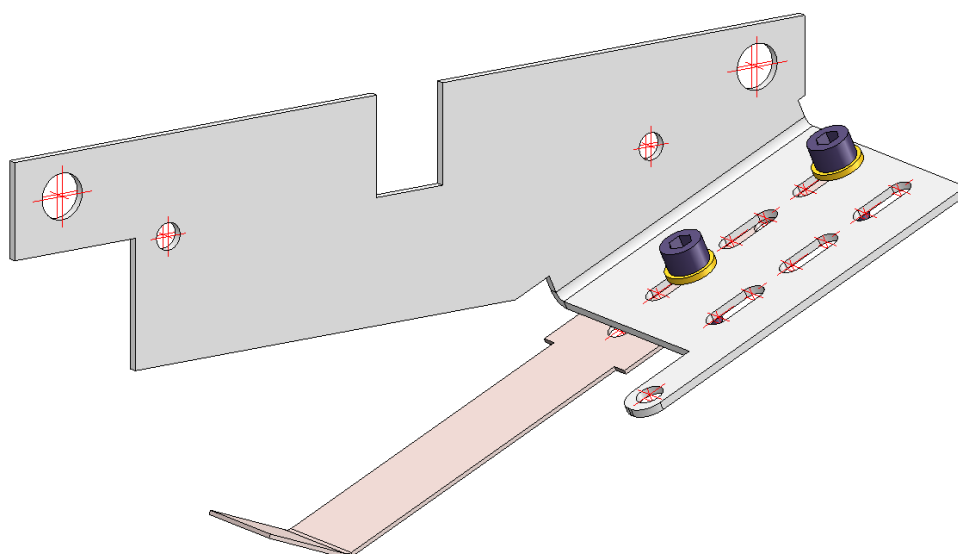
Examples for earthing clamps

4.3 Earthing booms

Fit the spring plate assembly to the boom behind the drive-on ramp so that the spring plate points downwards towards the hall floor. Screw the earthing plate onto the hall floor so that the spring plate hits the earthing plate when the platform is moved together.

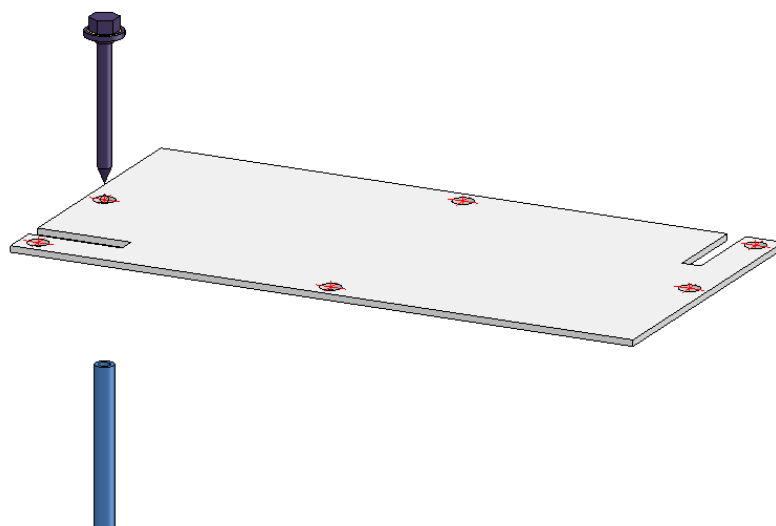


The earthing plate must be connected to the lower frame at the stage earthing or hall earthing with an earthing cable.



Spring plate assembly

If the lifting platform has boom supports, one support foot on each side must be earthed. To do this, screw an earthing plate to the ground where the support stands.



Earthing plate

Remove the end caps, if any, from the respective supports.

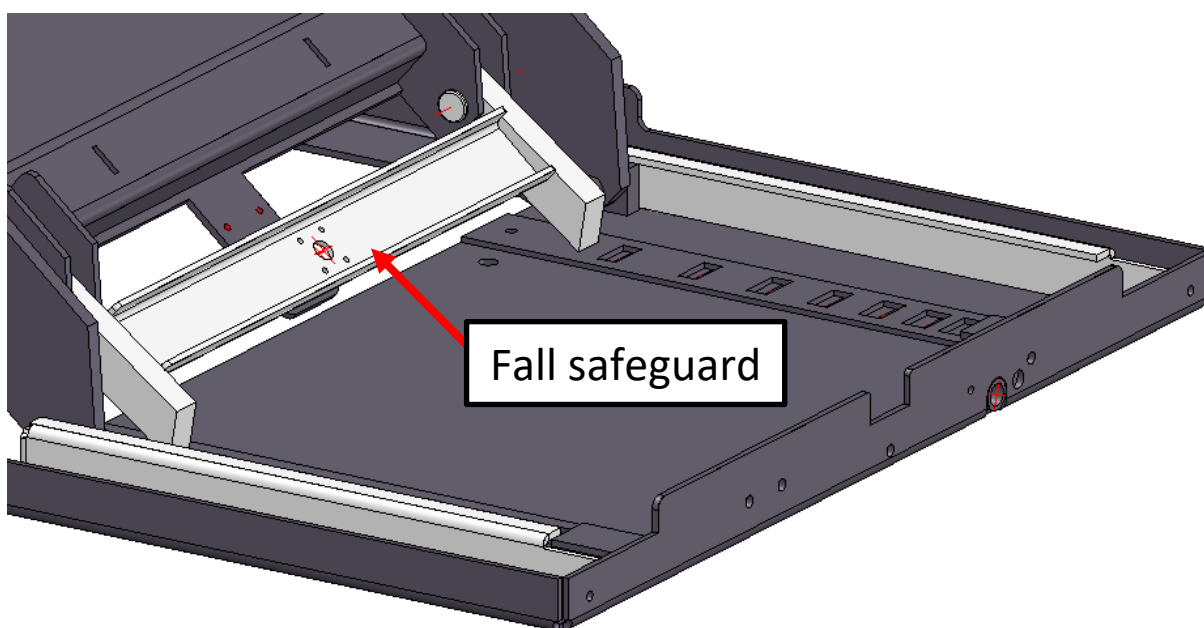
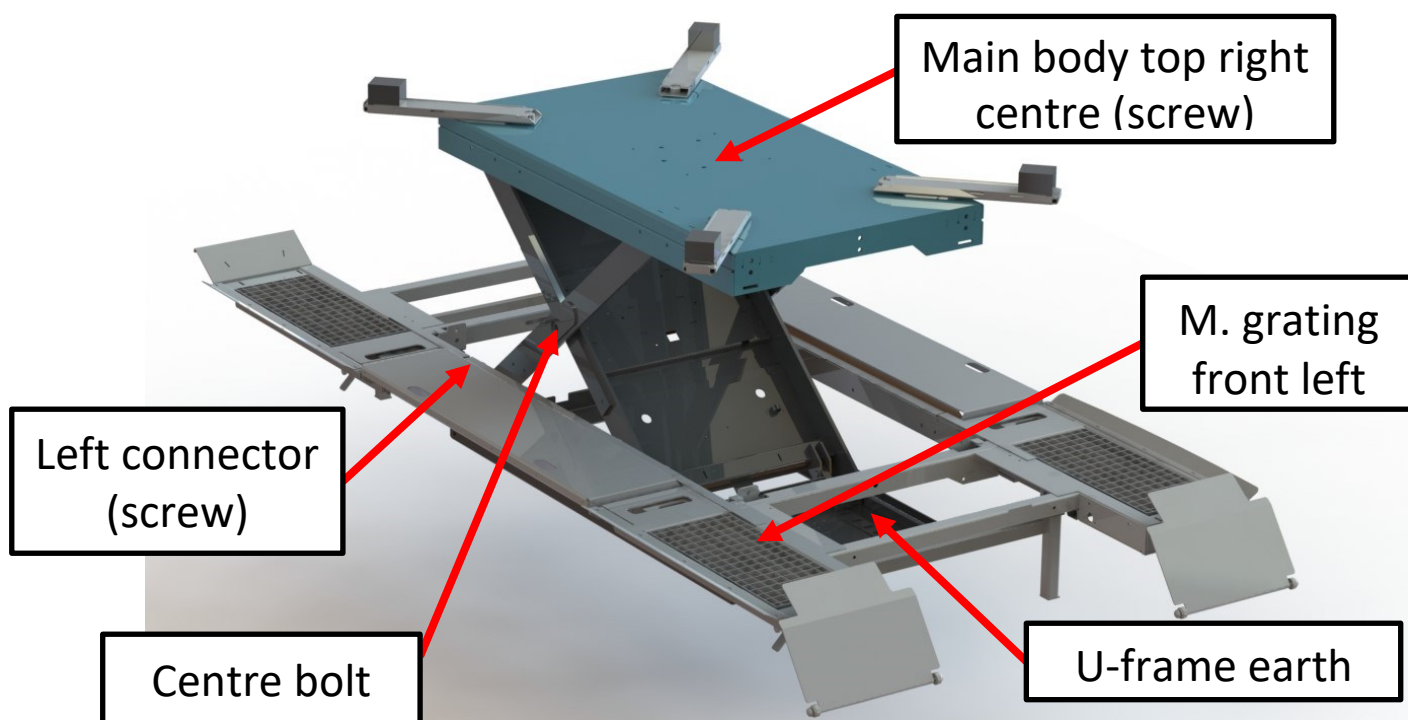
On a DUO version of the lifting platform, the slider (lock for DUO function) must be connected to the boom. This can be done by installing earthing cables on the opposite sides of the handles. There are free holes, which can be connected by an earthing cable with a metal grating clamp.

4.4 Performing continuity measurement

After the entire platform has been earthed, it must be checked that no contact resistance of more than 1 MΩ is reached over the entire platform. To this end, all measurements must be carried out in accordance with the following table. The table shows the standard values measured on delivery:

Continuity measurement		Date	
Serial number of main body			
Serial number of boom			
Measuring points			Ohm [Ω]
1.	U-frame earth - Fall safeguard		
2.	U-frame earth - Centre bolt		
3.	Centre bolt - Main body top right centre		
4.	(14) M. grating front right - Main body top right centre		
5.	(14) M. grating front centre - Main body top right centre		
6.	(14) M. grating front left - Main body top right centre		
7.	(14) M. grating rear right - Main body top right centre		
8.	(14) M. grating rear centre - Main body top right centre		
9.	(14) M. grating rear left - Main body top right centre		
10.	(14) M. grating front left - U-frame earth		
11.	Earthing plate ramp 1 - M. grating		
12.	Earthing plate ramp 2 - M. grating		

13.	Left connector - M. grating	
14.	Right connector - M. grating	
15.	Support arm front left - Main body top right centre	
16.	Support arm front right - Main body top right centre	
17.	Support arm rear left - Main body top right centre	
18.	Support arm rear right - Main body top right centre	



The continuity measurement must not be carried out on paint.

If all values are OK, i.e. less than 1 M Ω , safety is ensured according to the currently valid Atex Directive 2014/34/EU.

5 Maintenance and cleaning manual

The following maintenance and cleaning work must be carried out at least **monthly** in addition to the work described in the original operating manual, depending on the degree of soiling.

5.1 Cleaning base plates

The spring and base plates, which are fixed at two points on the boom and on the hall floor, must be cleaned of dirt. A suitable cleaning agent should be used depending on the type and degree of soiling. The contact between the sheet metal parts must not be impaired by the soiling.

5.2 Cleaning metal grating supports

The surfaces of the metal grating support plates must be cleaned so that the metal grating is always in contact with the plate surfaces. One of the clamping plates must be located under each metal grating, i.e. each metal grating must be brought into contact with the boom separately.

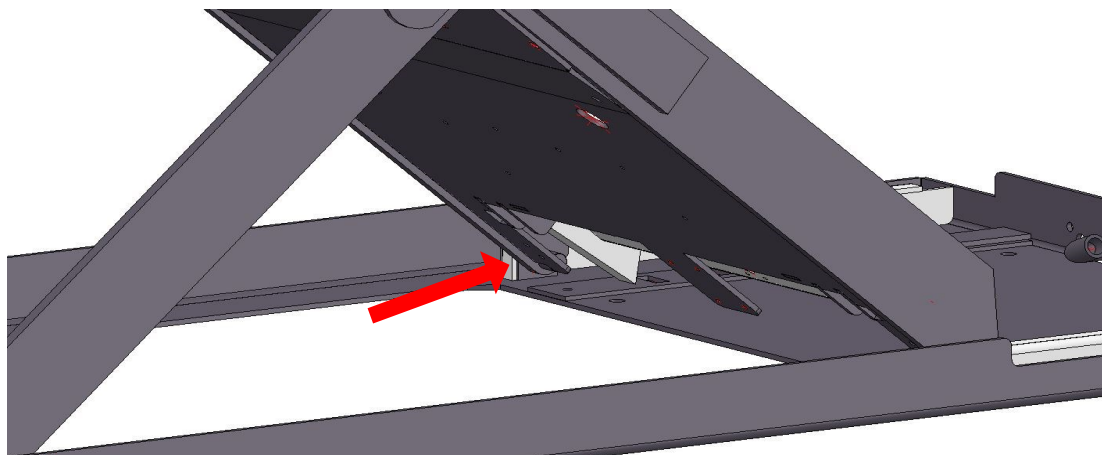
5.3 Checking earthing cable

Each earthing cable must be checked for damage. Check the tightness of the brackets and screws. Earthing cables are to be found in the following locations:

1. Lower frame of the main platform body for hall earthing
2. Earthing plates for boom (on both sides)
3. If necessary, metal grating support plates with sliding mechanism

5.4 Cleaning slide surfaces

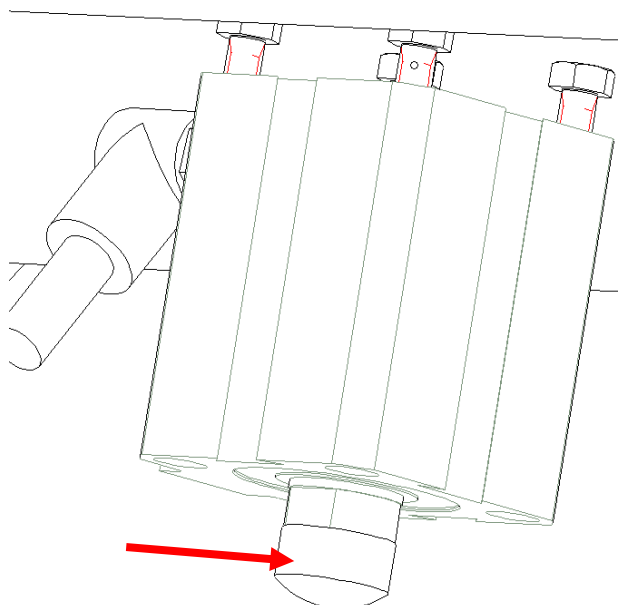
In addition to the monthly lubrication work, special attention must be paid to the sliding surfaces of the inner scissors. These must be cleaned particularly thoroughly and re-greased. There must be no larger residues of dirt at the end stops of the sliding blocks.



Use conductive and silicone-free grease.

5.5 Checking the pneumatic cylinder

What is known as the fall safeguard cylinder, which is screwed onto the fall safeguard, must be checked for completeness. Above all, the plastic plug must be present at the end of the piston which presses on the sheet metal on the lifting platform in order to counteract a spark-generating strike.



Plastic plug

5.6 Performing continuity measurement

After all plates have been cleaned and the earthing cable checked, a continuity measurement must be performed in accordance with **Chapter 4.4 Performing continuity measurement**. For this purpose, use copies of the test protocol at the end of the instructions.

If all values in the range are less than 1 MΩ the test is OK and the lifting platform can still be used.

If the measurement shows a higher value at one point, the conductivity must be examined at the appropriate points. If necessary, the cleaning work must be carried out again or more thoroughly.

6 Possible risks and how to avoid them

1. Inadequate cleaning of the specified surfaces can lead to static charging, which can manifest itself after some time in a lightning-like discharge.
➔ Comply with the maintenance and cleaning manual.
2. Inadequate cleaning of the sliding surfaces of the inner scissors can lead to the formation of a dust deposit, which can be compressed by the pressure of the sliding block and can lead to a thermal reaction.
➔ Comply with the maintenance and cleaning manual.
3. The conductivity can be impaired by rust layers occurring after prolonged use.
➔ Remove rust from moving parts of the platform after prolonged standstill.
4. Due to wilful misuse, moving parts can be hit against each other so strongly that a higher energy potential is generated, which could cause sparks. Moving parts should therefore be handled with the necessary care.
➔ Protect the lifting platform from use by unauthorised persons.
5. If the plastic cap on the fall safeguard cylinder is missing, the cylinder piston made of hardened steel can have such a high energy level due to the impact on the counter plate that sparks could be generated. The plastic cap must sit firmly on the cylinder piston.
➔ Check the cylinder regularly for completeness, if necessary reorder plastic cap from Herkules Hebetchnik.
6. When handling the platform, personnel should have suitable clothing that does not provoke accidental static charging caused by rubbing the clothing against the platform.
➔ Avoid rubbing clothing excessively against the platform.

7 HLS3213-DUO-11/14/16 Atex test protocol

Serial number of main body				
Serial number of boom				
		Remark	NOK	OK
Platform tested according to "Platform preparation Atex"				
		Date		
Continuity measurement			Resistance [Ω]	
1.	U-frame earth - Fall safeguard			
2.	U-frame earth - Centre bolt			
3.	Centre bolt - Main body top right centre			
4.	(14) M. grating front right - Main body top right centre			
5.	(14) M. grating front centre - Main body top right centre			
6.	(14) M. grating front left - Main body top right centre			
7.	(14) M. grating rear right - Main body top right centre			
8.	(14) M. grating rear centre - Main body top right centre			
9.	(14) M. grating rear left - Main body top right centre			
10.	(14) M. grating front left - U-frame earth			
11.	Earthing plate ramp 1 - M. grating			
12.	Earthing plate ramp 2 - M. grating			
13.	Left connector - M. grating			
14.	Right connector - M. grating			
15.	Support arm front left - Main body top right centre			
16.	Support arm front right - Main body top right centre			
17.	Support arm rear left - Main body top right centre			
18.	Support arm rear right - Main body top right centre			
		No	Yes	
Atex sticker present				
Name		Signature		

Serial number of main body				
Serial number of boom				
		Remark	NOK	OK
Platform tested according to "Platform preparation Atex"				
		Date		
Continuity measurement			Resistance [Ω]	
1.	U-frame earth - Fall safeguard			
2.	U-frame earth - Centre bolt			
3.	Centre bolt - Main body top right centre			
4.	(14) M. grating front right - Main body top right centre			
5.	(14) M. grating front centre - Main body top right centre			
6.	(14) M. grating front left - Main body top right centre			
7.	(14) M. grating rear right - Main body top right centre			
8.	(14) M. grating rear centre - Main body top right centre			
9.	(14) M. grating rear left - Main body top right centre			
10.	(14) M. grating front left - U-frame earth			
11.	Earthing plate ramp 1 - M. grating			
12.	Earthing plate ramp 2 - M. grating			
13.	Left connector - M. grating			
14.	Right connector - M. grating			
15.	Support arm front left - Main body top right centre			
16.	Support arm front right - Main body top right centre			
17.	Support arm rear left - Main body top right centre			
18.	Support arm rear right - Main body top right centre			
		No	Yes	
	Atex sticker present			
	Name	Signature		

Serial number of main body				
Serial number of boom				
		Remark	NOK	OK
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		Date		
Continuity measurement			Resistance [Ω]	
1.	U-frame earth - Fall safeguard			
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6.	(14) M. grating front left - Main body top right centre			
7.	(14) M. grating rear right - Main body top right centre			
8.	(14) M. grating rear centre - Main body top right centre			
9.	(14) M. grating rear left - Main body top right centre			
10.	(14) M. grating rear right - U-frame earth			
11.	Earthing plate ramps 1 - M. grating			
12.	Earthing plate ramps 2 - M. grating			
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16.	Support arm front right - Main body top right centre			
17.	Support arm rear left - Main body top right centre			
18.	Support arm rear right - Main body top right centre			
		No	Yes	
Atex sticker present				
Name		Signature		

Serial number of main body			
Serial number of boom			
		Remark	NOK OK
Platform tested according to "Platform preparation Atex"			
		Date	
Continuity measurement		Resistance [Ω]	
1.	U-frame earth - Fall safeguard		
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		No	Yes
Atex sticker present			
Name		Signature	

Serial number of main body				
Serial number of boom				
		Remark	NOK	OK
Platform tested according to "Platform preparation Atex"				
		Date		
Continuity measurement			Resistance [Ω]	
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18.	Support arm rear right - Main body top right centre			
		No	Yes	
Atex sticker present				
Name		Signature		

8 Notes

