

B2.9

CABLING MODULE ASSEMBLY

KYT-070
11/2021

Update Notes

■ Contents

Tools&Equipment Informations

Tool Symbol Guide.....	4
Torque Table.....	5
Screw/Bolt/Special Parts for Assembly.....	6
1 Main Busbar Assembly	
1.1 4 Flat Bar Assembly (Top).....	7
1.2 2 Flat Bar Assembly (Top)	11
2 Earthing Bar Assembly.....	15
3 Sisscile Rail Assembly.....	17
4 Cabling Side Profile/Cover Assembly.....	18
4.1 Cabling Side Profile Assembly(Form-1).....	19
4.2 Cabling Side Cover Assembly(Form-2/3/4).....	20
5 Busbar Gap Closer Assembly(Form-2/3/4).....	23
6 Vertical Bar (PE/N) Assembly	
6.1 Vertical Bar (PE/N) Assembly(Form-1).....	24
6.2 Vertical Bar (PE/N) Assembly(Form-2/3/4).....	27
7 Busbar Separation Shelf- Front Cover Assembly	
7.1 Busbar Separation Shelf Assembly.....	30
7.2 Neutral Bar Insulation Kit Assembly.....	31
7.3 Busbar Separation Cover Assembly.....	33
8 Top Cover Assembly.....	34
9 Rear Panel Assembly	
9.1 Rear Panel Assembly.....	35
9.2 Rear Panel Assembly (Top-Rear Cabling).....	37
10 Solid Door Assembly	43
11 Side Panel Assembly.....	46

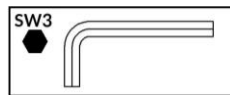
Tools Symbol Guide



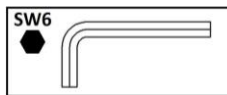
Cross



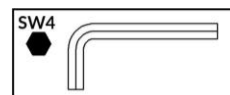
Slot



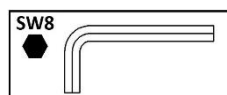
M4 Allen Key



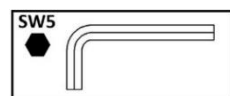
M8 Allen Key



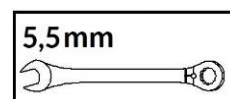
M5 Allen Key



M10 Allen Key



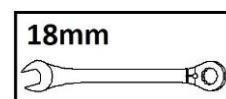
M6 Allen Key



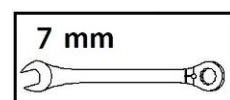
M3 Spanner



M6 Spanner



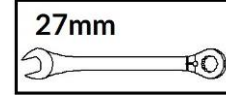
M12 Spanner



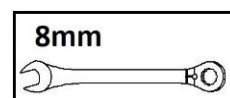
M4 Spanner



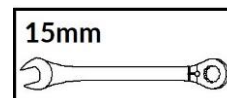
M8 Spanner



M18 Spanner



M5 Spanner



M10 Spanner

Caution: For safety precaution ; Protective gloves and equipments must be used while assembly.

As additional tools for assembly;

- Torque wrench features:
 - ✓ Tightening torque : 75 N.m
 - ✓ It has a reduced thickness, can be easily used to access non accessible joints/fishplates and between busbars.
- Torque wrench an accessories:
 - ✓ Wrench shaft - mandatory
 - ✓ Extra-thin pawl adapter - mandatory
 - ✓ Pawl for ordinary sockets
- Extra-thin sockets for pawl + shaft:
 - ✓ 13 mm extra-thin low socket
 - ✓ 13 mm extra-thin high socket
 - ✓ 15 mm extra-thin low socket
 - ✓ 15 mm extra-thin high socket
 - ✓ 18 mm extra-thin low socket
 - ✓ 18 mm extra-thin high socket

■ Torque Table for Screw/Bolt

Recommended tightening torque for mechanical and electrical links 8.8-class screws (with nut + washers)	
Diameter of Screw	Tightening Torque (N.m)
M3	1.5
M4	3.5
M5	7
M6	13
M8	28
M10	50
M12	75

Tightening torque for electrical links on the devices and for their fixing:

Marking varnish:

After tightening each electrical connection to the appropriate torque, apply some varnish:

- ✓ Between the nut and the screw or
- ✓ Between the screw head and the copper bar or
- ✓ Between the device for tightening on a threaded part

Varnish should not block the screw:

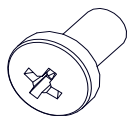
- ✓ It allows operator inspection, to verify if the bolts/ nut are tightened or not.
- ✓ It facilitates the identification of any loose nuts during the switchboard's lifetime.

Varnish features:

- ✓ Coloured acrylic varnish, indelible and able to resist a 150° C temperature.
- ✓ PDS recommends a red varnish as a standard to identify the panelbuilder's work.
- ✓ Other colours can be used by the contractor or any operators entitled to work on the switchboard after its commissioning.

■ Screw/Bolt/Special Parts for Assembly

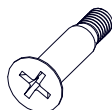
Philips Pan
Head Screw



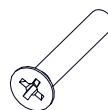
M6x23 Philips Flat
Head Screw (Teos)



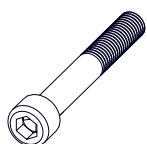
M5x20 Philips Flat
Head Screw (Teos)



Philips Flat Head
Screw



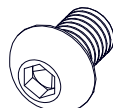
Hexagon Socket Head
Bolt (Half Thread)



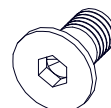
Hexagon Socket
Head Bolt



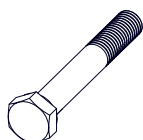
Hexagon Socket
Button Head Bolt



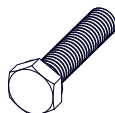
Hexagon Socket
Flat Head Bolt



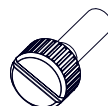
Hexagon Head Bolt
(Half Tread)



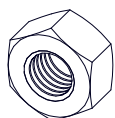
Hexagon Head
Bolt



Internal Door
Knob Bolt



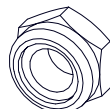
Regular Nut



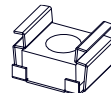
Flange Nut



Previling Torque
Nut



Cage Nut



Plastic Cage
Nut



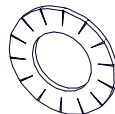
Flat Washer



Spring Lock
Washer



Toothed Lock
Washer

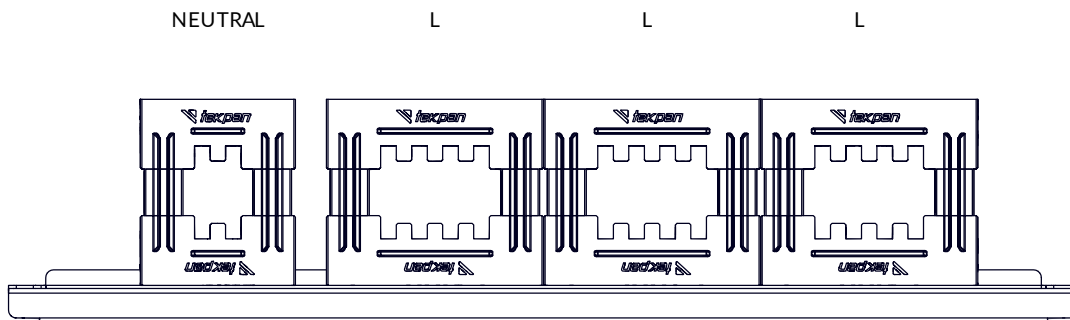
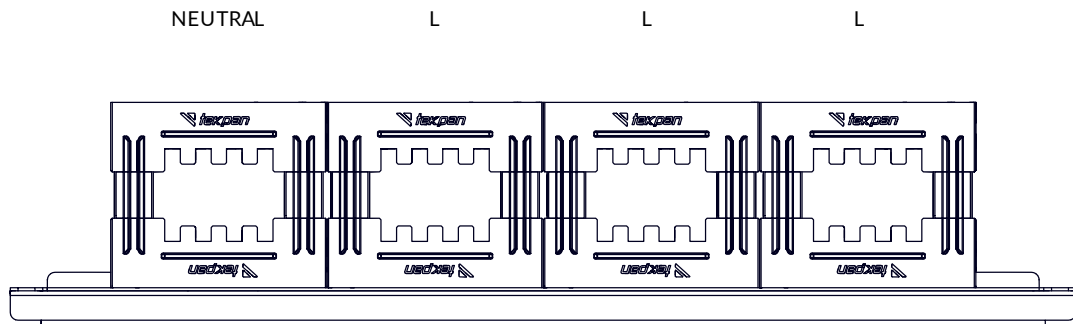
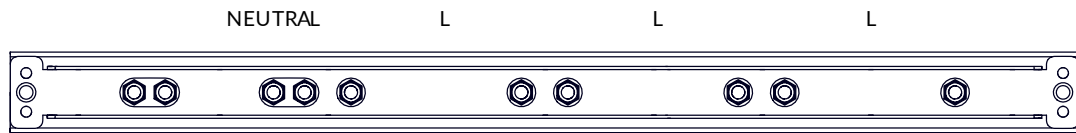
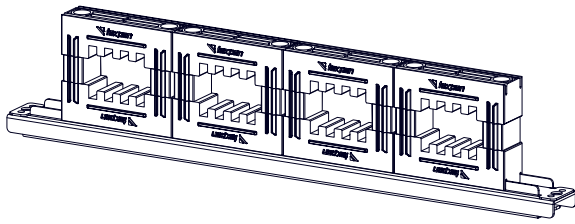


Wedge Lock
Washer



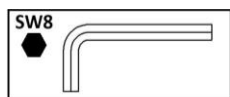
1. BUSBAR ASSEMBLY

1.1 FOUR (4) FLAT BAR ASSEMBLY (TOP)



Neutral Section	Rated Current (In)	Flat Copper Size (mm) xQty	
		L1/L2/L3	Neutral(N)
1/2 N	2500A	40/10x4	40/10x2
1/1 N	2500A	40/10x4	40/10x4
1/2 N	3000A	50/10x4	50/10x2
1/1 N	3000A	50/10x4	50/10x4
1/2 N	3400A	60/10x4	60/10x2
1/1 N	3400A	60/10x4	60/10x4
1/2 N	4000A	80/10x4	80/10x2
1/1 N	4000A	80/10x4	80/10x4

1.1 FOUR (4) FLAT BAR ASSEMBLY (TOP)

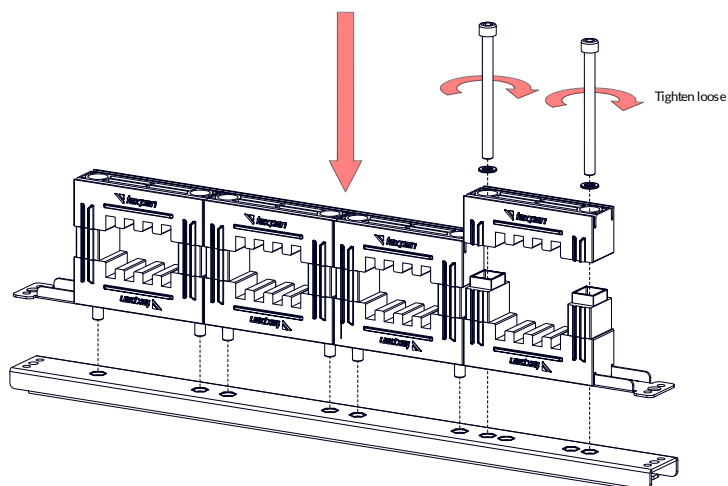
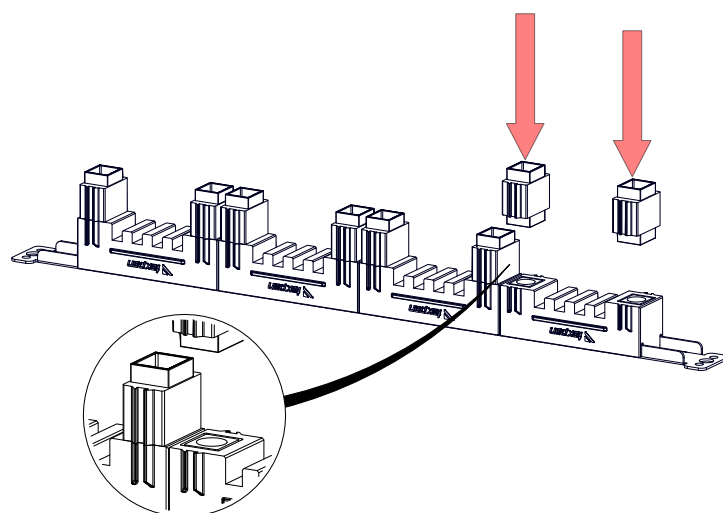
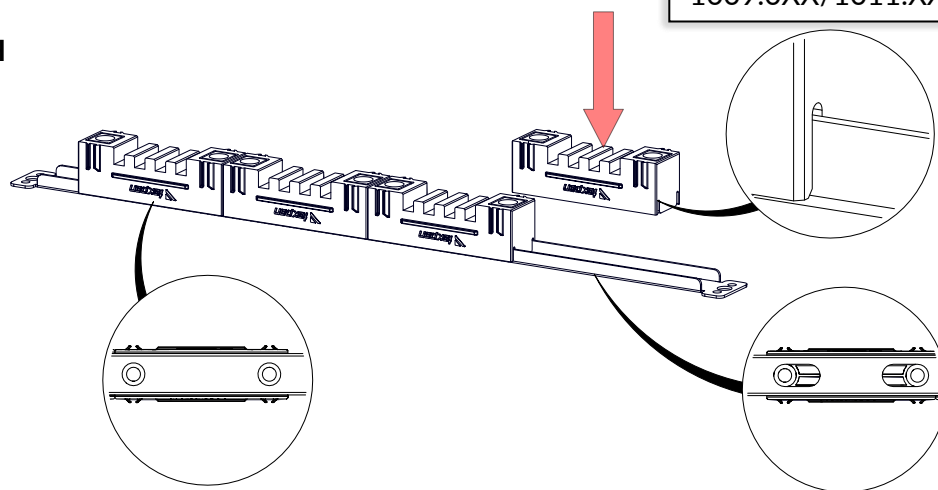


M10x H



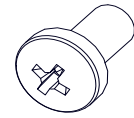
M10

Required Packages:
1010.18X
1009.0XX/1011.XXX

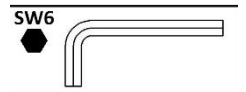
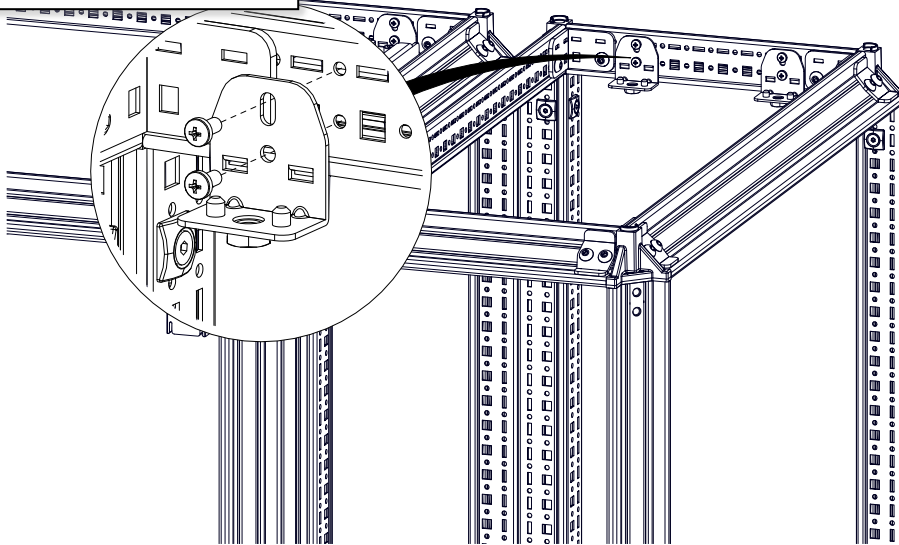


1.1 FOUR (4) FLAT BAR ASSEMBLY (TOP)

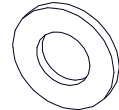
Required Packages:
1010.18X
1009.0XX/1011.XXX



M5X10
2 pcs.



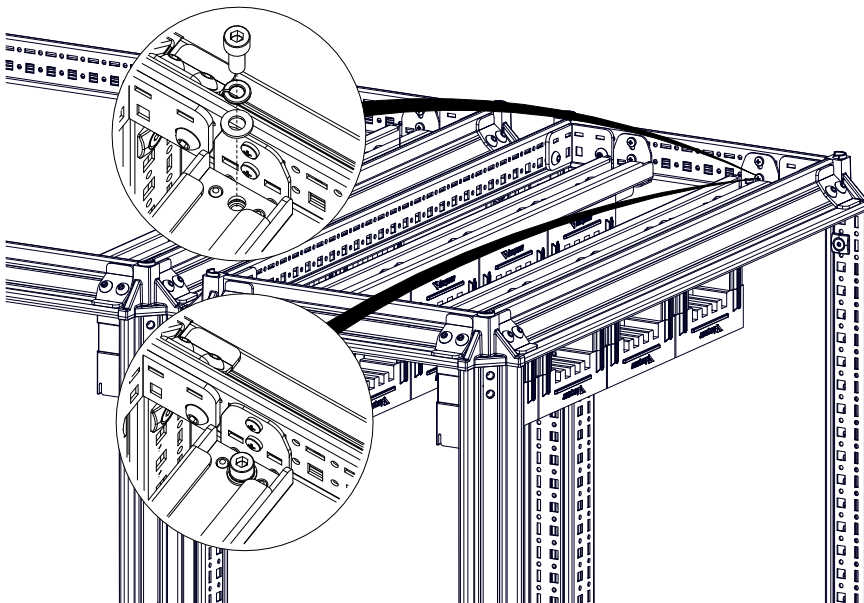
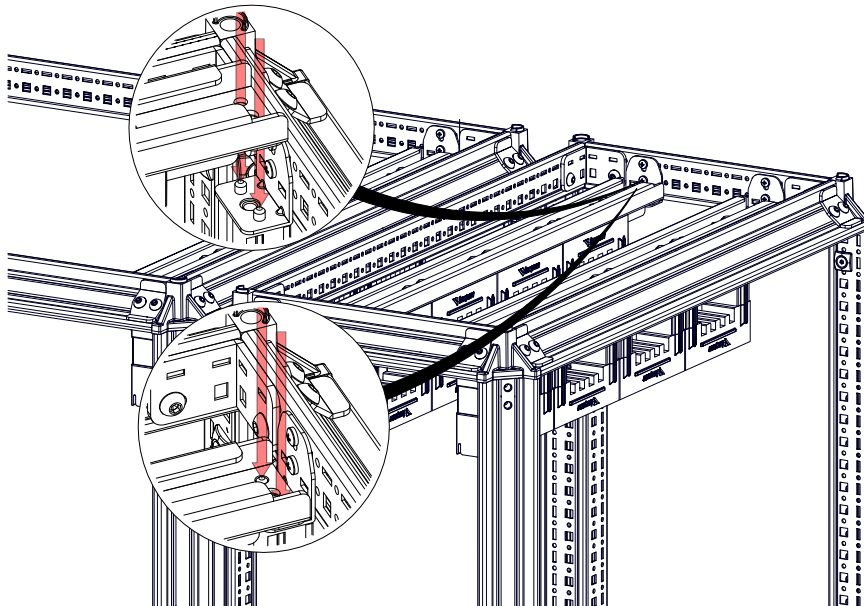
M8x20
1 pcs.



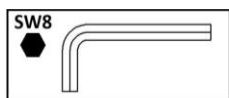
M8
1 pcs.



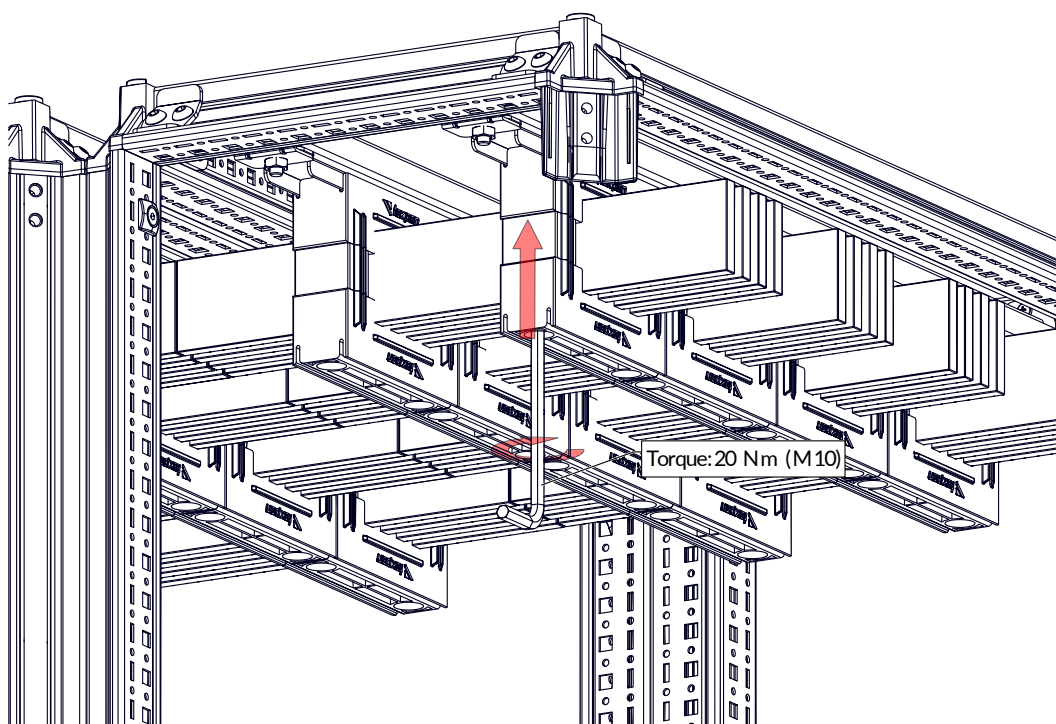
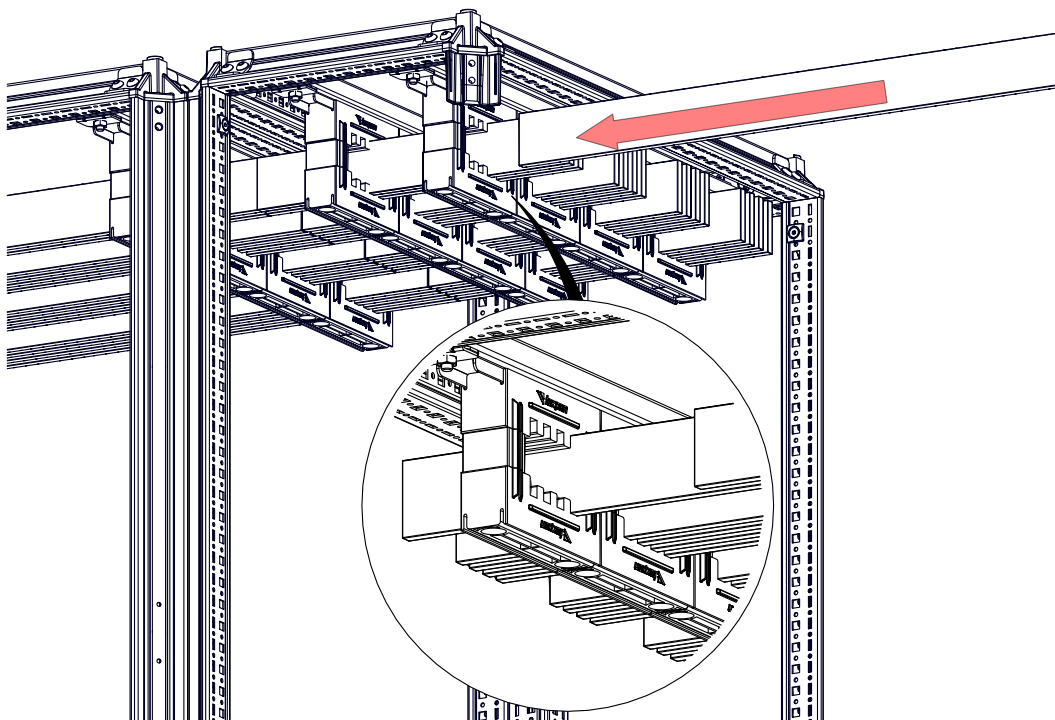
M8
1 pcs.



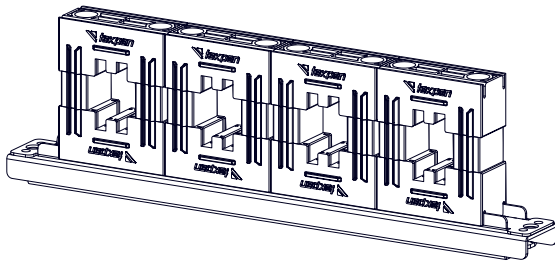
■ 1.1 FOUR (4) FLAT BAR ASSEMBLY (TOP)



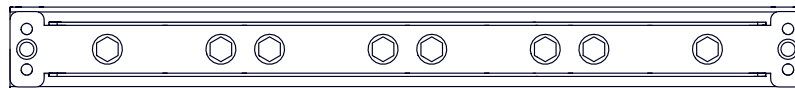
For 65kA and 85kA assemblies are using same steps.
65 kA safety distance between busbar holders Max. 550mm
85 kA safety distance between busbar holders Max. 350mm



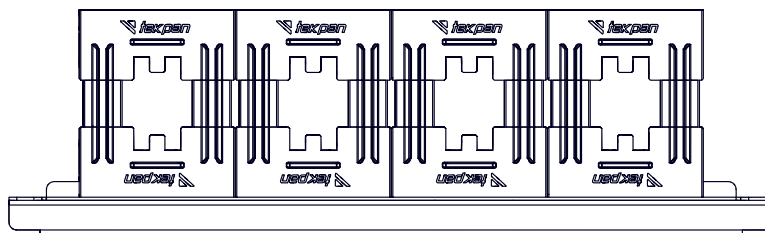
1.2 TWO (2) FLAT BAR ASSEMBLY (TOP)



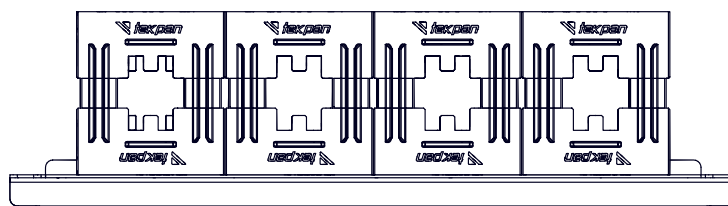
NEUTRAL L L L



NEUTRAL L L L

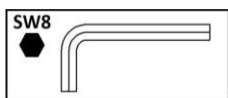


NEUTRAL L L L

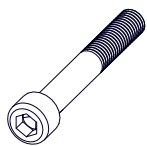


Neutral Section	Rated Current (In)	Flat Copper Size (mm) xQty	
		L1/L2/L3	Neutral(N)
1/2 N	1350A	40/10x2	40/5x2
1/1 N	1350A	40/10x2	40/10x2
1/2 N	1620A	50/10x2	50/5x2
1/1 N	1620A	50/10x2	50/10x2
1/2 N	1860A	60/10x2	60/5x2
1/1 N	1860A	60/10x2	60/10x2
1/2 N	2300A	80/10x2	40/10x2
1/1 N	2300A	80/10x2	80/10x2

1.2 TWO (2) FLAT BAR ASSEMBLY (TOP)



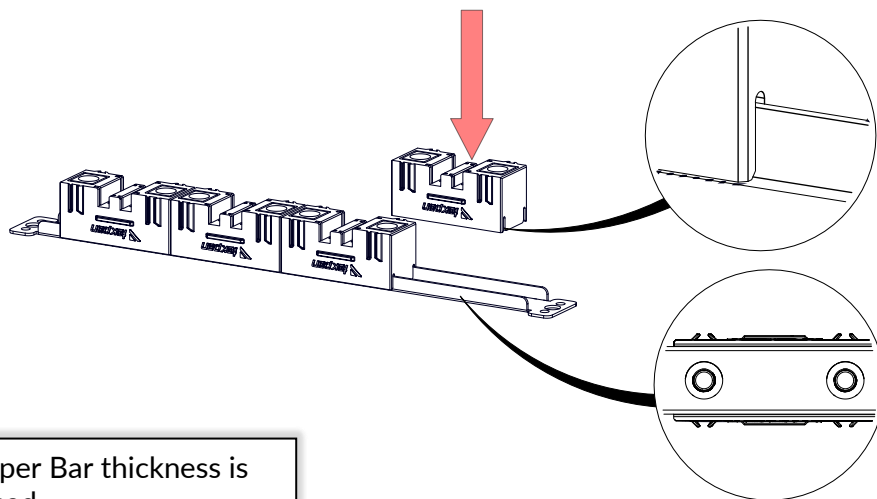
Required Packages:
1010.16X
1009.0XX/1011.XXX/1019.0XX



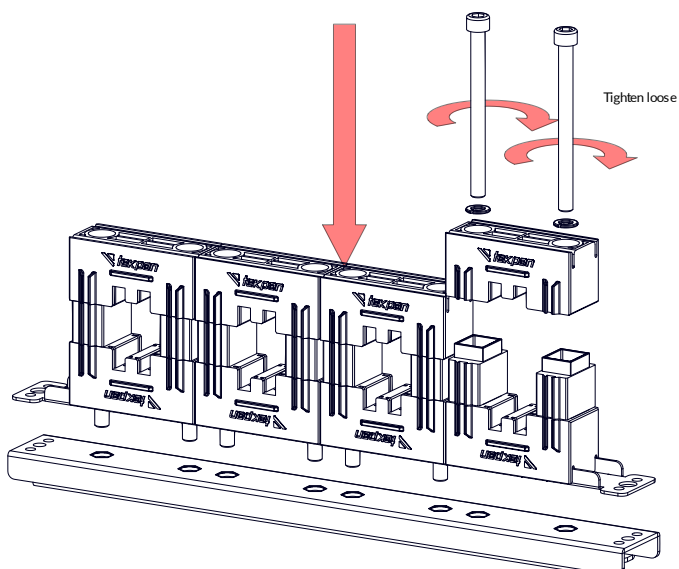
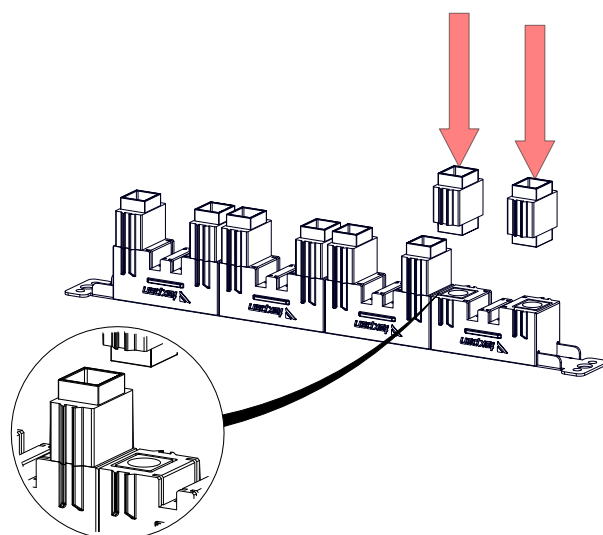
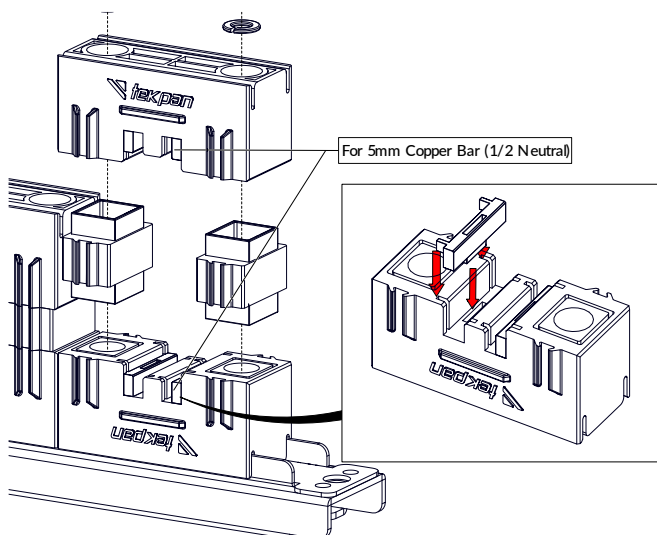
M10x H



M10



If 1/2 Section Neutral Copper Bar thickness is 5mm, Adapter must be used.

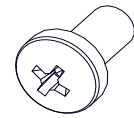
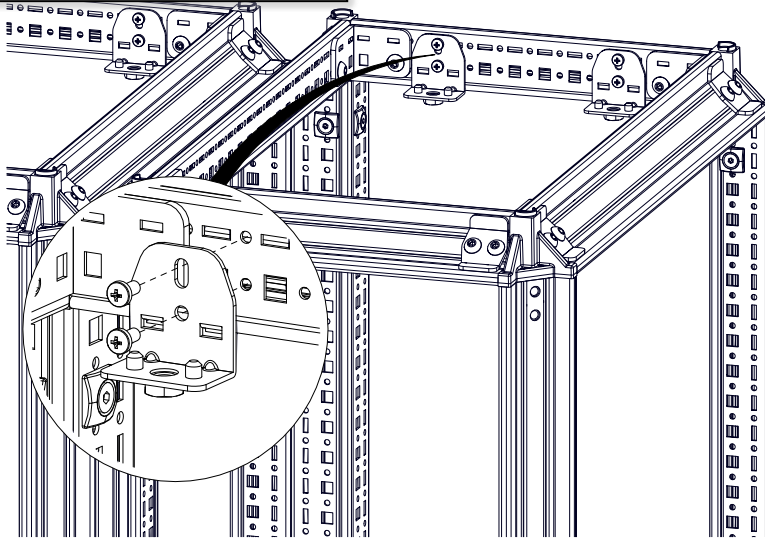


1.2 TWO (2) FLAT BAR ASSEMBLY (TOP)

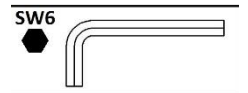
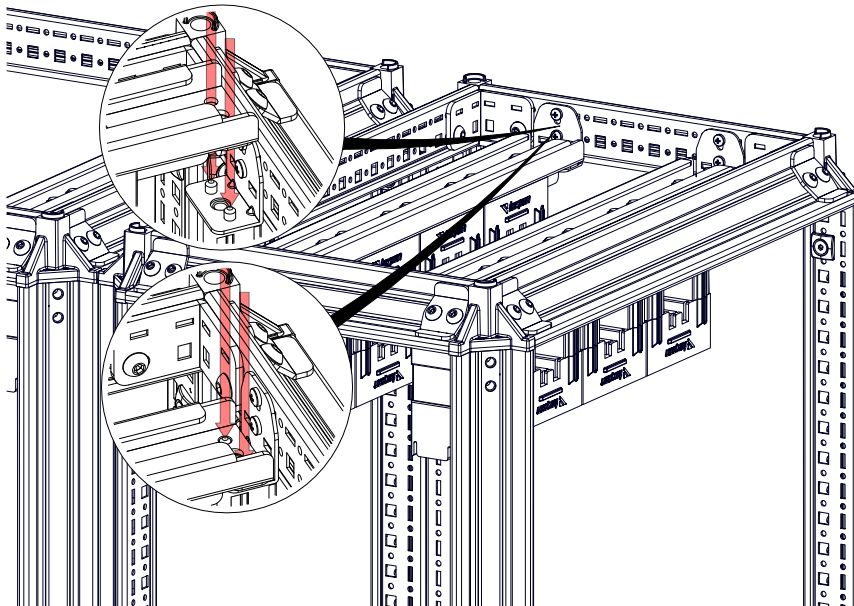
Required Packages:

1010.16X

1009.0XX/1011.XXX/1019.0XX



M5X10



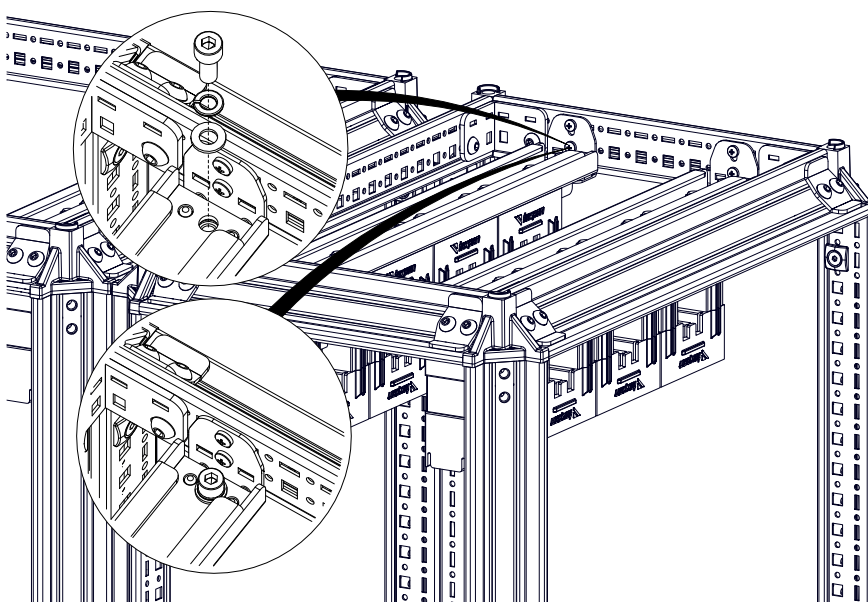
M8x20
1 pcs.



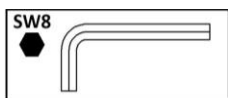
M8
1 pcs.



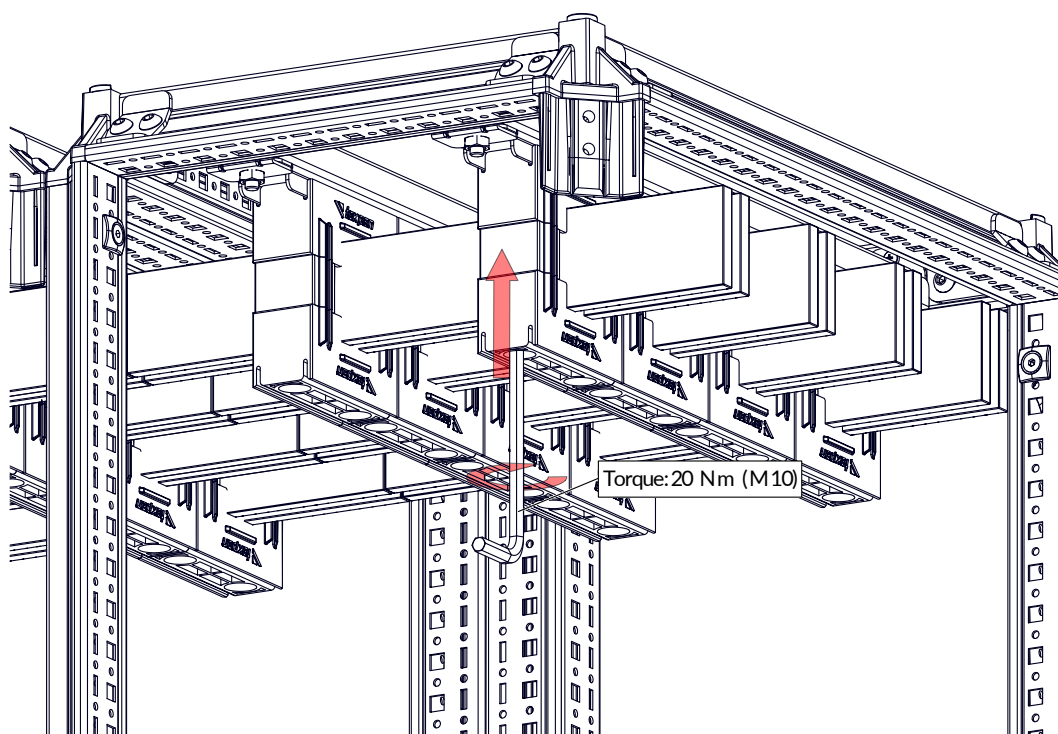
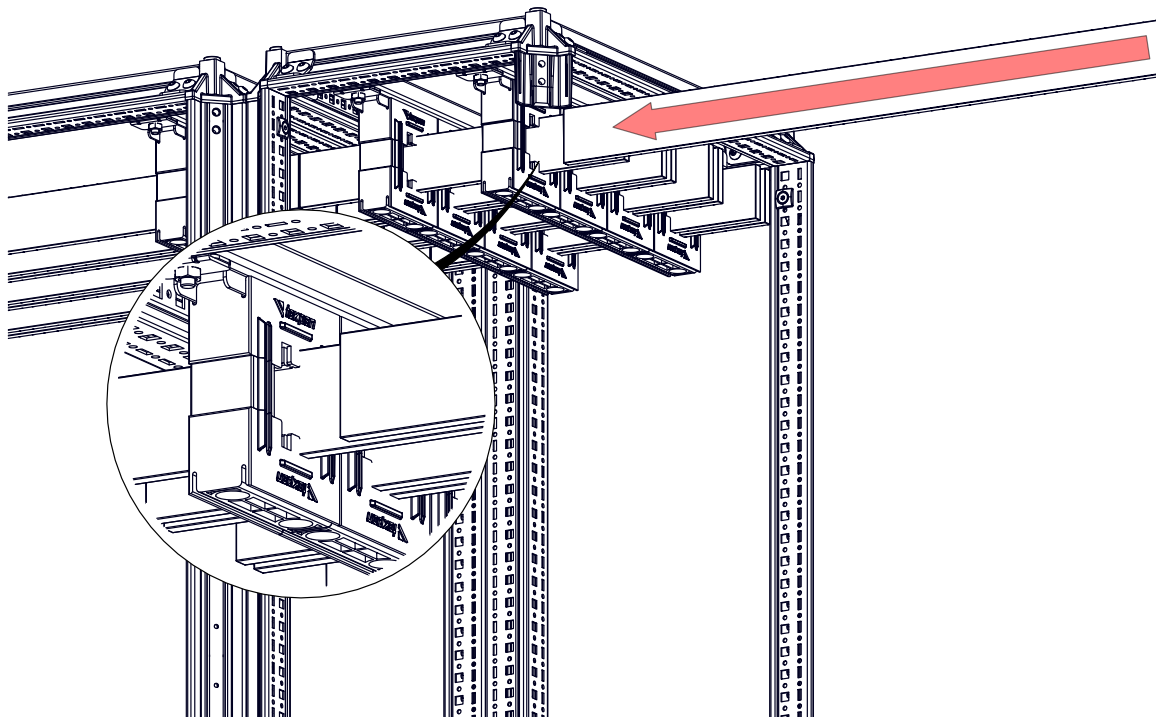
M8
1 pcs.



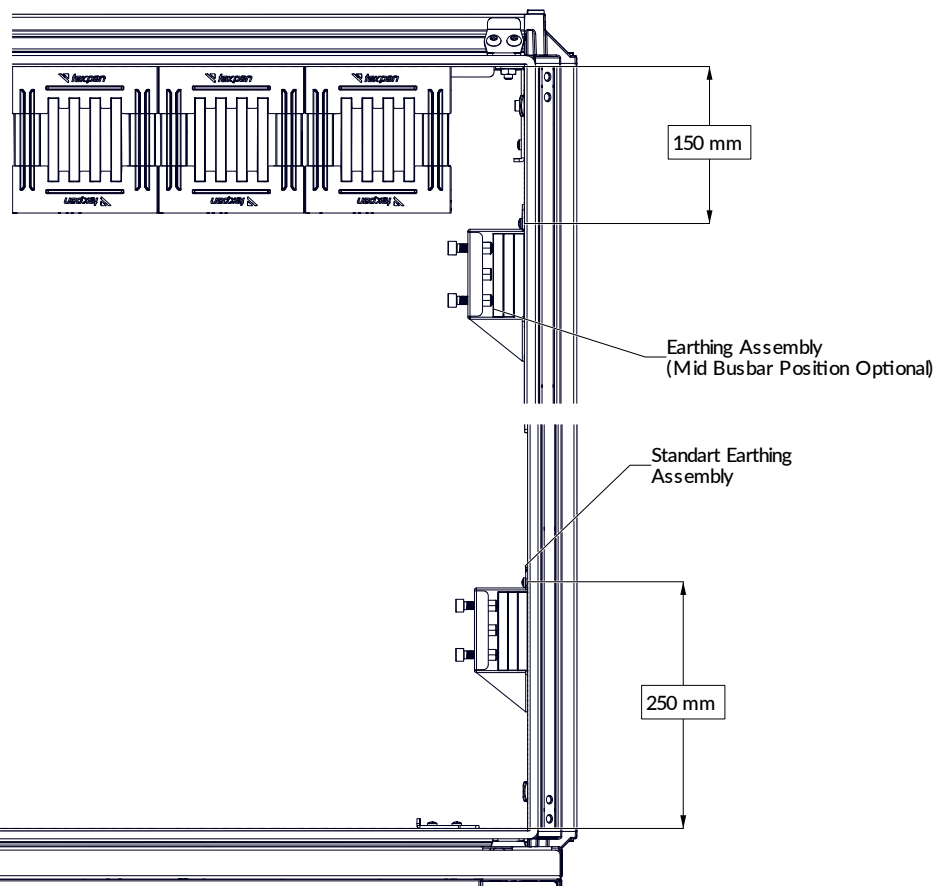
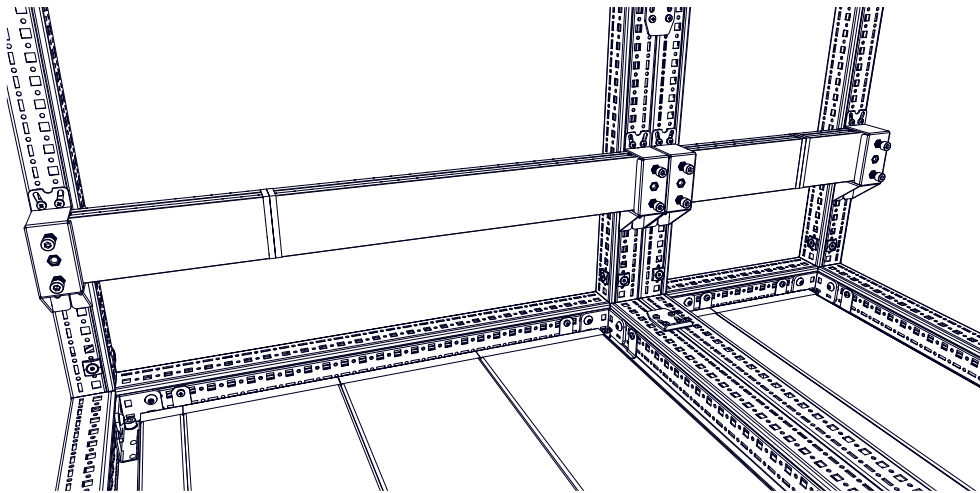
■ 1.2 TWO (2) FLAT BAR ASSEMBLY (TOP)



For 65kA and 85kA assemblies are using same steps.
65 kA safety distance between busbar holders Max. 550mm
85 kA safety distance between busbar holders Max. 350mm



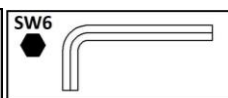
2. EARTHING BAR ASSEMBLY



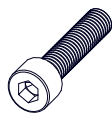
Neutral Section	Rated Current (In)	Flat Copper Size (mm) xQty
		PE
1/2 N	1350A	20/5x2
1/1 N	1350A	40/5x2
1/2 N	1620A	25/5x2
1/1 N	1620A	50/5x2
1/2 N	1860A	30/5x2
1/1 N	1860A	60/5x2
1/2 N	2300A	40/5x2
1/1 N	2300A	40/10x2

Neutral Section	Rated Current (In)	Flat Copper Size (mm) xQty
		PE
1/2 N	2500A	40/5x2
1/1 N	2500A	40/10x2
1/2 N	3000A	50/5x2
1/1 N	3000A	50/10x2
1/2 N	3400A	60/5x2
1/1 N	3400A	60/10x2
1/2 N	4000A	40/10x2
1/1 N	4000A	80/10x2

2. EARTHING BAR ASSEMBLY



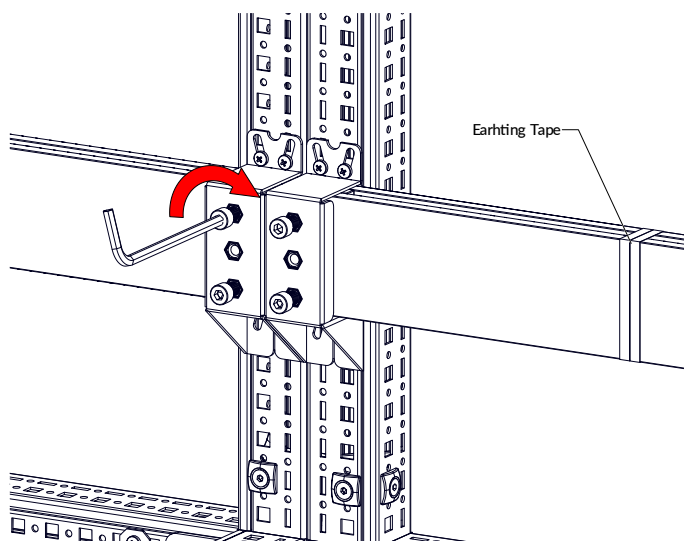
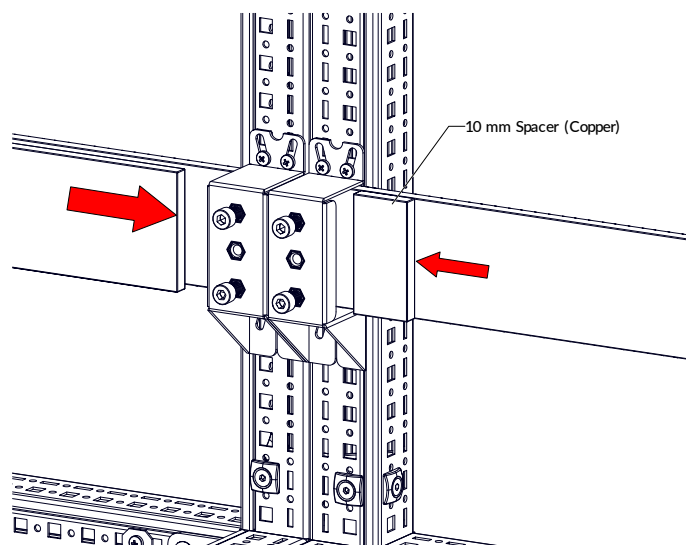
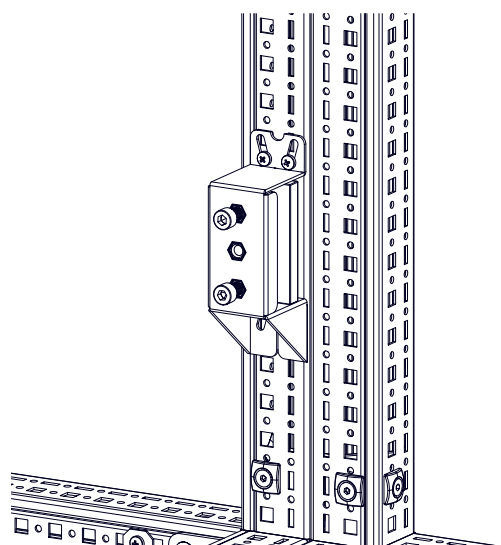
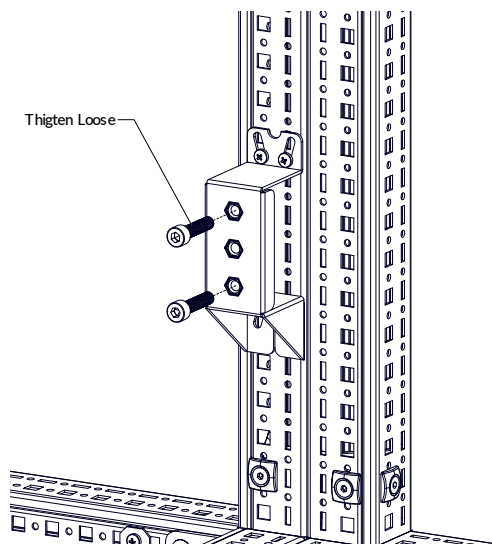
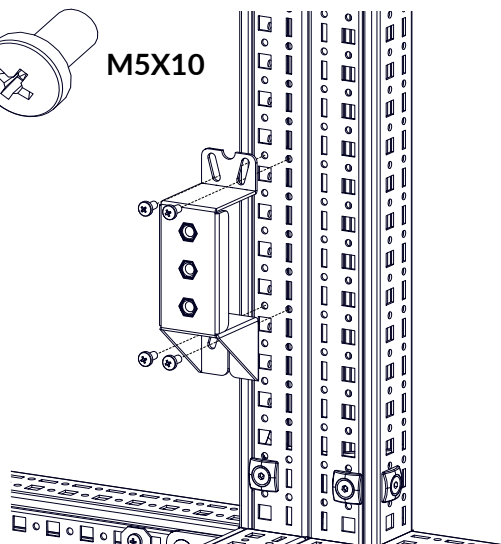
Required Packages:
1012.0XX



M8x25/35



M5X10



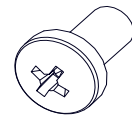
3. SCISSILE RAIL ASSEMBLY

Required Packages:

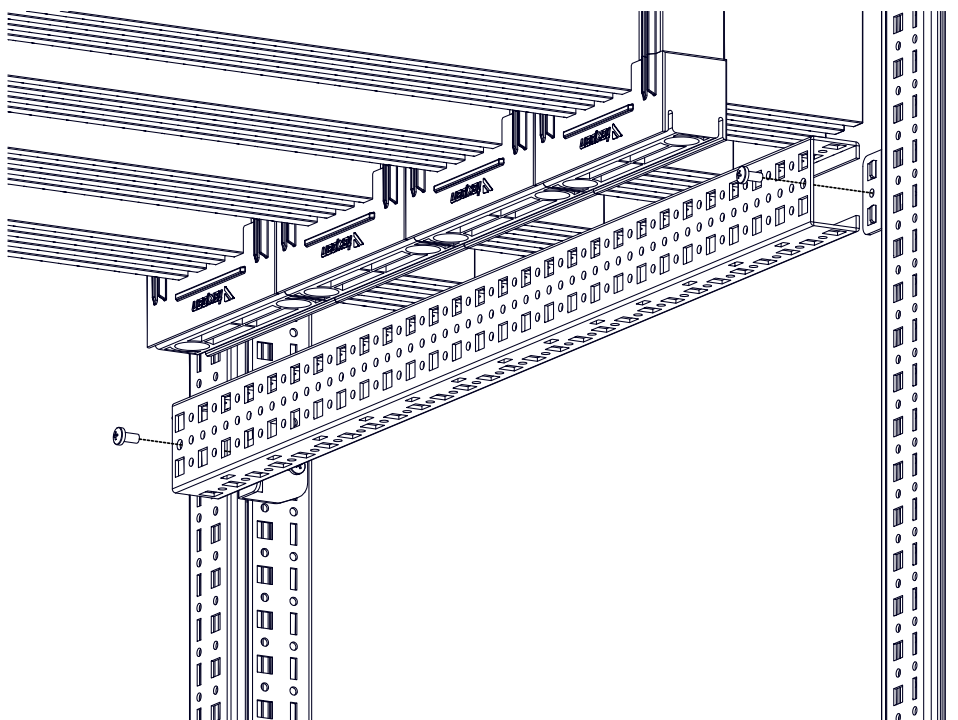
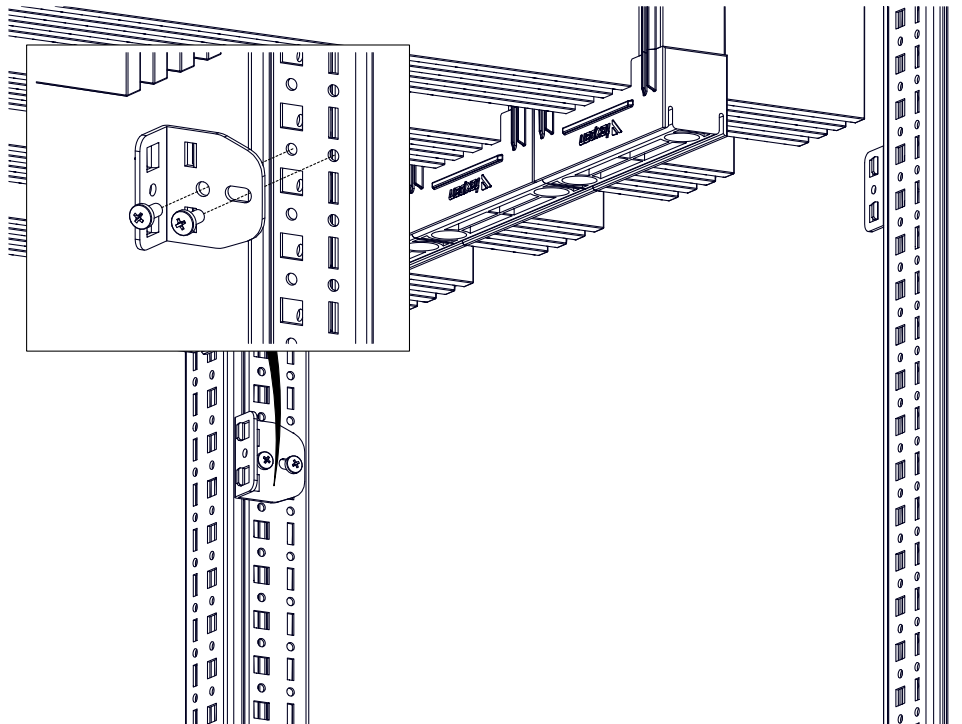
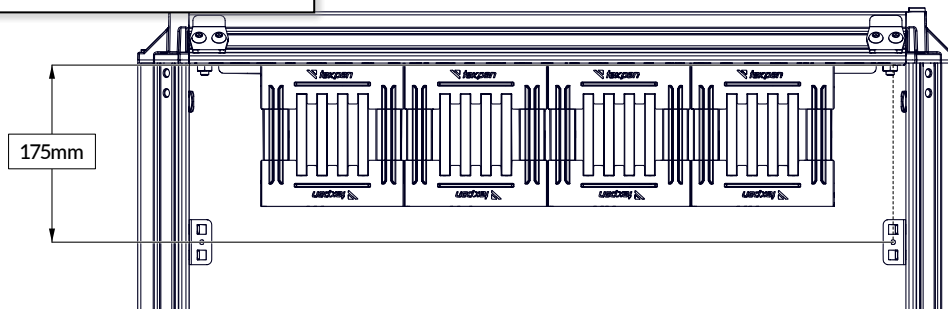
600D:944.424

800D:944.425

Brackets:944.42X

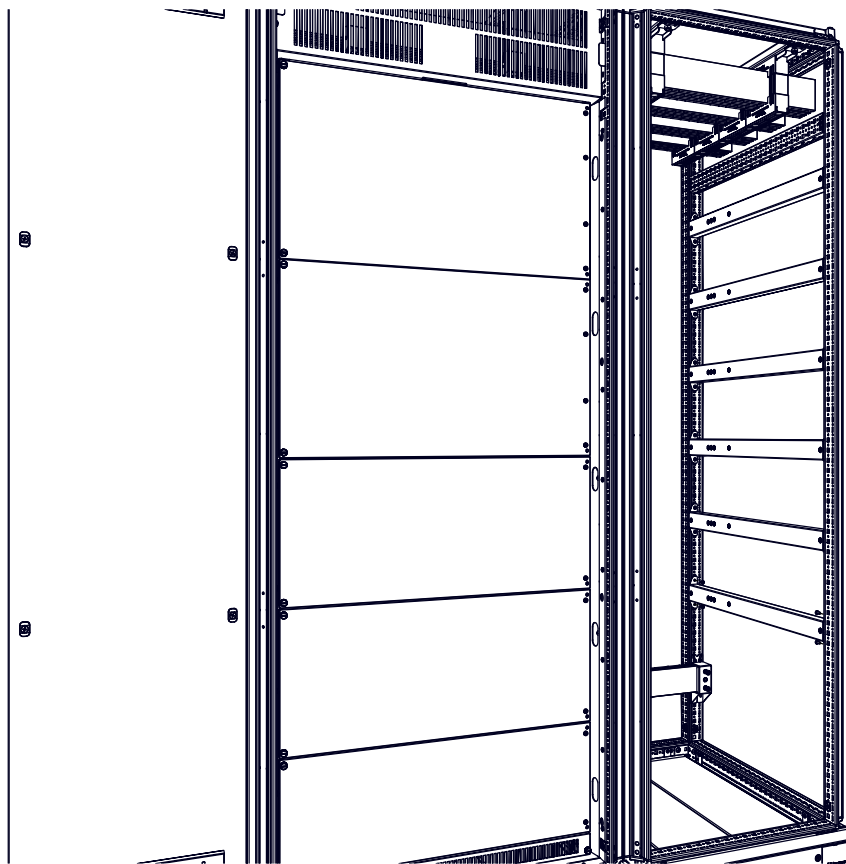


M5X10

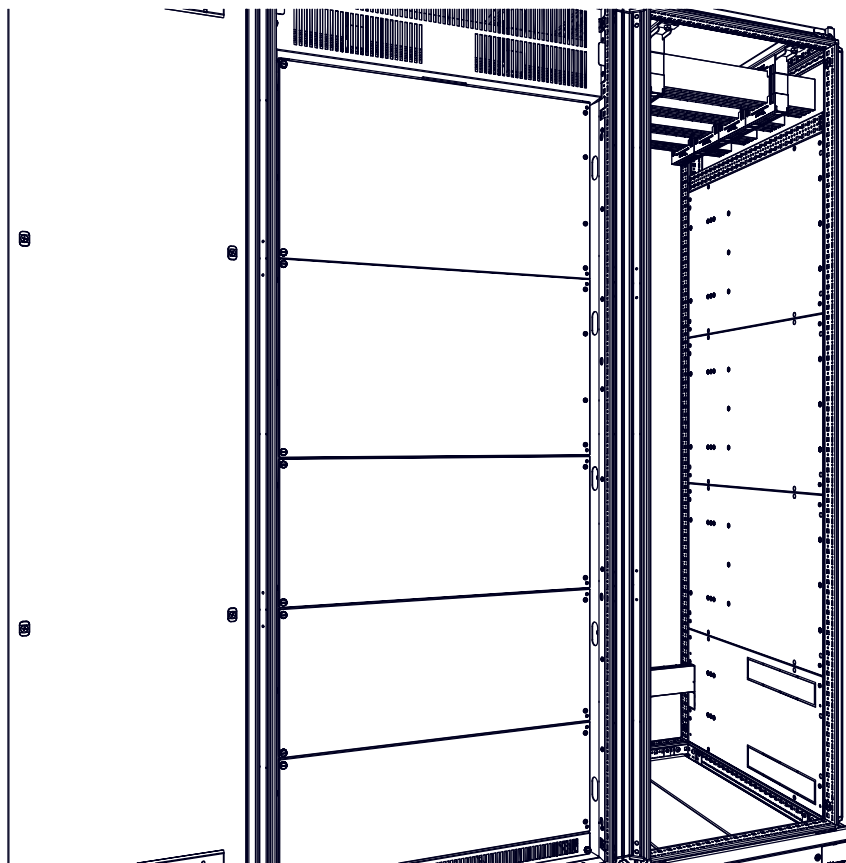


4. CABLING SIDEPROFILE/COVER ASSEMBLY

FORM-1 APPLICATION



FORM-2 up to FORM-4b APPLICATION

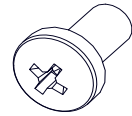


■ 4.1 CABLING SIDE PROFILE ASSEMBLY (FORM-1)

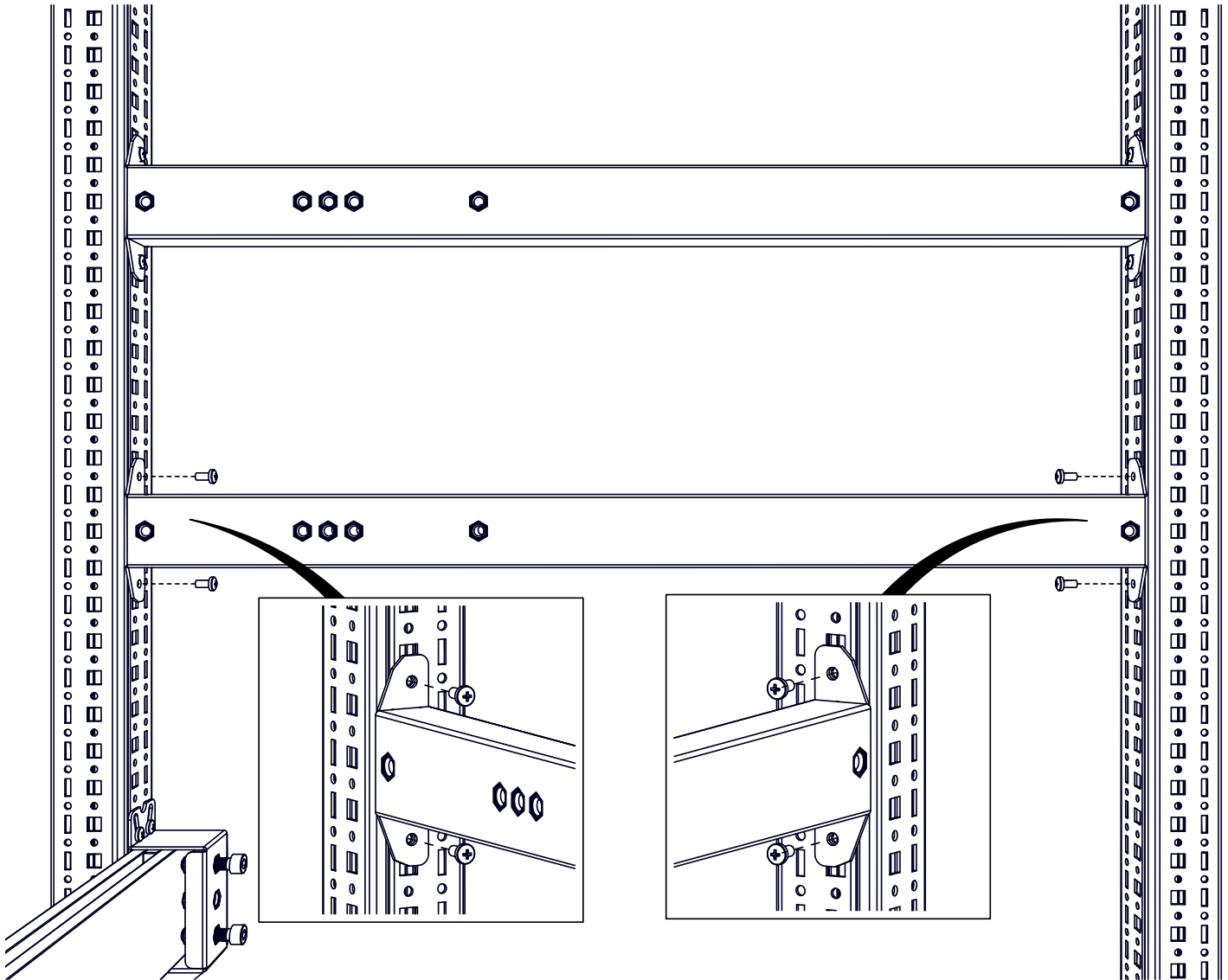
Required Packages:

600D:1025.160

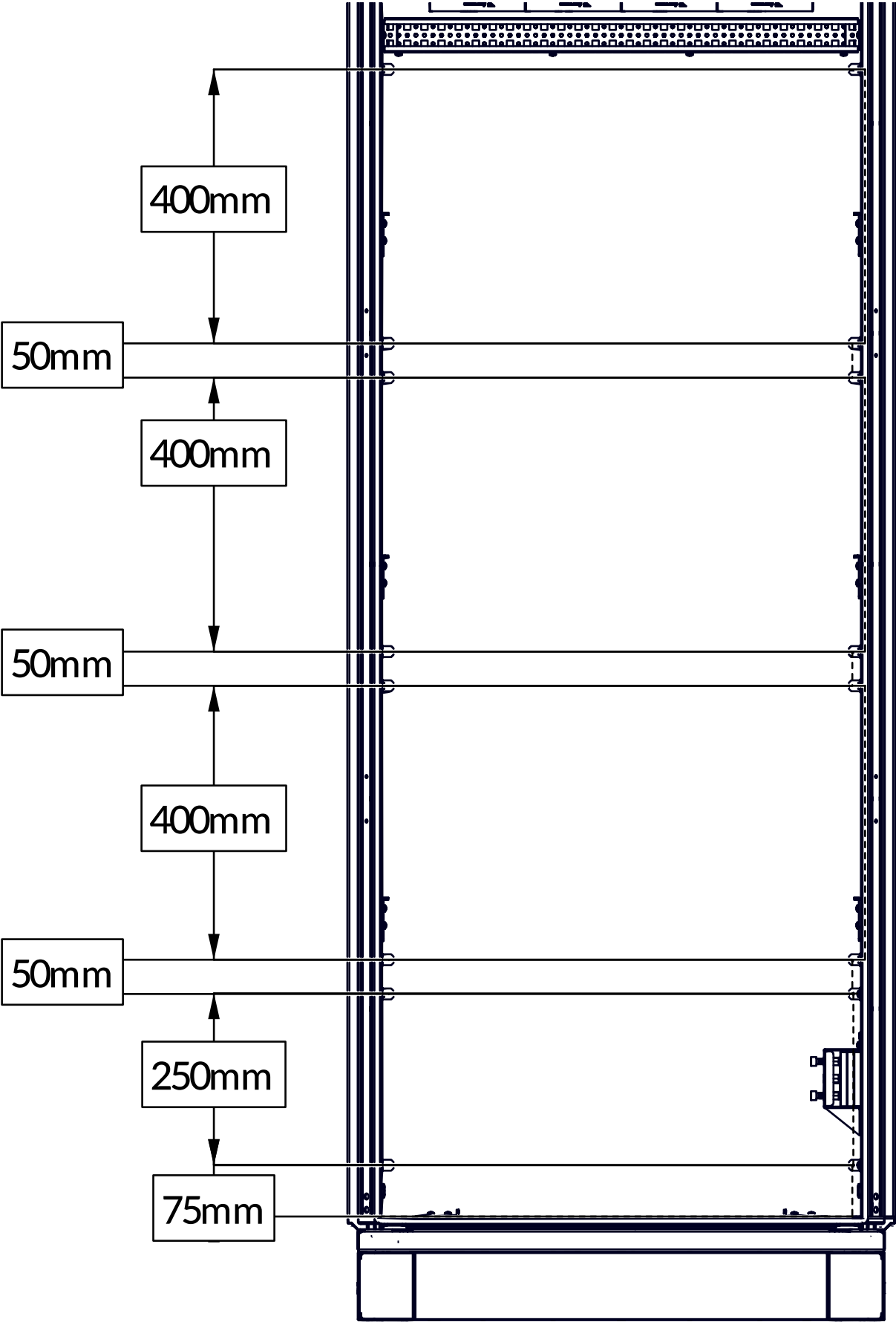
800D:1025.180



M5X10



4.2 CABLING SIDE COVER ASSEMBLY (FORM-2 / 3 / 4)

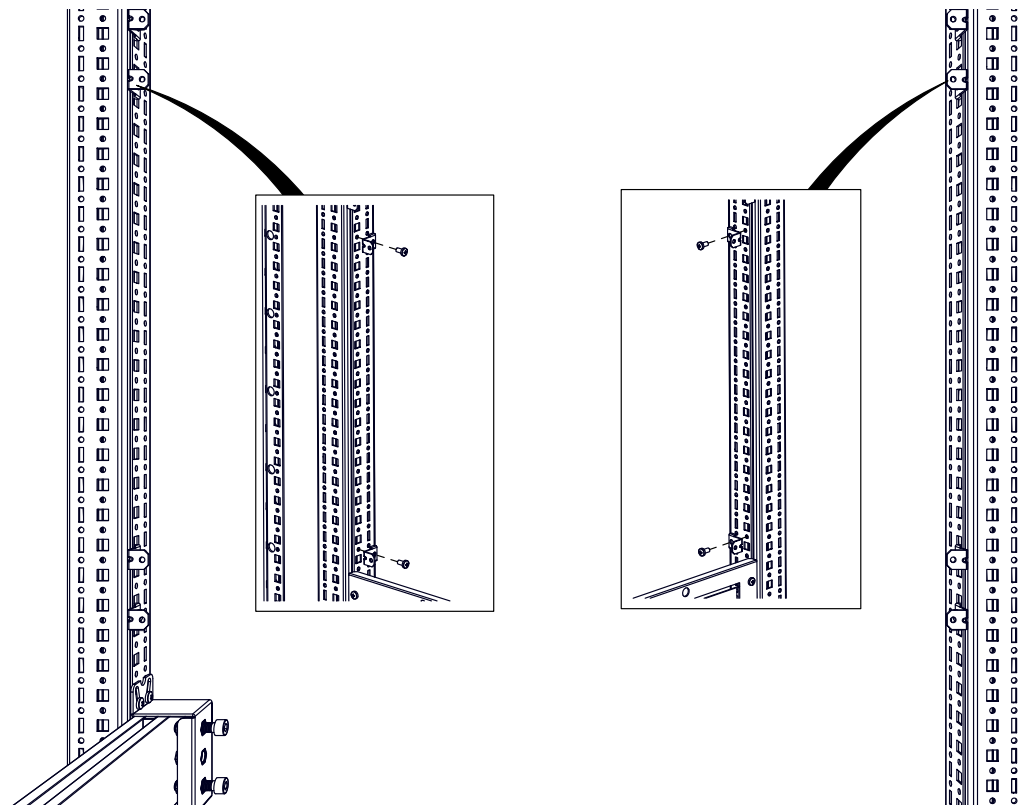
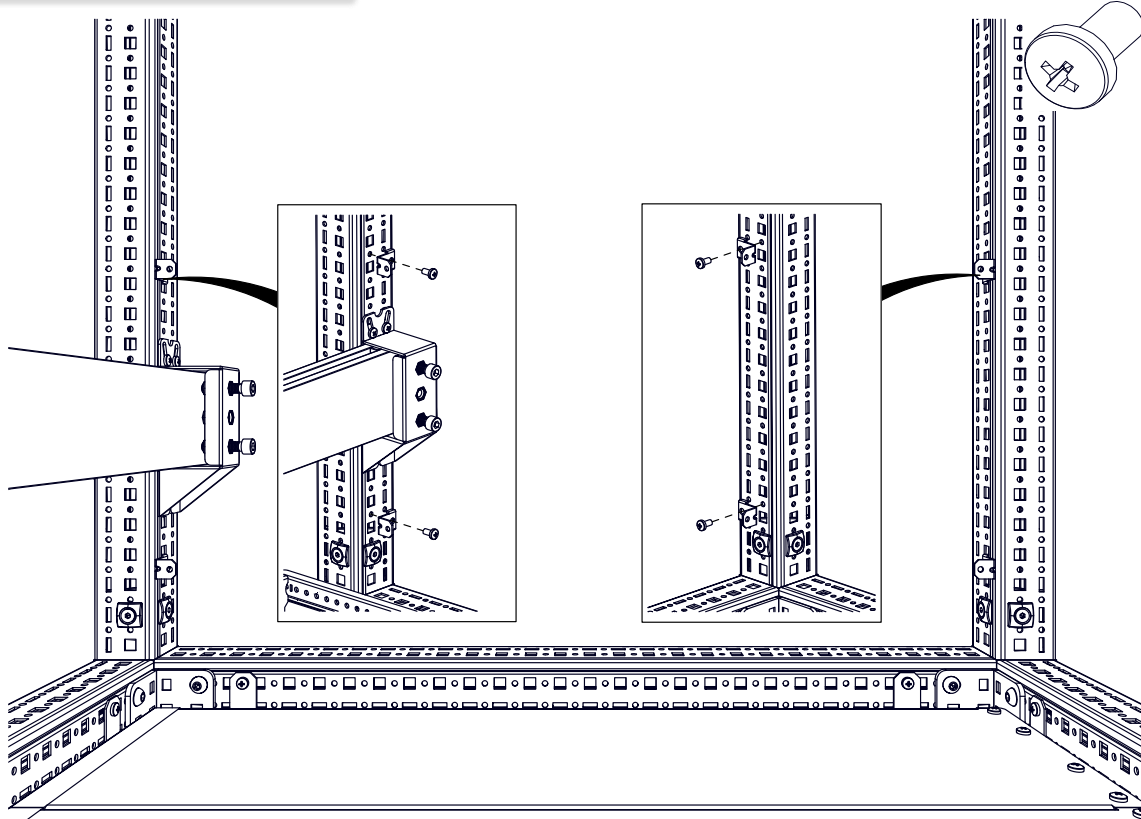


4.2 CABLING SIDE COVER ASSEMBLY (FORM-2 / 3 / 4)

Required Packages:
600D:1025.060
800D:1025.080



M5X10



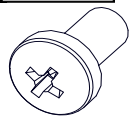
4.2 CABLING SIDE COVER ASSEMBLY (FORM-2 / 3 / 4)



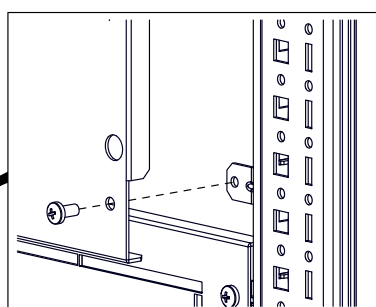
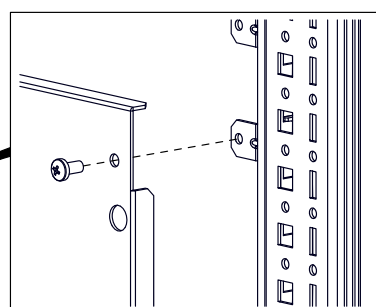
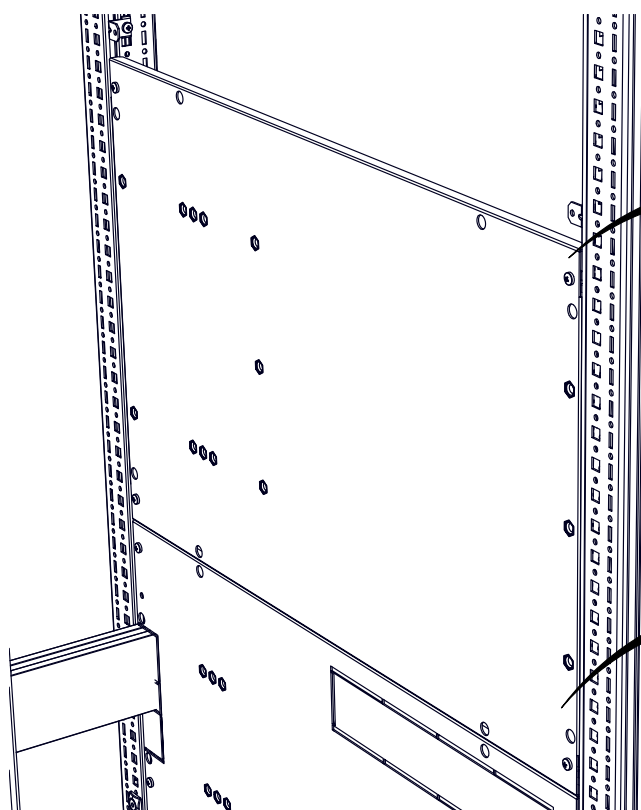
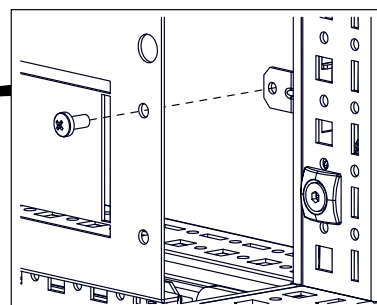
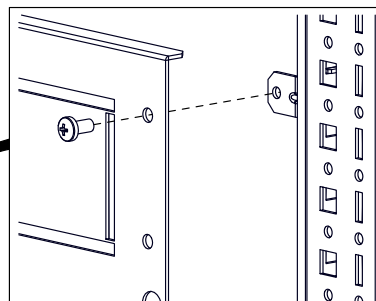
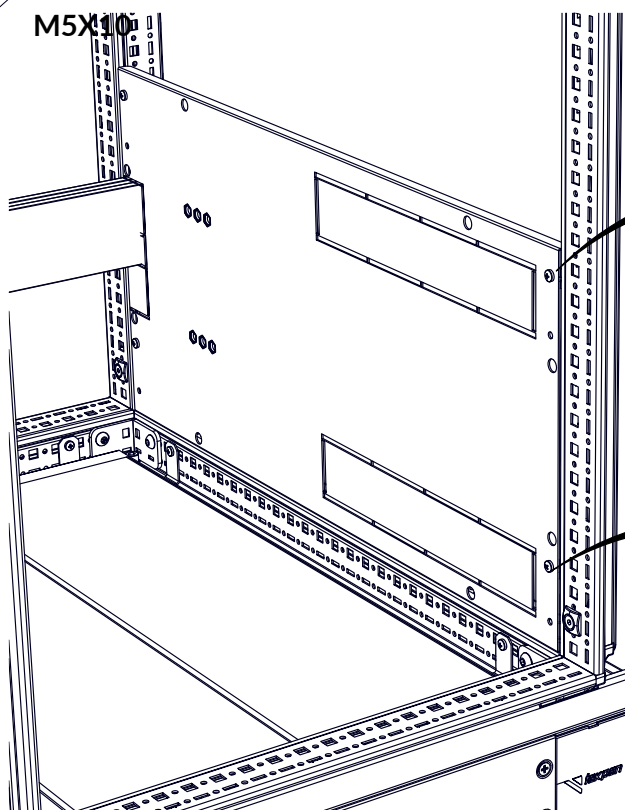
Required Packages:

600D:1025.060

800D:1025.080



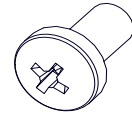
M5X10



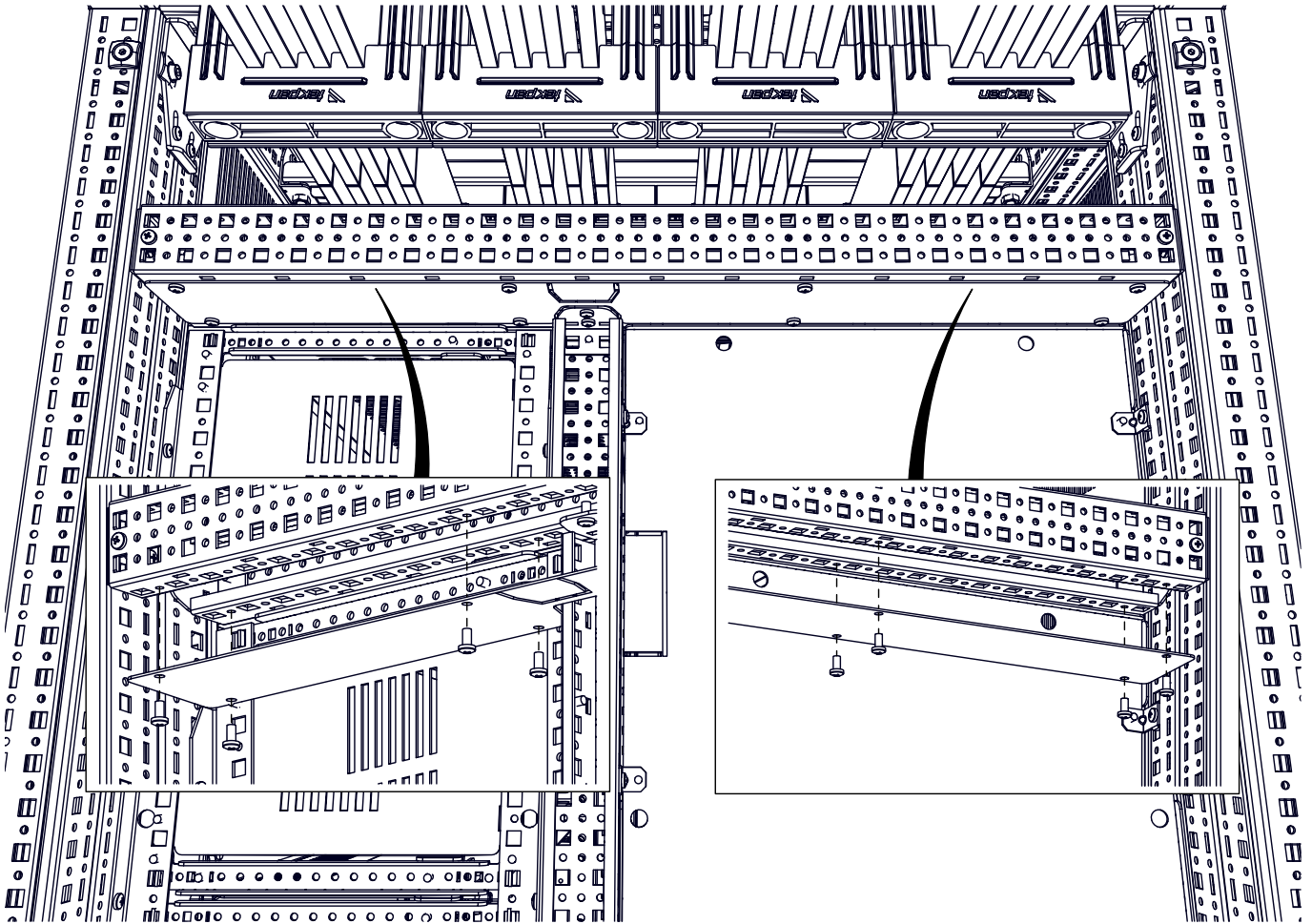
5. BUSBAR GAP CLOSER ASSEMBLY (FORM 2/3/4)**Required Packages:**

600D:1027.001

800D:1027.002

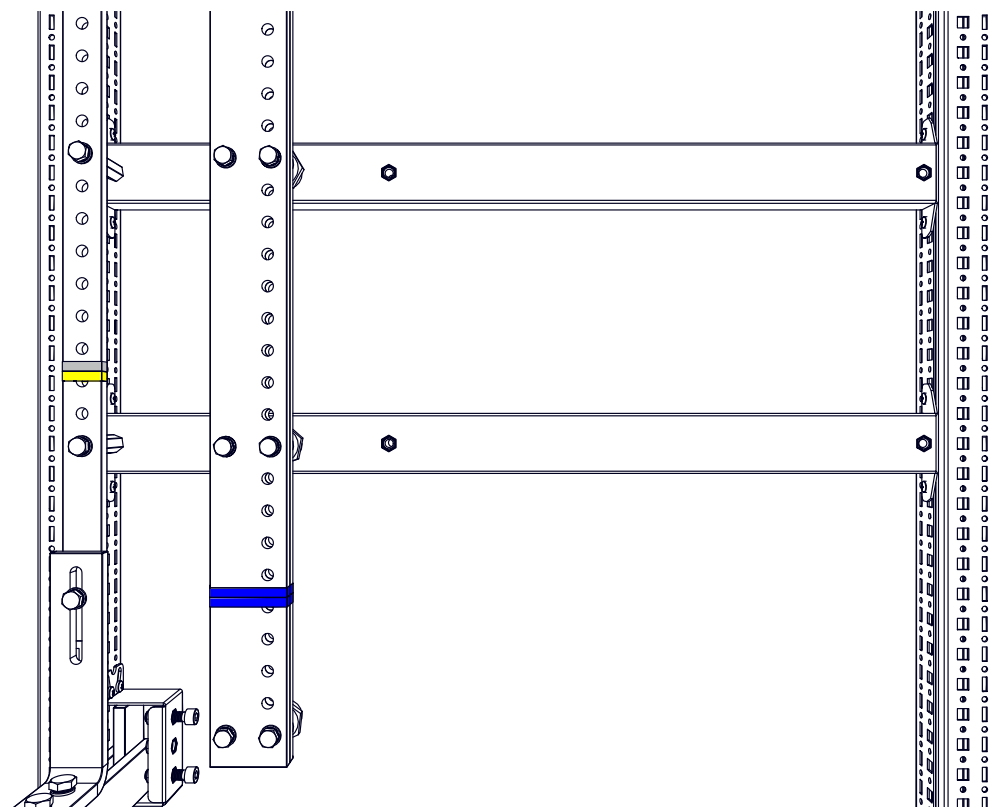
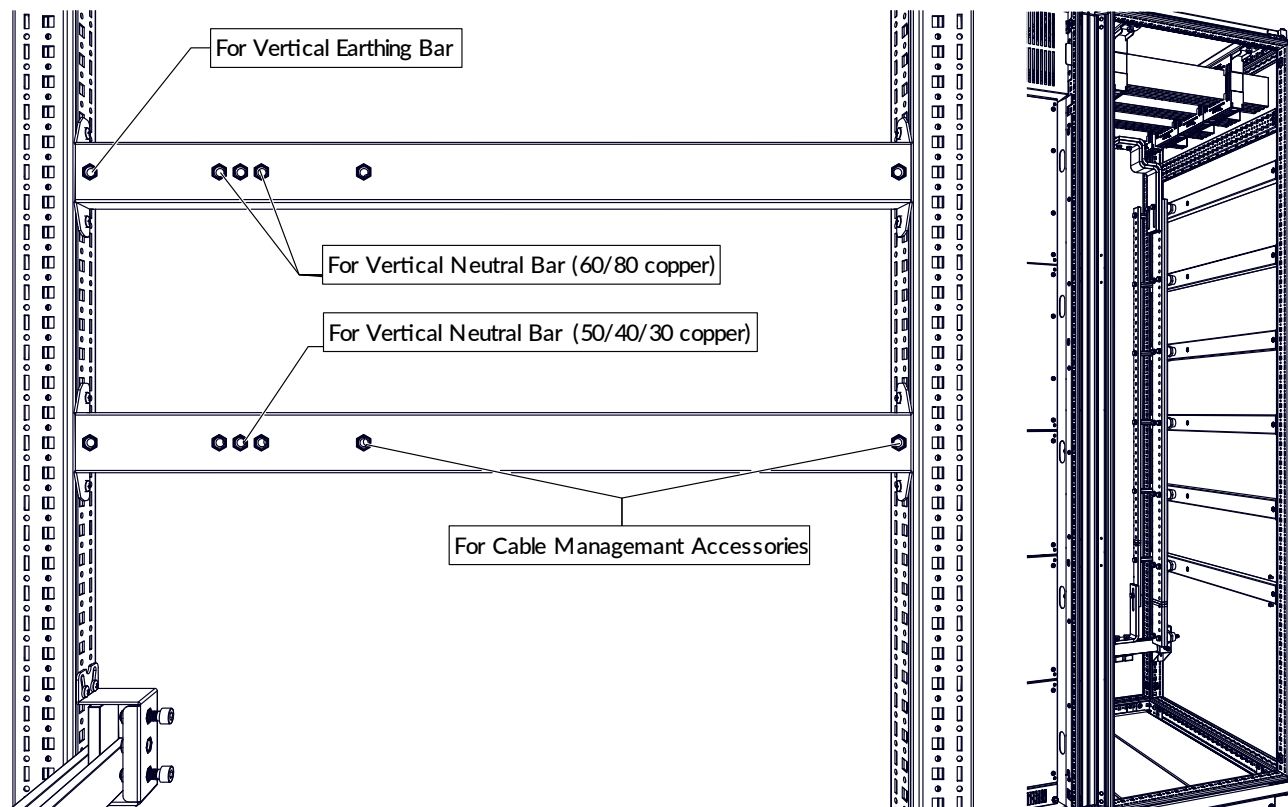


M5X10



6. VERTICAL BAR (PE/N) ASSEMBLY

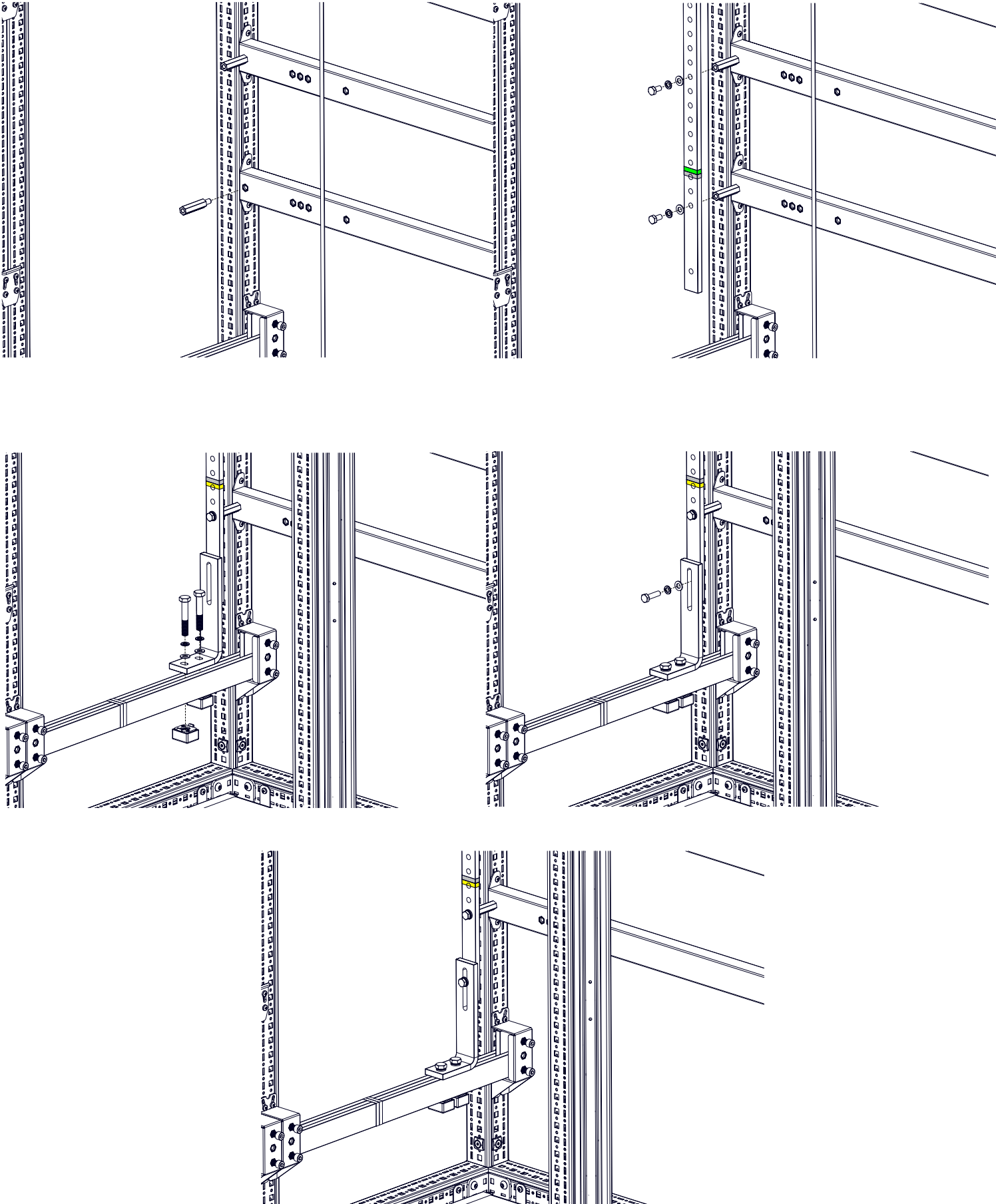
6.1 VERTICAL BAR (PE/N) ASSEMBLY (FORM 1)



6.1 VERTICAL BAR (PE/N) ASSEMBLY (FORM 1)

Required Packages:
1026.005

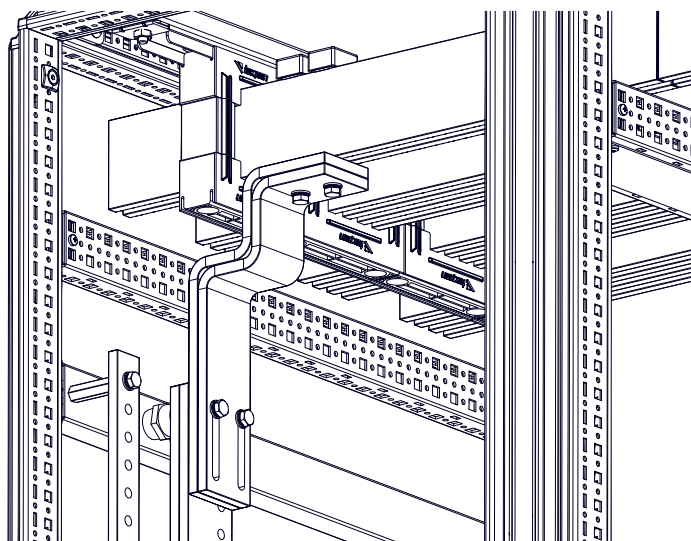
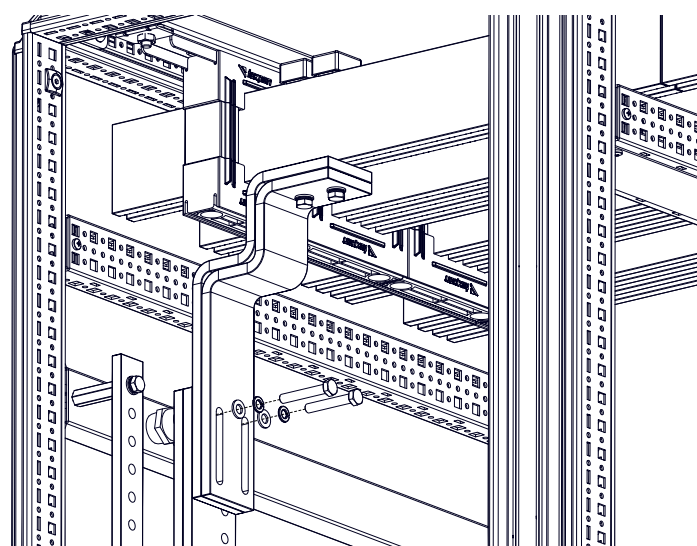
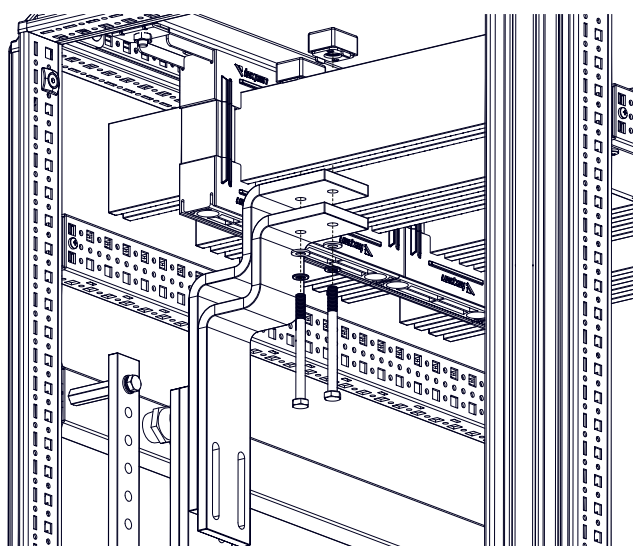
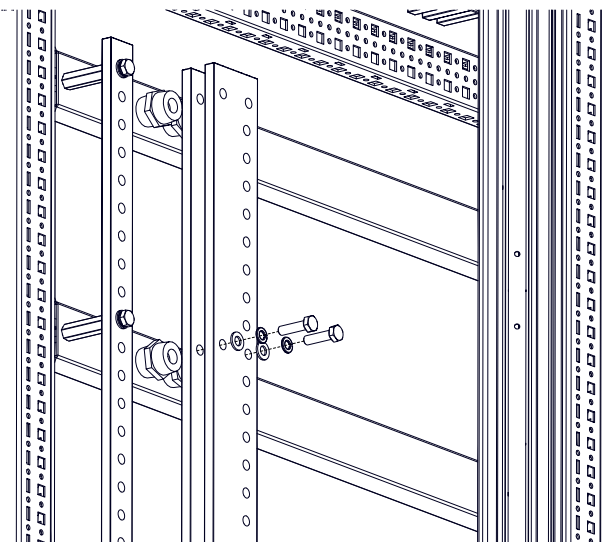
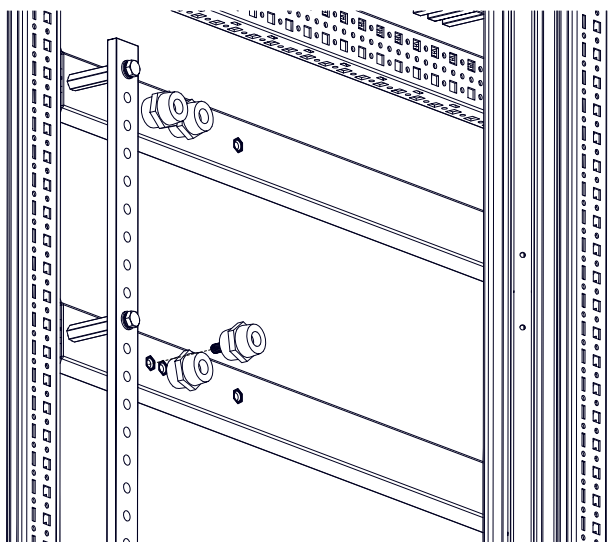
EARTHING



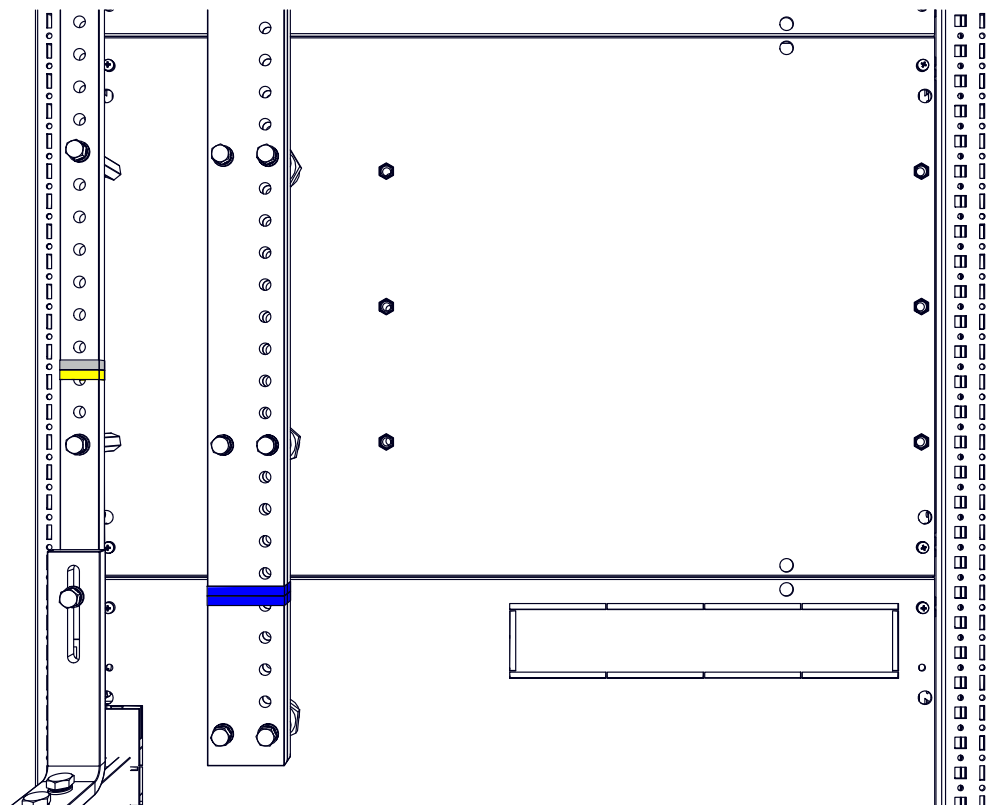
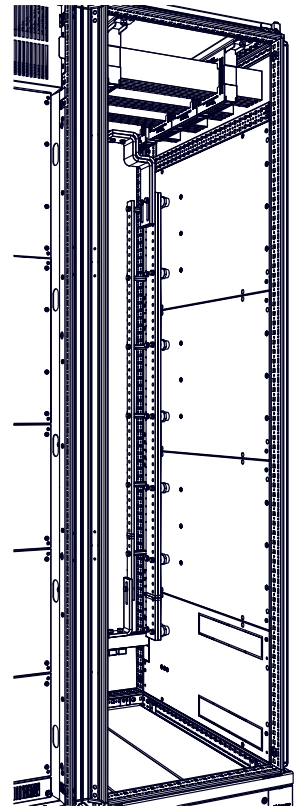
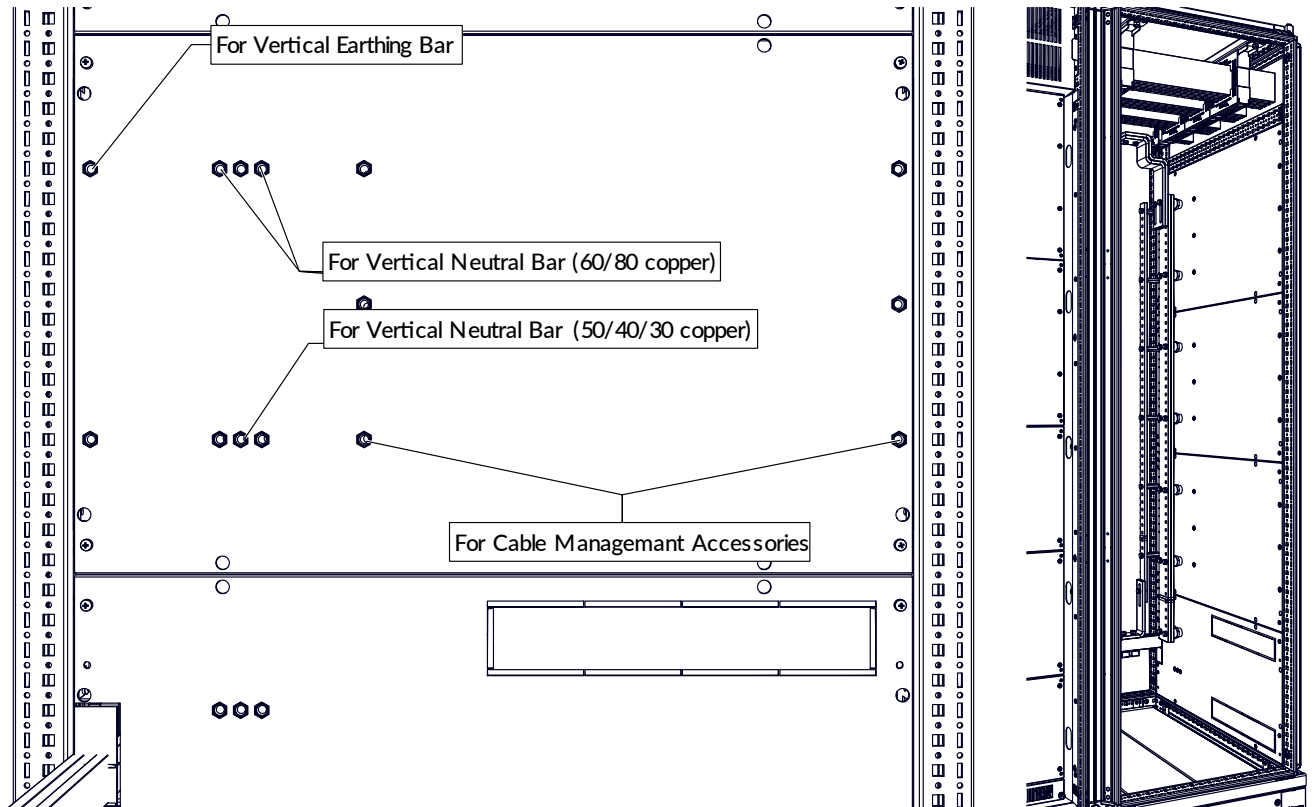
6.1 VERTICAL BAR (PE/N) ASSEMBLY (FORM 1)

NEUTRAL

Required Packages:
1040.831



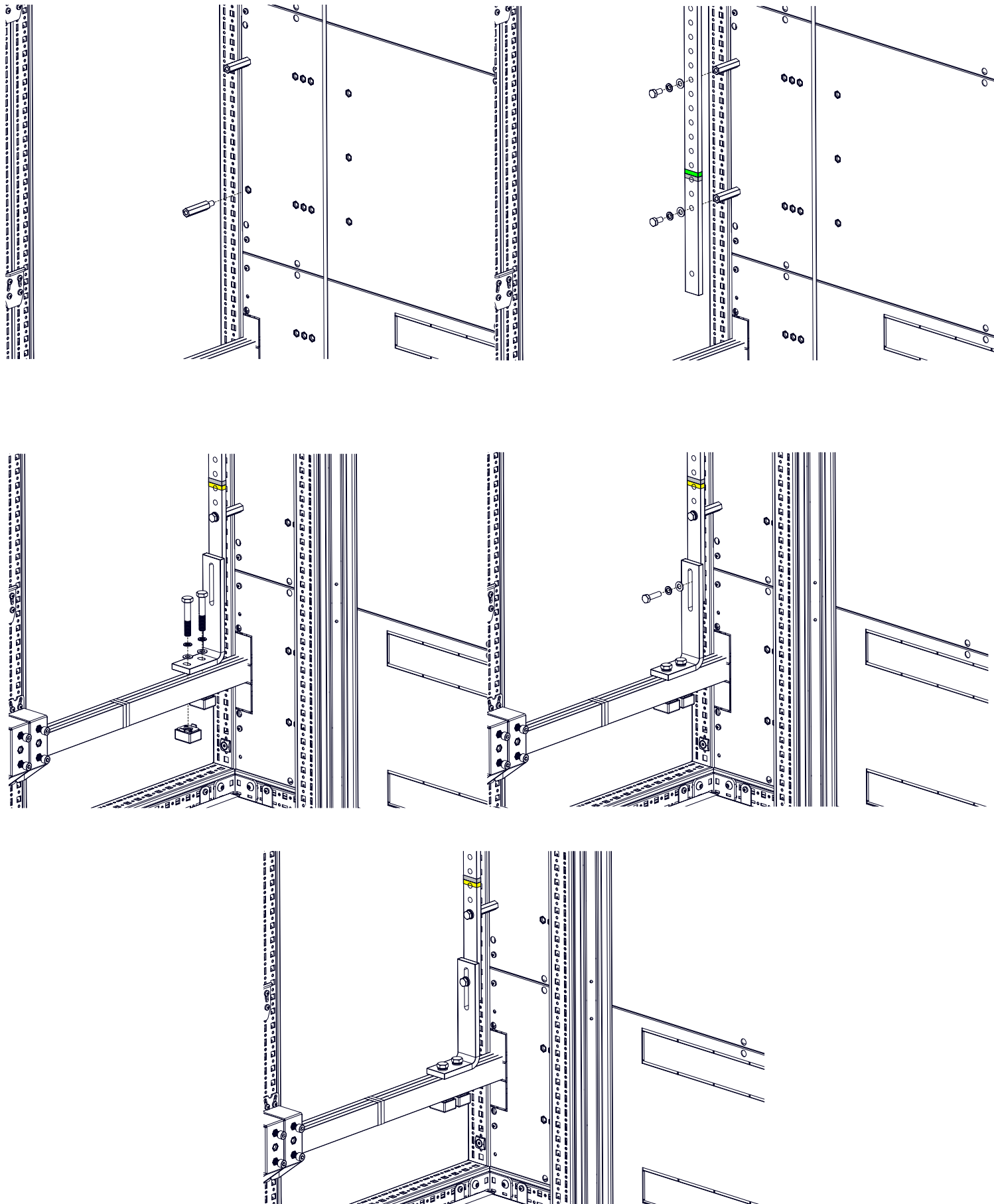
6.2 VERTICAL BAR (PE/N) ASSEMBLY (FORM 2/3/4)



6.2 VERTICAL BAR (PE/N) ASSEMBLY (FORM 2/3/4)

EARTHING

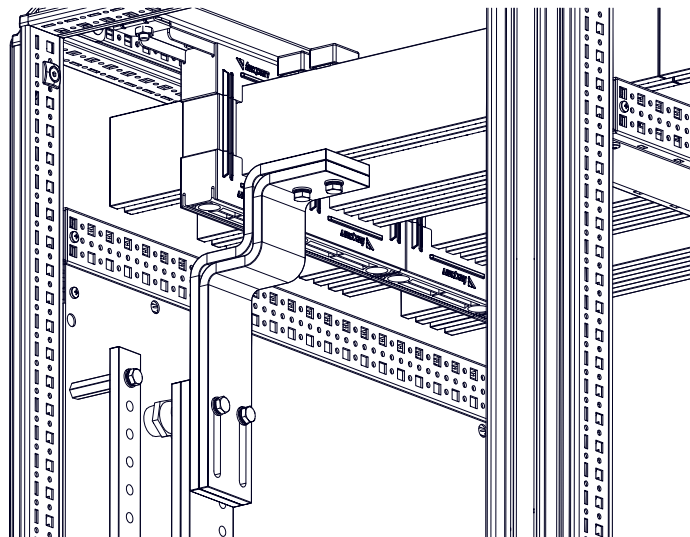
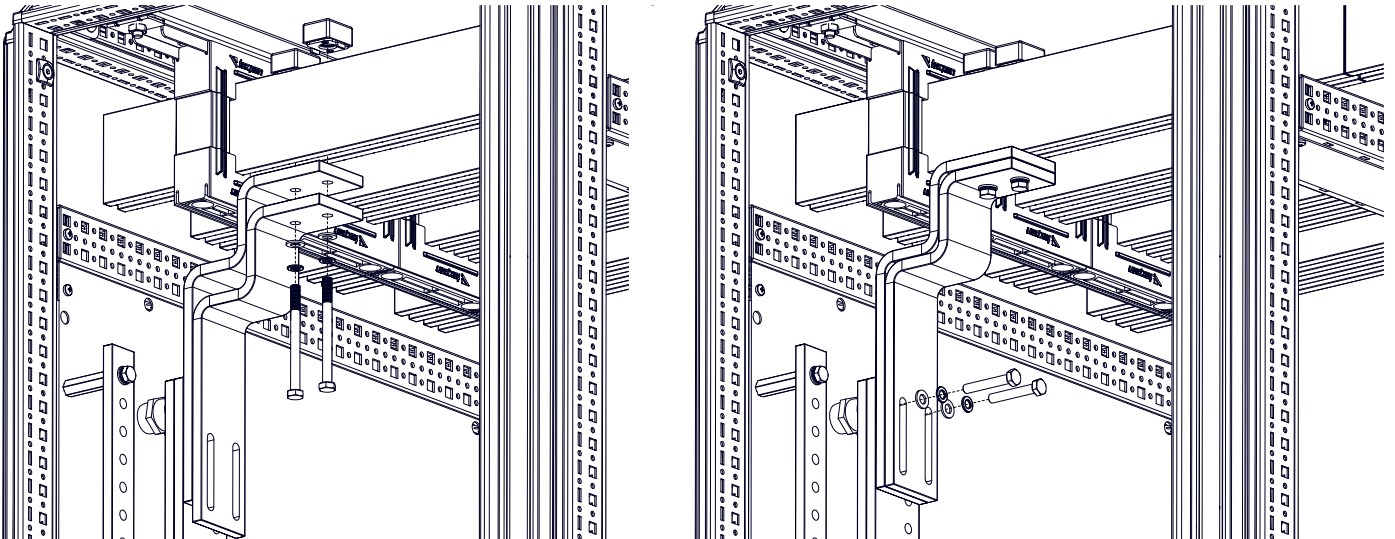
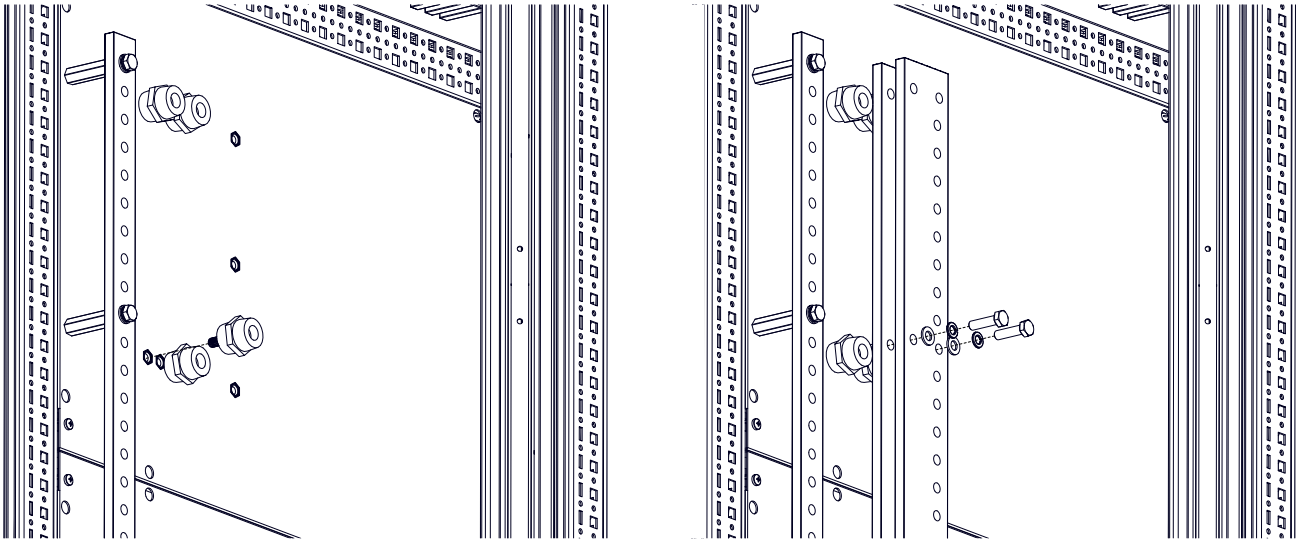
Required Packages:
1026.005



6.2 VERTICAL BAR (PE/N) ASSEMBLY (FORM 2/3/4)

Required Packages:
1040.831

NEUTRAL



7. BUSBAR SEPARATION SHELF-FRONT COVER ASSEMBLY

7.1 BUSBAR SEPARATION SHELF ASSEMBLY



Warning: This assembly step must be apply after cassette assembly (internal part assembly).

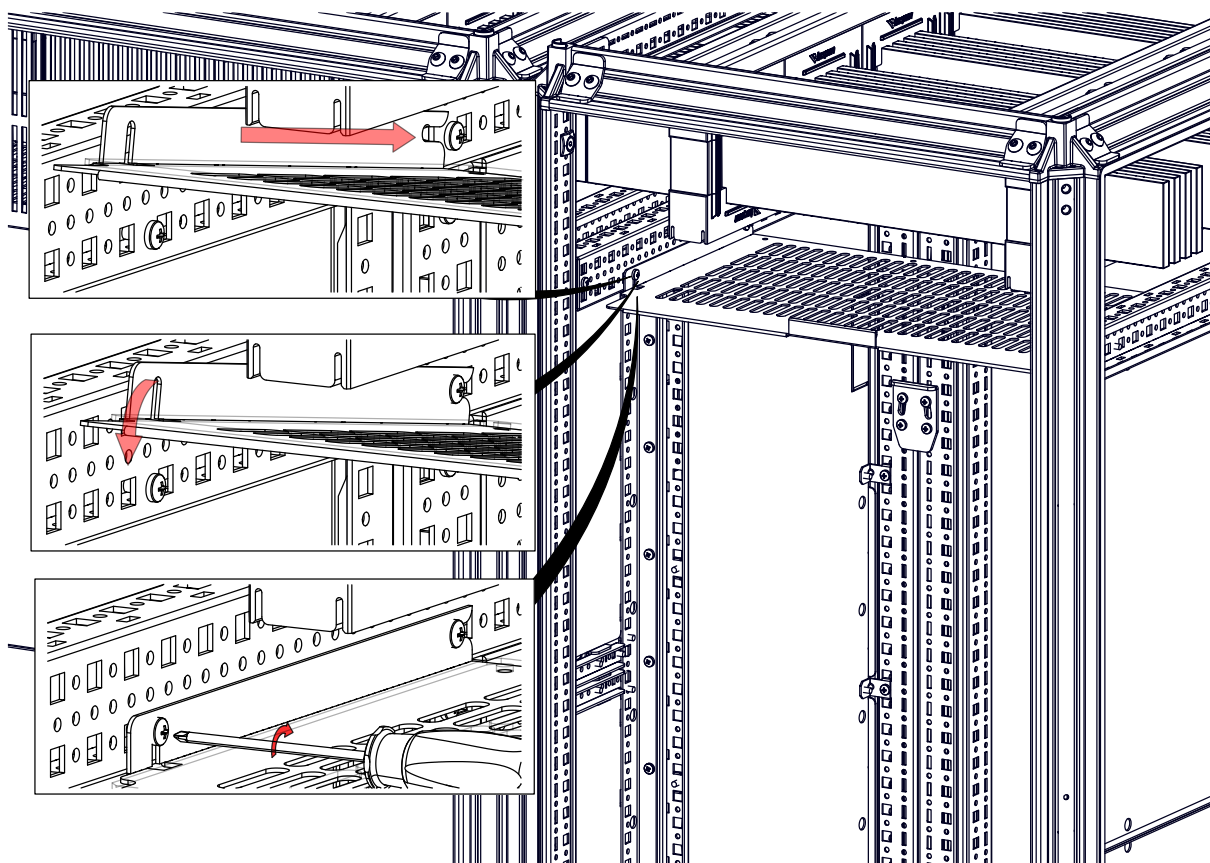
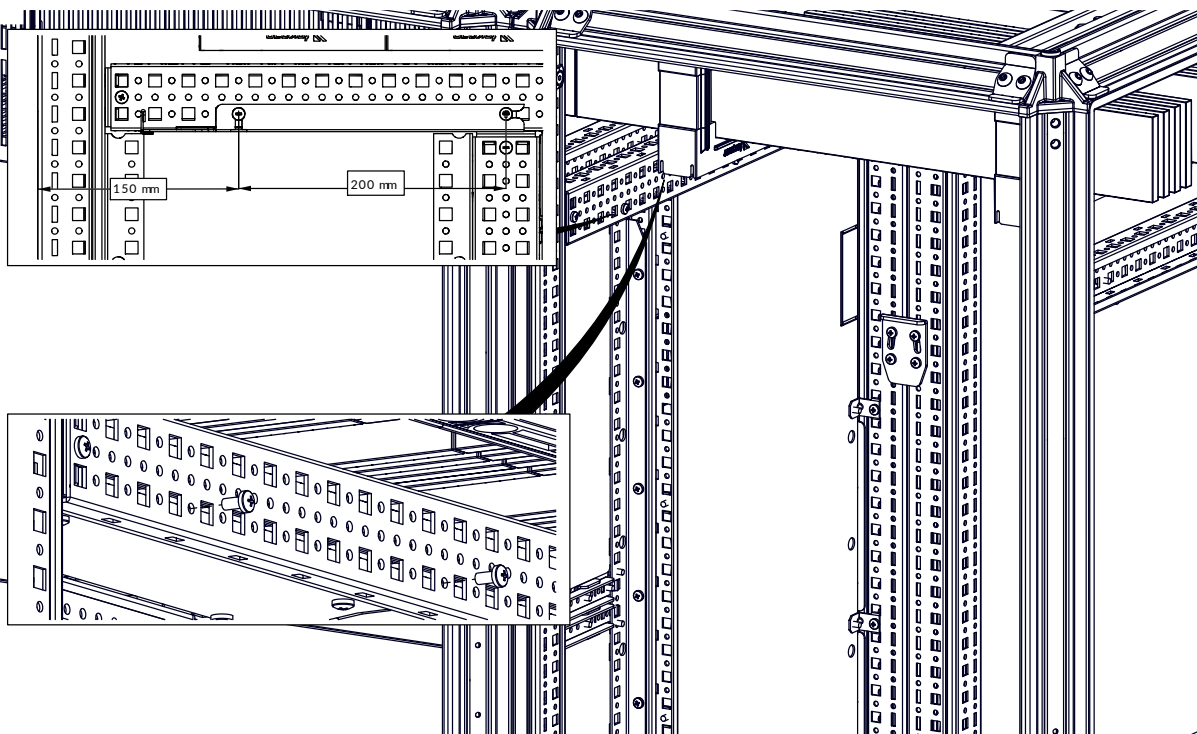


M5X10

Required Packages:

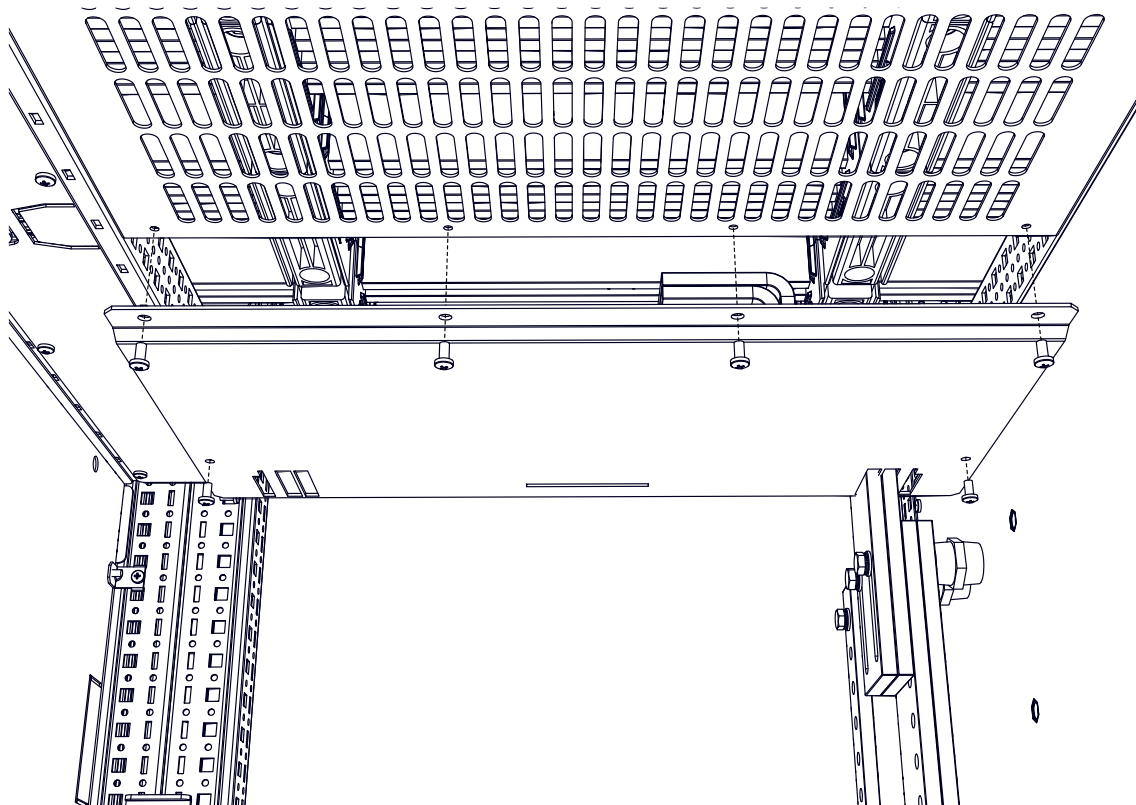
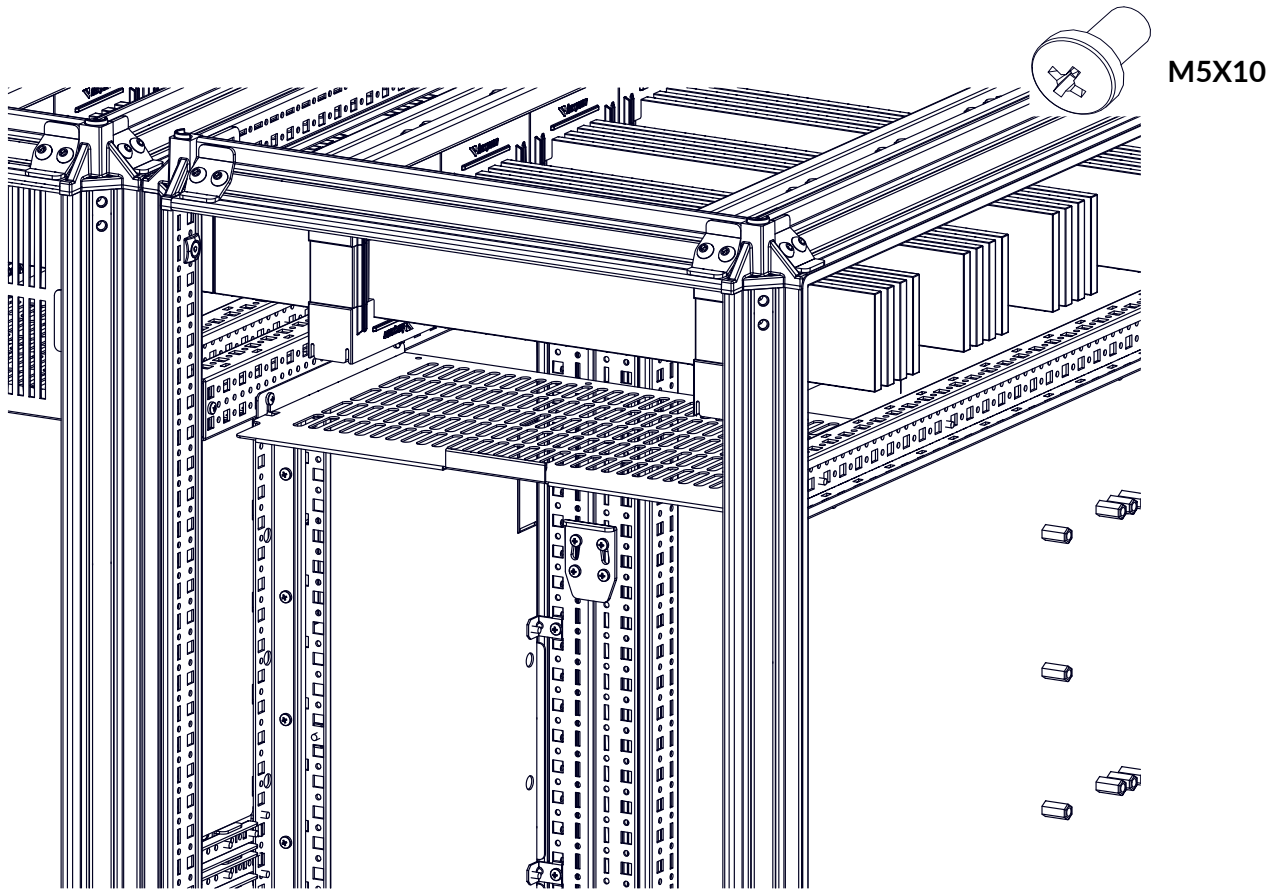
400W:1008.040

600W:1008.060

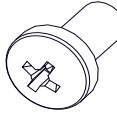


7.2 NEUTRAL BAR INSULATION KIT ASSEMBLY

Required Packages:
1025.2XX

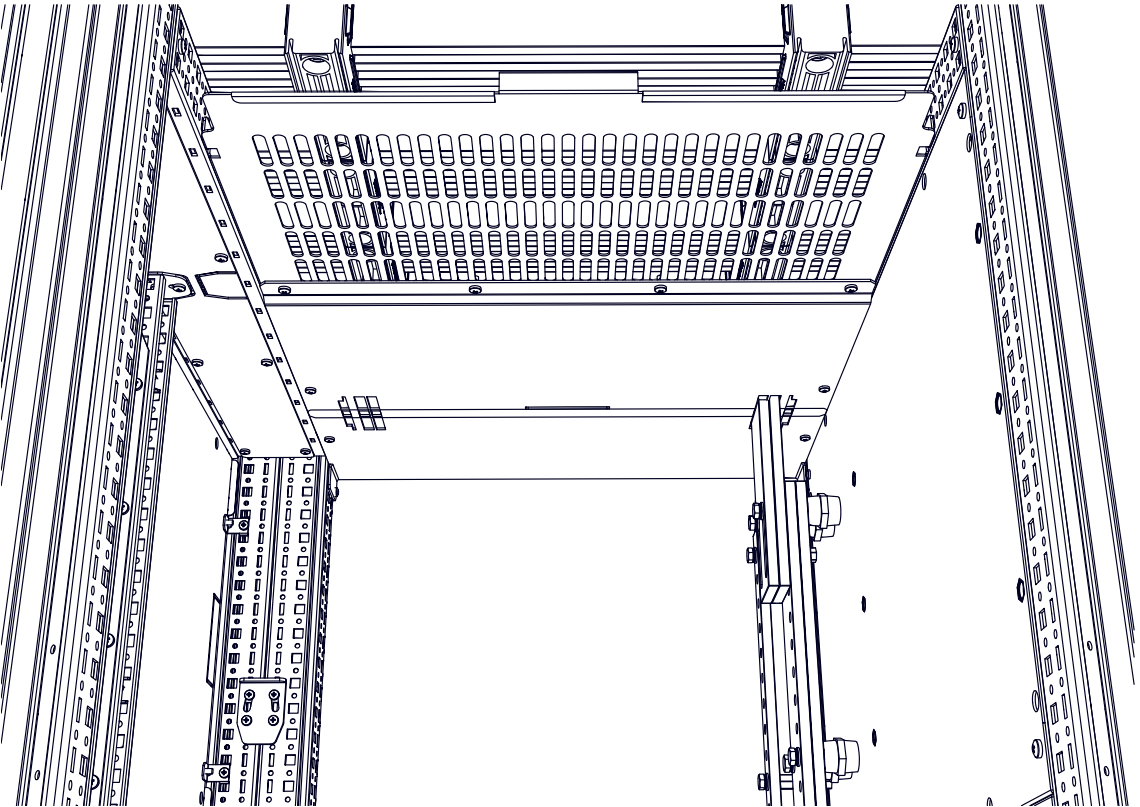
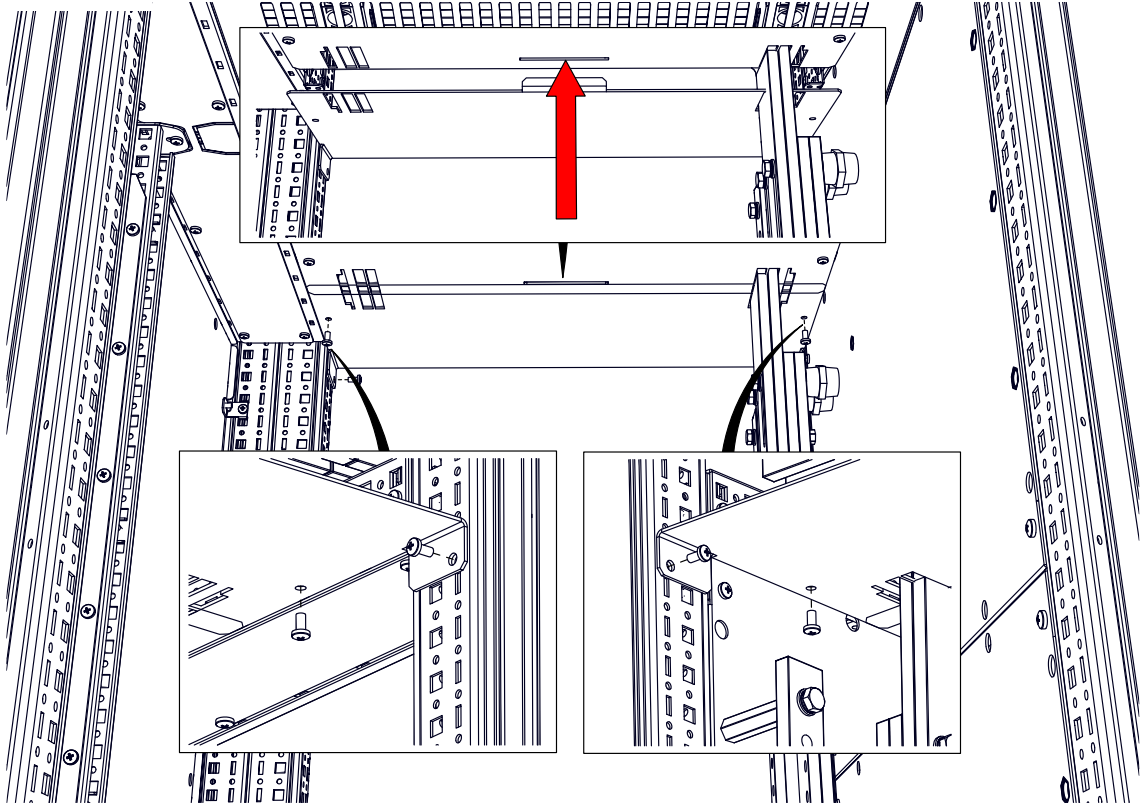


7.2 NEUTRAL BAR INSULATION KIT ASSEMBLY



M5X10

Required Packages:
1025.2XX

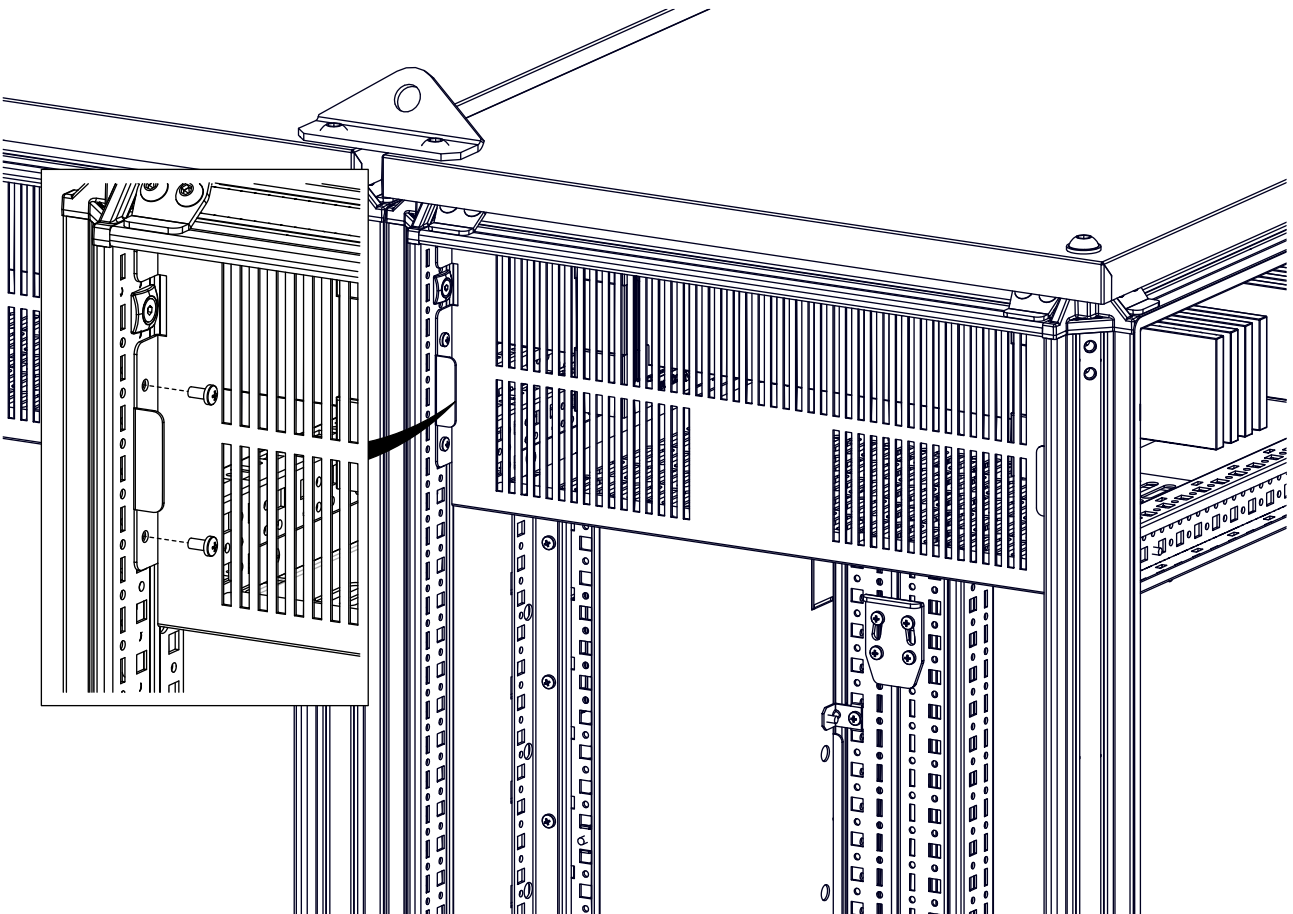
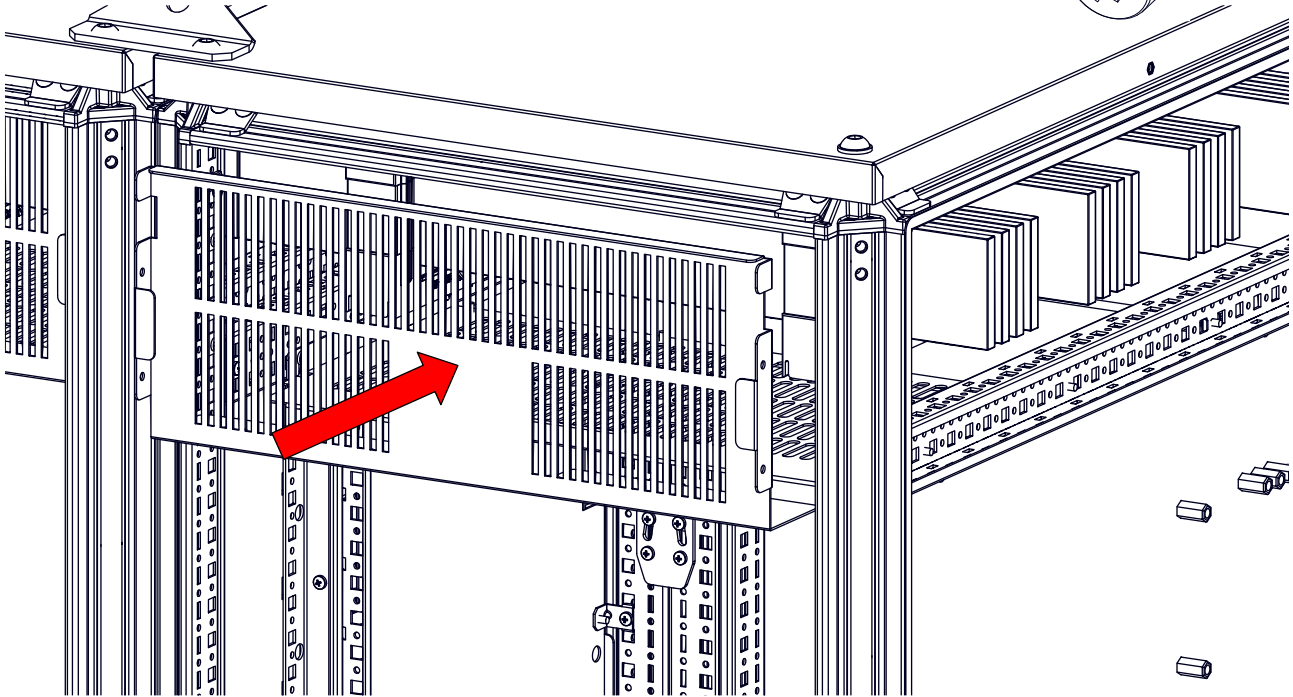


7.3 BUSBAR SEPARATION COVER ASSEMBLY

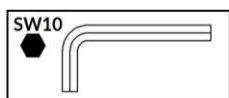
Required Packages:

400W:1013.040

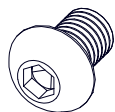
600W:1013.060



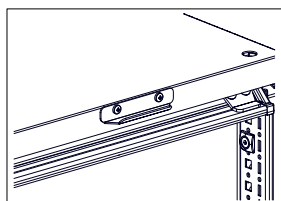
8. TOP COVER ASSEMBLY



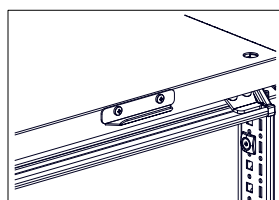
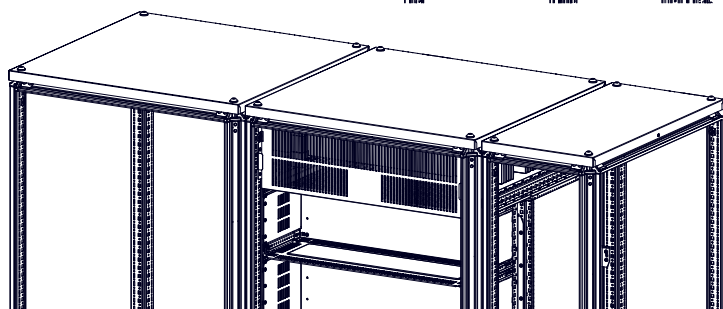
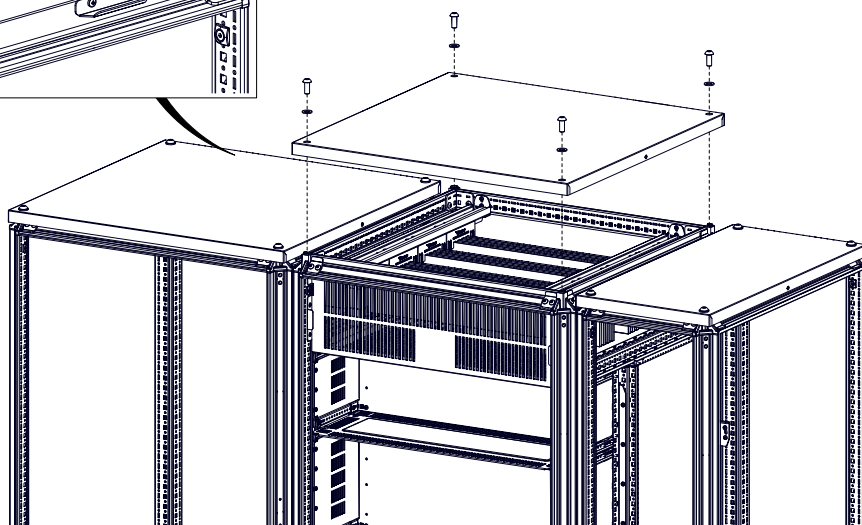
Warning: This assembly step must be applied after cassette assembly (internal part assembly).



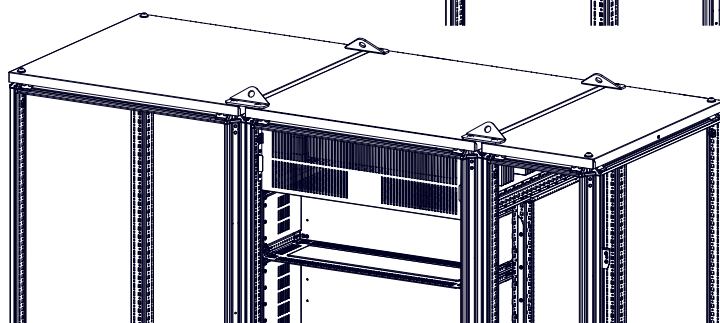
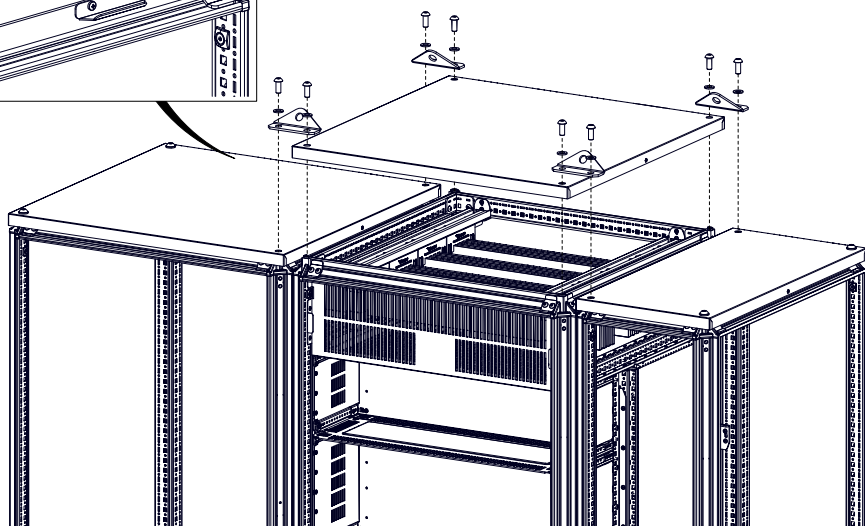
M12x30
4 pcs.



Without Baying Kit



With Baying Kit



9. REAR PANEL ASSEMBLY

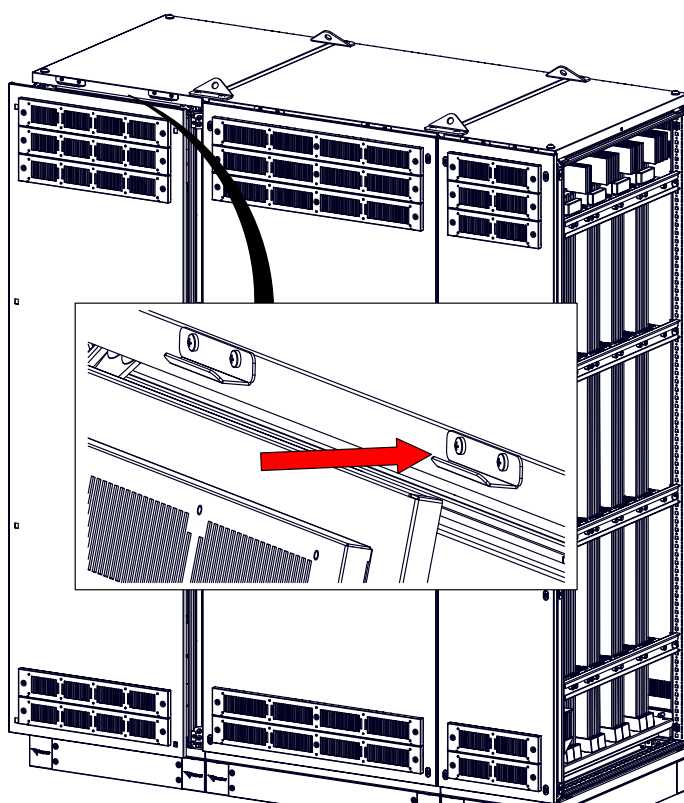
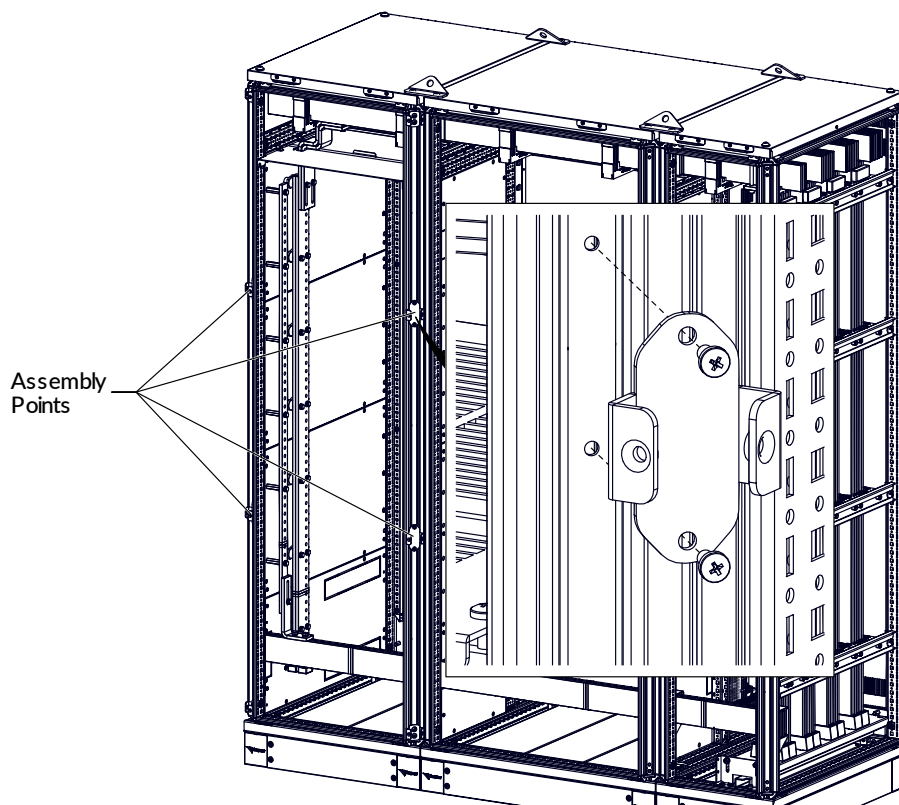
9.1 REAR PANEL ASSEMBLY

Warning: This assembly step must be applied after cassette assembly (internal part assembly).

Required Packages:
1003.X20



M5X10

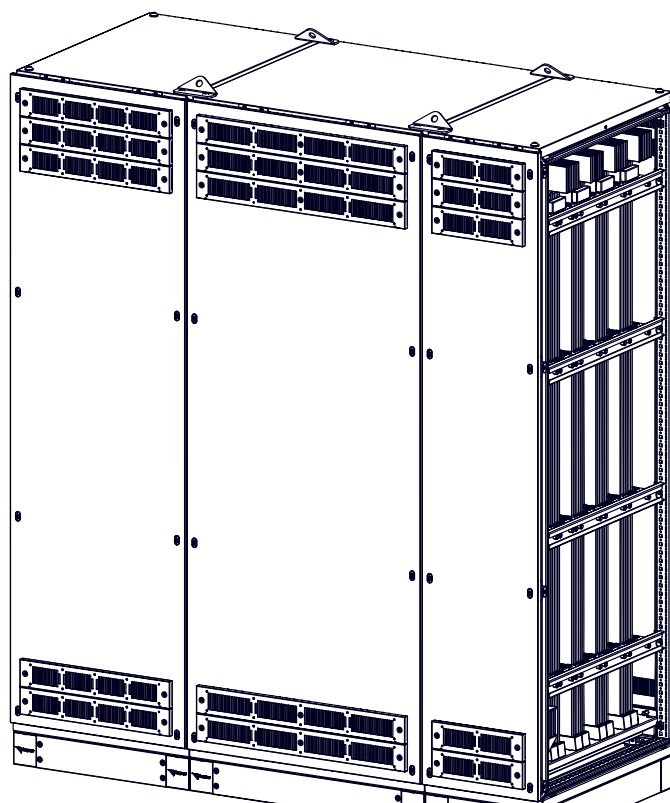
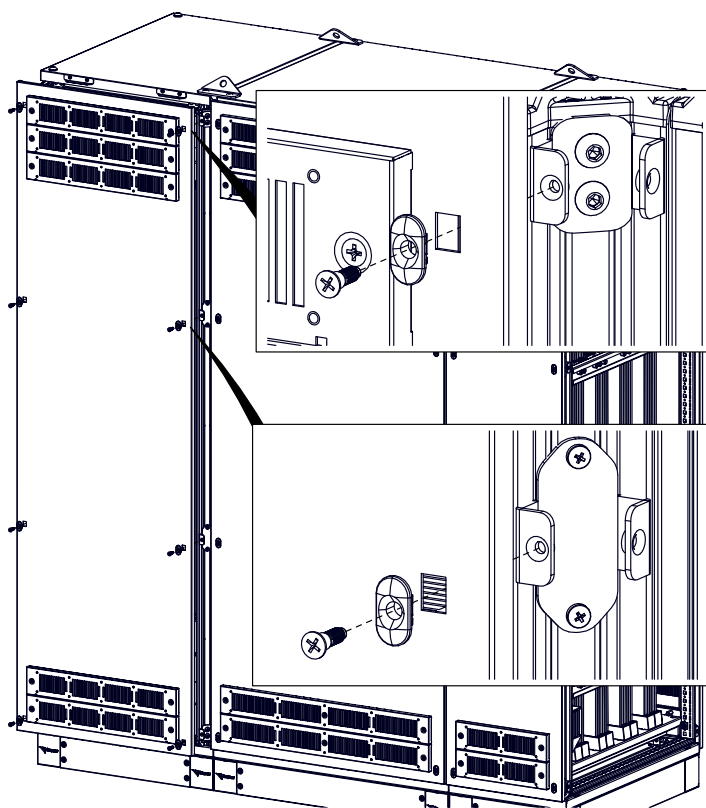


9.1 REAR PANEL ASSEMBLY



M6x23
8 pcs.

Required Packages:
1003.X20



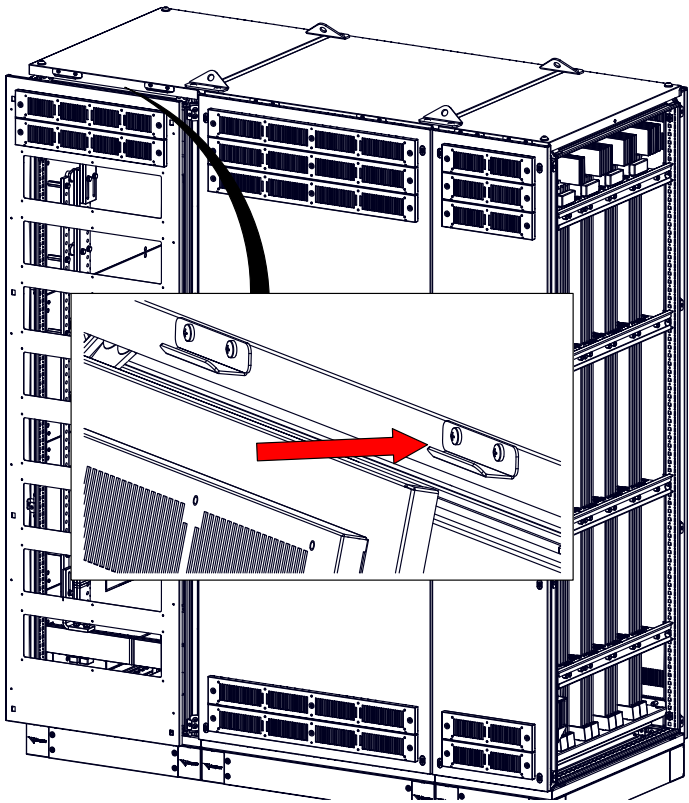
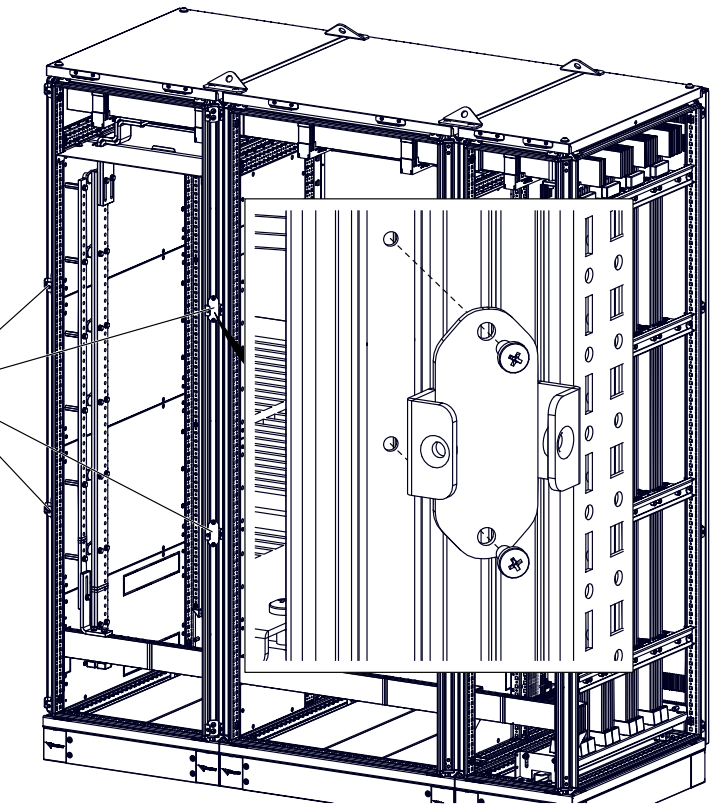
9.2 REAR PANEL ASSEMBLY (TOP-REAR CABLING)

Required Packages:
1003.X21

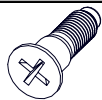


M5X10

Assembly
Points



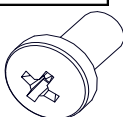
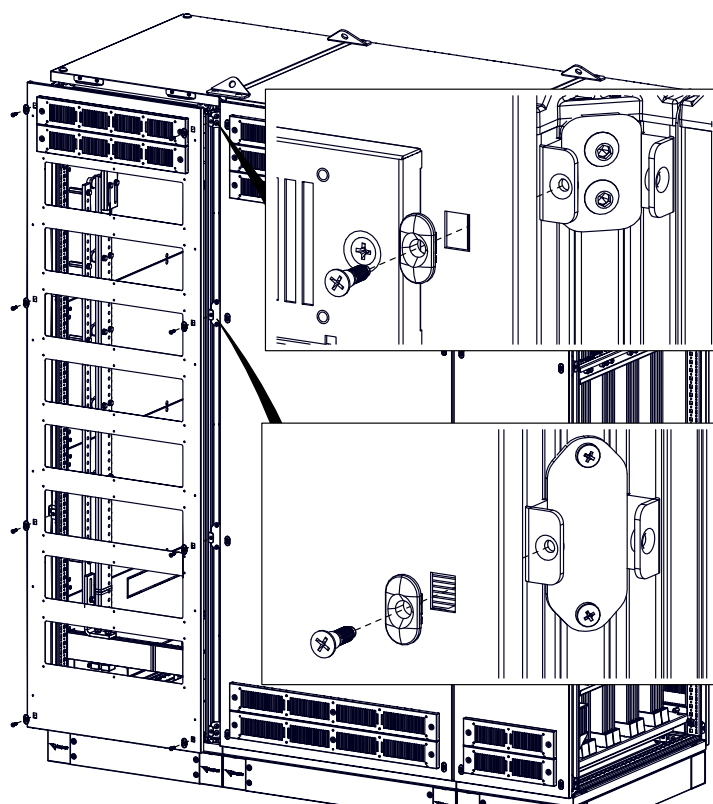
9.2 REAR PANEL ASSEMBLY (TOP-REAR CABLING)



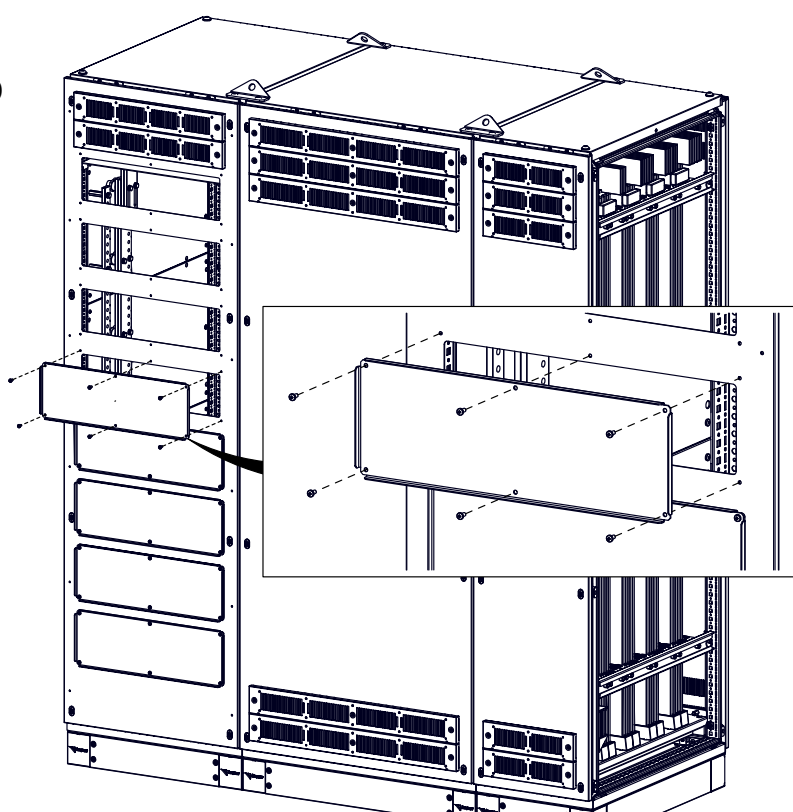
M6x23
8 pcs.

Warning: This assembly step must be applied after cassette assembly (internal part assembly).

Required Packages:
1003.X21



M5X10

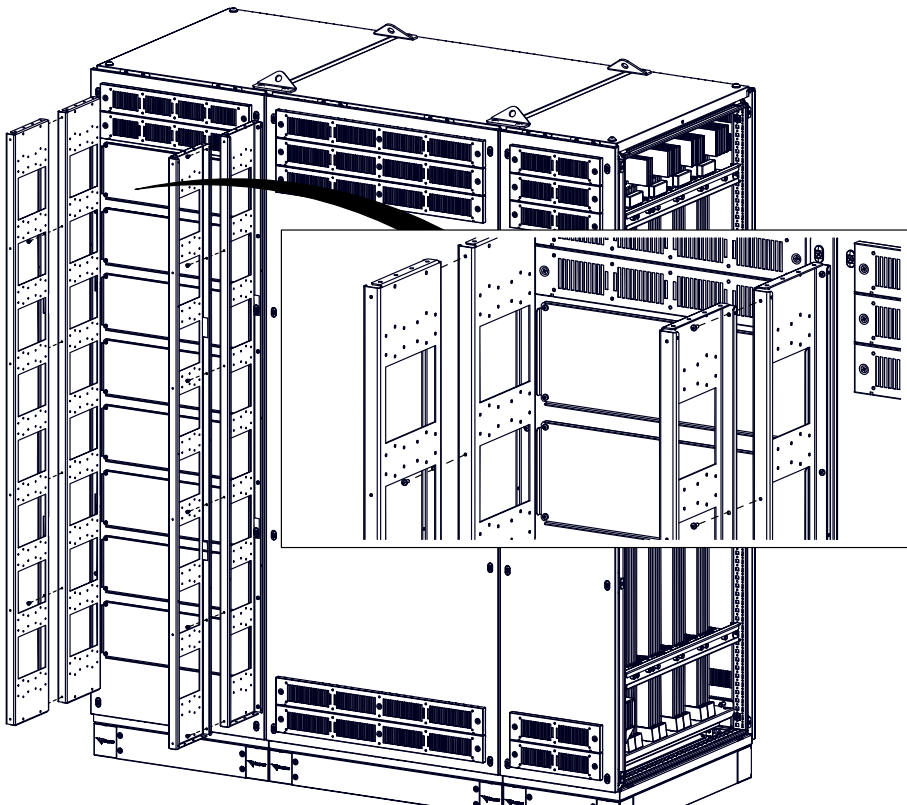
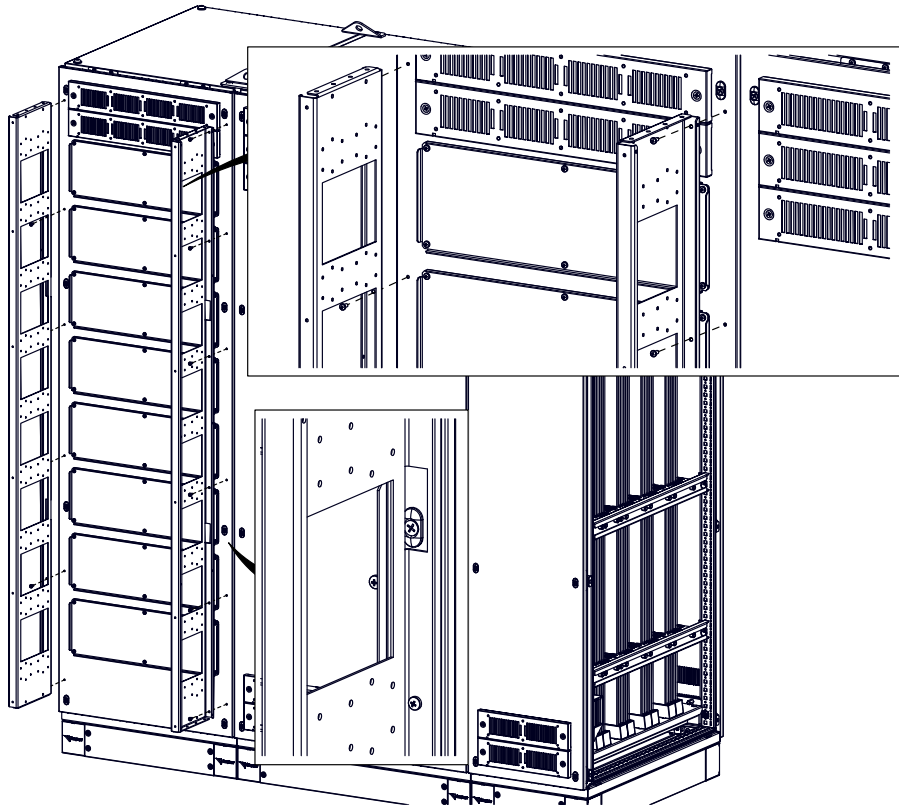


9.2 REAR PANEL ASSEMBLY (TOP-REAR CABLING)

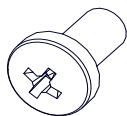
Required Packages:
1028.100



M5X10



9.2 REAR PANEL ASSEMBLY (TOP-REAR CABLING)

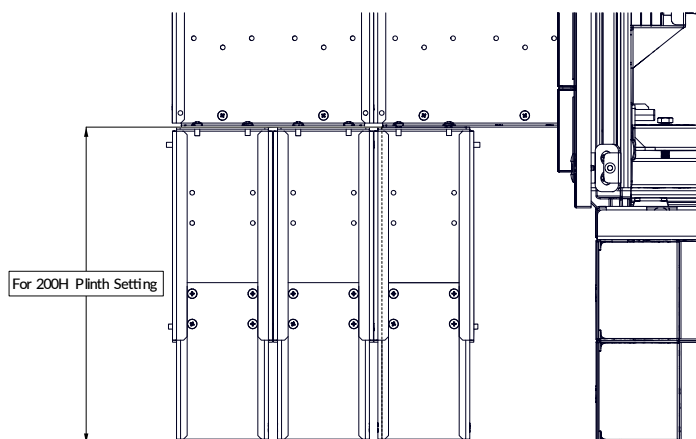
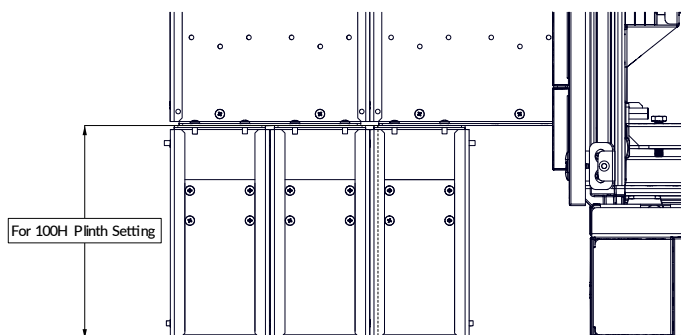
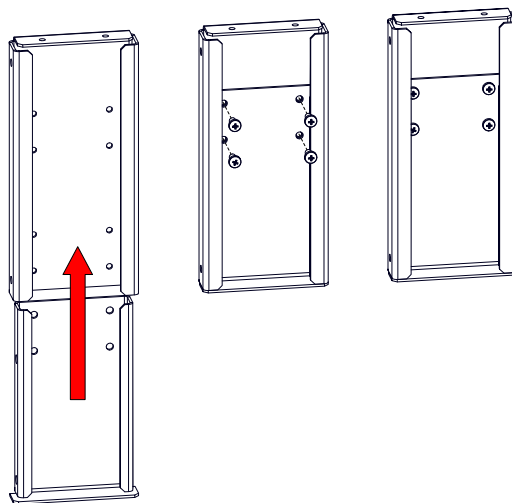
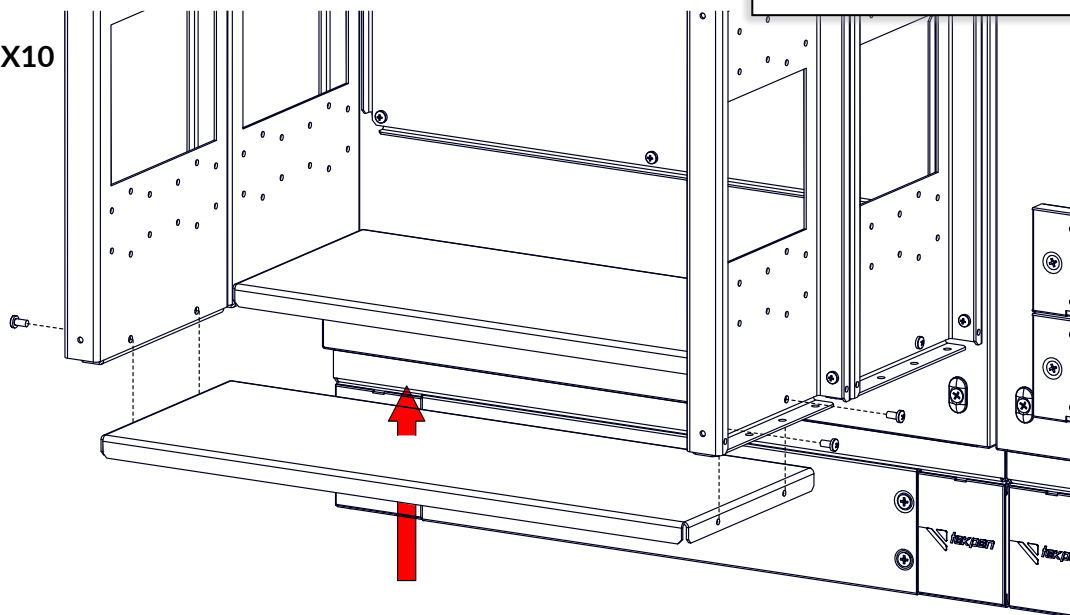


M5X10

Required Packages:

1003.X21

1028.100



9.2 REAR PANEL ASSEMBLY (TOP-REAR CABLING)

Warning: This assembly step must be apply after cassette assembly (internal part assembly).

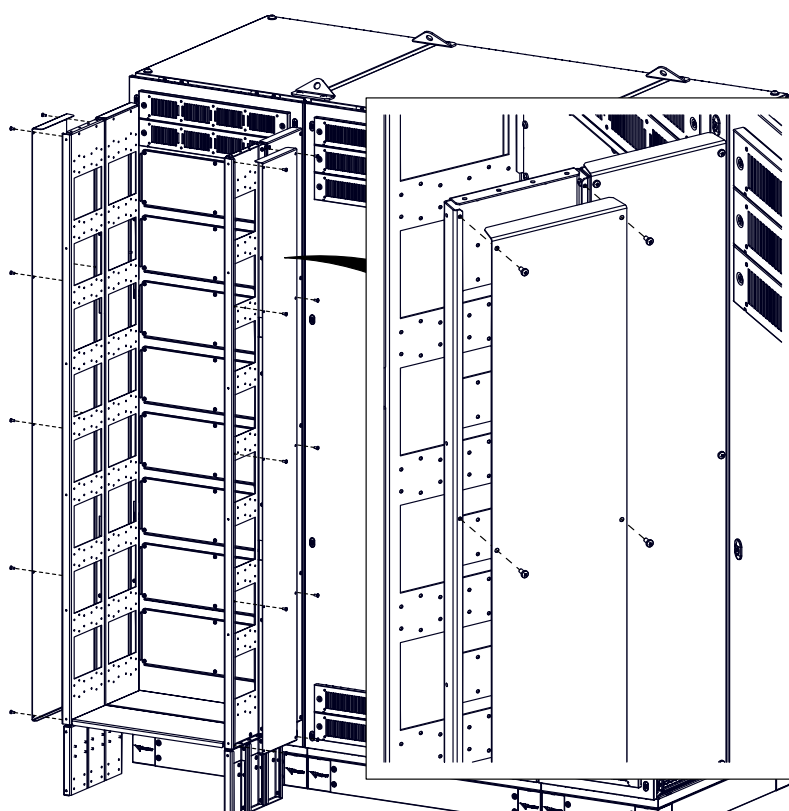
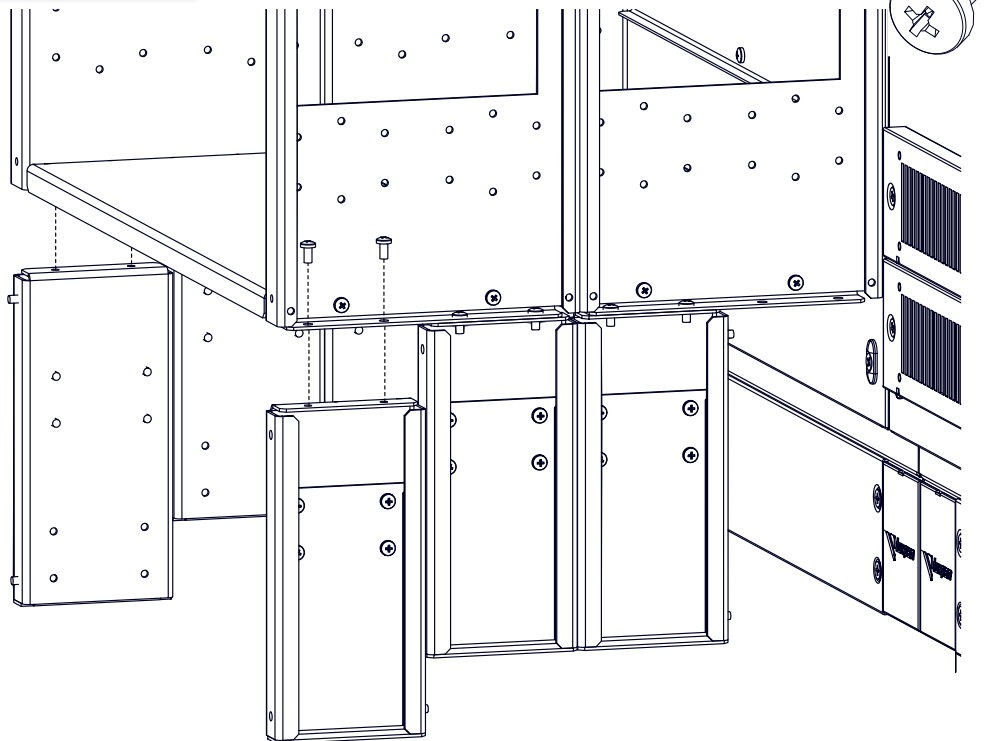
Required Packages:

1003.X21

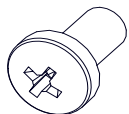
1028.100



M5X10



9.2 REAR PANEL ASSEMBLY (TOP-REAR CABLING)

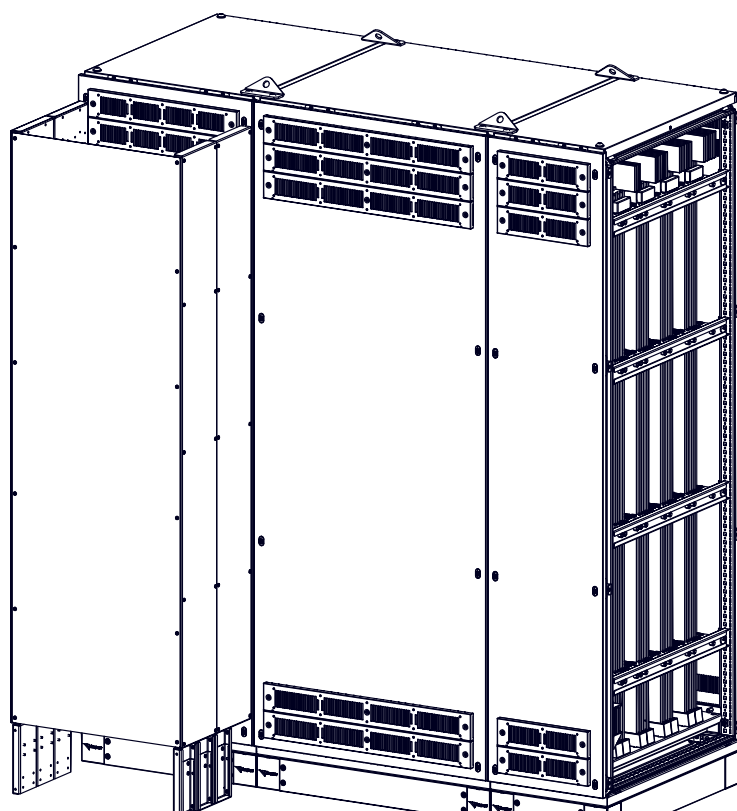
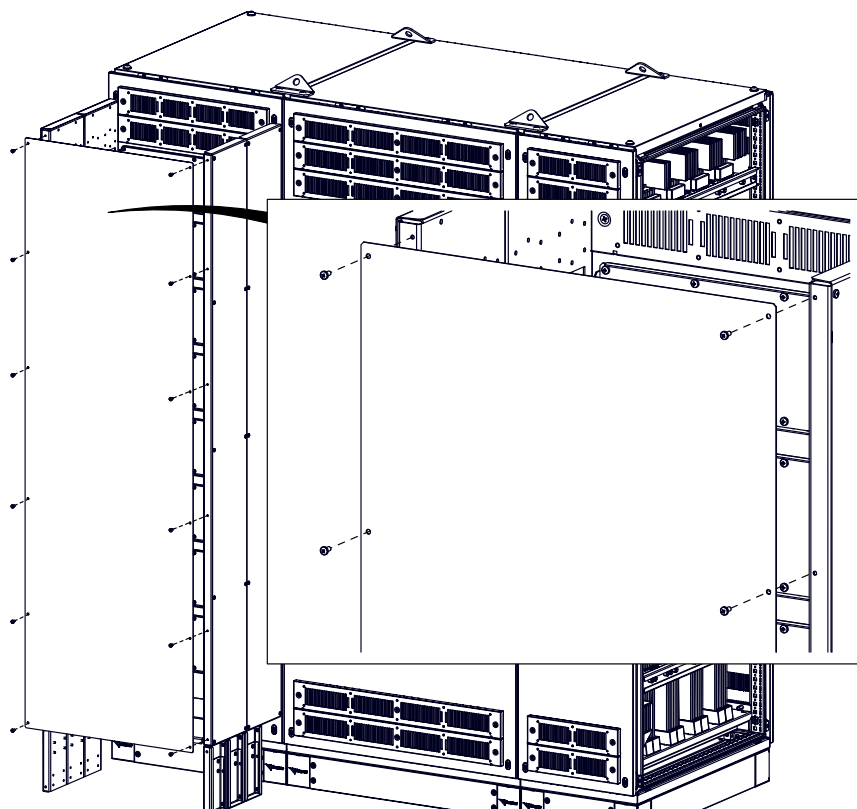


M5X10

Required Packages:

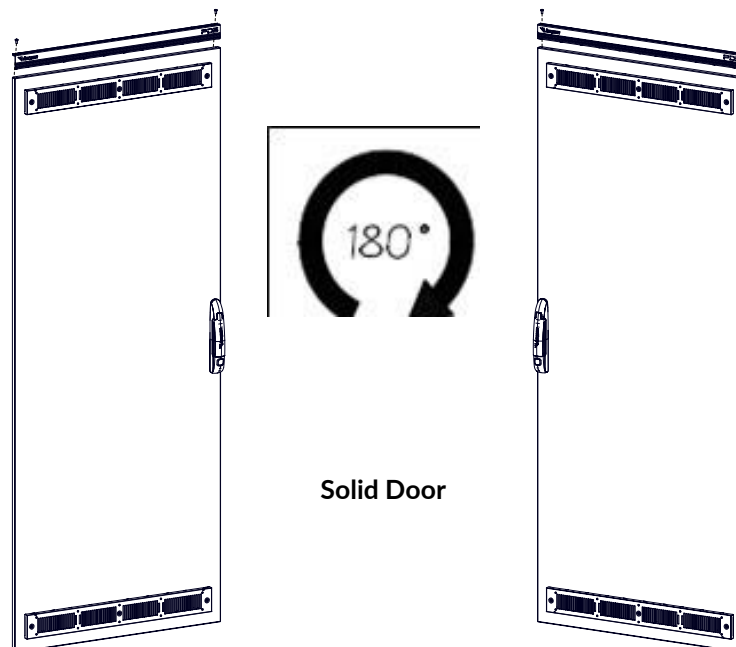
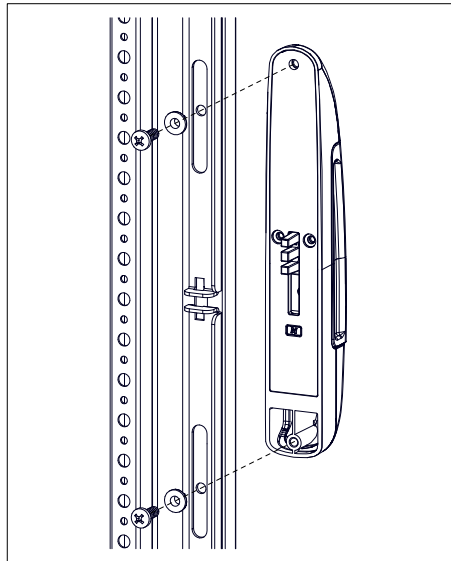
1003.X21

1028.100

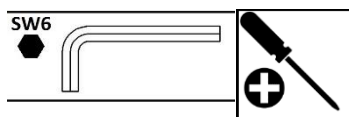


10. SOLID DOOR ASSEMBLY

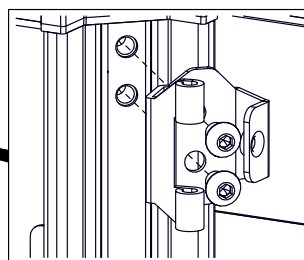
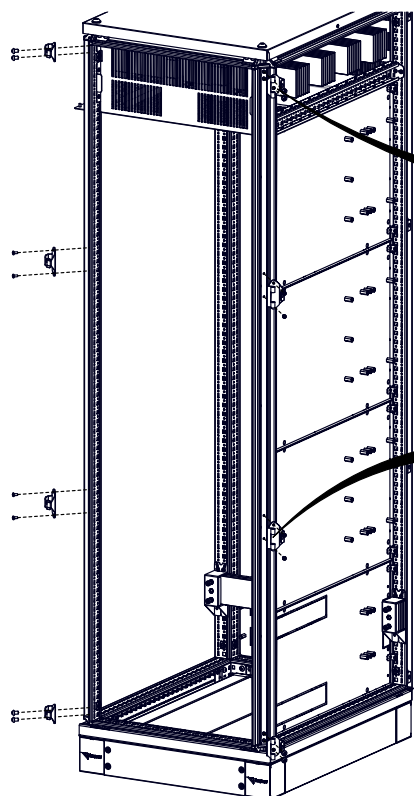
Required Packages:
Solid:1002.X20



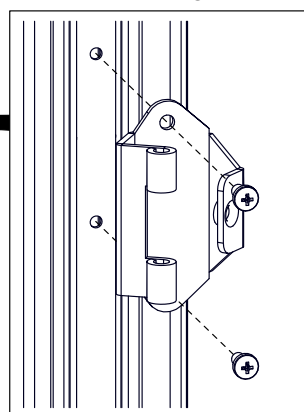
10. SOLID DOOR ASSEMBLY



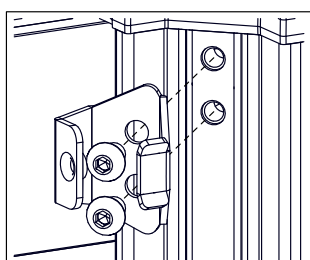
Required Packages:
Solid:1002.X20



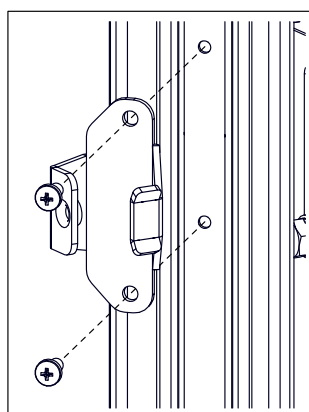
Top-Bottom Hinge Bracket



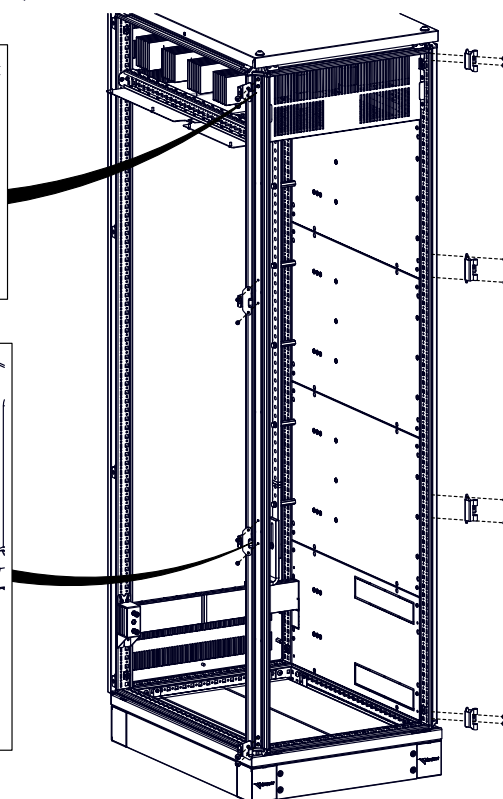
Mid Hinge Bracket



Top-Bottom Lock Bracket

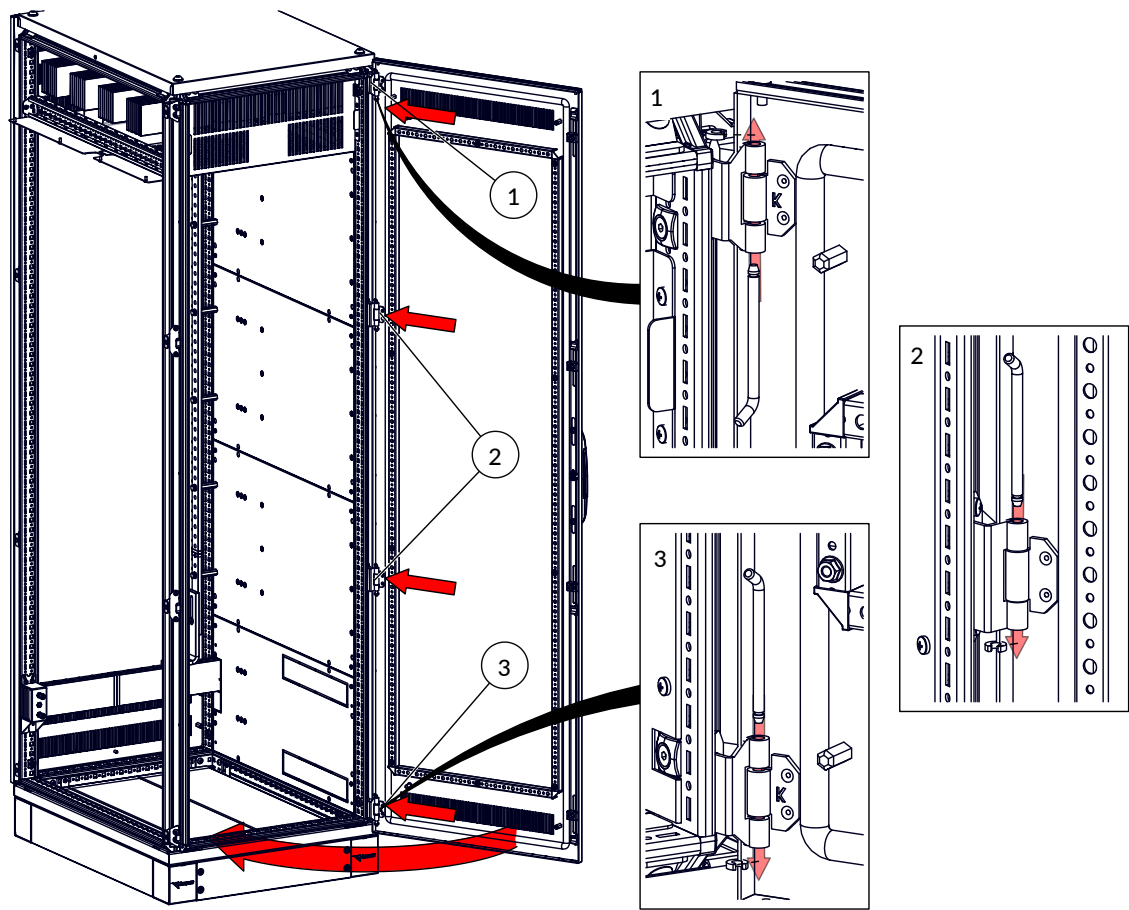


Mid Lock Bracket



10. SOLID DOOR ASSEMBLY

Required Packages:
Solid:1002.X20



11. SIDE PANEL ASSEMBLY



M6x23
8 pcs.



M5x25 M5x25 Only For 800 Depth!!!
1 pcs.

Required Packages:
Side Panel:706.2XX
Busbar Protection:1023.1XX

