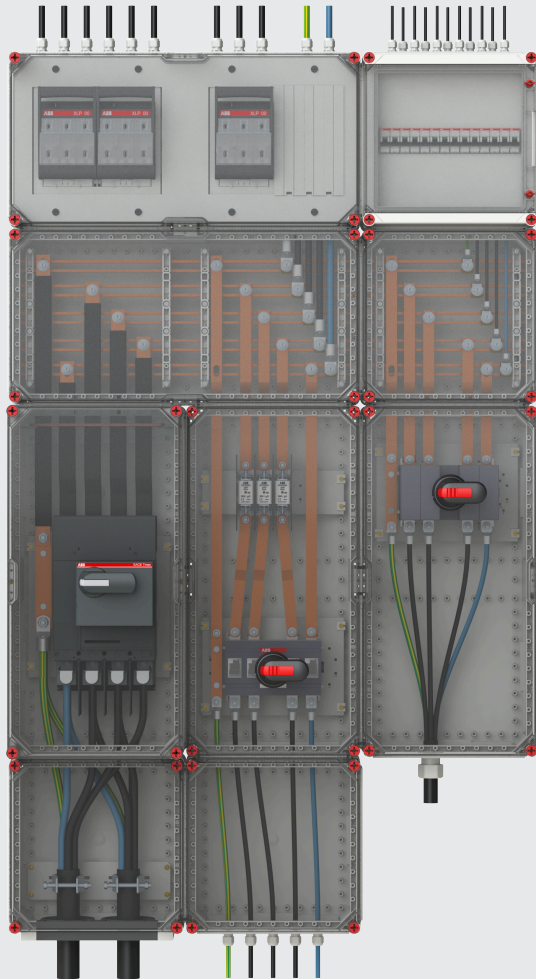


PRODUCT MANUAL

VMS - LV modular system

SYSTEM MANUAL



Contents

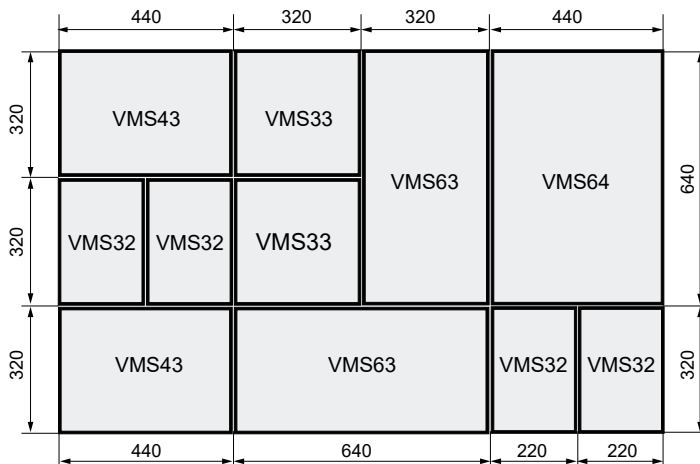
1 General system explanation.....	3
1.1 Modularity of the system and connection possibilities.....	3
1.2 Fixing points.....	3
2 Assembly instructions.....	4
2.1 Mounting plate.....	4
2.2 Busbar systems.....	5
2.3 Universal support.....	9
2.4 Cover plates.....	11
2.5 Base coupling.....	12
2.6 Partition plates.....	13
2.7 Bridges.....	14
2.8 End plates.....	15
2.9 Cable gland installation.....	16
2.10 Cable entries.....	17
2.11 Cable stress relief.....	18
2.12 Extension frame.....	19
2.13 Fixed cover installation.....	20
2.14 Hinged cover installation.....	21
2.15 Mounting brackets.....	22
2.16 Wall mounting frame.....	23
2.17 Floor standing frame.....	25
3 Functional user manuals.....	29

Additional drawings and instructions can be found in the ABB Library:



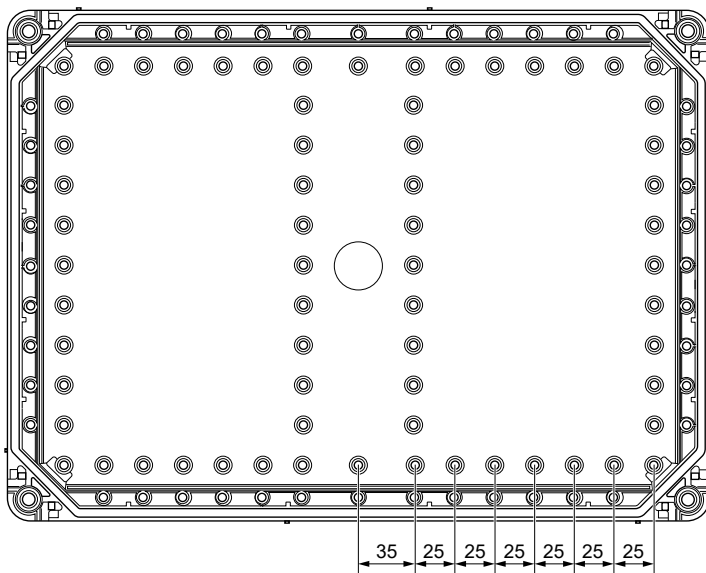
1 General system explanation

1.1 Modularity of the system and connection possibilities



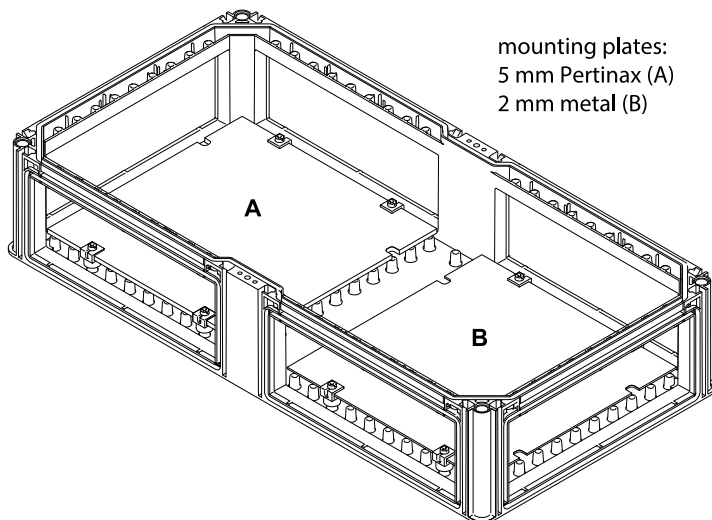
1.2 Fixing points

Typical dimensions for fixing points, VMS43 base is used in this example:



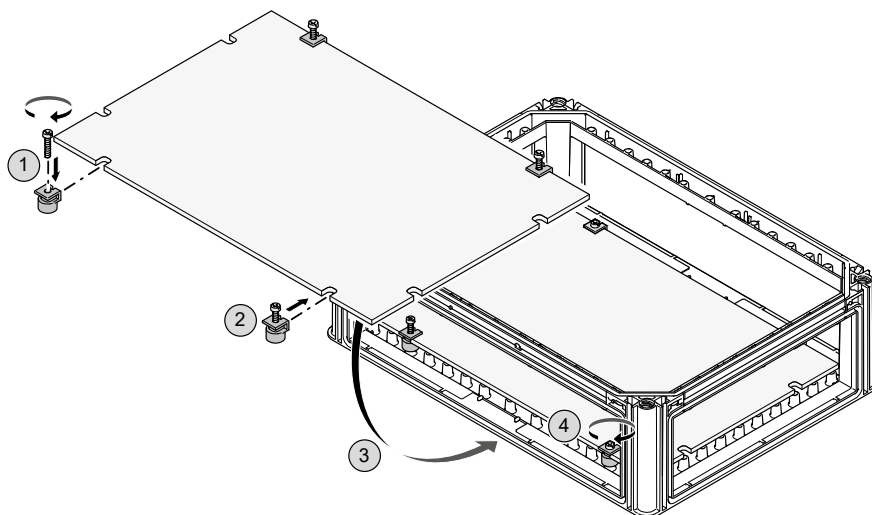
2 Assembly instructions

2.1 Mounting plate



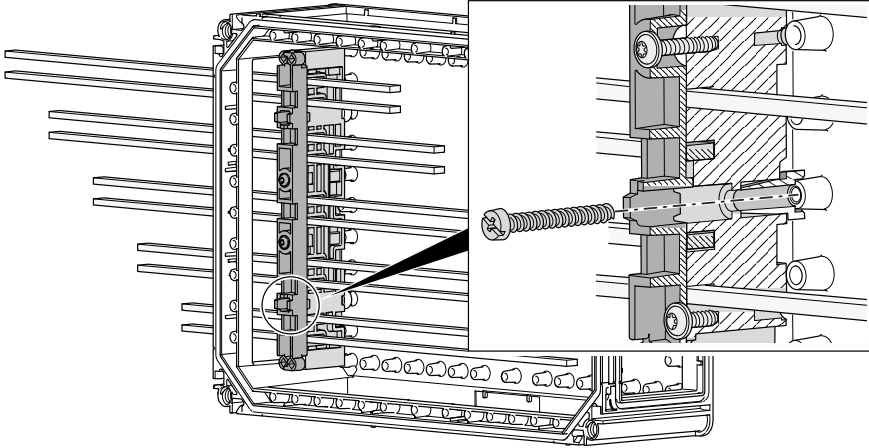
mounting plates:
5 mm Pertinax (A)
2 mm metal (B)

Installation of the mounting plates:



1. Rotate the screws one turn in each fixation part.
2. Insert the fixation parts in the mounting plate slots.
3. Install the mounting plate with the fixation parts in the bottom of the base.
4. Tighten the screws (max. 3.2 Nm).

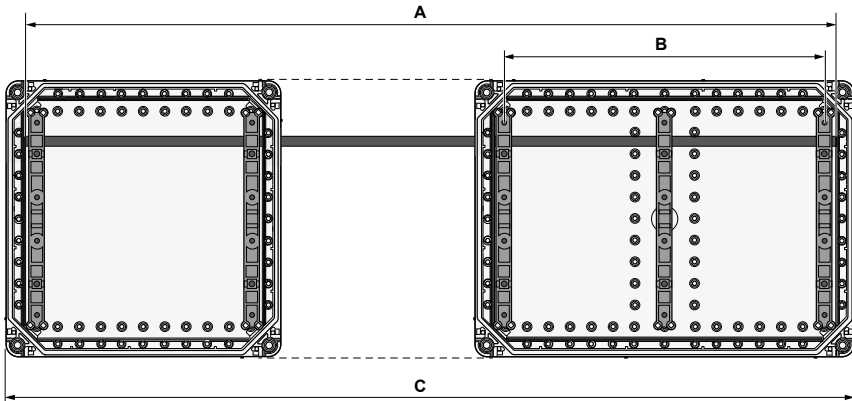
2.2 Busbar systems



Installation of the busbar supports:

1. Place the busbar support over the embossings in the bottom of the base and screw it tight with two long screws (max. 3.2 Nm).
2. Mount the copper in the busbar supports and lock the upper part of the busbar support with four screws.

Busbar copper length:



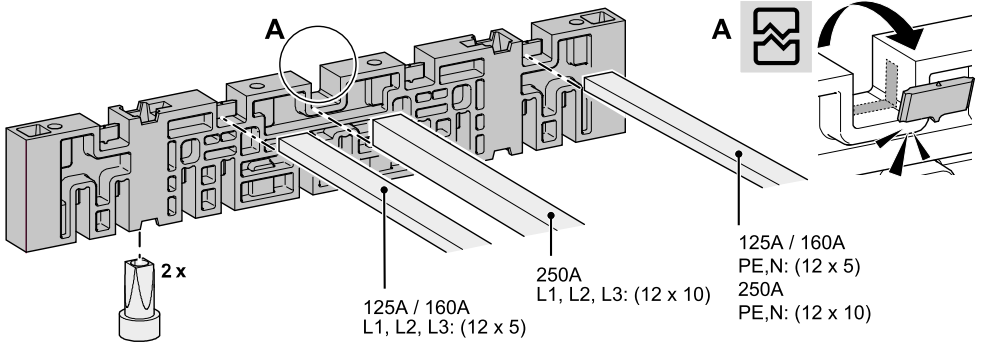
A: Length of the busbar copper = Total width of all bases (busbar compartment) - 5 mm.

B: Max. distance between two busbar supports = 320 mm (Depends on required I_{cw}. Please refer to the catalogue for additional info about distance between busbar supports.)

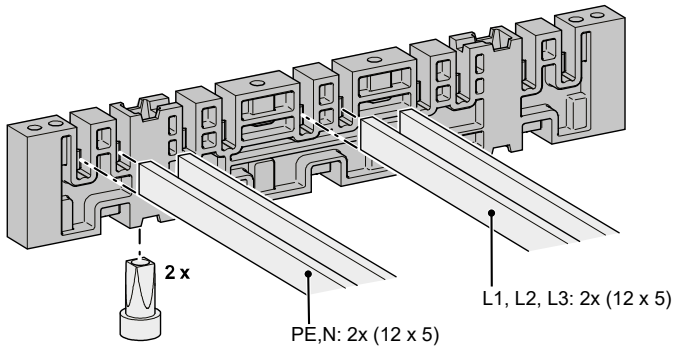
C: Total width of all bases (busbar compartment)

Configurations:

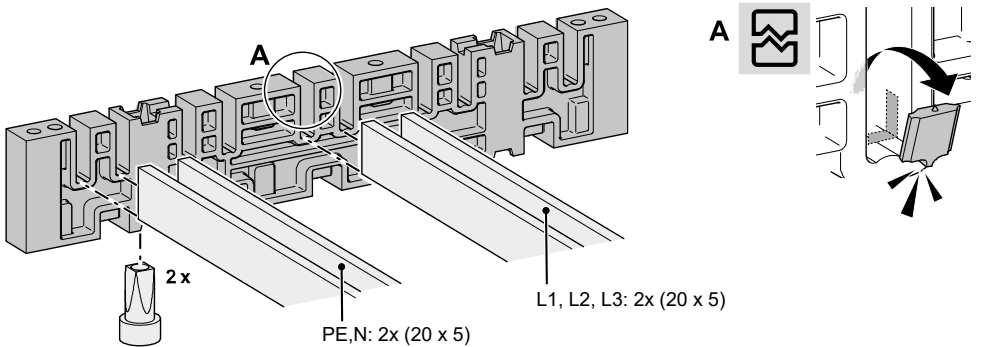
125A / 160A / 250A - flat 4TBV854315C0100



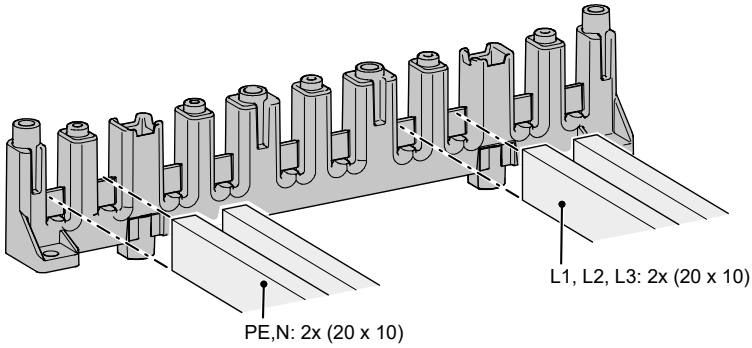
250A - parallel 4TBV854315C0100



400A - parallel 4TBV854315C0100

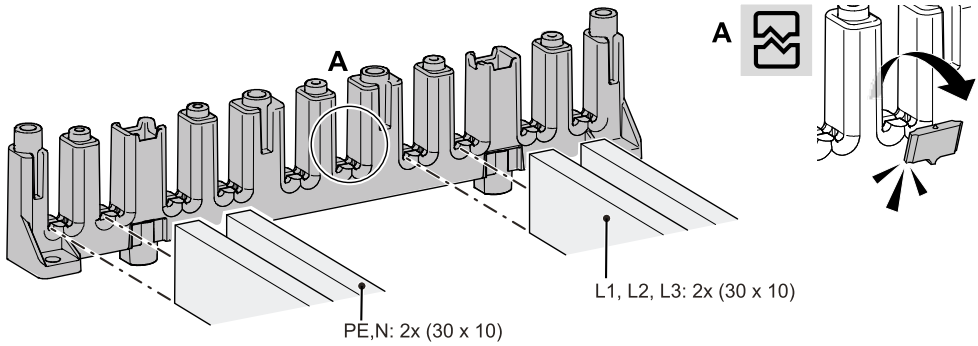


630A - parallel 4TBV855177C0100



1100A - parallel 4TBV855177C0100

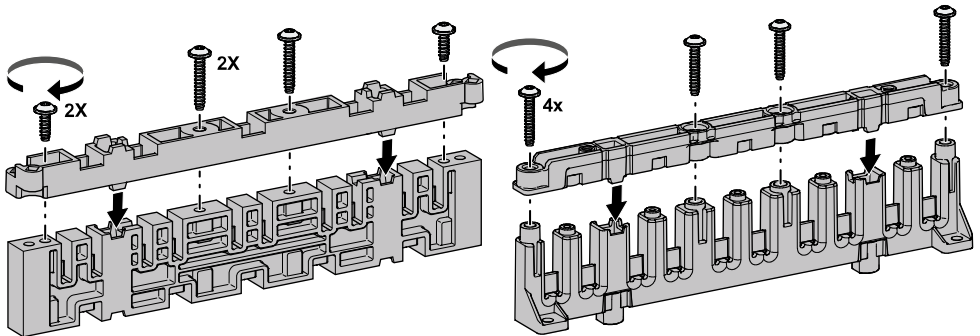
1100A - parallel 4TBV853077C0100



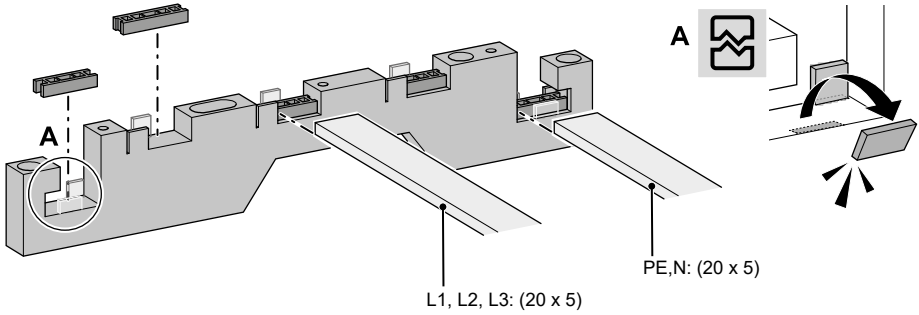
Locking (max. 3.2 Nm)

125A / 160A / 250A / 400A

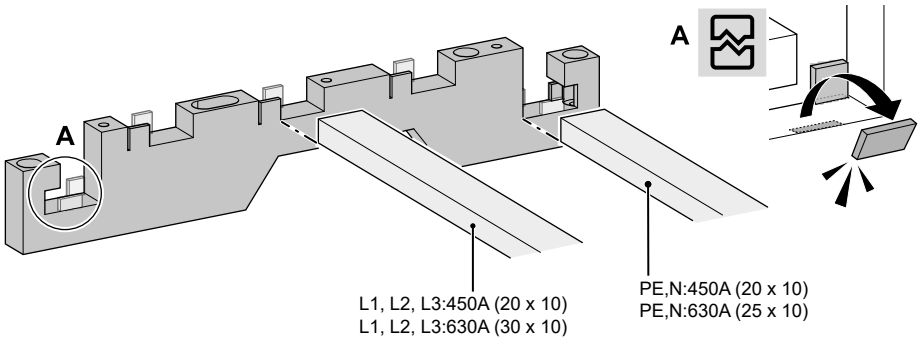
630A / 1100A



300A - flat 4TBV828322C0100



450A/630A - flat 4TBV828322C0100

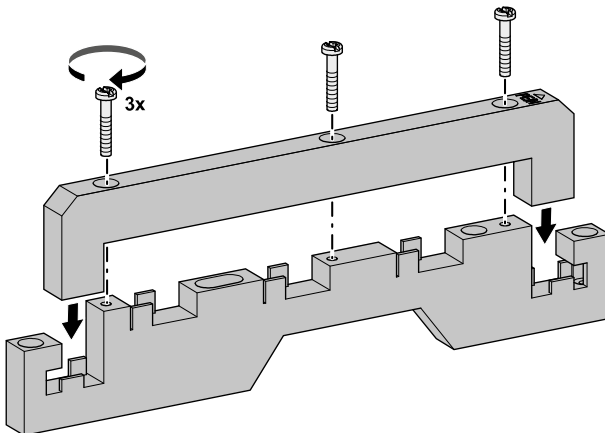


Busbar copper length formula for 630A 4TBV828322C0100 (see page 5 for illustration)

A*: Length of the busbar copper L1-L3= Total width of all bases (busbar compartment) - 5 mm.

Length of the busbar copper PE/N= Total width of all bases (busbar compartment) - 40 mm.

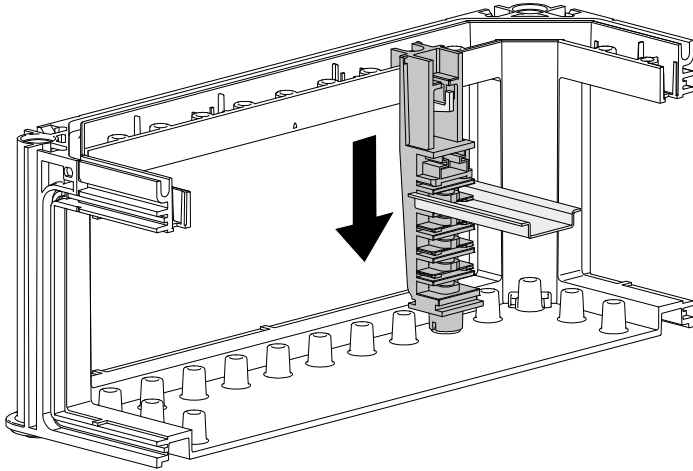
Locking (of the support without any removed walls). (Max. 3.2 Nm.)



2.3 Universal support

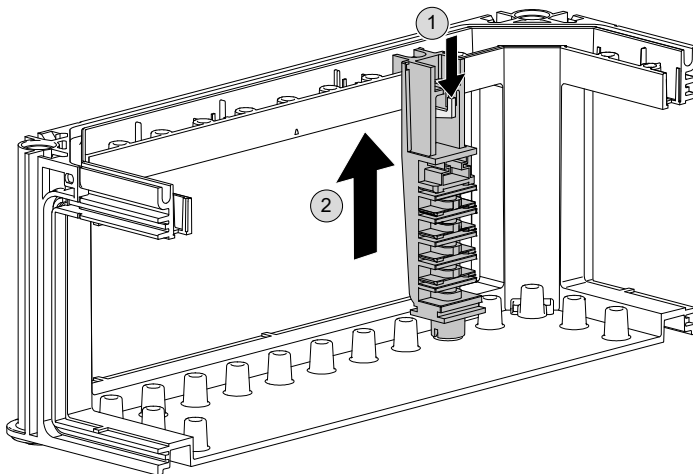
To be used for: mounting plates, cover plates, DIN rail, flat bar 12x2 mm and busbar 15x3 mm.

Installation of the universal support:



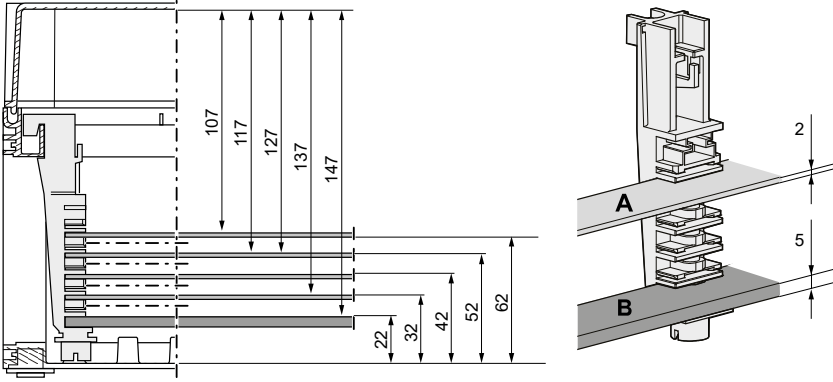
1. Place the universal support over the embossing.
2. Simultaneously fit the support over the inner top lip.
3. Press down completely.

Unlocking the universal support:

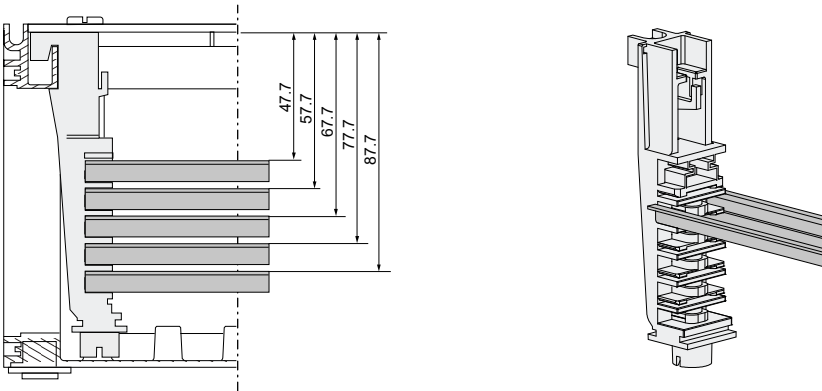


1. Press the locking latch downwards.
2. Lift the universal support.

Dimensions for supporting mounting plates in metal (A) and in Pertinax (B):



Dimensions for supporting DIN rails:



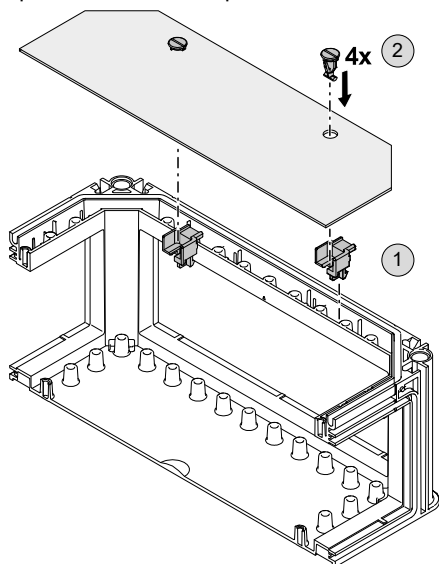
Supporting flat bar 12x2 mm and busbar 15x3 mm:



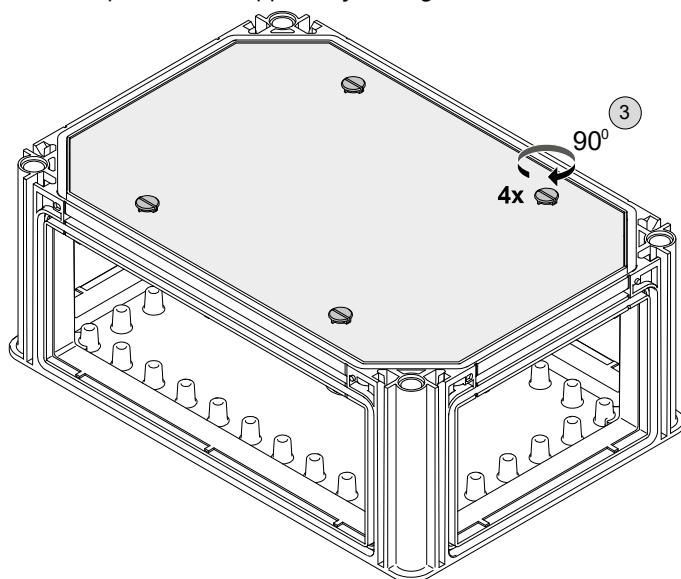
2.4 Cover plates

Installation of the cover plates:

1. Snap the four snap fixations for cover plate on the base.

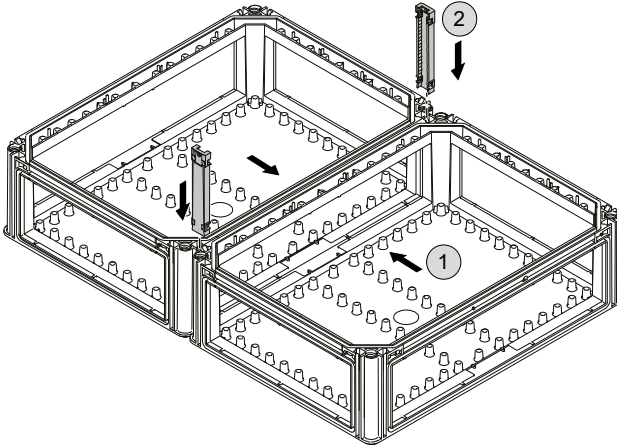


2. Install the four quick fasteners for cover plate on the cover plate.
3. Fit the cover plate on the supports by turning the fasteners 90° clockwise.



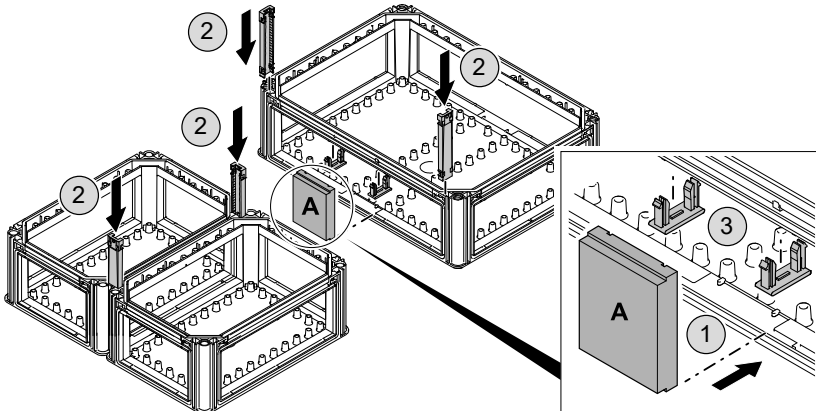
2.5 Base coupling

Coupling of the bases with same side width:



1. Place the two bases against each other.
2. Couple with coupling dowels, insert them simultaneously.
3. When necessary, remove the coupling dowels easily by lifting them with a flathead screwdriver.

Coupling of two 220 mm bases to one 440 mm base:

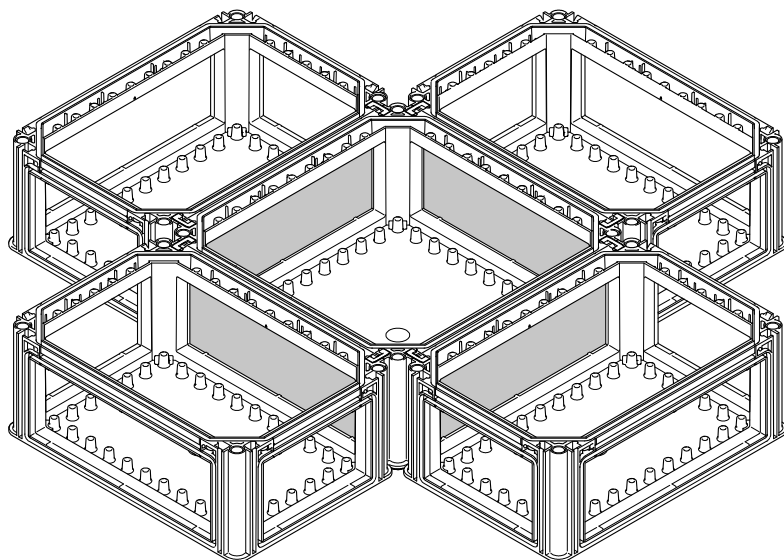


1. Install the coupling bridge (A) in the 440 mm side. The slots indicate the exact location.
2. Couple the bases with the four coupling dowels, insert them simultaneously.
3. Snap the coupling clamps in the openings below the upper base lip.

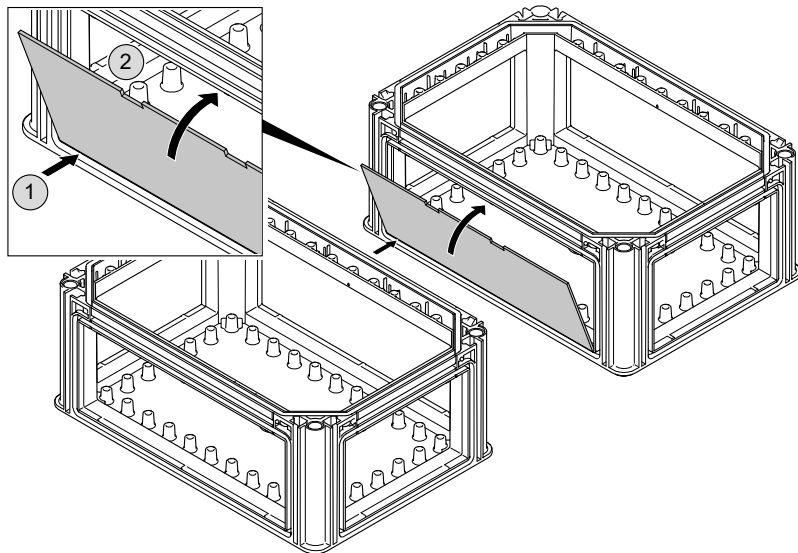


The IP degree is reduced to IP44.

2.6 Partition plates



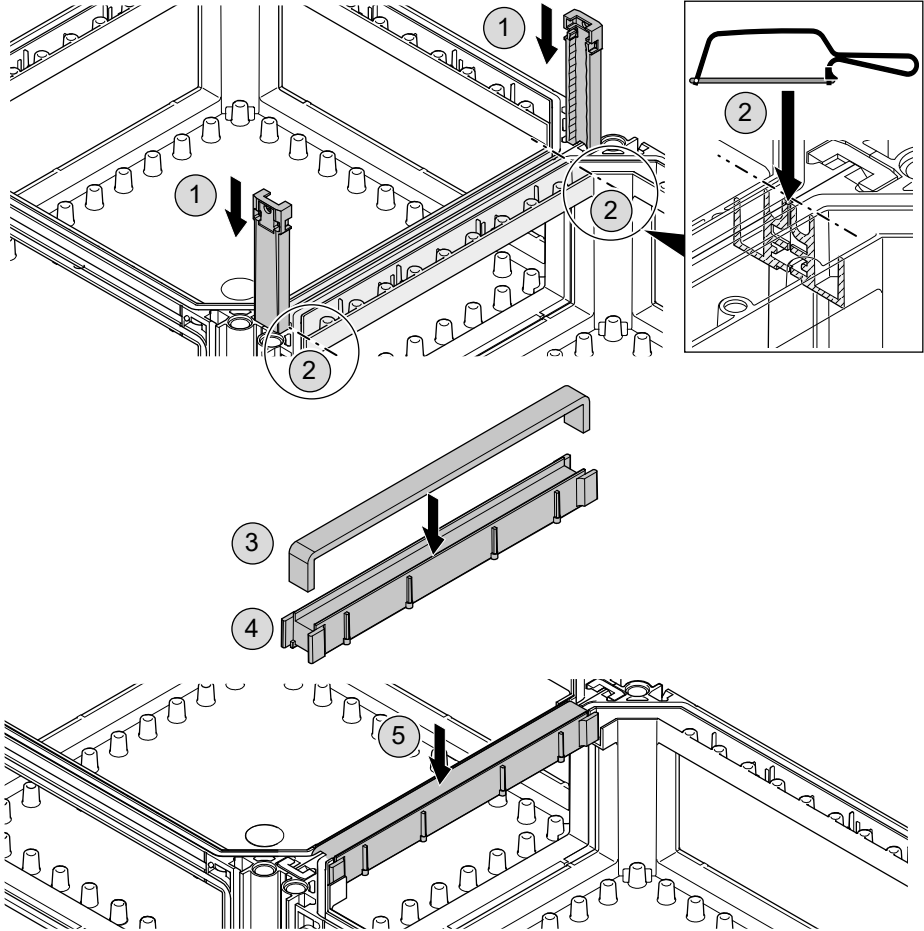
Installation of the partition plates:




1. Install the partition plate between the two bases that need coupling.
2. The partition plate must be mounted with the slots on the top.

2.7 Bridges

Installation of the bridge:



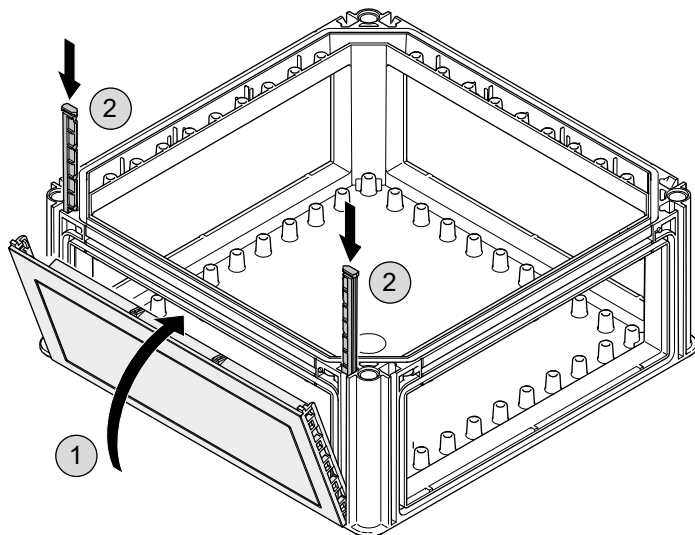
1. Couple the two bases with the coupling dowels.
2. Cut the top adjacent side lips following the markings. Deburr the edges.
3. Stick on the self-adhesive gasket and press it into the bridge gutter.
-  4. Fold the ends around the corners without stretching them.
5. Install the bridge between the two bases.



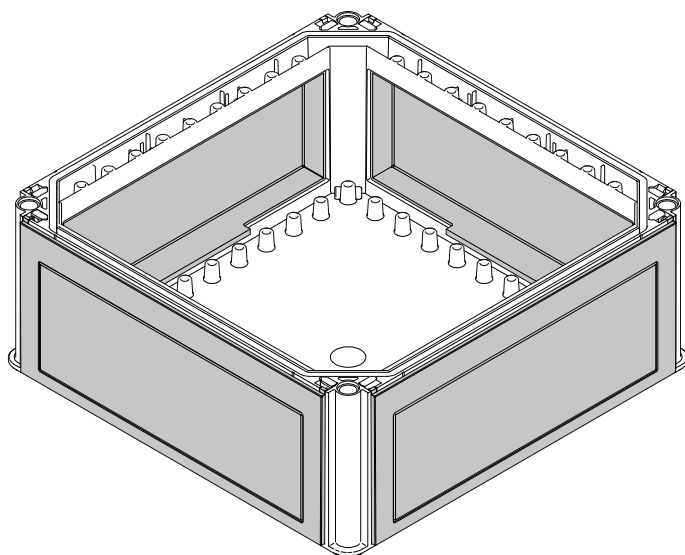
The IP degree is reduced to IP55.

2.8 End plates

Installation of the end plate:

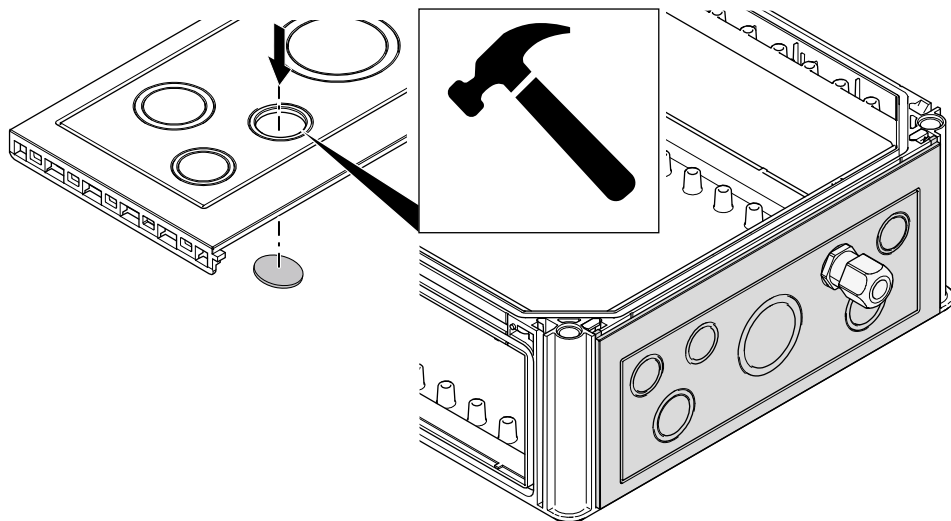


1. Lock the end plate by means of two locking pins, insert them simultaneously.
2. Position the end plate in the bottom of the base opening. Snap the plate completely in the opening.
3. When necessary, remove the coupling dowels easily by lifting them with a flathead screwdriver.

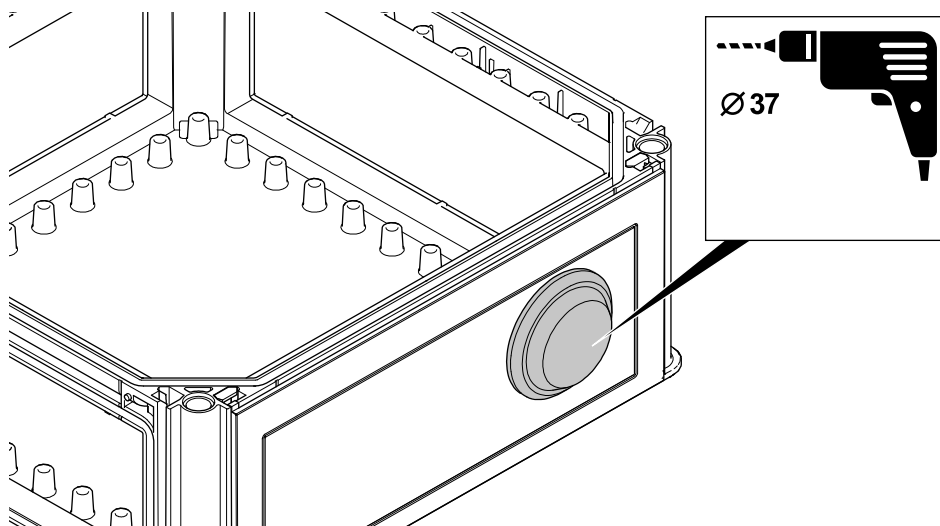


2.9 Cable gland installation

Installation of the cable gland in the end plate:



Installation of the air vent:



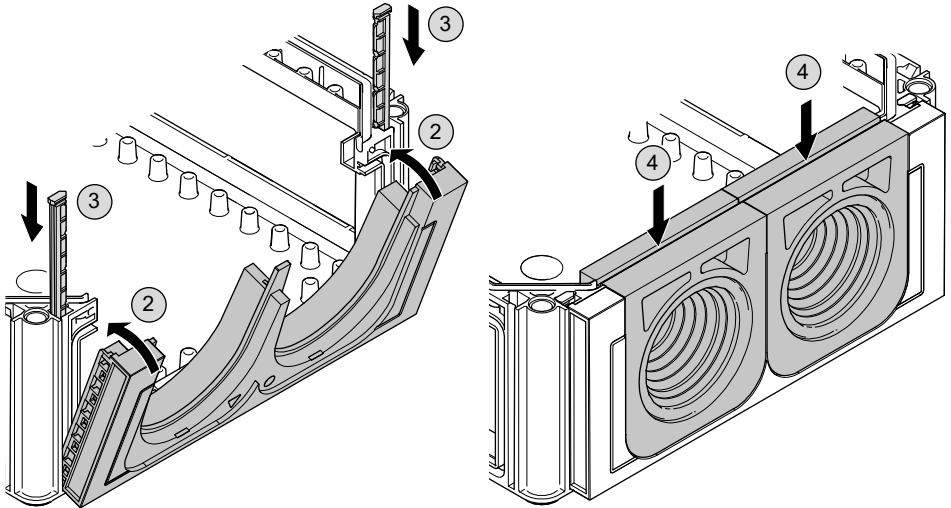
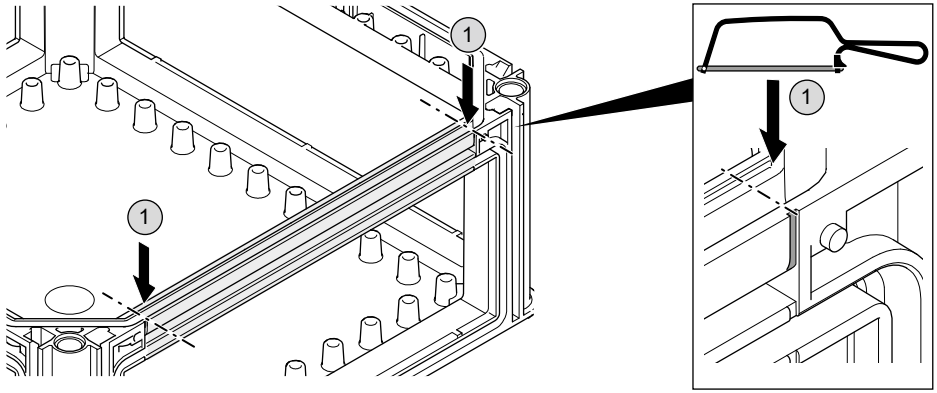
1. Drill a $\varnothing 37$ mm hole, install the air vent and screw the nut tight.



The IP degree is reduced to IP45.

2.10 Cable entries

Mounting of the cable end plate:



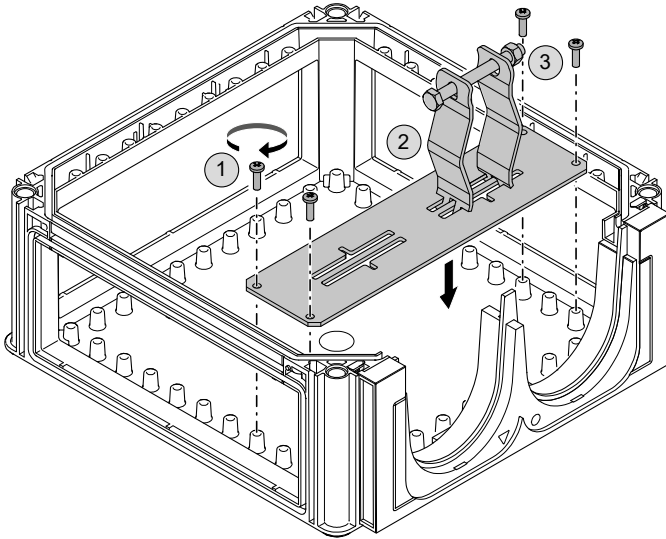
1. Cut the top base lip following the marks.
 - Side 320 - opening is 220 mm.
 - Side 440 - opening is 320 mm.
2. Install the end plate in the channel of the base bottom, then press against the side wall.
3. Lock the end plate with the locking pins.
4. Insert the rubber cable entries in the end plate.



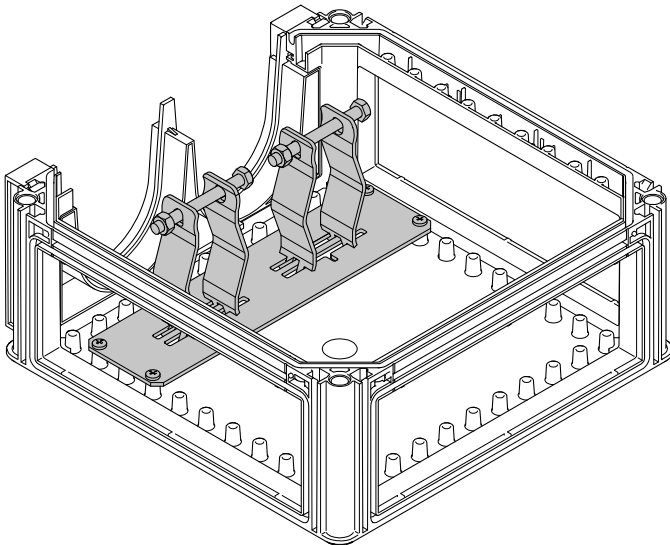
The IP degree is reduced to IP43.

2.11 Cable stress relief

Installation of the stress relieving cable clamp:



1. Install the cable grip support with the four self tapping screws (max. 3.2 Nm).
2. Install the cable grip clamps in the slots.
3. Lock with the bolt and nut.

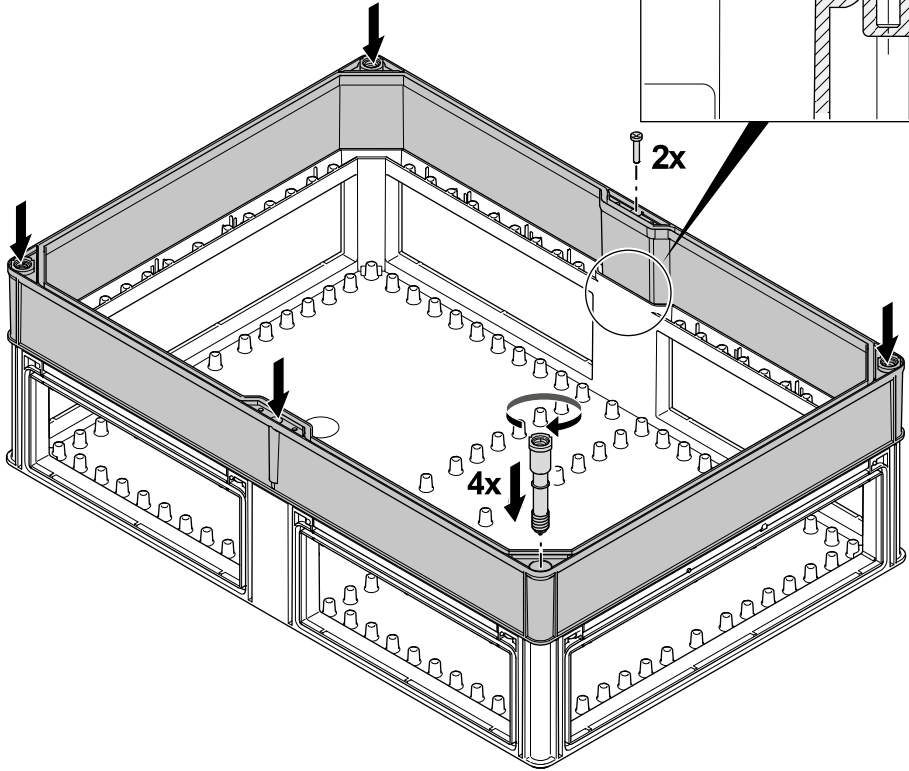
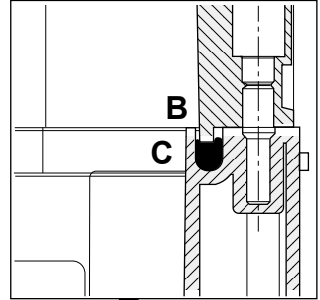


2.12 Extension frame

Installation of the extension frame:



When assembling the extension frame on the base, ensure to properly align the rib (B) with the PUR-gasket (C).



Before extension frame installation, install mounting brackets on the base or install base on the wall or on the supporting frame.

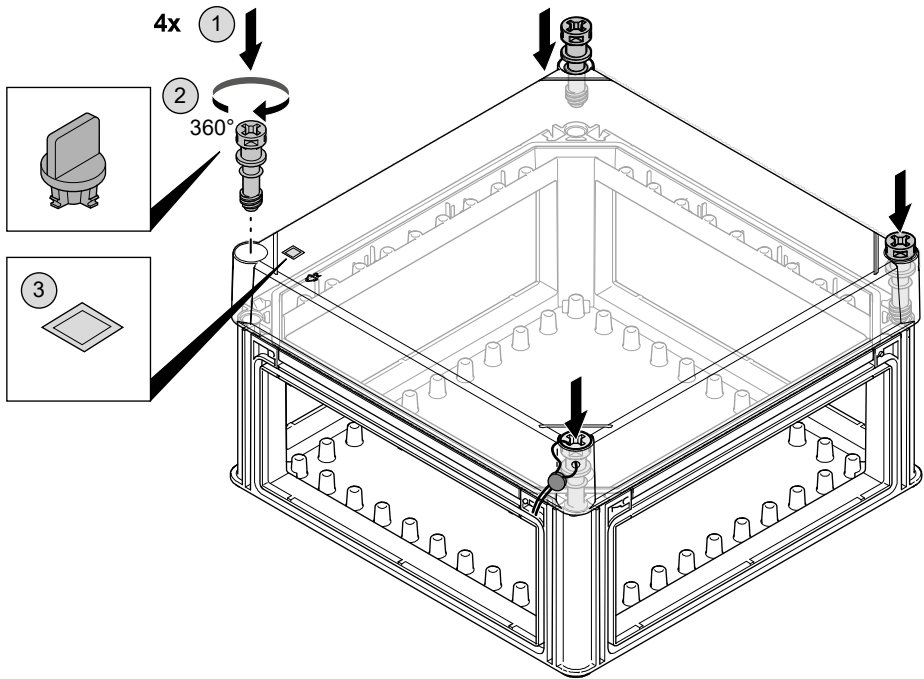
1. Snap the extension frame screws in the four frame corners. The screws are then captive.
2. Tighten the frame onto the base with the screws (max. 2.5 Nm).



For the extension frames with 640 mm side, there is additional fixation with two self tapping screws (A). Align the parallel extension frame towards the base!

2.13 Fixed cover installation

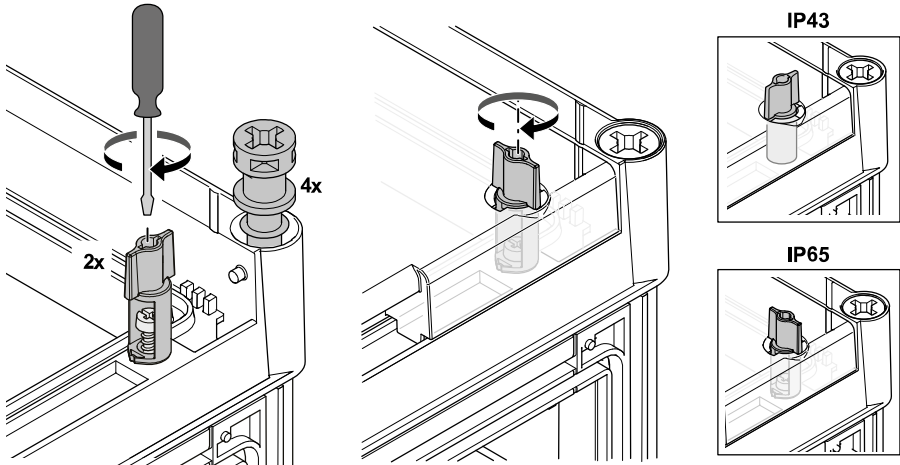
Installation of the cover:



1. Snap the cover screws in the four box cover corners. The screws are then captive.
2. Fit the box cover on the base (one turn on screws, max. 2.5 Nm).
3. If necessary, stick the total isolation symbol on the box cover.

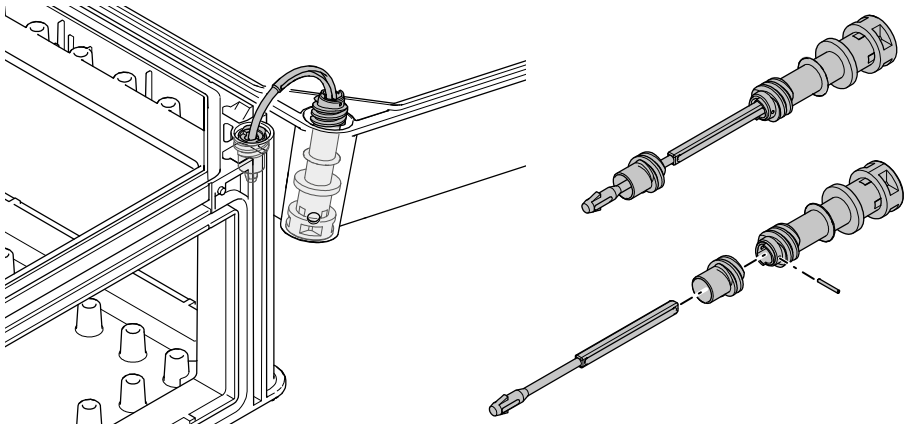
2.14 Hinged cover installation

Mounting of the pivoting doors:



Install the two door locking screws on the door frame with self tapping screws.

Installation of the hinges:



Before installation of the hinged screws, install mounting brackets on the base or install base on the wall or on the supporting frame.

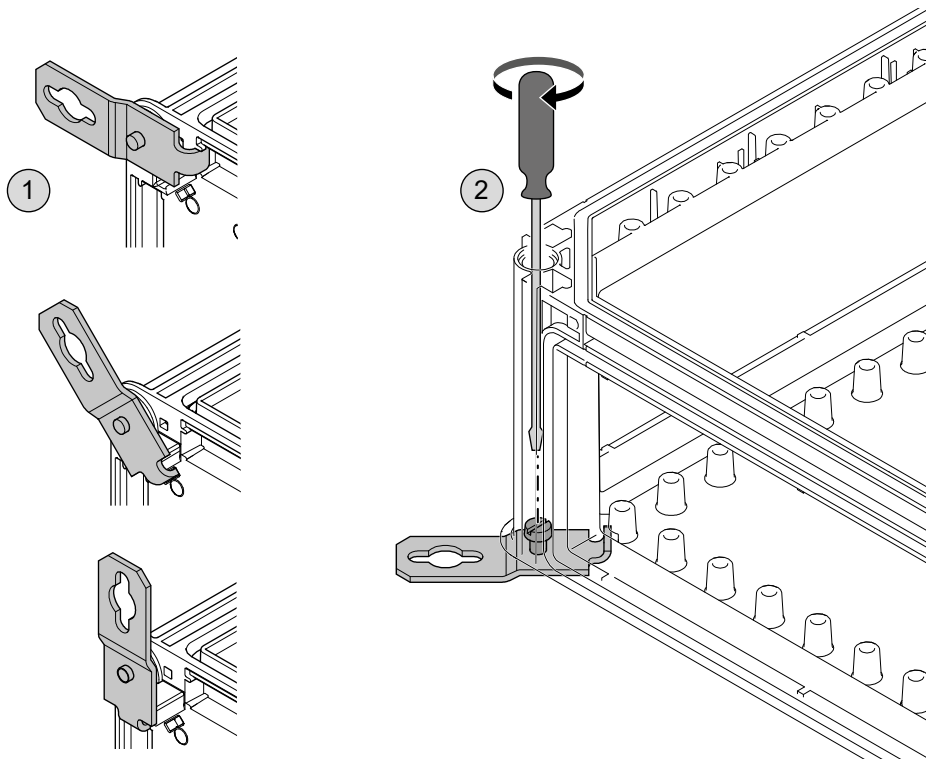
1. Assemble as indicated.
2. Introduce the hinges in the screw holes of the cover.
3. Insert in the base corners and turn the screw until locked (360°)

2.15 Mounting brackets



Can be mounted in 0°, 45° or 90° orientation.

Installation of the mounting brackets:



1. Fit the mounting bracket in the proper orientation (0°, 45°, 90°).
2. Screw through the base corner holes.

2.16 Wall mounting frame

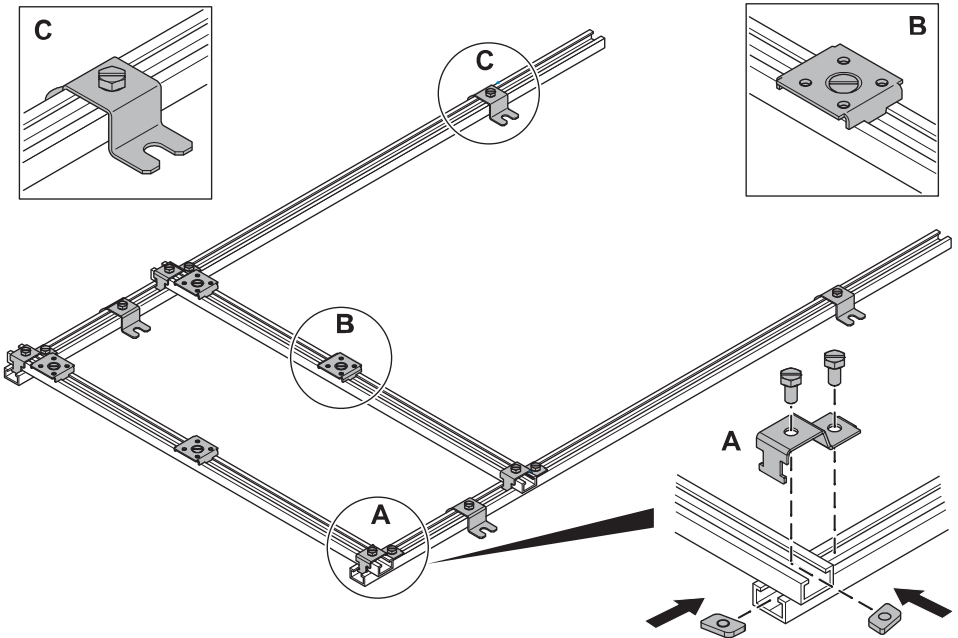


Preliminary notes:

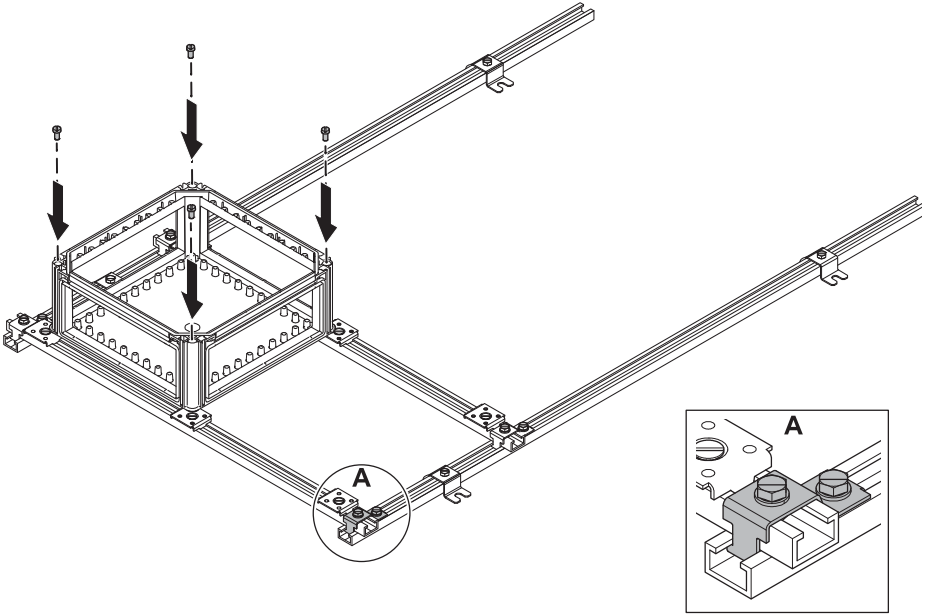
- Fixing small units onto the wall can be done using the stainless steel mounting brackets (see section 2.15).
- To transport and fix units with more than five bases, the use of a frame is essential.
- The frame includes at least two horizontal C-profiles (of an equal length to the width of the unit) and vertical C-profiles (equal to the number of rows +1).
- If the unit exceeds a height of 1000 mm, three horizontal C-profiles are required.
- The vertical C-profiles are 140 mm longer than the height of the assembled panel.
- The horizontal C-profiles are 60 mm longer than the width of the assembled panel.
- The frame and the unit are to be built simultaneously.

Building of the wall mounting frame:

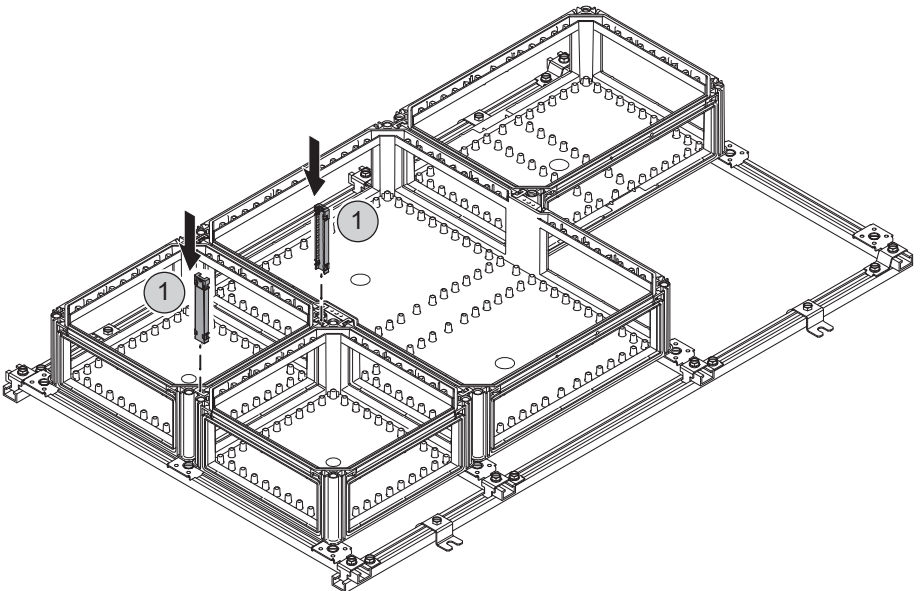
1. The horizontal and vertical C-profiles of the first row of bases are attached to each other by clamping brackets with sliding nuts (A).
2. The following clamping brackets for wall mounting (C) are mounted in the same way on the horizontal profile.



3. The first row of bases is then mounted on the vertical profiles with screws on the clamping plates (B) and coupling dowels (1).



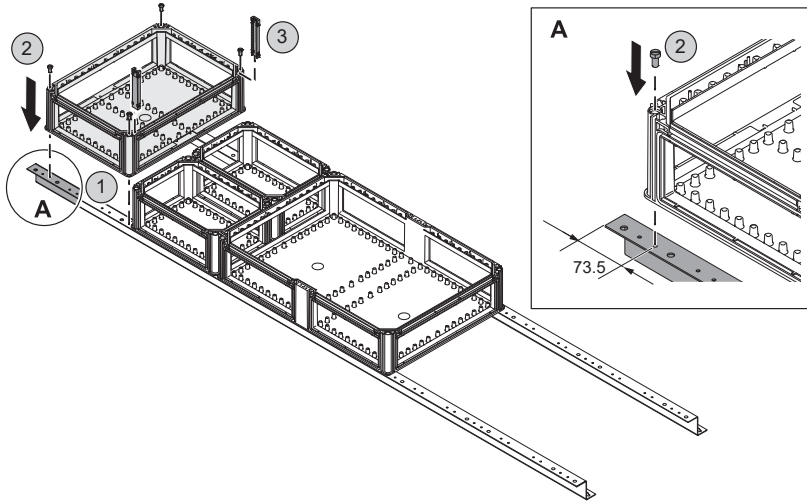
4. The following rows are mounted on the frame in the same way.



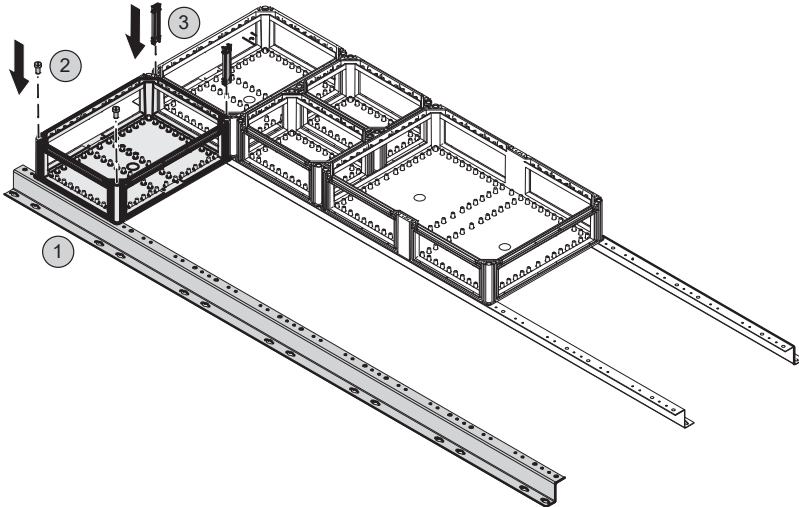
2.17 Floor standing frame

Building of the wall mounting frame:

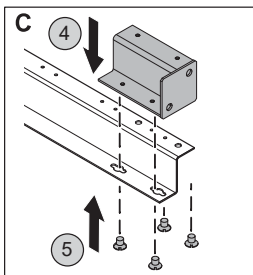
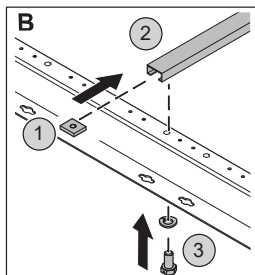
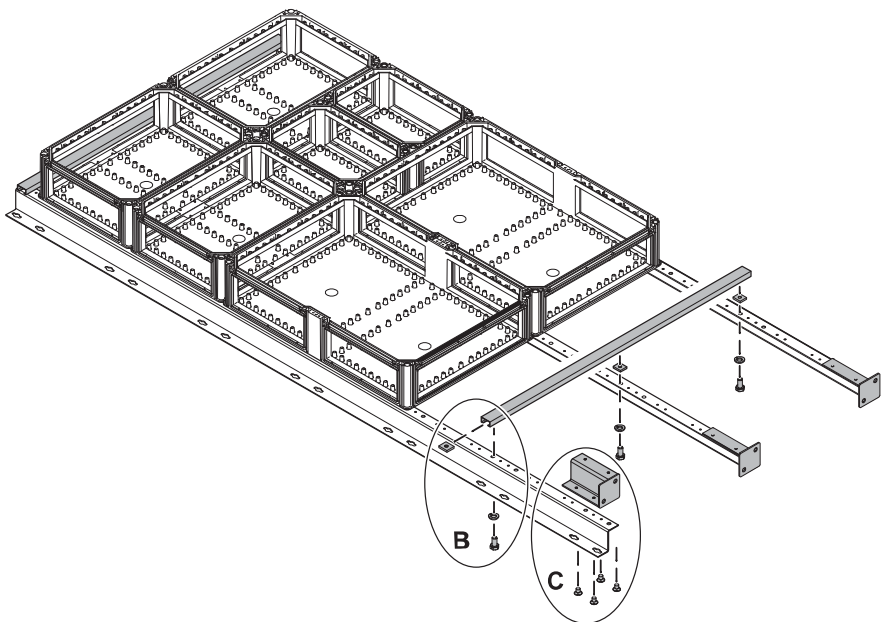
1. Mount one complete vertical row of bases on two Z-profiles (1) with screws (2).



2. The second row of bases will be connected to the first row with coupling dowels (3) and to the next Z-profile with screws.

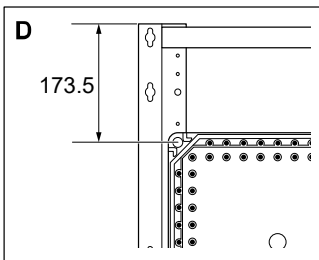
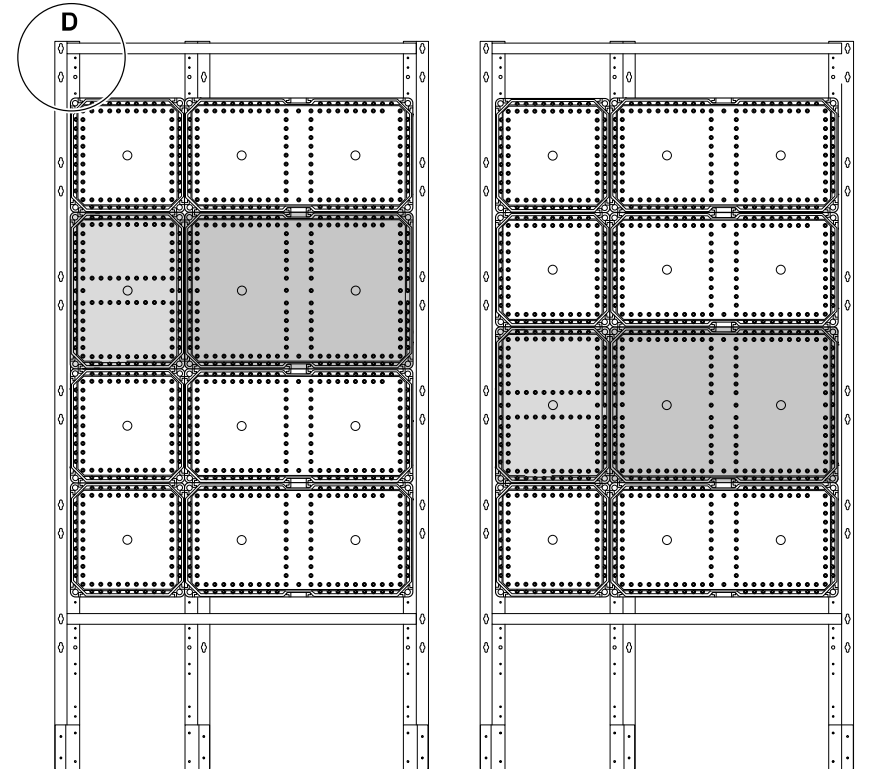


3. Mount two C-profiles with fixation brackets (B).
4. Finalize the assembly by mounting the stand supports (C).



Exception:

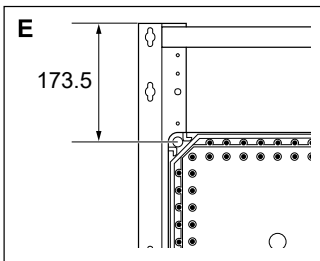
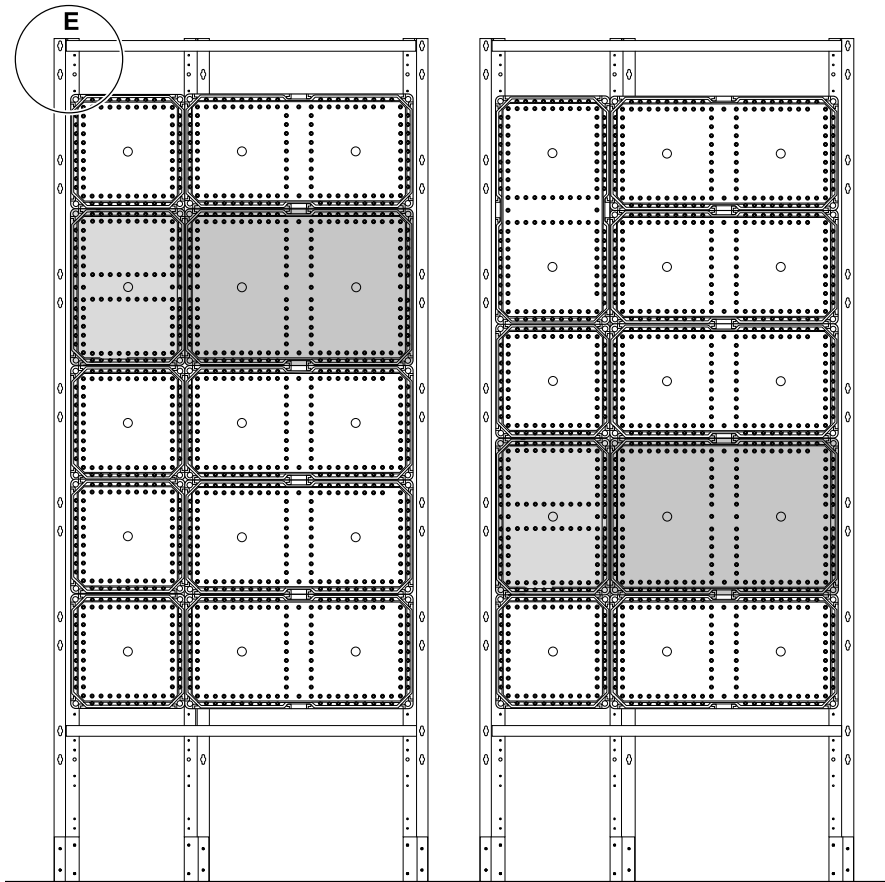
Mounting of a vertical VMS43 or horizontal VMS64 base on frame with height 2040 mm:



Within one complete assembly, there can only be one horizontal row of vertical VMS43 or horizontal VMS64 bases.

Exception:

Mounting of a vertical VMS43 or horizontal VMS64 base on frame with height 2360 mm:



Within one complete assembly, there can only be one horizontal row of vertical VMS43 or horizontal VMS64 bases.

3 Functional user manuals

OT-OS

9AKK108467A4140



Changeover Switch (COS)

9AKK108467A4137



OT+FH

9AKK108467A4139



XLP/FH on mounting plate

9AKK108467A4143



XLP/D-fuse on busbars

9AKK108467A4144



MCCB

9AKK108467A4142



FSB

9AKK108467A4145





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