

# DENIOS.

## System container



System container 2G 614.O with sliding doors

## OPERATING INSTRUCTIONS

07/2006

Mat.-No. 130406 EN BA System container  
WAS-No. P905100\_DE\_EN\_BA\_105

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**Please find general operating instructions and proof of conformity, attached**

## 1. General Points

These operating instructions are applicable to system containers and system containers with natural ventilation. They specify all the information necessary for their correct operation. The advice and instructions mentioned in the booklet are to be observed and adhered to.

If the product is used in accordance with the regulations corresponding to these operating instructions, we will be liable in line with our guarantee conditions.

Keep these instructions in a safe place. They are designed to help with the practical usage of the system container and should be at the user's disposal at the location where the container is being used.

**No modifications or alterations can be made to the product without authorisation from the manufacturer. The manufacturer will not be liable for any modifications made without their authorisation and the guarantee will expire and cease to be valid.**

### 1.1 Key



Danger symbol



Prohibition symbol

## 2. Fundamental Safety Instructions

Anyone involved with the assembly, operation, maintenance and repair of the system container must be familiar with the content of the operating instructions.

The user is responsible for the operation and the maintenance of the system container. The user must therefore ensure that the sump can contain 110% of the capacity of the largest container or at least 25% of the total storage capacity, whichever is the greater.

When storing flammable liquids, the requirements for storage in accordance with TRbF 20 and the operational safety regulation (BetrSichV) must be observed to ensure fire and explosion protection.

When storing poisonous substances, the TRG 514 regulation must be observed and adhered to. When storing oxidising substances, the TRGS 515 regulation must be observed and adhered to.

The TRbF 60 regulation (mobile containers) must be observed. In an Ex-zone the appropriate protective measures must be taken.

The storage of flammable liquids included in hazardous materials classifications A1, A11 and B in accordance with VbF (such as R10, R11, and R12 in accordance with hazardous materials regulations) is only permitted in system containers, which are installed outside, in areas that are adequately ventilated, or have a suitable ventilation system.



It is forbidden for fire or naked flames to be in close proximity to the system container. Smoking is also prohibited.

## 3. Technical Details

**Compliance:** System containers are compliant with construction regulations No. Z-38.5-120.



System containers have also been tested and are approved for the following:

**Load capacity:** maximum wind resistance: → 0,5 kN/m<sup>2</sup> in accordance with DIN 1055 Part 4, see the following Table 1: Dimensions and load capacities

Resistance in snowy conditions (roof load): → 0,75 kN /m<sup>2</sup>

**Dimensions and load capacities:** see table 1: Dimensions and load capacities

### 3.1 Table 1: Dimensions and load capacities

System container for storing drums vertically outdoors

Model	Width (mm)	Depth (mm)	Height (mm)	Sump capacity (ltr)	Load capacity (kg/m <sup>2</sup> )	Load (kg)
1G 314.O	3000	1400	1 x 2640	750	1000	4200
2G 314.O			2 x 1250			
3G 314.O			3 x 1250			
1G 614.O	2 x 3000	1400	1 x 2640	1500		
2G 614.O			2 x 1250			
3G 614.O			3 x 1250			
1G 326.O	3000	2 x 1300	1 x 2290	1300	3900	
2G 326.O			2 x 1250			
3G 326.O			3 x 1250			
1G 626.O	2 x 3000		2 x 1300	1 x 2280		2540
2G 626.O				2 x 1250		
3G 626.O				3 x 1250		
				2900		

System container for the external storage of pallets

Model	Width (mm)	Depth (mm)	Height (mm)	Sump capacity (ltr)	Load capacity (kg/m <sup>2</sup> )	Load (kg)
2P 414.O	3900	1400	2 x 1250	1100	1000	5460
3P 414.O			3 x 1250			
2P 814.O	2 x 3900		2 x 1250	2100		
3P 814.O			3 x 1250			

# OPERATING INSTRUCTIONS

System container for the external storage of IBCs

Model	Width (mm)	Depth (mm)	Height (mm)	Sump capacity (ltr)	Load capacity (kg/m <sup>2</sup> )	Load (kg)
1K 414.O	3380	1400	1 x 2570	1180	1250	5915
2K 414.O			2 x 1500			
1K 714.O	2 x 3380		1 x 2570	2400		
2K 714.O			2 x 1500			

System containers and System containers with natural ventilation for storing drums horizontally outdoors

Model	Width (mm)	Depth (mm)	Height (mm)	Sump capacity (ltr)	Load capacity (kg/m <sup>2</sup> )	Load (kg)
2A 314.O	3000	1400	2 x 1165	470	350 kg/drum storage space	
3A 314.O			3 x 750			
2A 614.O	2 x 3000		2 x 1165	1000		
3A 614.O			3 x 750			

System container for the storing drums vertically indoors

Model	Width (mm)	Depth (mm)	Height (mm)	Sump capacity (ltr)	Load capacity (kg/m <sup>2</sup> )	Load (kg)
2G 314.I	3000	1400	1 x 1250	750	1000	4200
3G 314.I			1 x 500			
2G 614.I	2 x 3000		2 x 1250	1500		
3G 614.I			1 x 500			

## 4. Product Description

### 4.1 Assembly

The system containers are assembled from the following components:

- Frame construction made from hollow and shaped sections in accordance with static requirements
- Side panels and roof made from galvanized sheet
- Rear panel made from trapezoid profiled sheet
- Sump manufactured from steel RSt 37-2
- optional sump insert made from steel or PE
- Optional wing doors, sliding doors, PVC panels or roller doors can be fitted to the front of the container

### 4.2 Intended use

**System containers** are ideal for the storage of water hazardous materials and materials included in the following hazardous materials classifications R10, R11 or R12 in accordance with hazardous materials classifications.

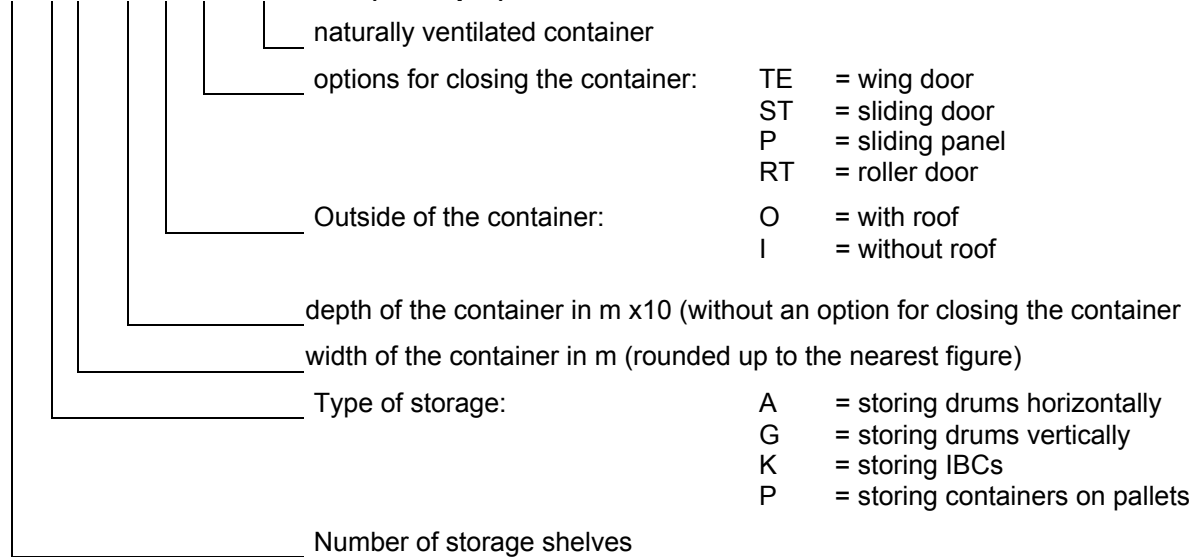
**System containers with natural ventilation** are ideal for the **passive storage** of water hazardous materials and materials included in hazardous materials classifications R10, R11 or R12 in accordance with hazardous materials classifications (also, please see section 3).



- Only store substances that the sump material is resistant to. See general operating instructions.

## 4.3 Explanation of model codes

**3 G 3 14. O ST - S (Example)**

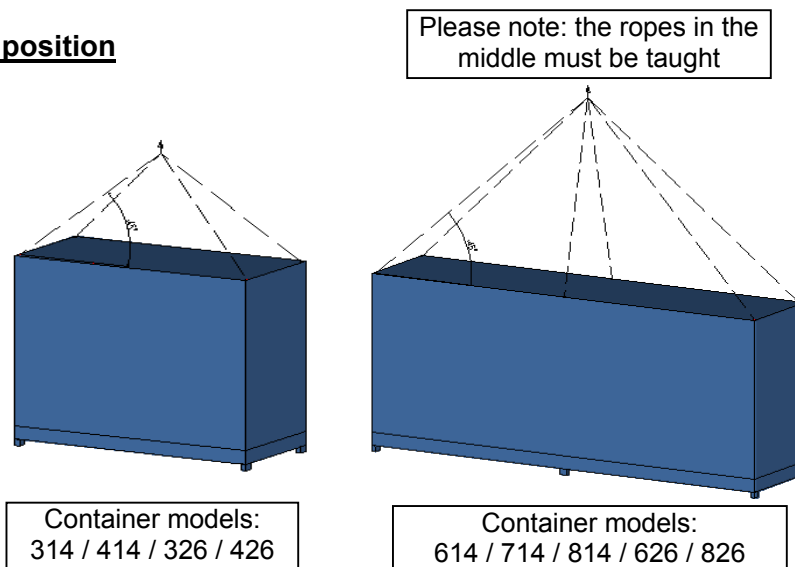


## 5. Transport

System containers **without** crane hooks can be loaded and transported with an appropriately sized fork lift truck.

When transporting system containers **with** crane hooks, the angle of the ropes must not be less than 45°. See the "load position" diagram.

- **Load position**

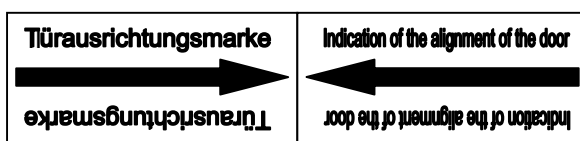


## 6. Assembly

### 6.1 Location of the container

System containers can only be installed on level and stable surfaces. See the diagram „correct installation position of the container (indication of the alignment of the door). The whole construction from the sides to the foundation must be designed so that the loads specified can be contained securely. A competent person will decide which type of concrete the container will be installed on taking into account the requirements in the location of the installation; the load capacity, what the container will store and durability in accordance with DIN EN 206 (also please see the foundation plan). Other requirements can be found in the general operating instructions.

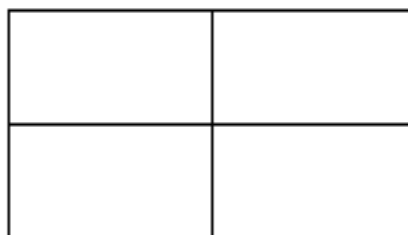
- **Correct installation position of the container (indication of the alignment of the door)**



- The signs above will be fixed onto the wing doors in the factory to show the horizontal alignment of the doors
- The arrows show that the doors are aligned
- If the points of the arrows face each other the container is balanced and the doors will open and close correctly.
- If the points of the arrows do not face each other then the doors will not open and close correctly.
- In this situation the container must be supported (for example with spacer plates) to ensure that the ground beneath the container is no longer uneven and the container can then be balanced

The system container can be installed indoors or outdoors. Please observe and adhere to the following installation instructions (see pictures 1-3) when using **naturally ventilated containers**.

Picture 1

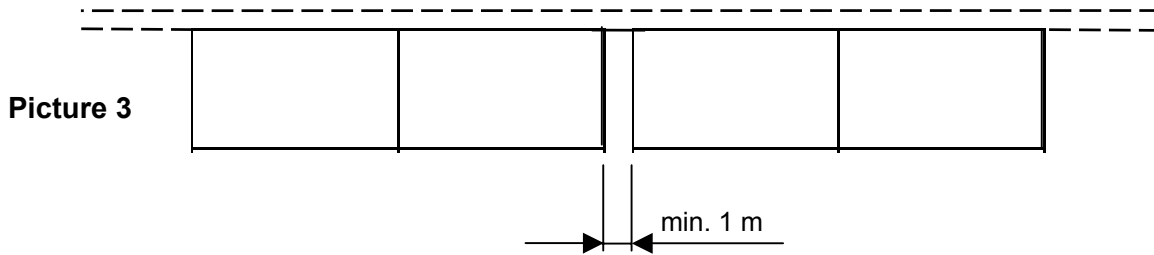


Arranging the containers in a block, max. 4 containers;  
2 containers fit together in 2 rows one behind the other!

Picture 2



Containers can be arranged in a row,  
no limit on the number of containers!

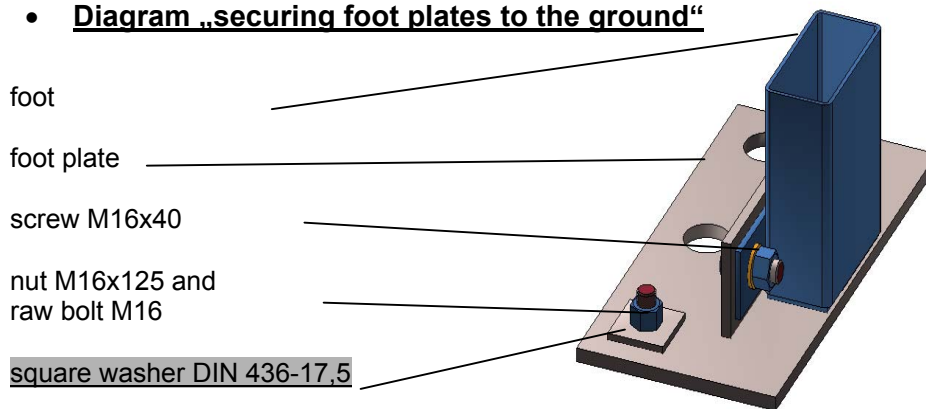


2 containers can be fitted in a row together against a wall!

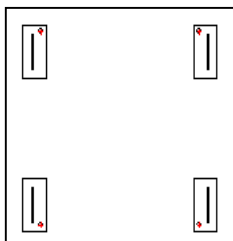
## 6.2 Securing the container to the floor

Balance the container using a spirit level. If necessary use supports to balance the container (for example spacer plates). See the diagram "securing foot plates to the ground".

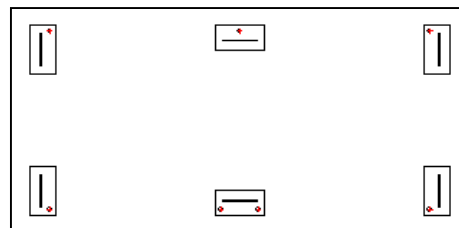
- **Diagram „securing foot plates to the ground“**



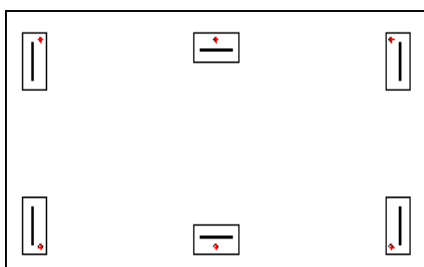
The foot plates are secured in place with the nuts and raw bolts. See pictures 1-3 for the position and quantity of the nuts and raw bolts.



**Picture 1**  
 Container models: 314 / 414 / 326 / 426-O and OTE  
 Quantity of nuts and raw bolts: 4



**Picture 3**  
 Container models: 614 / 714 / 814 / 626 / 826-OST  
 Quantity of nuts and raw bolts: 7 - 8



**Picture 2**  
 Container models: 614 / 714 / 814 / 626 / 826-O, OTE and ORT  
 Quantity of nuts and raw bolts: 6



## 6.3 Assembling the container part by part including the sliding doors

At least 2 people are required to assemble the system container. The ground must be level and suitable for securing the foot plates.

### 6.3.1 Tools required

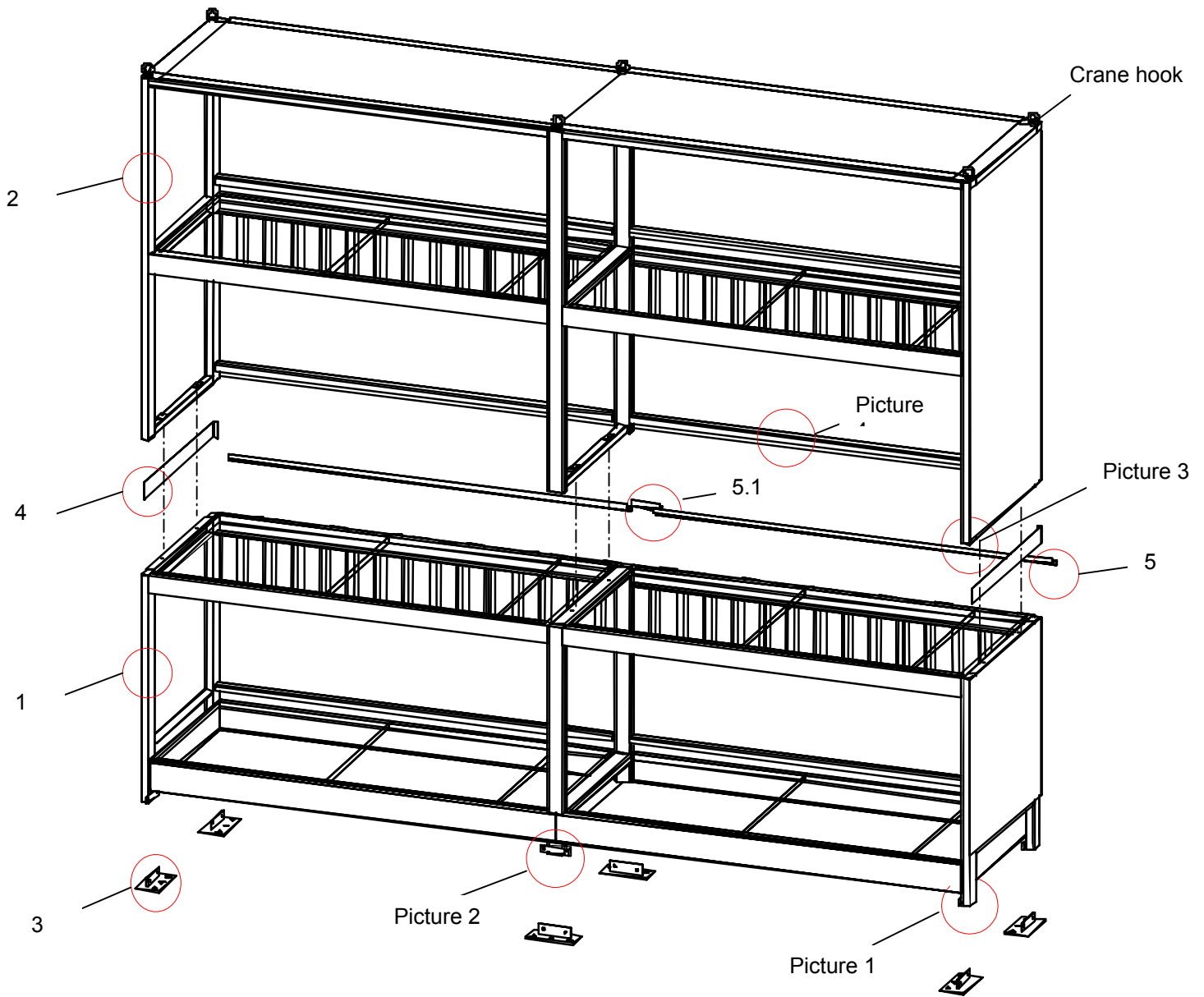
- **Fork lift truck with an access safety platform** (for the assembly of the lower level, upper level and the doors)
- **Spirit level** (for aligning the container)
- **Mandrel Ø 12 x 100 mm** (to align the upper and base parts)
- **Combination wrench SW 19 and SW 24** (to tighten screws and dowels)
- **Vice** (2, to hold the panels)
- **Cordless screw driver** (Assembling the panels)
- **Silicone syringes** (Sealing the panels)
- **Hammer drill with masonry drill bit Ø 18 x 200 mm** (Drilling for nuts and raw bolts)

### 6.3.2 List of parts to assemble the upper and lower components of the container

Pos.	Description	Quantity
1	Lower level of the system container	1
2	Upper level of the system container	1
3	Foot plates	6
4	Side panel	2
5	Rain deflector on the rear panel of the container	2
5.1	Rain deflector on the rear panel of the container	1
6	Hexagonal screw M16 x 40 ISO-4017 (DIN933)	12
7	Hexagonal bolt M16 ISO-4032 (DIN934)	12
8	Washer d=17 ISO-7089/7090 (DIN125)	24
9	nut M16 x 125	7
10	Raw bolt M16 x 190	7
11	Square washer d=17,5 (DIN436)	7
12	Hexagonal screw M12 x 100 ISO-4017 (DIN933)	4
13	Hexagonal bolt M12 ISO-4032 (DIN934)	6
14	Washer d=13 ISO-7089/7090 (DIN125)	8
15	Square washer d=14 (DIN434)	4
16	Hexagonal screw M12 x 160 ISO-4014 (DIN931)	2
17	Self drilling screw 4,8 x 16 (DIN7504)	40

## 6.3.3 Lower and upper levels of the container

The separated container model 3G 614.O

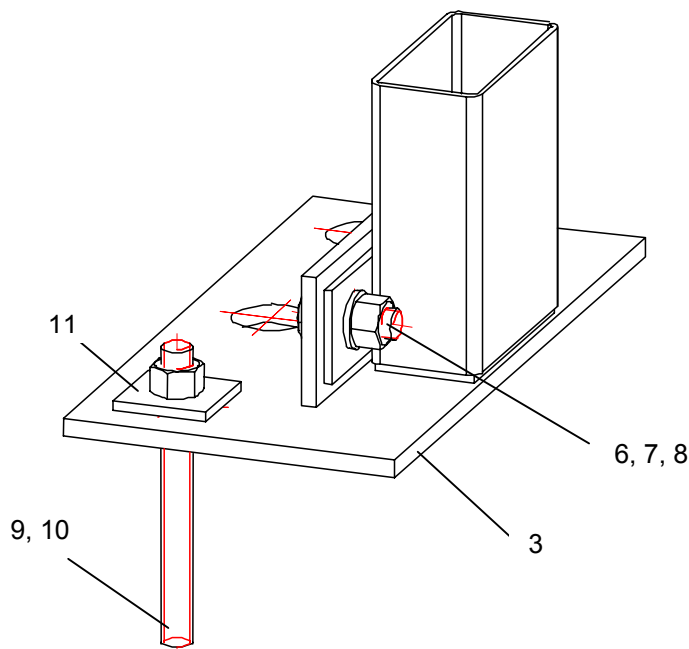


## 6.3.4 Assembling the upper and lower levels of the container

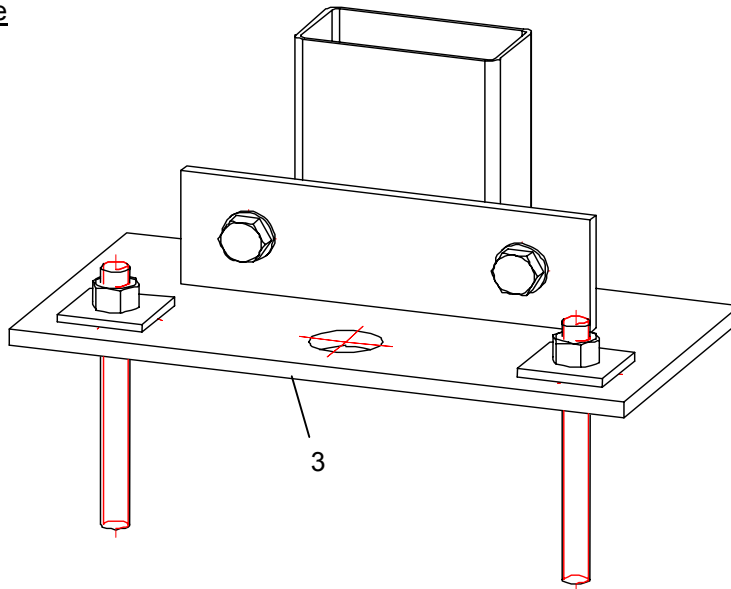
1. Place the lower level of the container **(1)** on a level, stable surface using a fork lift truck and balance the container using a spirit level. Support the foot plates with spacer plates if required.
2. Place the upper level of the container **(2)** on the lower level with a fork lift truck **(1)** and align with the mandrel.
3. Screw the left and right side frames and the middle frame together with hexagonal screws **(12, 13, 14, 15 und 16)**, (see **picture 3** „Screwing the upper and lower levels together“).
4. Push the rain deflector on the rear panel of the container **(5 and 5.1)** behind the trapezoid profile of the upper level. Assemble the short rain deflector in the middle of the container, both the 3 metre long panels should overlap at approx. 30mm Place the rain deflector on the trapezoid profile using self drilling screws **(17)**. Screw the self drilling screws **(17)**, (see **picture 4** „rear rain deflector“).
5. Screw the side panels **(4)** on the outer side of the right and left hand sides of the container with self drilling screws **(17)**, (see **picture 3** „Screwing the upper and lower levels together“).
6. Seal the upper edges of the side panels with silicone.
7. Dowel the foot plates **(3)** with the nuts and raw bolts **(9, 10 und 11)** together in accordance with the manufacturer's specifications, (see **picture 1** „foot plate“).
8. Containers with sliding doors are supported at the front by 2 feet and nuts and raw bolts, (see **picture 2** „centre of the footplate“ and point 6.2 „securing the container to the floor“).

## 6.3.5 Detailed diagrams of the upper and lower levels picture 1-4

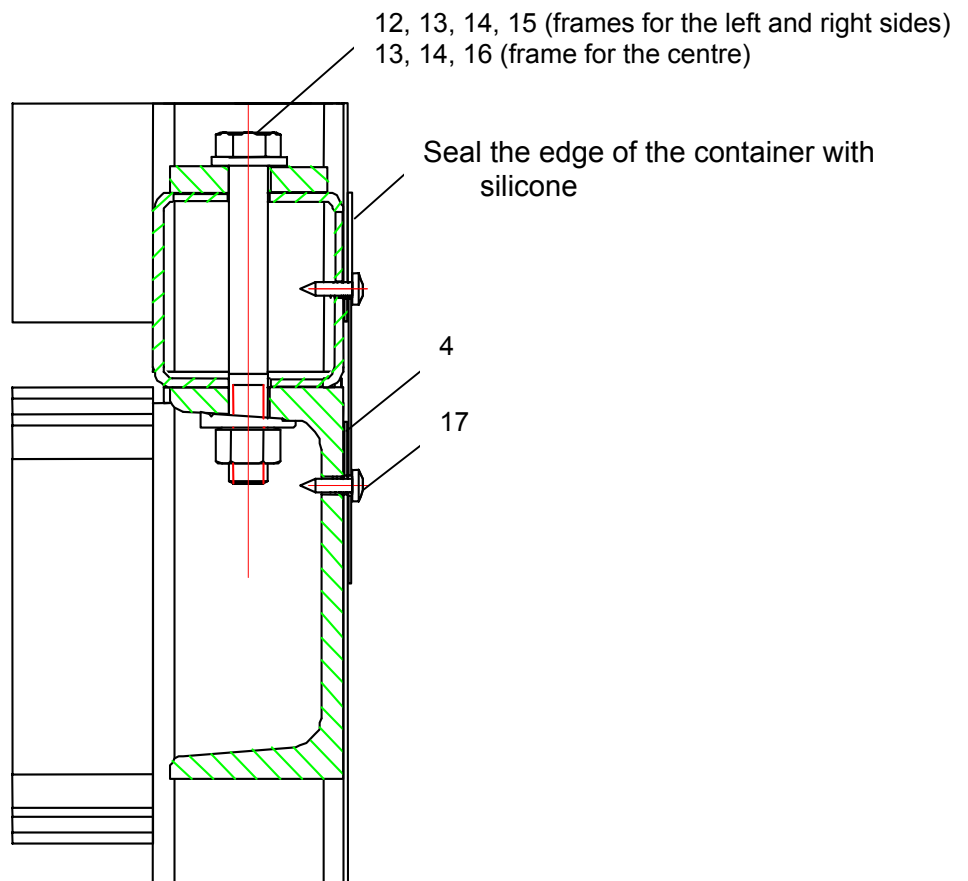
**Picture 1** „Foot plate“



**Picture 2** „Centre of the foot plate“

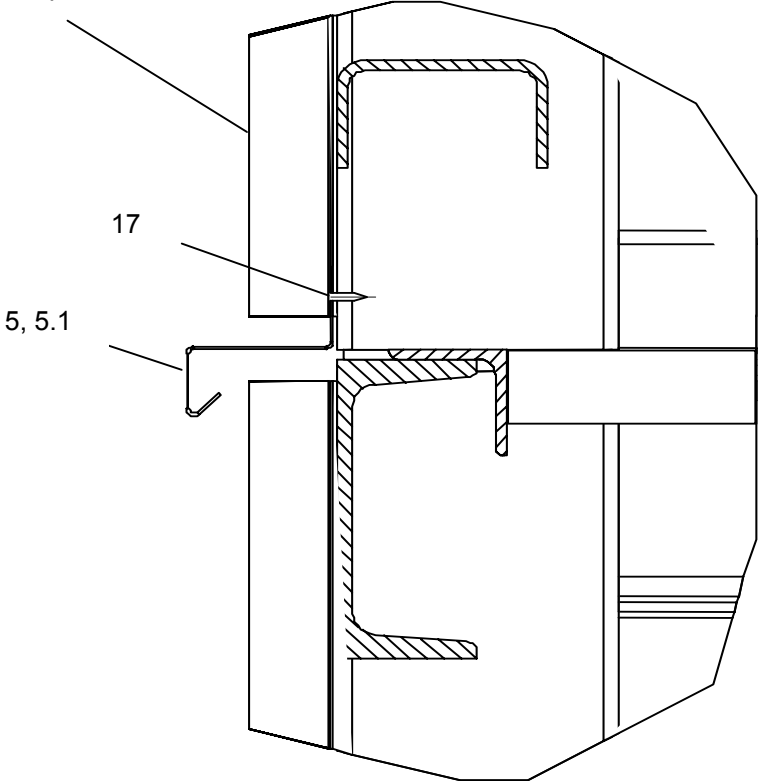


**Picture 3** „Screwing the upper and lower levels together“



Picture 4 „rear rain deflector“

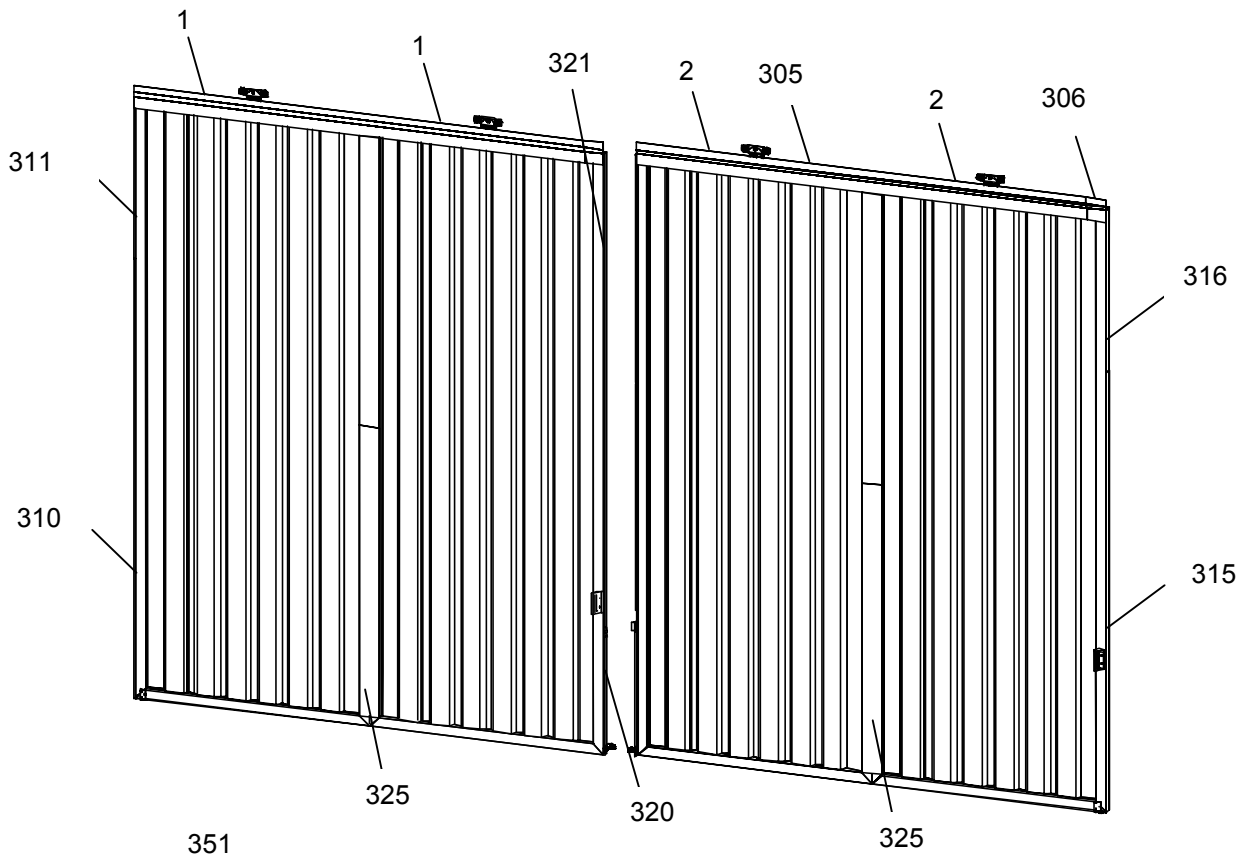
Trapezoid profile



## 6.3.6 Parts list for the sliding doors

Pos.	Bezeichnung	Stückzahl
1	Left sliding door panel (for the front runner)	1
1	Left sliding door panel (for the front runner)	1
2	Right sliding door panel (for the back runner)	1
2	Right sliding door panel (for the back runner)	1
18	Plate for holding the left door stopper	1
19	Locking plate for the sliding door	1
20	Bracket for the central sliding door stop	2
21	Bracket for the right sliding door stop	1
22	Bracket for the left sliding door stop	1
305	Cladded face plate for sliding doors (all models)	2
306	Cladded face plate for sliding doors (model G 614.O)	2
310	Sliding door face plate on the left model 3G / 3P	1
311	Sliding door face plate on the left model 3G / 3P	1
315	Sliding door face plate on the right model 3G / 3P	1
316	Sliding door face plate Re / Lock model 3G / 3P	1
320	Face plate for the lower door lock	1
321	Face plate for the upper door lock	2
325	Bars for the doors 1982 lg	4
351	Hexagonal screw 6,3 x 19-K, galvanized., (DIN 7504)	50
410	Roller mechanism	4
411	Guide roller	2
412	KST - runner	2
413	Black synthetic handle	2
414	Clamp for the swing bolt	1
415	cylinder	1
416	WSS-plate around the keyhole	1
417	Door stopper H=35 D=40	1
512	washer 6,4 x 20	2
513	Hexagonal screw M 6 x 40 ISO 4017	1
514	Acorn nut M 6	1
516	Countersunk screw M 5 x 16 ISO 7046	4
517	Countersunk self drilling screw 6,3 x 25-K, galvanized., (DIN 7504)	14
518	Internal cylinder screw 6kt. M 6 x 20	4
520	Cross self drilling screw 4,8 x 19-N, galvanized, (DIN 7504)	40
521	Flat headed screw with a groove	2

## 6.3.7 Over view of the sliding doors



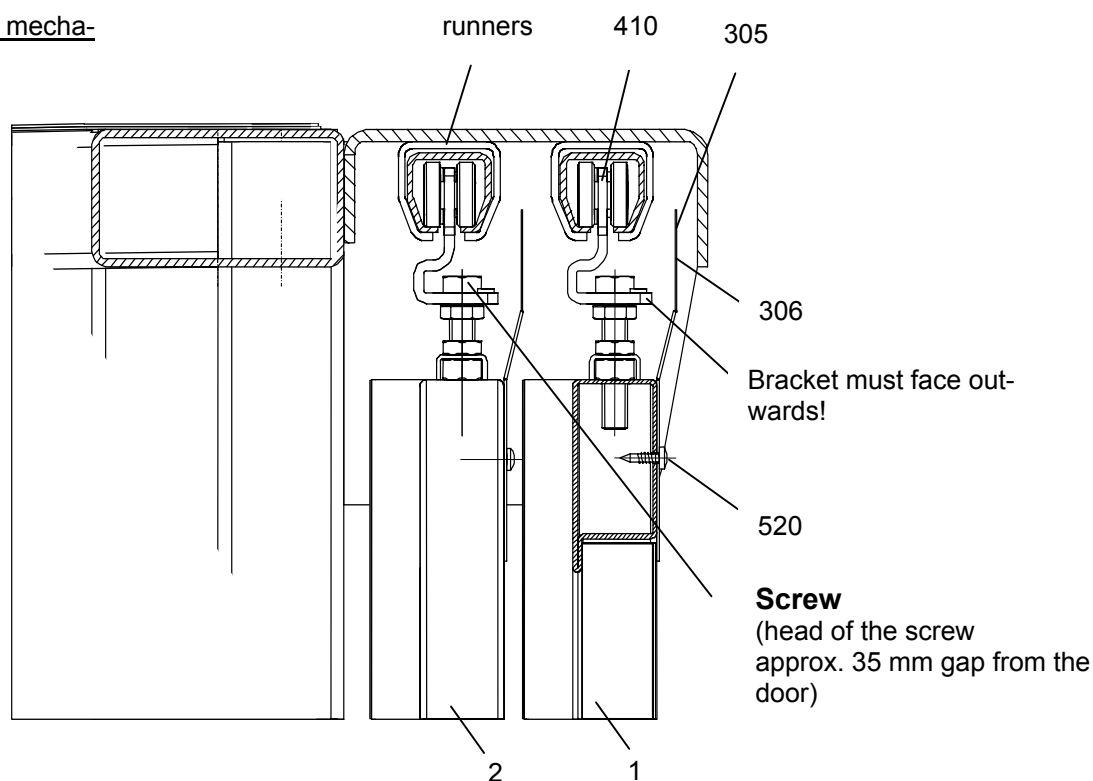
351  
(self drilling screws  $\varnothing 6,3 \times 19$   
approx. every 300 mm)

## 6.3.8 Assembling the sliding doors

1. Screw the roller mechanism (410) into the left (1) and right (2) door panels. The head of the screw should have approx. 35mm gap from the door, (see picture 6 „Sliding door roller mechanism“).
2. Guide the roller mechanism (410) into the runners.
3. **Please note:** The bracket needs to face outwards!
4. Hang the right (2) and left (1) door panels onto the roller mechanism. Firstly, hang the right door panel (2) on the back runner and then the left door panel (1) on the front runner.
5. Balance the doors and adjust the roller mechanism.
6. Put the door together using the bars for the doors (325) and the self drilling screws (351), (see „Overview of the sliding doors“). Screw the self drilling screws (351) in at intervals of 300 mm.
7. Fix the left, right and centre sliding door guide rollers in place, (see picture 7 „sliding door guide roller bottom centre“, picture 8 „sliding door guide roller bottom right“ and picture 9 „sliding door guide roller bottom left“).
8. **Please note!** Fix the brackets for the right (21) and left (22) sliding door stop at intervals of 38mm on the front edge of the door!
9. Put the locking plate for the sliding door (19) on the right door panel (2), (see picture 11 „central lock for the sliding doors“).
10. Put the clamp for the swing bolt (414), handle (413), cylinder (415) and WSS plate around the keyhole (416) together.
11. Assembling the sliding door stoppers (417), (see picture 10 „ left sliding door stopper“). The stopper needs to be fixed in place centrally at a height of 1500 mm.
12. Assemble the horizontal face plates for the door (305 und 306) and the vertical face plates for the door (315, 316, 320 und 321) as shown in the „overview of the sliding doors“.

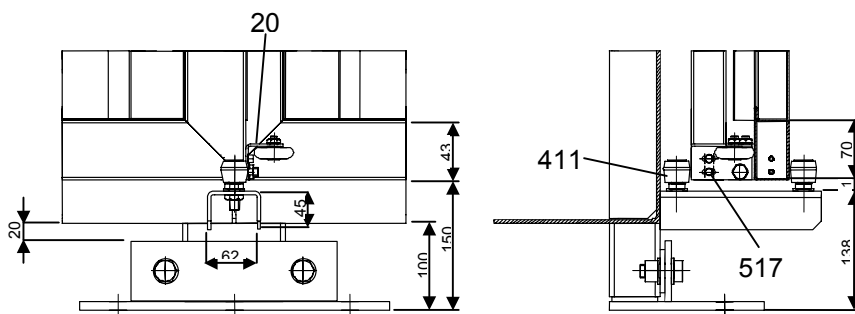
## 6.3.9 Detailed diagrams of the sliding doors pictures 6 – 11

**Picture 6** „Roller mechanism“

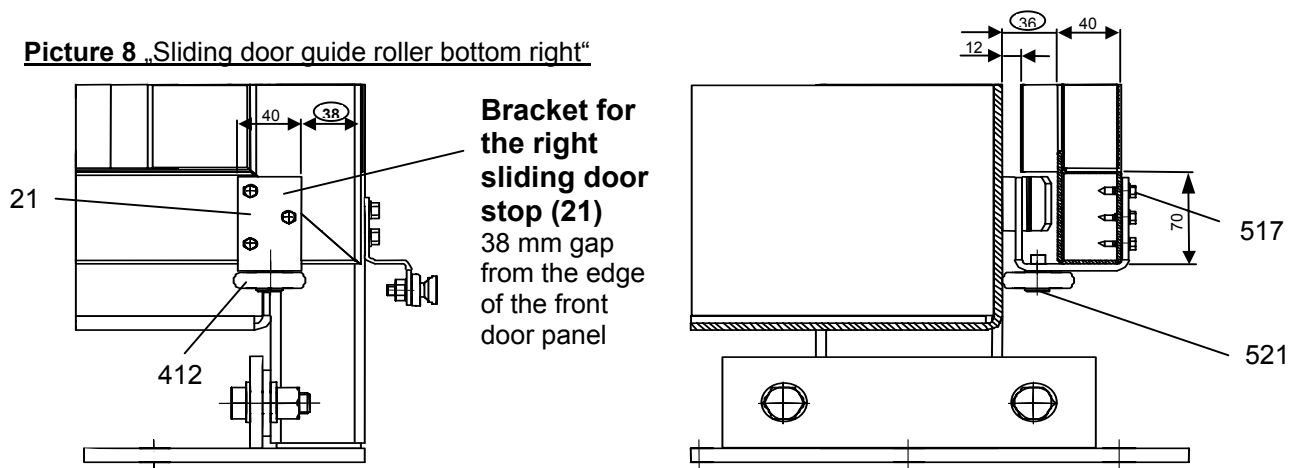




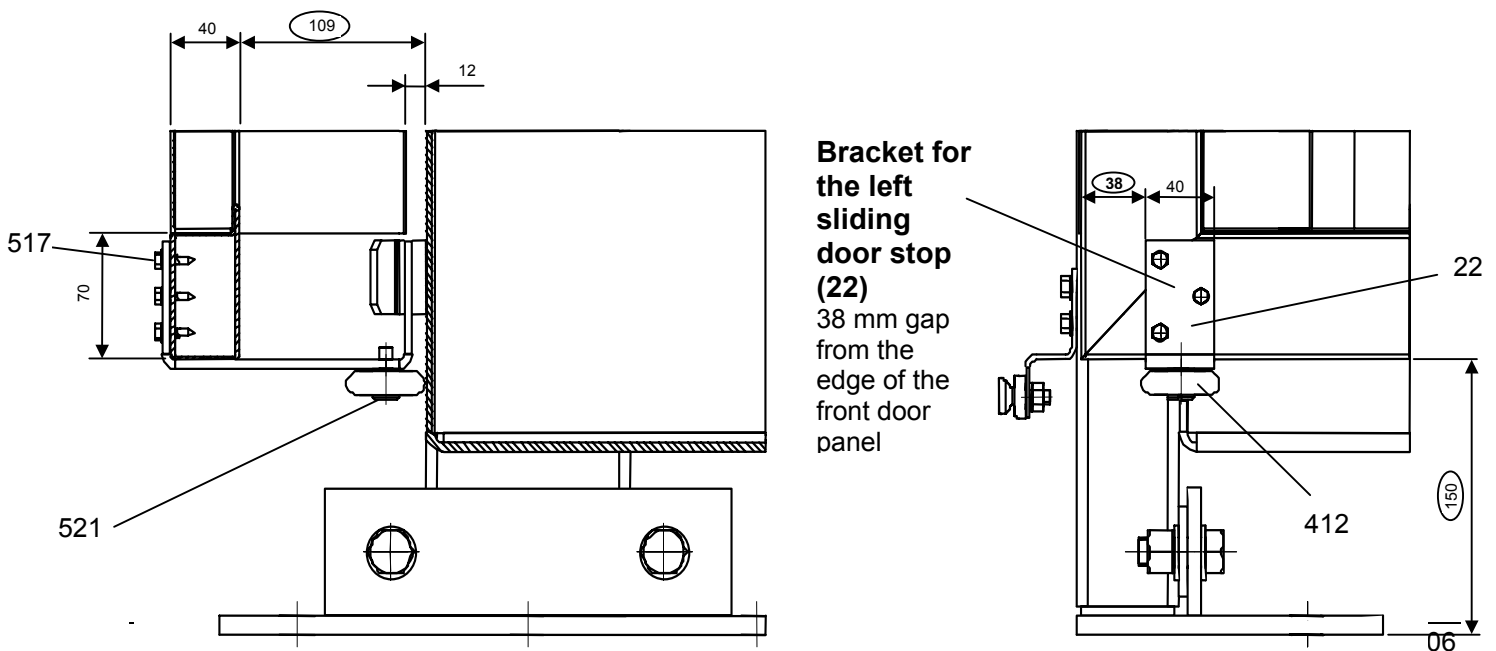
**Picture 7** „Sliding door guide rollers bottom left“



**Picture 8** „Sliding door guide roller bottom right“

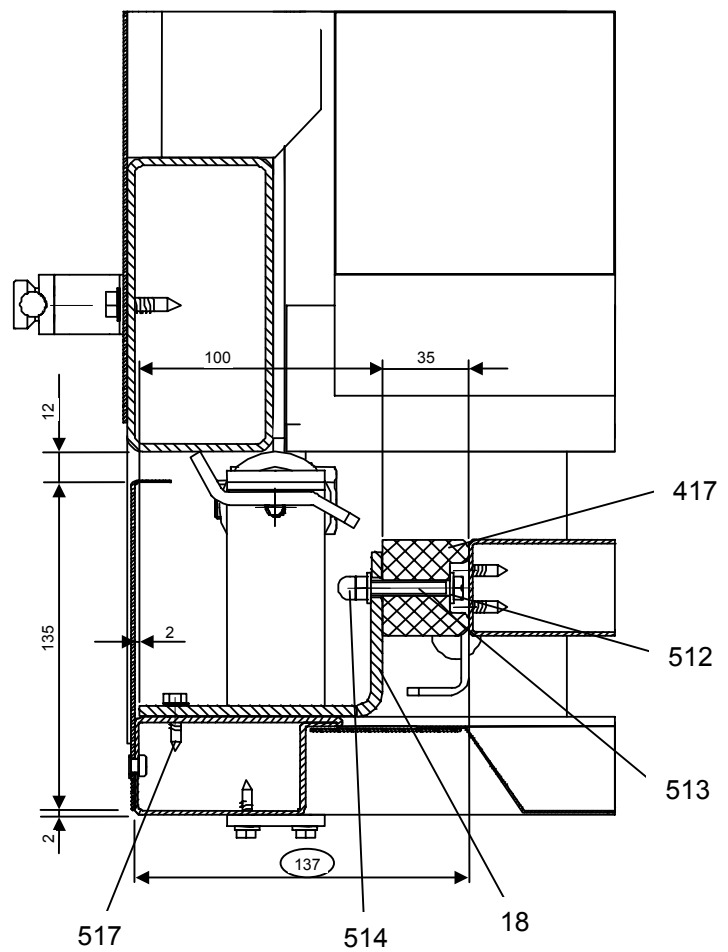


**Picture 9** „Sliding door guide roller bottom left“

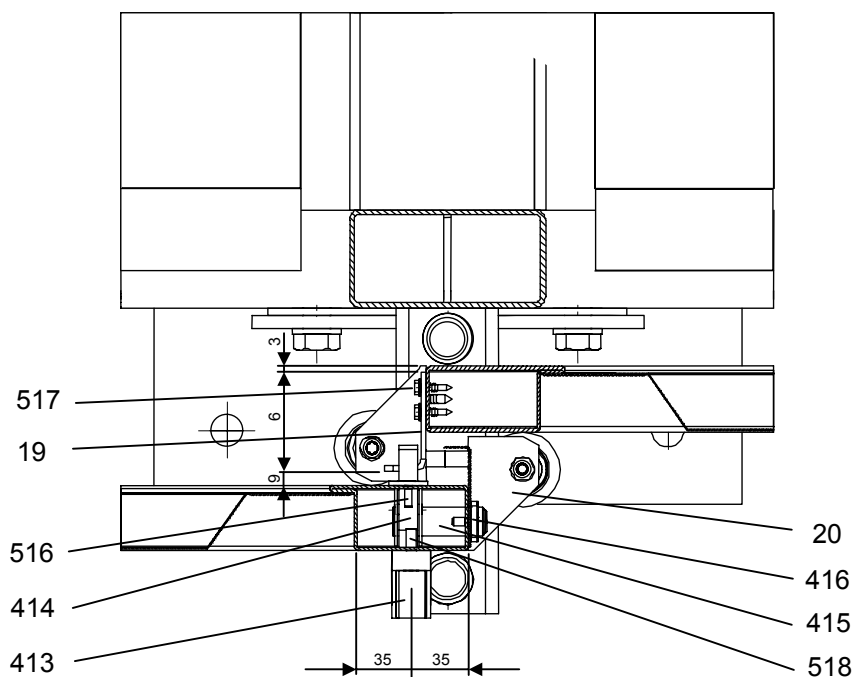


**Picture 10** „Stopper for the left sliding door“

Right door panel opened!



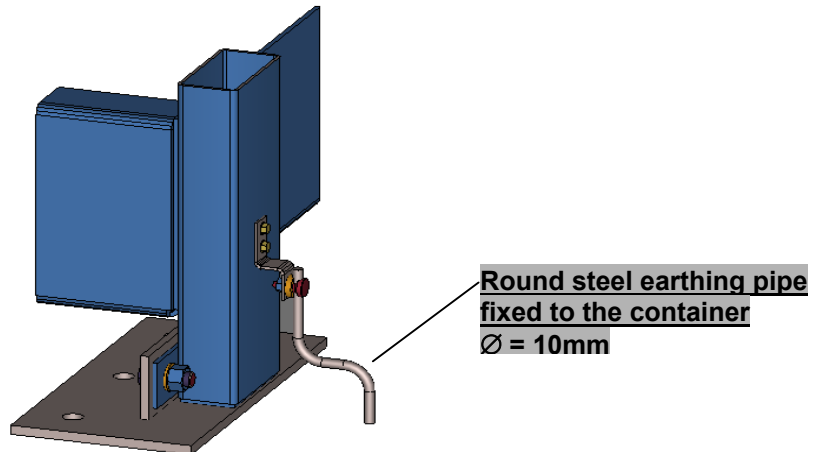
**Picture 11** „central lock for the sliding doors“



## 6.4 Earthing the naturally ventilated containers

Naturally ventilated containers must be earthed. See the diagram „Earthing“. Connect the round steel earthing pipe to the container earthing clip.






- **Diagram of the earthing**



## 7. Operation

### 7.1 For storage indoors and outdoors

After opening the doors, the goods to be stored can be put into and taken out of the system container using the appropriate resources.

-  - **Due to the electrostatic earthing; it is essential to remove the protective synthetic packaging around the grid used during transportation!**
-  - The system container prevents drums, IBCs etc. from falling. Containers must only be removed from the system container with the correct equipment (for example drum gripper).
-  - When lifting small containers, drums, IBCs etc. ensure adherence to vehicle transportation and work safety regulations, where the lifting height must not exceed 1.5m.
- 
-  - The maximum load capacity must not be exceeded (see Table 1: dimensions and load capacities).
- 
-  - When storing metal containers, exercise caution when placing them on the grid (speed  $\leq 1$  m/s) to prevent sparking!

### 7.2 Advice when dispensing

- Containers should only be opened to fill or empty them.
- When dispensing from containers (for example drums stored horizontally with a tap), the handling area must also be protected by the sump.
- Dispensing containers (for example jugs) must not protrude over the edge of the sump.

## 8. Maintenance and Repair

- The testing and maintenance of the system container should be carried out in accordance with the general operating instructions, delivered inside the system container.
- Grids, doors and sumps should be tested at regular intervals under regulation compliant conditions.
- When parts need to be changed, only the original spare parts supplied by the manufacturer must be used!  
Test the earthing cable and earthing equipment regularly, at least every 6 months
- **Resistance in snowy conditions (roof load)** is 0,75kN/m<sup>2</sup>.  
For example: A resistance to snowy conditions of 0,75kN/m<sup>2</sup> is equivalent to approx. 25cm of snow; anything above this needs to be cleared.

## 9. Spare List

Pos.	Description	Model / Size	Product code
1	Grid	1265 x 1285 mm	105445
2	Grid	1265 x 375 mm	105478
<b>Container with Sliding doors:</b>			
3	Synthetic handle	Nr.1095-05	103849
4	Clamp for the swing bolt	Typ 1436	126942
5	Cylinder	RN 8610DOM PZ89/BL45	103840
6	Roller	HBS 433/4610	103690
<b>Container with wing doors:</b>			
7	Barrel for wing door lock	35 mm Dorn	103884
8	Door handle	3110-8 mm bolt	103757
9	Cabin hook	400 mm	103534



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