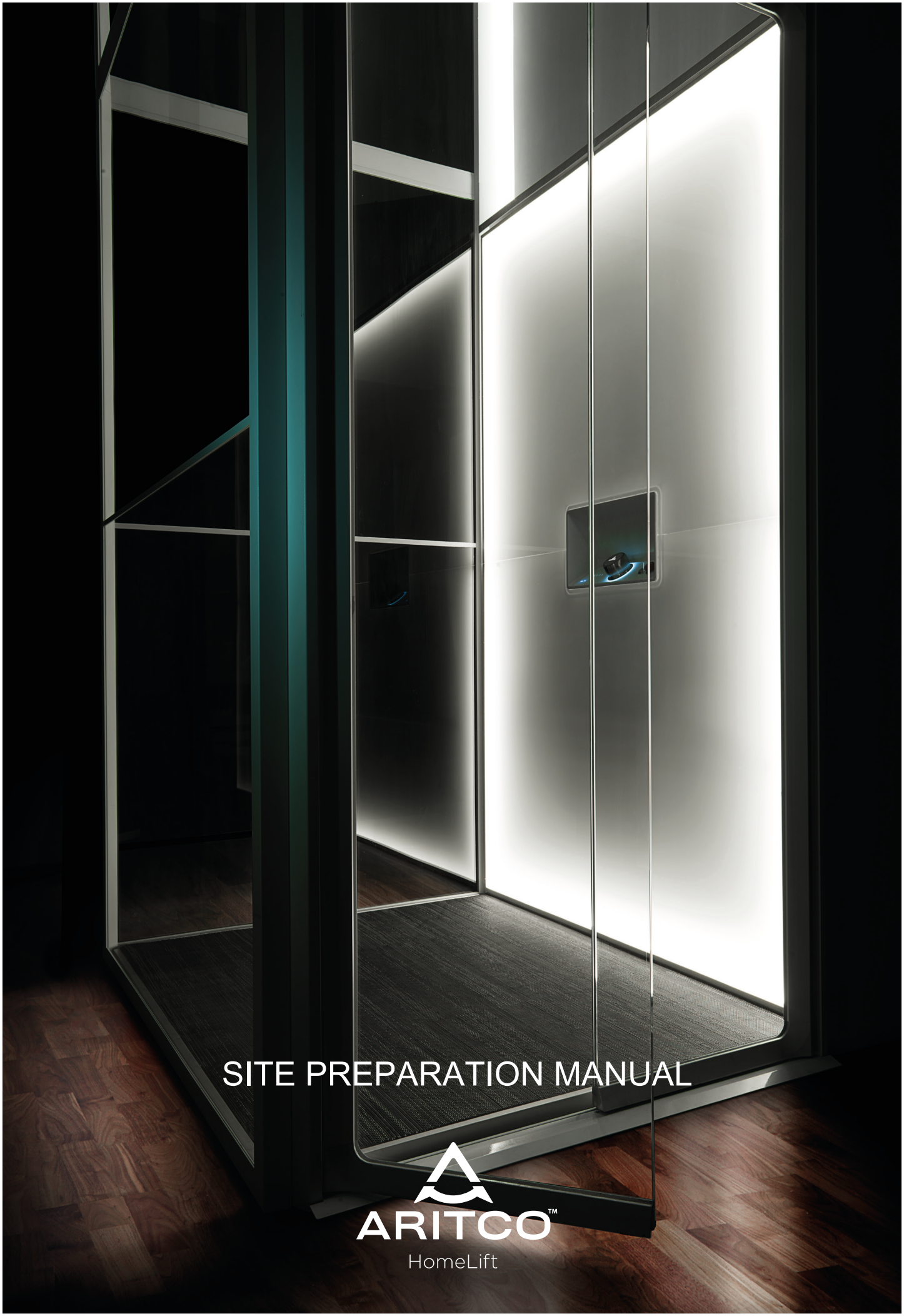


SITE PREPARATION MANUAL

ARITCO™

HomeLift

Document number: DOK-0014-ENG rev 5

Original instructions

Date: 2017-07-03

Contents

1. Preparations before the installation

Before the installation starts, prepare the site according to below:

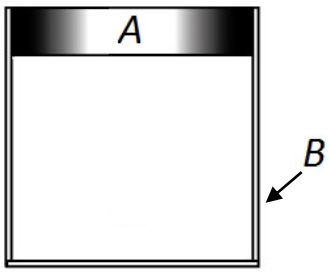
- Make sure that the entire installation will be made in an indoor environment.
- Check that the installation site corresponding to the lift drawings regarding the travel and top height.
- Make holes through floors and pit according to the lift drawings, see chapter 4 and 5.
- Prepare the pit, see chapter 7.
- Check that the distance between building floor and ceiling on each landing is 2180 mm in front of the door (if 2000 mm door opening) or more, to make sure that the emergency opening of the lift door is possible.
- Make sure the building floor and pit can carry the weight from the lift and is prepared for fixations, see chapter 2.
- Make sure the building wall can hold the lift and is prepared for fixations, see chapter 3.
- Make sure floor surfaces on each landing match so lift doors will be able to open.
- Mount lifting device (bar or lifting eye bolt) in the ceiling or top floor that meets the requirements needed for the lift to be installed, see chapter 8.
- Mount openable safety-railings at the shaft holes.
- Paint the ceiling of the building above the lift shaft, as this is partially visible through the ceiling of the lift.
- Dust-seal the supporting walls, behind the mast in the shaft, and the pit.
- Provide main electrical supply to the lift Electrical Cabinet in the pit via a main breaker outside the lift. The main electrical supply inlet is located in the bottom of the lift. The lift must be connected to the building main earthing terminal via a PE conductor.
- Power supply requirements:
    - 1-phase 230V with rated load 250kg: L1 + N + PE (Fuse 1x10A type C).
    - 1-phase 230V with rated load 400kg: L1 + N + PE (Fuse 1x13A type C).
    - 3-phase 400V with rated load 250kg/400kg: L1 + L2 + L3 + N + PE (Fuse 3x10A type C).
- Mount a power outlet socket near the lift.
- Provide a two-way communication for the alarm phone to an Alarm receiver. If PSTN, provide cable to the electrical cabinet in the pit.
- SIM card is provided to eventual GSM-phone.
- Provide lift ambient conditions; temperature range +5°C to +40°C and relative humidity below 60%.
- Ensure that the room has adequate ventilation.
- Provide the installation site with satisfying lighting for the installation.
- Provide lighting, 50 lux, in front of every lift door.
- Clean out the shaft area.

2. Reaction forces on building floor/pit

The floor underneath the lift must be able to sustain the forces acting on the floor which are composited by three components, - weight of the lift, load on the platform and the dynamic forces that occur during braking.

The tables below shows the maximum total load in N that the floor should withstand because of these forces

Area A and B



Area A carries the weight from mast, drive unit, platform, rated load, over load (75 kg) and maximum dynamic force (250 kg for S5, S7 and S9. 400 kg for S12, S15.
All at the speed 0,15 m/s).

Area B carries the weight from a glass shaft, including ceiling, (EPS wall panels weigh less).

Load on the area A from mast, platform load and dynamic forces					
Total lift height, m	**S5 600x830 kN**	**S8 1000x830 kN**	**S9 1100x830 kN**	**S12 1000x1200 kN**	**S15 1100x1400 kN**
3	**9,7**	**9,8**	**9,8**	**13,4**	**13,7**
5	**10,9**	**11,0**	**11,0**	**14,8**	**15,2**
7	**12,0**	**12,2**	**12,2**	**16,1**	**16,6**
9	**13,2**	**13,4**	**13,4**	**17,5**	**18,1**
11	**14,4**	**14,6**	**14,6**	**18,8**	**19,5**
13	**15,6**	**15,7**	**15,8**	**20,2**	**21,0**
15	**16,8**	**16,9**	**17,0**	**21,6**	**22,4**
18	**18,6**	**18,7**	**18,8**	**23,6**	**24,6**

Load on the area B from mast, platform load and dynamic forces					
Total lift height, m	**S5 600x830 kN**	**S8 1000x830 kN**	**S9 1100x830 kN**	**S12 1000x1200 kN**	**S15 1100x1400 kN**
3	**2,0**	**2,6**	**2,8**	**2,9**	**3,2**
5	**3,2**	**4,2**	**4,5**	**4,7**	**5,1**
7	**4,5**	**5,8**	**6,2**	**6,5**	**7,0**
9	**5,7**	**7,4**	**7,9**	**8,3**	**8,9**
11	**6,9**	**9,0**	**9,7**	**10,0**	**10,8**
13	**8,2**	**10,6**	**11,4**	**11,8**	**12,7**
15	**9,4**	**12,2**	**13,1**	**13,6**	**14,6**
18	**11,3**	**14,6**	**15,7**	**16,3**	**17,4**

Surface pressure under Area A (see the area at the previous page).

Most of the load from the mast is distributed in the outer end areas under the rails which is taken into consideration in the calculations.

Surface pressure on the area A from mast, platform load and dynamic forces					
Total lift height, m	**S5 600x830 N/ cm²**	**S8 1000x830 N/ cm²**	**S9 1100x830 N/ cm²**	**S12 1000x1200 N/ cm²**	**S15 1100x1400 N/ cm²**
3	**23,7**	**24,0**	**24,1**	**32,9**	**33,6**
5	**26,7**	**26,9**	**27,0**	**36,2**	**37,2**
7	**29,6**	**29,9**	**29,9**	**39,5**	**40,8**
9	**32,5**	**32,8**	**32,9**	**42,9**	**44,3**
11	**35,4**	**35,7**	**35,8**	**46,2**	**47,9**
13	**38,3**	**38,6**	**38,7**	**49,6**	**51,4**
15	**41,2**	**41,5**	**41,6**	**52,9**	**55,0**
18	**45,6**	**45,9**	**46,0**	**57,9**	**60,3**

Surface pressure under Area B (see the area at the previous page).

The shaft load is evenly distributed under the shaft walls.

Surface pressure on the area B from the shaft.					
Total lift height, m	**S5 600x830 N/ cm²**	**S8 1000x830 N/ cm²**	**S9 1100x830 N/ cm²**	**S12 1000x1200 N/ cm²**	**S15 1100x1400 N/ cm²**
3	**9,6**	**9,0**	**9,0**	**9,0**	**8,7**
5	**15,6**	**14,6**	**14,6**	**14,4**	**13,8**
7	**21,6**	**20,1**	**20,2**	**19,9**	**19,0**
9	**27,6**	**25,7**	**25,7**	**25,4**	**24,2**
11	**33,6**	**31,2**	**31,3**	**30,8**	**29,4**
13	**39,6**	**36,7**	**36,9**	**36,3**	**34,6**
15	**45,6**	**42,3**	**42,4**	**41,7**	**39,7**
18	**54,6**	**50,6**	**50,8**	**49,9**	**47,5**

In addition, the floor under the platform should withstand two people weighing 200 kg in total.

(10 N ≈ 1 kg)

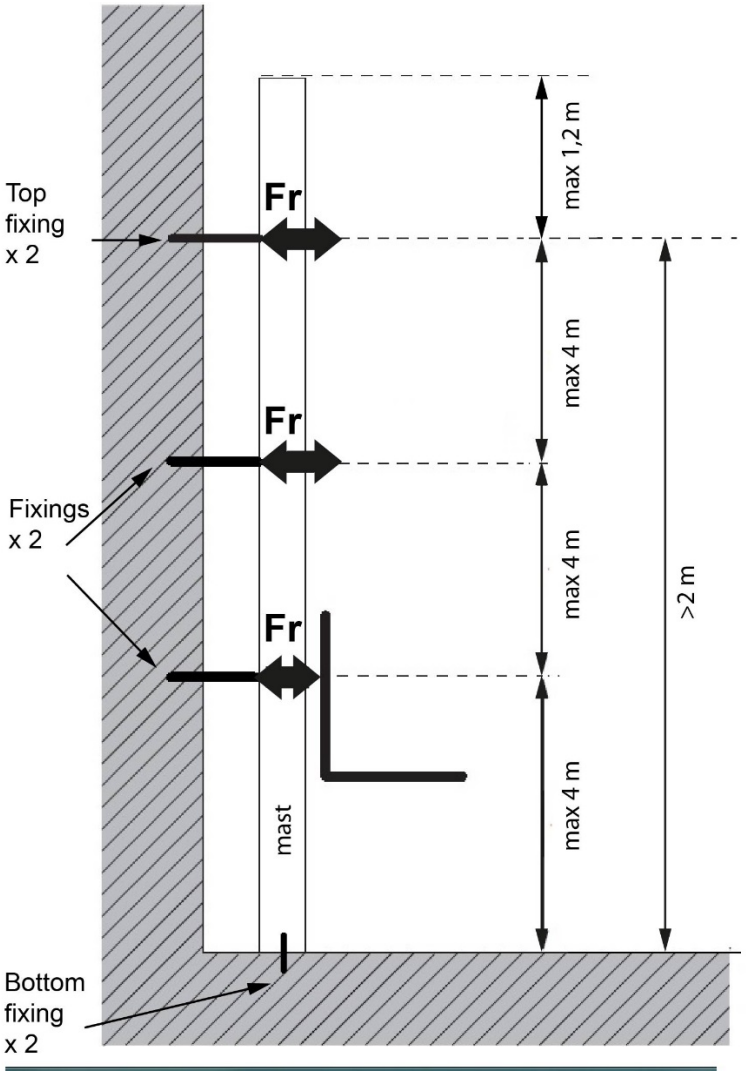
3. Reaction forces on wall and positioning of wall fixings

The reaction force, **Fr**, in table below shows the force on 2 fixing bolts (one at each rail) at every fixing height according to lift size. Each fixing should bear half of the value specified in the table.

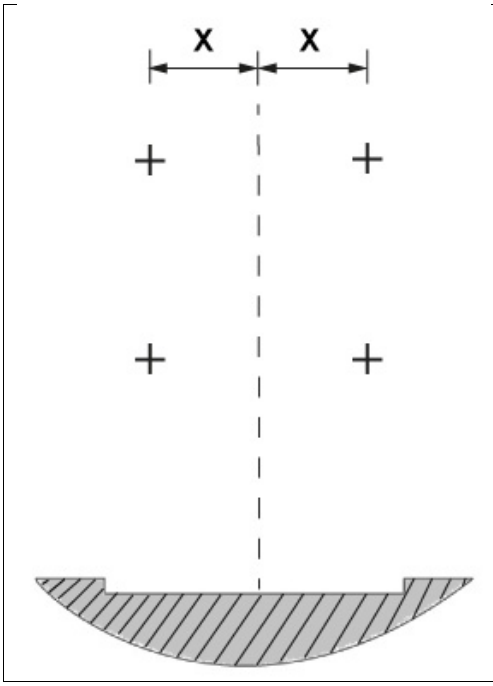
Fr (kN)	Size 600x830, S5	Size 1000x830, S8	Size 1100x830, S9	Size 1000x1200, S12	Size 1100x1400, S15
Max Force (kN)	3,8	4,7	5,0	5,3	7,1

The fixings should be placed according to specified altitudes below:

- Minimum distance from bottom fixing (pit) to top fixing is 2 m.
- Maximum distance between two fixings is 4 m.
- Maximum distance from the top of the mast down to the top fixing is 1,2 m.



The fixings on the wall, behind the mast, will have the distance between them according to below:

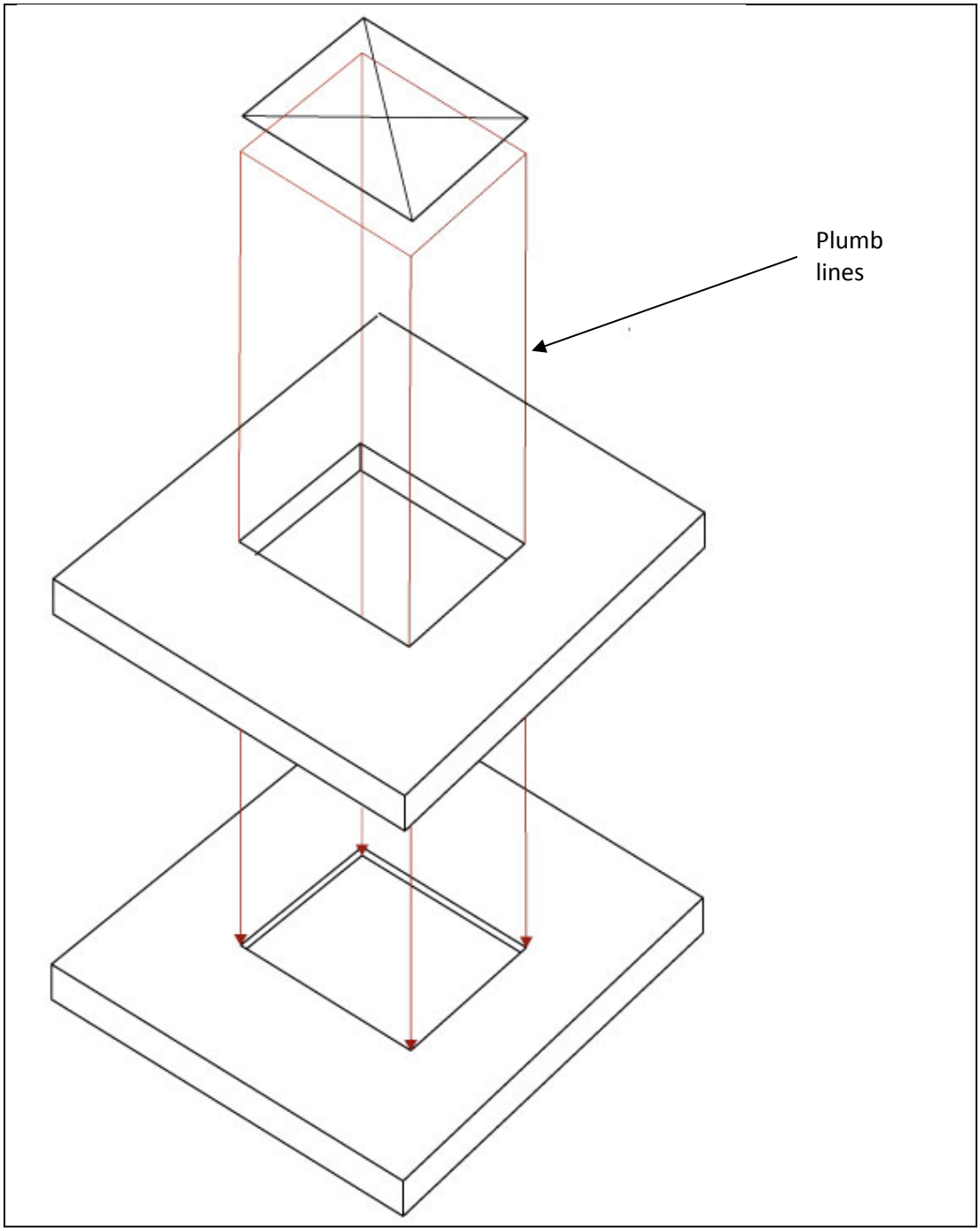


Distance **X** from mast center	Lift size S5, S8, S9	Lift size S12	Lift size S15
	270 mm +/-15 mm	460 mm +/-15 mm	560 mm +/-15 mm

4. Making holes through the floors and pit

Be very careful and accurate when making the openings in the floors and pit to make sure all holes are in line! This is crucial for a successful installation.

Use plumb lines to check the lining during the work!



5. Dimensions for the holes through the floors and in the pit

Please observe, that besides the rectangular opening in the floor or pit, which should be 15 -0/+10 mm bigger than the lift at all sides, there also has to be sockets made for fixing of the doors. Dimensioning of the holes and sockets for the five lift sizes are described below.
If there is a pit, refer to chapter 7 for information about pit depth.

Lift size S5

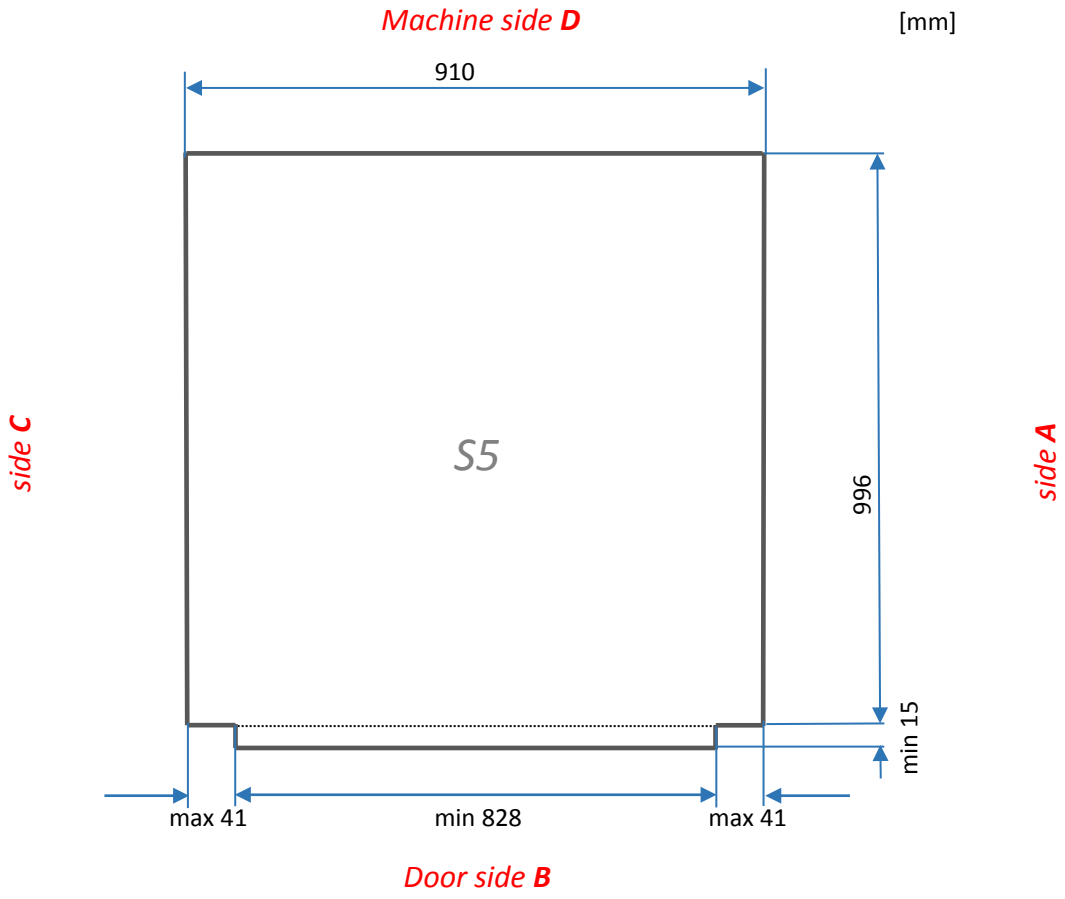
The opening of the floor needs to be 910 mm x 996 mm **plus a socket for the fastening of the door and its doorframe**. For door placement, refer to the lift drawings.

The door socket can be made in different ways:

- A 828 mm long socket under the door that is 15 mm wide and either at least 80 mm deep or go through the entire floor, see drawing below. In the pit the socket needs to be 37 mm deep. Refer to chapter 6.
- Or a socket for the door which runs along the entire side of the lift, 15 mm wide and either at least 80 mm deep or through the entire floor (37 mm in the pit). Refer to chapter 6.

If the socket goes through the floor or along the lift side, a solution for covering the holes is necessary.

Possible door side for the S5 = B



Lift size S8

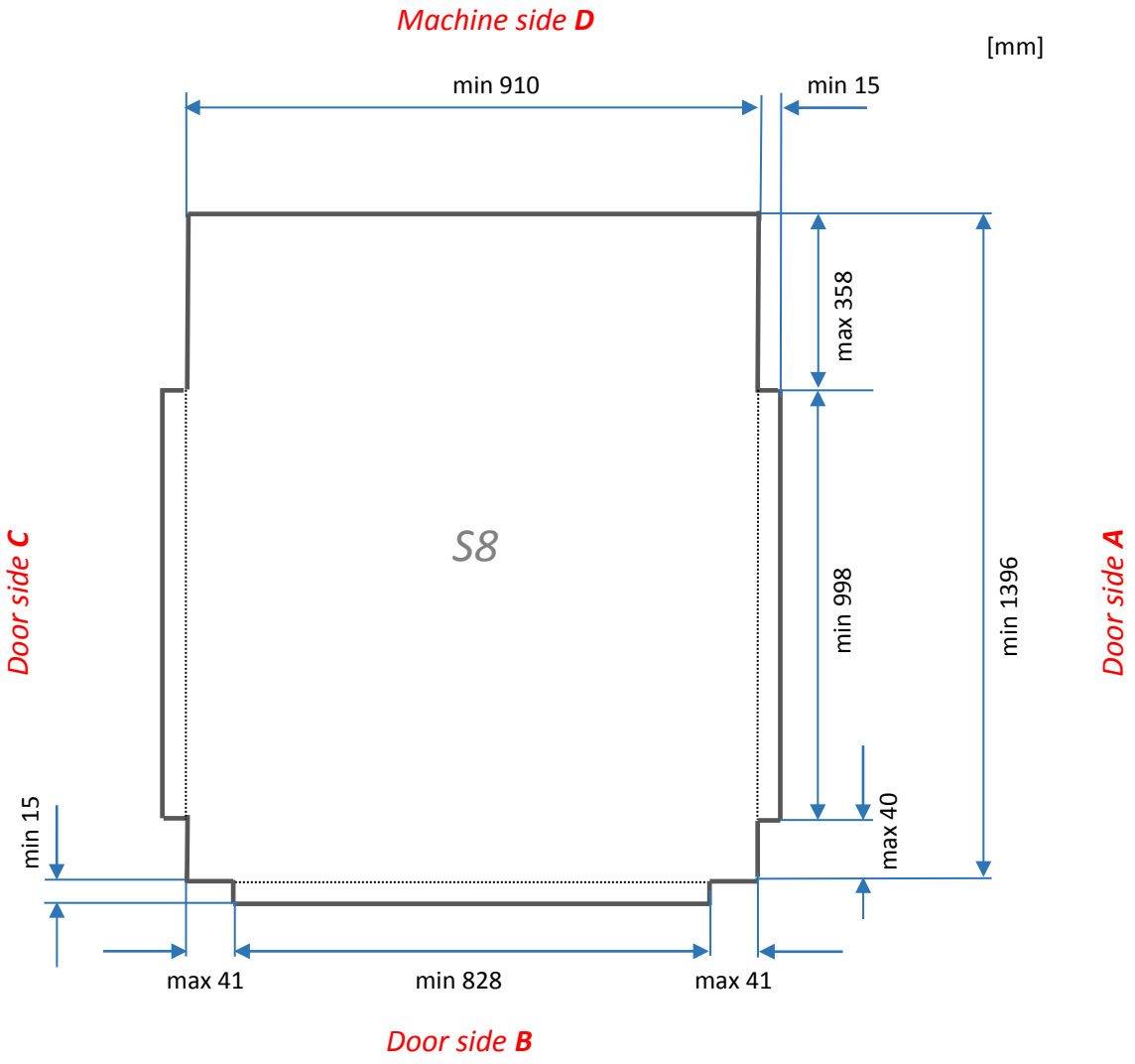
The opening of the floor needs to be 910 mm x 1396 mm **plus a socket for the fastening of the door and its doorframe**. For door placement, refer to the lift drawings.

The door socket can be made in different ways:

- A 828 or 998 mm long socket (depending on side, see drawing below) under the door that is 15 mm wide and either at least 80 mm deep or go through the entire floor, see drawing below. In the pit the socket needs to be 37 mm deep. Refer to chapter 6.
- Or a socket for the door which runs along the entire side of the lift, 15 mm wide and either at least 80 mm deep or through the entire floor (37 mm in the pit). Refer to chapter 6.

If the socket goes through the floor or along the lift side, a solution for covering the holes is necessary.

Possible door sides for the S8 = A, B or C.



Lift size S9

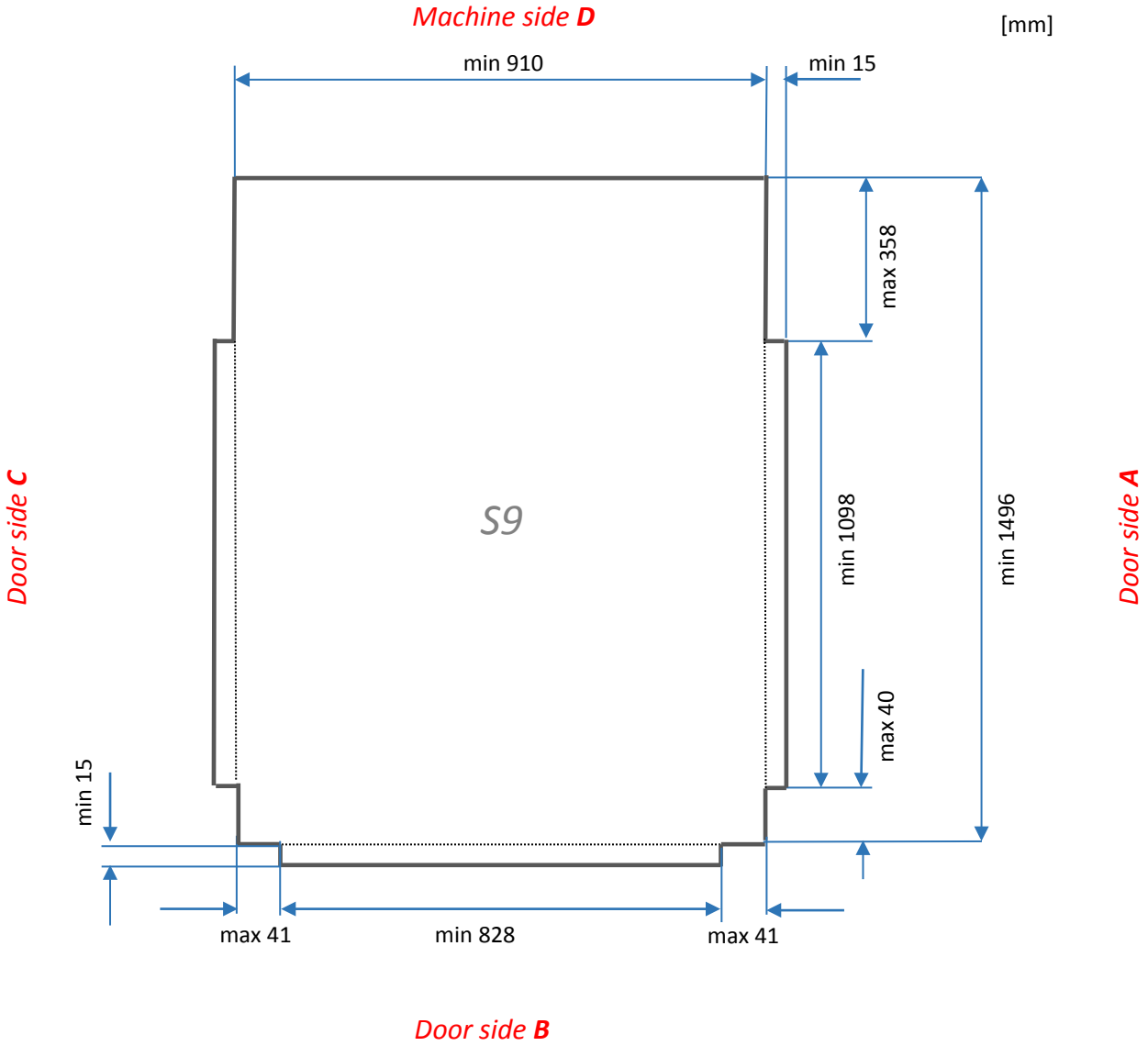
The opening of the floor needs to be 910 mm x 1496 mm **plus a socket for the fastening of the door and its doorframe**. For door placement, refer to the lift drawings.

The door socket can be made in different ways:

- A 828 or 1098 mm long socket (depending on side, see drawing below) under the door that is 15 mm wide and either at least 80 mm deep or go through the entire floor, see drawing below. In the pit the socket needs to be 37 mm deep. Refer to chapter 6.
- Or a socket for the door which runs along the entire side of the lift, 15 mm wide and either at least 80 mm deep or through the entire floor (37 mm in the pit). Refer to chapter 6.

If the socket goes through the floor or along the lift side, a solution for covering the holes is necessary.

Possible door sides for the S9 = A, B or C.



Lift size S12

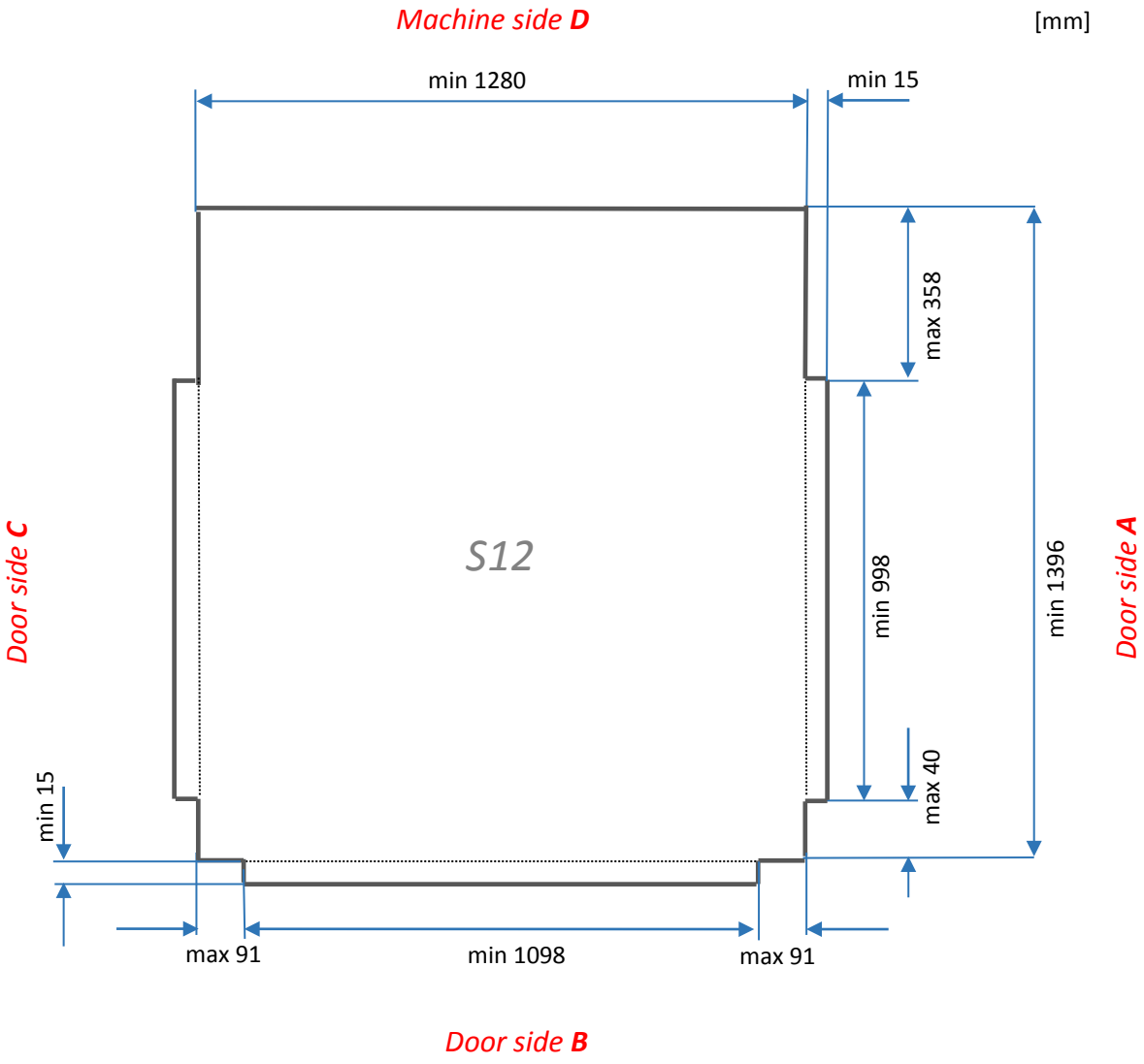
The opening of the floor needs to be 1280 mm x 1396 mm **plus a socket for the fastening of the door and its doorframe**. For door placement, refer to the lift drawings.

The door socket can be made in different ways:

- A 998 or 1098 mm long socket (depending on side, see drawing below) under the door that is 15 mm wide and either at least 80 mm deep or go through the entire floor, see drawing below. In the pit the socket needs to be 37 mm deep. Refer to chapter 6.
- Or a socket for the door which runs along the entire side of the lift, 15 mm wide and either at least 80 mm deep or through the entire floor (37 mm in the pit). Refer to chapter 6.

If the socket goes through the floor or along the lift side, a solution for covering the holes is necessary.

Possible door sides for the S12 = A, B or C.



Lift size S15

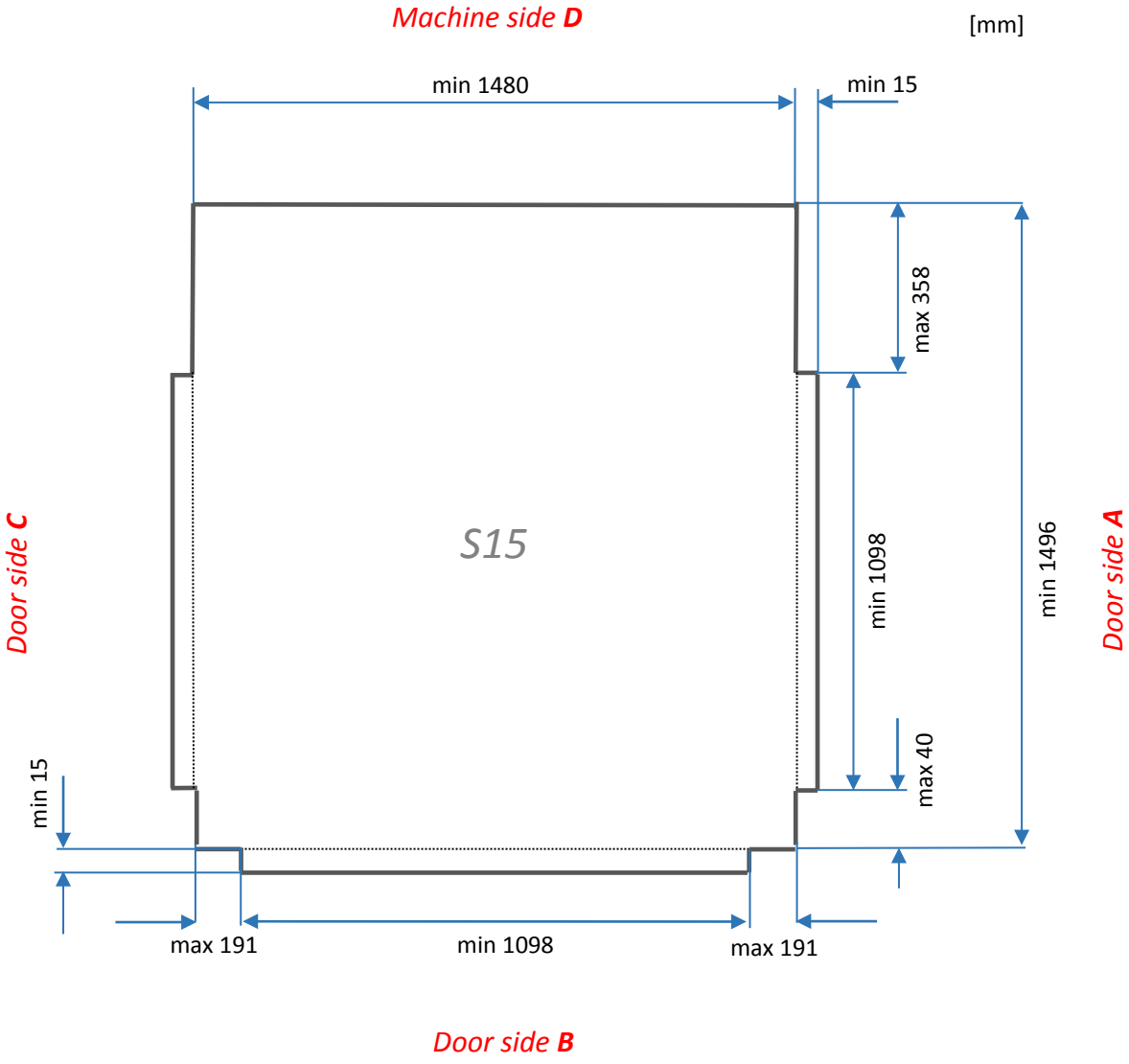
The opening in a floor needs to be 1480 mm x 1496 mm **plus a socket for the fastening of the door and its doorframe**. For door placement, refer to the lift drawings.

The door socket can be made differently:

- A 1098 mm long socket under the door that is 15 mm wide and either at least 80 mm deep or go through the entire floor, see drawing below. In the pit the socket needs to be 37 mm deep. Refer to chapter 6.
- Or a socket for the door which runs along the entire side of the lift, 15 mm wide and either at least 80 mm deep or through the entire floor (37 mm in the pit). Refer to chapter 6.

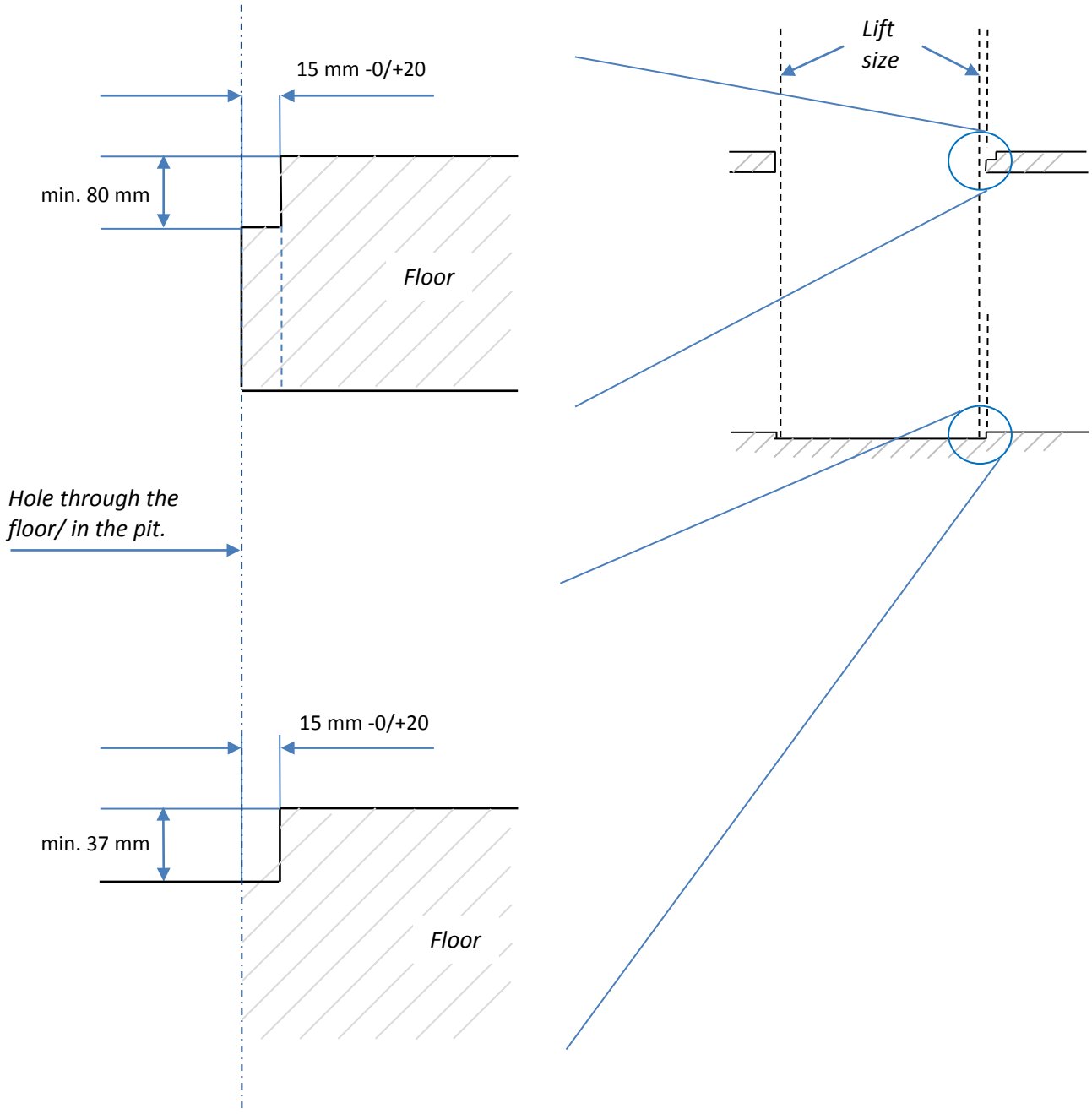
If the socket goes through the floor or along the lift side, a solution for covering the holes is necessary.

Possible door sides for the S15 = A, B or C.



6. Door socket depth clarification

Door socket depth at the floors should be at least 80 mm.

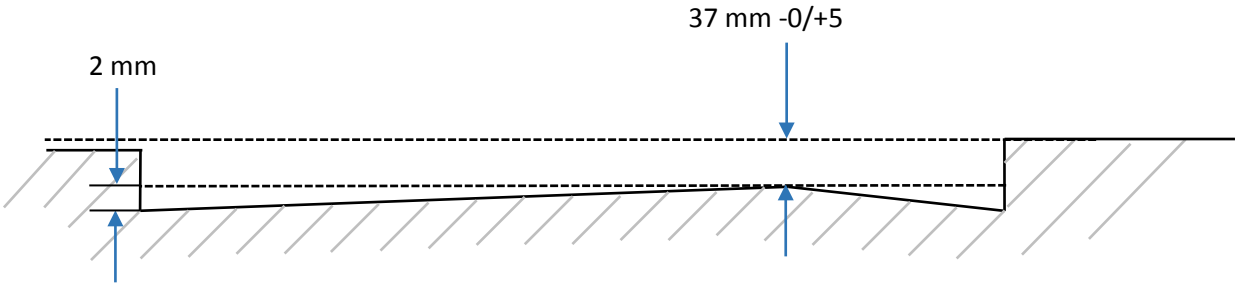


7. The pit depth and bottom surface

It is very important that the pit is made with care as this is the surface on which the lift will rest and be straightly built!

The pit depth shall be 37 -0/+5 mm all over the bottom surface, measured from the highest level on the surrounding floor outside the door, see picture below.

The bottom of the pit has to be even and not differ more than 2 mm in height.
The same surface finish applies to bottom floor without pit.

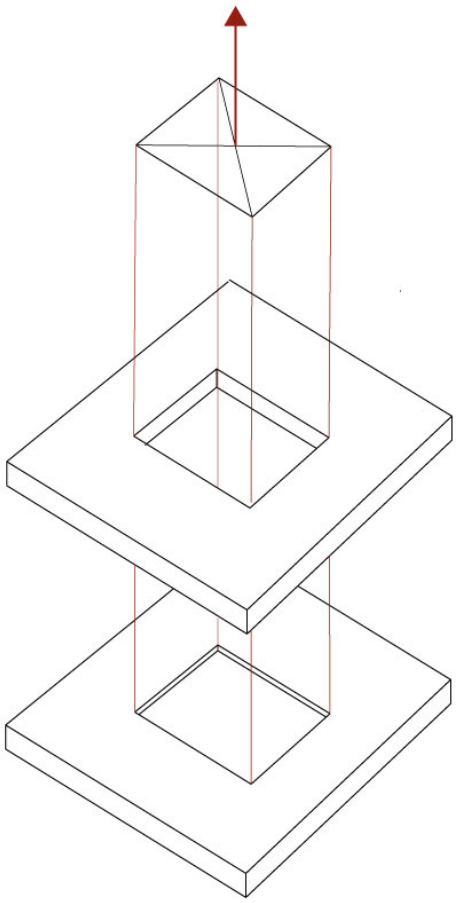


8. Lifting device for the mast

Mount an eye bolt or similar in the ceiling to be used when raising the mast during installation.

The eye bolt shall be dimensioned to carry the weight according to table below:

Weight on mast, including drive screw	
Mast height, m	Weight, kg
3	140
5	190
7	240
9	320
11	390
13	420
15	520
18	590

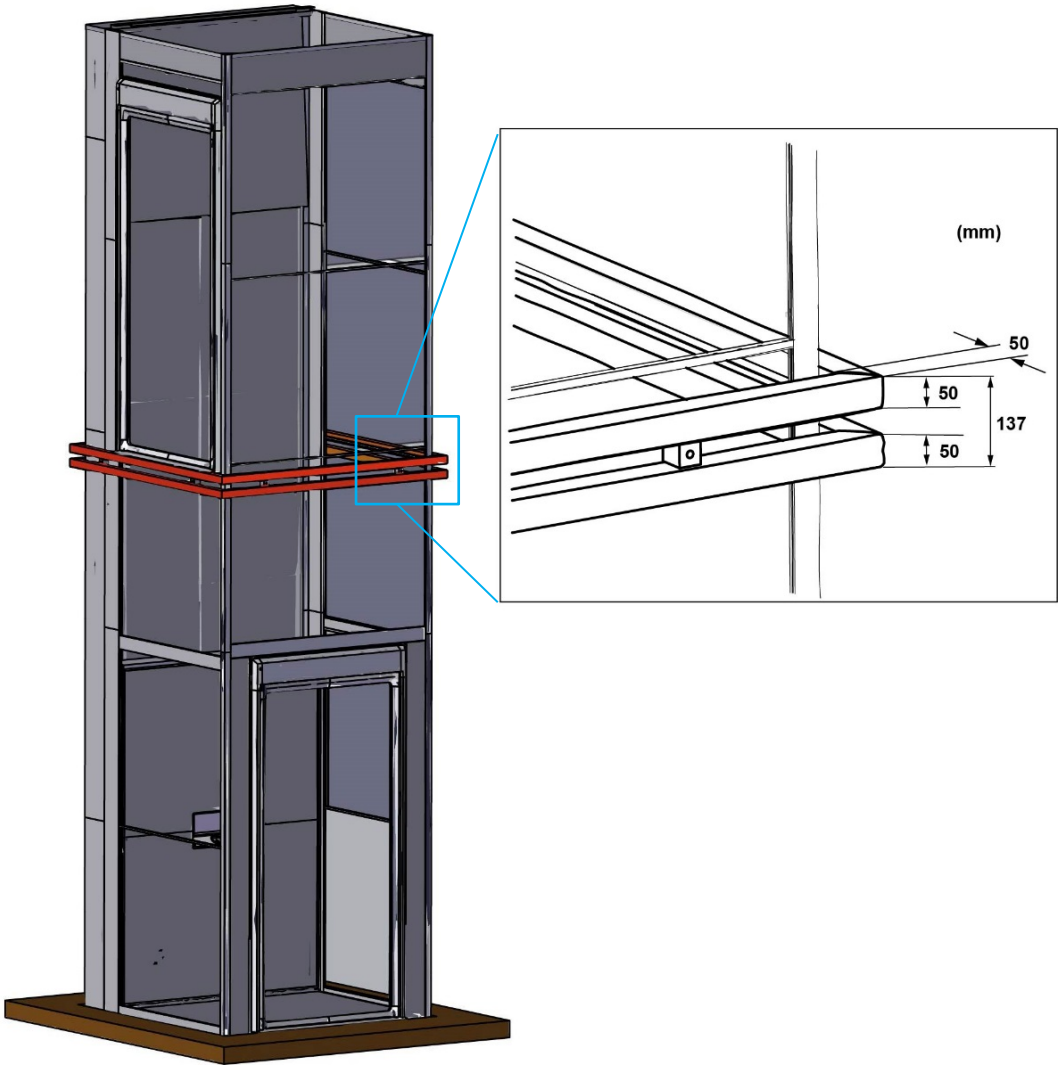


9. Mast bracket (option)

The mast brackets are used when there is no wall or joist behind the mast for attachment. It should be mounted before raising the mast. The brackets are available in 5 sizes, one for each lift size.

The bracket consists of two rectangular square tubes with dimensions 50 x 50 mm with total height 137 mm, see picture 1.

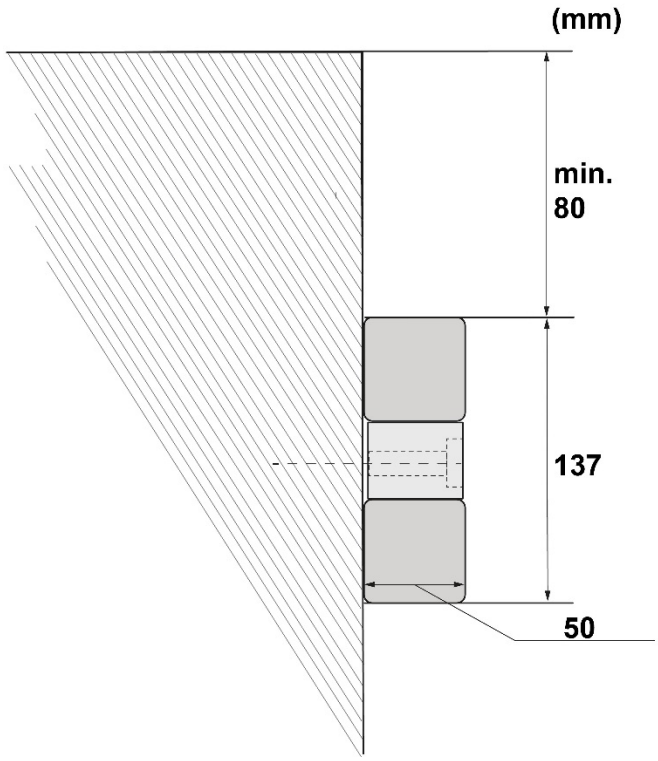
Picture 1



If the bracket is placed in a joist, the hole needs to be according to the table below (+/- 2mm):

Lift size	Hole dimensions for mast bracket (mm)
S5	1014 X 1100
S8	1014 X 1500
S9	1014 X 1600
S12	1384 X 1500
S15	1584 X 1600

If the bracket is fastened in a joist below a door, the bracket should be fastened at least 80 mm below the floor level to give room for the door sill.



10. Shipping and storage

The material must be kept dry and protected from damage during transport and storage.

The lift is delivered on several pallets and the total shipping weight can be up to 3 500 kg depending on size and configuration.

Store the material in its packing material until installation.

Check that delivered material is not damaged from the transport. If there are damages, immediately contact the responsible shipping company and also inform Aritco Lift AB.

Check that the delivered material corresponds to the packing list. Report missing materials to Aritco Lift AB.

Use handling aids when moving heavy objects.

11. To check ahead of the installation

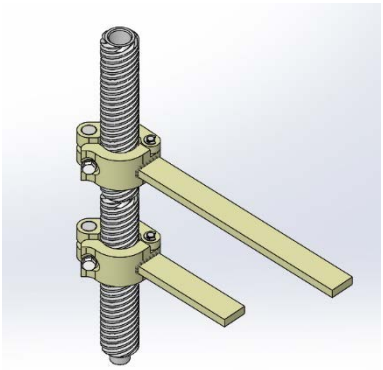
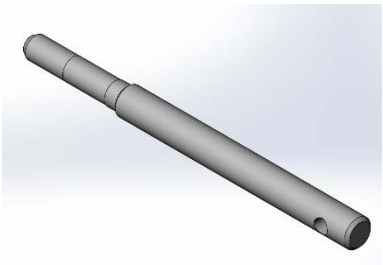
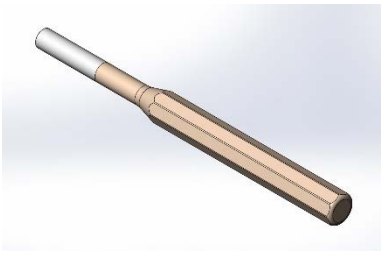
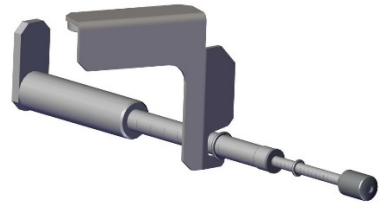
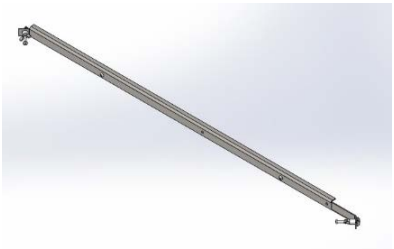
	Check
Installation site corresponds to the drawings, including travel and top heights.	☐
Openings in the floors and pit corresponds to drawing. Make sure pit floor is flat and levelled.	☐
Openings through floors and pit match vertically.	☐
Floor surfaces on each landing match so lift doors will be able to open.	☐
Supporting walls in the shaft and the pit/floor are dust sealed.	☐
The ceiling of the building above the lift shaft is painted, as this is partially visible through the ceiling of the lift.	☐
A lifting device (i.e. eye bolt or bar in the ceiling) that meets the requirements needed for the lift to be installed is in place.	☐
Main electrical supply with a main circuit breaker is provided at the Electrical Cabinet Pit, see the technical specification for the lift.	☐
A power outlet near the lift is in place.	☐
Two way connection for the alarm phone connected to an Alarm receiver is in place, and where applicable, a PSTN-cable.	☐
SIM card is provided to eventual GSM-phone.	☐
The lift ambient condition meets the temperature range of +5°C to +40°C.	☐
The relative humidity is below 60%.	☐
Ensure that the room has adequate ventilation.	☐
Safety-railings, openable, are mounted at the shaft holes.	☐
Lighting for the installer is sufficient.	☐
Shaft is cleaned out.	☐

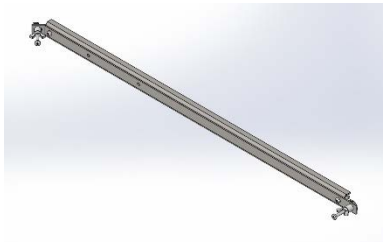
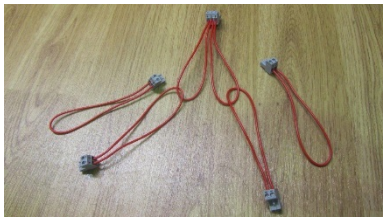
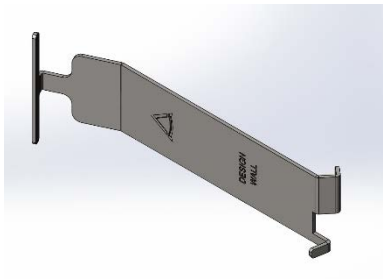
Before the lift is CE marked and the lift is taken into use, make sure that:

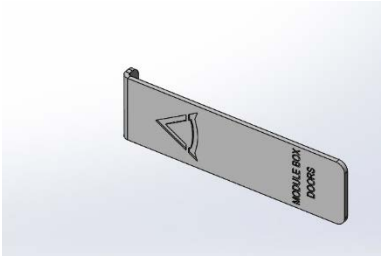
There is lighting that provides at least 50 lux in front of every door.	☐
There is a two-way communication line to an alarm center.	☐

12. Lift tools

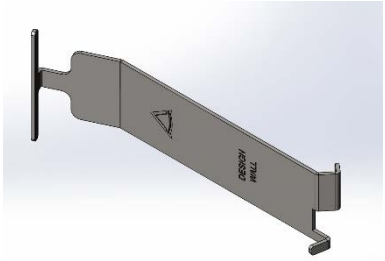
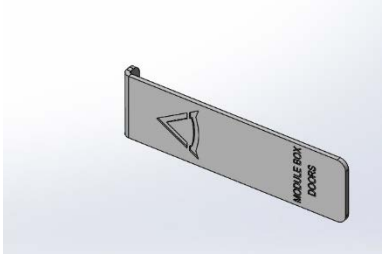
Tools delivered in Aritco HomeLift Installation kit.

Clamp arm, screw joint, long (55010-L) Clamp arm, screw joint, short (55010-S)	
Gauge, screw joint (55139)	
Mandrel, d=8 (47014)	
Belt tensiometer (55012)	
Bracket for B-side during shaft assembly (52012)	

Bracket for A/C-side during shaft assembly, 2 pcs. (52013)	
Installation jumpers. 5 pcs. (WH.15)	
Installation tool – doors (53170)	
Triangular key (64103)	
Maintenance hatch opener (52148)	

Door frame box opener (53172)	
Brake test jumper (WH.17)	

Service tools delivered with Aritco HomeLift. (to stay by the lift)

Triangular key (64103)	
Brake test jumper (WH.17)	
Brake release handles. 2pcs. (46036)	
Maintenance hatch opener (52148)	
Door frame box opener (53172)	

Recommended tools for Aritco HomeLift installation.

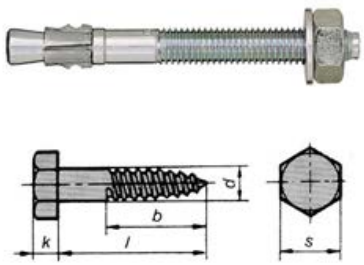
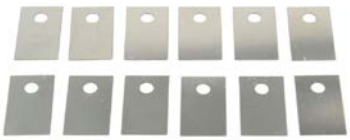
Hoist 500 kg	
Drill set 1 – 13 mm	
Concrete drill 8 – 12 mm	
Crow bar	

Hammer	
Plumb 300 gr. with line 15 m, 2 pcs	 
Laser plummet	
Spirit level	
Measure tape	

Feeler gauge	
Calipers	
Plate shearing tool Right & Left	
Nipper /wire stripper	
Nose plier	

Screw driver 2.0 – 5.5 mm	
Screw driver cross PH1 + 2	
Screw driver Torx T10-T30	
Magnetic Screw Bit Holder	
Magnetic Screw Bit Holder 300 mm	
Bit PH1 + 2	

Bit Torx T10-T30	
Magnetic case 10 mm	
File for screw joint	
Clamp 400 mm, 4 pcs	
Complete set of sockets and spanners 10 – 21 mm	

Toolbox with common tools	
Suction Cup Lifter, 2 pcs	
Fixings material for guide rails, frame and doors, for example expander bolts or chemical bolts.	
Steel shims (plate) in different thickness, 0,5, 1, 1,5, 2 and 3 m, for levelling of mast and doors.	
Insulation tester	

Drilling machine / screw driving machine with moment clutch	
Compound saw for aluminum	
Hammer drill	
Circular saw for steel and aluminum	

Safety harness	
Test weights, Rated load x 1.25	
Ladder	
Trestle	
Carriage	

Home lifts