VERTICAL PLATFORM LIFT SELF-SUPPORTING STRUCTURE ASSEMBLY

ASSEMBLY INSTRUCTIONS

MANUAL CODE

7602124

DATE 09/02/2010  APPROVED

With the purpose of following the technical evolution, VIMEC reserves the right to alter the specification without prior notification.
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Bolts and nuts kit for outdoor structure (Code 7004974)
Closed ring fixing kit (Code 7004958)
Aluminium frame plugging fixing kit (Code 7004971)
Upright connection fixing kit (Code 7004959)
Wall fixing kit (Code 7004972)
PVC shim kit for glasses (Code 7004973)
Rail connection fixing kit (Code 7004961)
Lower ring fixing kit (Code 7004956)
Door fixing kit (Code 7004969)
Roof fixing kit for indoor structures (Code 7004962)
Roof ring fixing kit (Code 7004957)
Kit for fixing the roof to the self-supporting structure (Code 7004978)
Cross-beam cover fixing kit (Code 7004963)
Complete cross-beam fixing kit (Code 7004960)
Door roof kit (Code 7004489-7004490)
1) INSTALLATION SAFETY DEVICES

- STRUCTURE FOR OUTDOOR USE

Should the structure be installed outdoors, it is necessary to use a suitable scaffold with platform (Fig. 1/a – excluded from supply) compliant to the rules in force in the country where it is to be installed. The above scaffold must include at least 2 of the 3 free walls of the structure.

- STRUCTURE FOR INDOOR USE

Should the structure be installed indoors, where it is not possible to provide the above scaffolds, similar devices must be used (excluded from supply) which guarantee a high degree of safety throughout the assembly steps. An example of this device is provided below.

The device consists of a pair of telescopic tubular elements (Fig. 2/a) with short rods at their ends for fixing (Fig. 2/b) and a platform with the relative perimeter guards (Fig. 2/c).

Such fixing rods (Fig. 2/b) are to be leant on the middle ring (Fig. 2/f). After fastening the first ring, the telescopic tubular elements have to be loosened (Fig. 2/a) until the rods (Fig. 2/b) are as wide as the ring. Fasten the tubular elements with the special screw (Fig. 2/d) and fixing nut (Fig. 2/e).

Place the two tubular elements on the ring at a distance of approximately 400 mm. Fix the platform with the relevant guards (excluded from supply - Fig. 2/c) above their tubular elements placed previously (excluded from supply).

Personal protective equipment PPE

In order to ensure a high degree of safety, installers have to wear PPE (personal protective equipment) foreseen by the current safety rules. Such equipment, one of which is the safety belt, is to be fixed for example in the slots of the uprights or in the rings provided on the guards. Throughout the assembly steps, installers must wear the belt with quick-release hook (Fig. 3/d) in order to avoid any fall.
2) LAYING THE BASE

- Assemble the complete cross-beams forming the base by using the following assembly Kit:
  Lower Ring Fixing Kit (Code 7004956) x1.

- Identify the vertical uprights marked with:
  1A - 2A - 3A - 4A (marking is placed in the lower inner part of the upright. The marked side of the upright is to be always placed downwards).
  The uprights marked with 1A - 2A are to be always placed on the rail side.

  **N.B:** If a side of the structure is to be placed next to a wall, the temporary position of the base must necessarily have a certain distance from such wall, so as to allow the installation of the plugging frames.
  (Later, the structure is to be placed in its final position).

- Through the outer cross-beam profiles, form the base ring by fixing the 4 Corners on their 4 uprights for the floor 0 as described below:
  - Place the plates (Fig. 4/a) inside the upright and assemble the base corner (Fig 4/b) by using the M10x25 screws (Fig. 4/c).
  - Place the cross-beam (Fig. 4/d) next to the base corner and fix the M10x30 screws (Fig.4/e) to the plates (Fig.4/f) pre-assembled in the cross-beams.
  - Repeat the cross-beam assembly operation on the remaining sides.
  - Place the supporting plates (Fig.4/g) under the four base corners.
  - Once the base with the four supporting corners is in place, screw the M12 screws (Fig.4/h) in the threaded slots of the base corner. The screws have to rest on the supporting plate previously inserted under the four corners.
  - Adjust the screws (Fig.5/a) to bring the base to the lower floor and level it.
3) TIGHTENING

- Check that the size of the crosswise element “A” differs from the size of the crosswise element “B” by max. ± 2 mm.

Check the squaring of the installed structure and fasten the bolts and nuts (prepared previously) with a tightening torque calculated for an exploitation of the elastic limit of the screw at 70% as indicated in table 1.

Follow the exact instructions indicated on the assembly drawing for the specific equipment having the wording “Assembly notes” that specify, for example, the most suitable moment to insert the lock cables avoiding any subsequent problem, or follow other assembly instructions.

<table>
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4) RAIL SIDE CROSS-BEAMS (CLOSED RING)

- By examining the design layout, fix the rear cross-beams, on which the rail fastenings are to be tightened, by using the following assembly Kit:
  Rail Connection Fixing Kit (Code 7004961) x1.
  Closed Ring Fixing Kit (Code 7004958) x1.

⚠️ WARNING: Before fixing the cross-beams to the structure, Nos. 2 plates (Fig. 8/a) must be inserted into each of them to tighten the rail fastenings.

- Insert the plates inside the cross-beam, paying attention to place them near the slots related to the wheelbase of the rail fastenings to be installed on them (366 mm or 900 mm).

- Fix the screw with washer (Fig.8/b-8c), without tightening, to the cross-beam plates not to miss the identified position.

- Through the plates (Fig.7/a) fix the Corners (Fig. 7/b) to the rear uprights with the M10x25 screws (Fig. 7/c).

- Assemble the rear cross-beam (Fig. 7/d) complete with rail fastening to the corners previously fixed to the uprights with the M10x30 screws (Fig.7/e).

- Complete the assembly of the closed ring with the middle cross-beams as described in the following paragraph.

5) MIDDLE CROSS-BEAMS (CLOSED RING)

- By examining the design layout, fix the middle cross-beams by using the following assembly Kit:
  Closed Ring Fixing Kit (Code 7004958) x1.

- Fix the remaining complete cross-beams to the corners as described in the previous paragraph, so as to form a closed ring consisting of four cross-beams, one of which complete with rail fastenings.
6) UPRIGHT CONNECTION

6a) Connection of single uprights

- By examining the design layout, connect the upper and lower uprights by using the following assembly Kit: Upright Connection Fixing Kit (Code 7004959) x1.

- Insert the connection corner (Fig.9/a) inside the uprights and fix it with the M10x25 screws (Fig.9/b).

**NOTE:** Remove any possible hole between the uprights to be connected, then torque tighten every joint screw (see tab.1).

6b) Connection of uprights with cross-beams

If in the design layout the upright connection are near the cross-beams, assemble the latter as follows:

- Fix the cross-beam fixing corner (Fig.9bis/c) to the upright by using the threaded slots on the upright connection corner placed inside (Fig.9bis/a) and the M10x25 screws (Fig.9bis/d).

- Assemble the cross-beams (Fig.9bis/e) to the corner by using the M10x25 screws (Fig.9bis/f).
- Adjust the height of the cross-beams through the slots placed on the corners (Fig.9bis/c).
- Repeat the operation for all the four uprights, then proceed with fastening the screws to the torque indicated in Tab.1.

⚠️ **WARNING:** In order to carry out the connection properly, use eight fixing screws – four to fasten the connection corner to the upright, and four to fasten the cross-beam fixing corner to the connection corner.
7) MIDDLE AND FLOOR THRESHOLD CROSS-BEAMS

- By examining the design layout, fix the middle cross-beams by using the following assembly Kit:
  Complete Cross-beam Fixing Kit (Code 7004960) x1.
- Through the plates (Fig.10/a), fix the plates (Fig.10/b) to the upright by using the supplied M10x25 screws (Fig.10/c).
- Assemble the complete cross-beam to the plate previously installed on the upright with the M10x30 screws (Fig.10/d).

These cross-beams can be installed and their height can be adjusted regardless of the next ones. They have to be used as floor threshold or to form an open ring in case there are any floor doors on the near side (Fig.11).

WARNING: If in the assembly drawing any hollow veneered or double hinged door is foreseen, before inserting the cross-beams into the structure, it is necessary to insert Nos. 4 plates (Fig. 20/a) into each cross-beam in order to fix the doors.
8) FITTING THE UPPER CLOSING RING

- Assemble the cross-beams that are going to form the closing ring by using the following assembly Kit:
  Roof Ring Fixing Kit (Code 7004957) x1
- Insert the plates (Fig.12/a) into the upright and fasten the fixing corner (Fig.12/b) by using the M10x25 screws (Fig.12/c) as indicated in figure 12.
- Fix the cross-beams (Fig.12/d) to the corner installed previously by using the M10x30 screws (Fig.12/e).
- Repeat the operation for all the four uprights.

9) ROOF ASSEMBLY (STRUCTURE FOR OUTDOOR USE)

- Identify the assembly direction (gradient) from the overall structure layout.
- Use the following assembly Kit:
  Bolts and nuts kit for outdoor structure (Code 7004974).
- Assemble the four sides forming the roof as follows:
  - Insert the M10 caged nut inside the roof supporting corner (Fig.13/a).
  - Through the nuts inserted previously, screw the M10 screws (Fig.13/b) thus assembling the four sides forming the roof supporting structure.
- Fix the structure to the upper closing ring by using the following assembly Kit:
  Kit for fixing the roof to the self-supporting structure (Code 7004978).
- Fix the structure to the upper ring with the supplied screws, washers and nuts (Fig.14/a).
- Fix the roof cover (Fig. 15/a) with the supplied screws, washers and nuts (Fig. 15/b).
10) ROOF ASSEMBLY (STRUCTURE FOR INDOOR USE)
- Assemble the upper roof cover by using the following assembly Kit:
  Roof fixing kit for indoor structures (Code 7004962).
- Insert the screws inside the square housing of the cover (Fig.16/a).
- Bring the cover complete with the screws close to the corners of the last ring and fix with the supplied nuts and washers.

11) FINAL TIGHTENING
At this point, the self-supporting structure is complete.
- Check the squaring by measuring the crosswise elements and check if they are ± 2 mm apart (Fig.6), then proceed with fastening all the bolts to the tightening torque as indicated in table 1.

12) ASSEMBLY ASIDE FROM THE WALL
If, as per assembly drawing for the specific equipment, the structure has been installed aside from one of the building walls, all the doors must be assembled and the free side of the structure must be plugged, never to be accessed again.
(See point 16 for the rear blanking plugging and point 17 for fitting the doors).

13) CHECKS
- Check that the cross-beams to be placed as floor threshold match with the threshold of the floors.
If there is any slight difference, adjust the height through the special slots.

NOTE: Each cross-beam can be adjusted by +/- 10 mm compared to the plugging inside them. If the difference is higher than the above figure, the plugging must be trimmed or replaced.

14) FIXING THE STRUCTURE
- Before fitting the doors and panels, it is necessary to fix the structure:
- On the foundation, by using screw anchors, see (Fig. 5/a).
- Assemble the complete structure to the wall by using the following assembly kit:
  Wall fixing kit (Code 7004972).
Through the nuts, fix the brackets (Fig.17/a) to the uprights, on the sides, by using the supplied M8x20 screws (Fig.17/b) and washers (Fig.17/c).
Once the brackets fixed to the structure, proceed with the wall fastening by using the mechanical anchors (Fig.17/d).
15) INSERTING THE PLATFORM LIFT COMPONENTS

At this stage it could be good to start assembling some of the platform lift components which are particularly bulky and which are easier to install when the floor doors of the structure have not been fixed yet. The rail fastenings must be fixed to the rear cross-beams through the plates previously inserted into the cross-beams; then proceed with fixing the rails, the cylinder and finally the carriage and the platform.

See the assembly instructions of the specific platform and the notes to the relevant assembly drawing.

16) RAIL SIDE PLUGGING

- Blind version

The rear part of the structure, placed behind the rails, is generally plugged with blind panels. Blind panels are of two types: hollow for ventilation and blind. The former is to be installed in the first framework close to the base ring and close to the upper ring. It is also possible to install the optional ventilation fans (Fig.18/b) on them. The blind ones are to be installed in the remaining frameworks (Fig.19).

Fitting the panels:
- Apply a strip of polyurethane sealer at 5 mm from the edge on the side of the panel to be put in touch with the structure, rest the panel by pressing it on the 4 supporting sides (between the 2 rear vertical uprights and the horizontal cross-beams of the rail fastenings).
- Ensure that the ventilation openings are directed downwards and with the rustication on the outer side, see (Fig.18/a).
- Ensure that the contact between the blind plugging and the structure is correct (perfect adhesion).
- Fasten with the self-drilling screws.
- Check that the panel does not buckle or move aside from the structure during fixing. If necessary, fix with more self-drilling screws.
Assemble the plugging frame of the rail side by using the following assembly Kit:
Aluminium frame plugging fixing kit (Code 7004971)
- Insert the plates in the uprights (Fig.20/a).
- Through the self-threading screws (Fig.20/b), fix the plate (Fig.20/c) to the frame profiles and then fix the frame to the structure by tightening the M10x25 screws (Fig.20/d) to the plates previously inserted inside the uprights.
- Seal the frame to the structure with silicone glue on the frame perimeter.
Complete the frame assembly by inserting the glass, gasket, glazing bead, etc. by using the same method as the door glass assembly (Fig.21).
17) FLOOR DOOR ASSEMBLY

The floor door assembly is different depending on the type of door installed. There are three types of doors:
- Double hinged doors
- Hollow veneered doors
- Aluminium doors

For double hinged and hollow veneered floor doors, proceed by using the following assembly Kit:
Door fixing kit (Code 7004969).
Insert Nos. 4 plates (Fig.22/a) in the middle cross-beams and floor thresholds.
Insert the M8x45 screws (Fig.22/b) in the lower door corner, and fix the screws to the plates previously inserted in the cross-beam, without tightening, thus leaving a gap to subsequently insert the shims (Fig.22/c).
- Insert the shims inside the screw stem by using the slot provided on them.
- Repeat the above operations also for the upper corner of the door.
- After checking if the door is aligned to the structure, tighten all the anchor screws.

Aluminium floor doors:
Before assembling the aluminium frame floor doors, fix the threshold corner (Fig.23/a) with rivets.

The doors with aluminium frame, depending on the opening direction and their position, can be:
- complete with outer frame pre-arranged for the lock housing (Fig. 28/b).
- with no outer frame, and the lock will be positioned directly on one of the uprights in corners 3-4 (Fig. 24/a).

- In the first case
The complete door is placed between the uprights (Fig. 28) and is fixed as follows:
- Insert the fixing plates (Fig.25/d) in the uprights.
- Apply the shaped brackets (Fig.25/a) to the door through the self-threading screws (Fig.25/b).
- Secure the door to the structure by using the M10x25 screws (Fig.25/c), paying attention to the distances indicated in (Fig. 28/b).

- In the second case
Fix the lock side stop profile with the self-threading screws as in figure 23, paying attention to have the profile edge match with the opening on the upright for the lock.
- Position the door between the uprights.
- Insert the fixing plates (Fig.25/d) in the uprights.
- Apply the shaped brackets to the hinge side door frame through the self-threading screws (Fig.25/b).
- Secure the door to the structure by using the M10x25 screws (Fig.25/c), paying attention to the distances indicated in Fig. 28/a.

**WARNING:** In the hollow veneered and double hinged doors, the threshold corner is supplied fixed to the door.

- If according to the design layout a glass plugging is foreseen over the door, assemble with L-upper corner and glazing bead, glass and relevant gaskets (Fig.26).
- If there is a cross-beam just above the door, use a corner of 50x20 and self-threading screws to plug the remaining gap, if any (Fig.27).
18) FITTING THE DOOR GLASSES

- Before installing the glasses, proceed with squaring the door with the frame by inserting the proper spacers between door and threshold.
- Prepare the glazing bead (Fig. 29/a) with gasket (Fig. 29/b) and the four glazing bead corners (Fig. 29/c).
- Measure the gap of the aluminium frame.
- Identify the glass (Fig. 29/d).
- Put a drop of silicone in the 4 frame corners.

- Lean the glass in its position.
- Insert the PVC spacers in the glass leaning area to ensure they are perfectly aligned and perpendicular with the vertical uprights, and avoid any contact between glass and metal.
- Block everything with the glazing blades prepared previously (pressure assembly).

(In order to make installation easier, it is recommended to install first the horizontal glazing beads, and then the vertical ones).
19) FITTING OF NORMAL OUTER GLASSES

⚠️ WARNING: Before installing the outer glasses, complete the platform assembly. Then use the platform to carry out the operation described below in full safety and stability.

Install the glasses to the structure by using the following assembly kit:
- PVC shim kit for glasses (Code 7004973).
- Where aluminium profile frameworks are provided for frames complete with glazing bead, just proceed with assembly as described in point 18.

To assemble the glasses on the steel structure, proceed as follows:
- Identify the glass and its assembly position by examining the development and installation drawing.
- Carefully clean the glass with a special degreasing detergent.
- Apply the rubber gasket (Fig. 31/a) on the perimeter of the glass sheet on the side leaning on the structure.

N.B: In order to make the above operations easier, it is recommended to use a special rotating support for the glass (Fig. 30/a) and for the rubber gasket (Fig. 30/b) (excluded from supply).

- From inside, lean the glass (Fig. 33/b-34/b) on the stops of the connection corner (Fig. 33/a - 34/a) properly covered with PVC spacers (supplied as standard), in order to avoid any direct glass-metal contact that is likely to break the sheet.
- In case of interference between the glass and the cross-beam, it is possible to shift the latter vertically by ± 2 mm.

- Press the sheet against the 4 supports (2 vertical side supports with uprights and 2 horizontal supports consisting of the base ring and the aluminium cross-beam placed previously) as far as possible.

Temporary apply at least 2 fixing brackets on the vertical sides of the glass (see Fig. 32/b).

**WARNING:** The fixing brackets (Fig. 31/b) are provided in order to fix 1 type of glass having a thickness of 10 mm.

**WARNING:** Ensure that once the fixing completed, the brackets (Fig. 31/b) and the screws (Fig. 31/d) rest on the upright, in order to prevent the brackets from coming away unexpectedly.

- Proceed in the same way to install all the glasses. Always proceed downside up, taking the floor ring as a reference.

⚠️ **WARNING:** Ensure that the above stops are covered with the supplied special PVC spacers, in order to avoid any direct glass-metal contact that is likely to break the sheet.

20) GLASS SEALING

- By using the polyurethane glue, seal all the glasses of the structure.

⚠️ **WARNING:** For the glass sealing to be carried out properly, spread a strip of sealer of at least 5x5 mm (see Fig. 35).

**N.B:** In order to seal glasses in indoor structures, just spread the sealer only in the 4 corners for approximately 10 cm in length.

⚠️ **WARNING:** Do not stain glasses with the polyurethane sealer, because it is quite difficult to remove such sealer from glass.
21) GLASS FINAL BLOCKING

Use the following assembly Kit to finally block glasses:
Cross-beam cover fixing kit – Code 7004963.

Once plugging and glasses are fully fixed as described above, insert the joint covering profile (Fig. 36/a) to
be fixed to the cross-beams (Fig. 36/b) through the
supplied self-threading screws (Fig.36/c) and spacers
(Fig.36/d). Insert the spacers into the slots near the
fixing screws, as described in the figure.
22) LOCK KIT ASSEMBLY

- Before inserting the lock in the housing created in the structure upright, ensure to have connected the connector (Fig. 37/a).
- Through the clips (Fig. 38/a), fix the lock to the upright by using the supplied screws (Fig. 38/b).
- Fit the lock striker onto the leaf of the door (Fig. 38/c) taking care to make the mobile bridge and the safety contact actuator coincide with the respective seats in the lock (Fig. 38/d).
- Check that the system works correctly, ensuring that nothing catches as the door is opened and closed. With the door closed, check that there is a clearance of at least one millimetre between the frame and the door.
23) FITTING THE ROOF ABOVE THE DOOR

Fix the roof to protect from water as indicated in Fig. 39 by using the assembly Kit:

Door roof fixing kit – Code 7004489.

Through the nuts (Fig.39/a), fix the roof to the structure with the supplied M8x20 screws (Fig.39/b). Before fixing, ensure to have applied the adhesive gasket between the roof and the structure (Fig.39/c).

24) CABLE PASSING

- In case of doors complete with frame (Fig. 40/a) make the cables (Fig. 40/b) get through the exit in the door frame and the hole having a diameter of 35 mm, to be drilled on the upright (Fig. 40/c).
- In case of doors without frame, arrange the cables as described in Fig. 41/n

VIMEC company is not liable for damages arising from wrong assemblies not mentioned in this manual.
SELF-SUPPORTING STRUCTURE CAPTIONS

a) Rail support side  e) Upright marking  i) Upright connection corner
b) Middle cross-beam  f) Upright  l) Middle cross-beam fixation corner (closed ring)
c) Base corner  g) Base corner  m) Floor threshold middle cross-beam fixation plate
d) Rear cross-beam  h) Connection cables  n) Connection cables
CAPTIONS
a) Roof support perforated sheet metal
b) Cover

FIG. 42

COVER FOR OUTDOOR SELF-SUPPORTING STRUCTURES

COVER FOR INDOOR SELF-SUPPORTING STRUCTURES
CAPTIONS
A) Rail side
CAPTIONS
A) Rail side
25) ASSEMBLY KIT

LOWER RING FIXING KIT Code 7004956

ROOF RING FIXING KIT Code 7004957
COMPLETE CROSS-BEAM FIXING KIT Code 7004960

RAIL CONNECTION FIXING KIT Code 7004961
ALUMINIUM FRAME PLUGGING FIXING KIT Code 7004971

PVC SHIM KIT FOR GLASSES Code 7004973
DOOR FIXING KIT Code 7004969

DOOR ROOF KIT Code 7004489-7004490
26) TOOLS REQUIRED

The following tools (excluded from supply) are required to assemble the structure:

- a) Rule
- b) Spirit level
- c) Socket or fixed wrench (13 - 16 -19 mm)
- d) Hammer drill
- e) Bull point chisel, diameter 18 mm
- f) Torque wrench, 20-100 Nm
- g) Cutter
- h) Pliers and cutting nippers
- i) Rubber mallet
- j) Hexagon head driver (Allen screw) 5 mm
- m) Cross screwdriver (Ph 2.5)
- n) Silicone gun