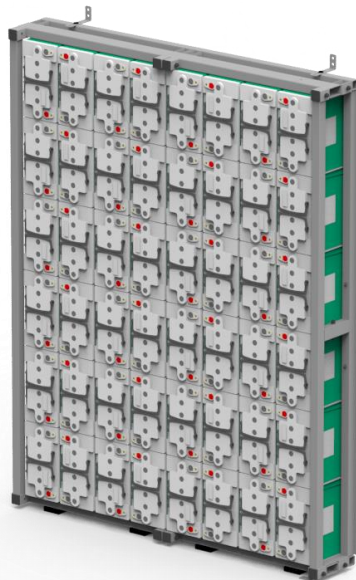


grid | XtremeStack

Montageanleitung

Assembly Manual



Montagevideo
Assembly movie:



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1 Foreword

Dear customer,

Thank you for choosing a product from our company.

Please read this documentation carefully before setting up the stacking device and installing the battery. It contains important information on the safe and professional installation of your grid | XtremeStack. Failure to observe the safety instructions and installation instructions can lead to serious personal injury and damage to property.

These assembly instructions are intended for trained specialist personnel for the intended use of the stacking device.

Keep this documentation in such a way that it is immediately available to all persons who have to carry out activities in connection with the stacking device.

We accept no liability for direct or indirect damage resulting from improper handling and all warranty claims are void.

We reserve the right to make changes to the content of this documentation. HOPPECKE Batterien GmbH & Co KG is not liable for any errors in this documentation. Liability for indirect damage arising in connection with the use of this documentation is also excluded. Our products are constantly being further developed, so there may be differences between the descriptions in this documentation and your purchased product.

2 Intended use

The grid | XtremeStack battery rack has been specially developed to accommodate **grid | Xtreme VR** batteries in the top terminal version. It is only to be used in conjunction with this type of battery. The batteries are stacked in the stacking device on each level on a separate intermediate layer to ensure a stable and form-fit battery arrangement.

3 General safety instructions

The assembly and installation instructions for the batteries must be read and observed; if you are unsure, please contact the seller.



In accordance with the European safety standard EN 62485-2, metal battery frames must be insulated against the battery and the installation site. Compliance with the applicable safety standard must be observed not only in relation to the stacking device, but also to the entire battery system.

Any other use of the battery rack is not permitted. Installation and maintenance work on the battery system may only be carried out by trained specialist personnel. Modifications to the stacking device may result in a change in the load capacity. Modifications must be carried out in accordance with the supplier's instructions.

Our stacking device has a protective insulated coating and is also insulated from the floor with plastic plates. Once the battery system has been installed, a "protective insulation" notice must be affixed in the visible area. Metal components with a damaged coating must be repaired or replaced with undamaged components in order to guarantee the protective insulation.

4 Requirements for the installation site

When determining the installation location and space requirements, as well as when carrying out the installation work, please refer to the valid installation drawing, if available. It should also be noted that the 1-row stacking devices must be positioned at the planned installation site before installation. The stacking device is a plug-in system that must also be bolted together with the supplied fastening screws for increased safety. The stacking devices must be fastened to the wall using the wall fasteners supplied before they are loaded. The floor must be suitable for the installation of the subsequent battery system.

The following points must be taken into account:

- Level floor
- Suitable load-bearing capacity of the floor (load-bearing capacity must be checked before installation)
- Sufficient conductivity
- Shock/vibration-free
- Minimum distances in accordance with EN 62485-2 must be ensured
- Sufficient room ventilation must be ensured
- The air in the battery room must be free of impurities



- Warning signs in accordance with EN 62485-3 must be affixed in the battery room
- No ignition sources in the vicinity of the cell openings
- The specified operating temperature is between 20°C - 25°C
Lower temperatures lead to a reduced available capacity and care must be taken to ensure that the maximum limit temperatures of the batteries are not exceeded
- The environment must be clean and dry
- The access door must be lockable and fire-retardant

5 Assembly preparation

- Check the goods for paint damage or defective components.
- Check the goods for completeness.
- If components are defective or missing, contact the supplier/seller.
- Ensure that the floor is stable and level for installation to ensure a vertical, perpendicular and stable installation.
- Check the walls/floors to ensure that the wall or floor bracket can be securely and stably attached.

6 Important assembly instructions

Once the stacking device has been successfully installed, ALL screws, nuts and front openings must be covered with caps.

When wiring the battery system, insulated cables and connectors in accordance with EN 62485-2 must be used.

7 Structure

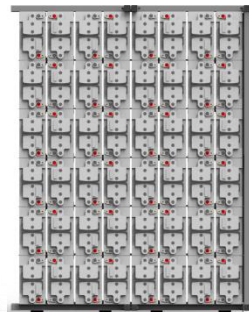
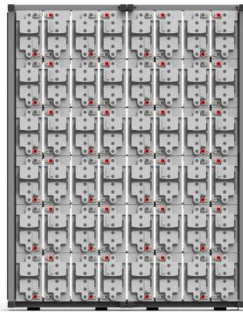
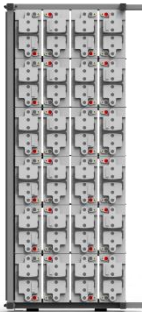
1-row and 2-row grid | XtremeStack

for grid | Xtreme batteries with 80 Ah, 110 Ah, 130 Ah, 150 Ah and 170 Ah

Half Section
(only as an extension
to the base frame)

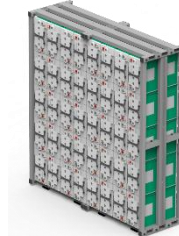
Base Frame

Full Section
(only as an extension
to the base frame)



1-row grid | XtremeStack

2-row grid | XtremeStack



8 Partlist





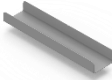









Number of packages (1-row and 2row are identical)

Half Section		Base Frame		Full Section	
1	Expansion set	2	Bottom set	2	Expansion set
1	Side set	2	Side set	2	Side set
1	Stacking aid	2	Stacking aid	2	Stacking aid


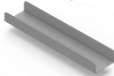





A raising set is only required for the grid | XtremeStack VR12-170 8x5 (8 batteries next to each other and 5 on top of each other) 1-row and 2-row.





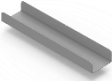
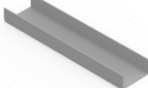






Parts list for the 1-row grid | XtremeStack

(the value for the 2-row grid | XtremeStack is shown in brackets)

Bottom set			
2 (2) x Floor parts 	2 (2) x PE-support plate 	2 (2) x Wooden dowels Ø 10 x 40 mm 	2 (4) x Wooden dowels Ø 6 x 40 mm 
1 (0) x Connector for 40 mm profile 	1 (3) x Connector for 80 mm profile 	2 (3) x Pressure rivet 	2 (4) x Screw M8x110 
4 (8) x Washer for M8 	2 (4) x Nut M8 	4 (8) x PE-cap for M8 	4 (8) x End-caps 40x40 
2 (0) x Wall mounting 	1 (0) x Locking blade lock Ø 10 mm 		



Side set			
<p>2 (2) x Side panels</p> 	<p>2 (2) x Connector for 40 mm profile</p> 	<p>2 (2) x Pressure rivet</p> 	<p>5 (10)x Screw M8x65</p> 
<p>10 (20) x Washer for M8</p> 	<p>5 (10) x Nut M8</p> 	<p>10 (20) x PE- cap for M8</p> 	

Expansion set			
<p>2 (2) x Erweiterungen</p> 	<p>1 (2) x PE- support plate(s)</p> 	<p>2 (2) x Wooden dowels Ø 10 x 40 mm</p> 	<p>2 (4) x Wooden dowels Ø 6 x 40 mm</p> 
<p>3 (0) x Connector for 40 mm profile</p> 	<p>3 (9) x Connector for 80 mm profile</p> 	<p>2 (3) x Pressure rivet</p> 	<p>6 (12) x Screw M8x110</p> 
<p>12 (24) x Washer for M8</p> 	<p>6 (12) x Nut M8</p> 	<p>12 (24) x PE- cap for M8</p> 	<p>4 (8) x End caps 40x40</p> 

Raising set			
<p>2 (2) x Increases</p>	<p>4 (4)x Connector for 40 mm profile</p>	<p>4 (4) x Pressure rivet</p>	<p>4 (4) x Screw M8x65</p>
<p>8 (8) x Washer fo M8</p>	<p>4 (4) x Nut M8</p>	<p>8 (8) x PE-cap für M8</p>	

Stacking aid
<p>Stacking rack depending on the number of shelves 4,5 or 6.</p>

Additional kit stacking aid	
<p>Spacer strips 150 x 10 x 5 mm depending on stack height 14, 18 or 21.</p>	<p>Anti-slip adhesive tape depending on stack height 4, 5 or 6.</p>

9 Assembly of the stacking device

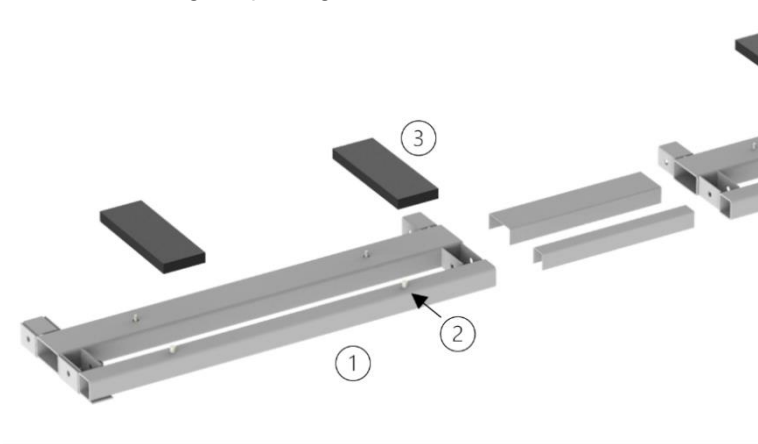
After you have completed the assembly preparation, you can start assembling the stacking devices. It is recommended to perform the assembly with two professionals to ensure a safe assembly.

You will need the following tools to assemble the fixture:

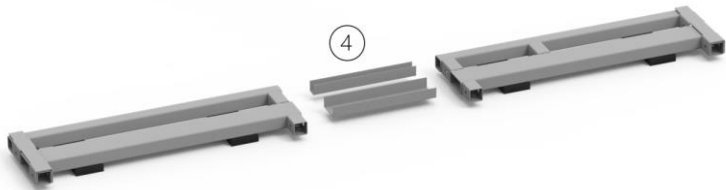
- Rubber hammer
- Large ratchet with 13mm socket
- 13mm wrench
- Spirit level
- Folding rule / measuring tape

9.1 Assemble the floor base parts

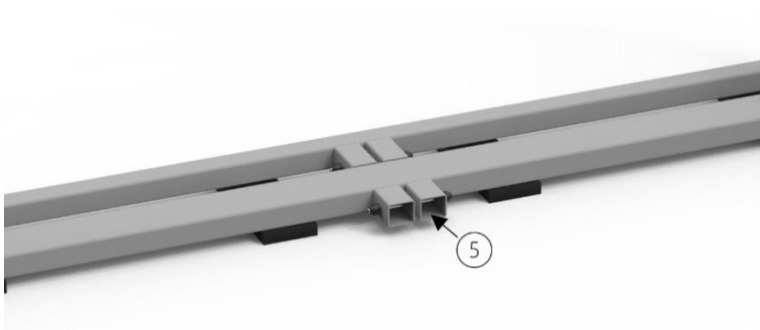
- Place the two floor parts (1) on the floor with the holes facing upwards.
- Use the rubber mallet to lightly tap the wooden dowels (2) into the support plates (3). Ensure that the 10 mm wooden dowels are driven into the 60 mm profile and the 6 mm wooden dowels into the 40 mm profile.
- Then align the support plates with their wooden dowels to the holes in the floor sections and connect the support plates to the floor sections with a light tap using a rubber mallet.



- Turn the base sections over so that they are resting on the support plates.
- Place the two U-shaped connectors (4) between the two floor sections with the open side facing upwards. Use the 40 mm connector for the 40 mm profile and the 80 mm connector for the 80 mm profile.
- Insert the two connectors into the first floor section up to the centre mark using light taps with the rubber mallet.
- Once the connecting profiles have been inserted halfway into the first floor section, connect the second floor section using the connecting profiles. If necessary, use the rubber mallet to bring the floor sections together completely.



- For better stability, screw the two floor parts together using the supplied M8 x 110 (5) spanner bolts and the corresponding U washers and nuts. Tighten the screws to a tightening torque of 13 Nm.
- Make sure that the floor assembly is mounted vertically and with a positive fit. If necessary, place shims under the support plates and level out any unevenness in the floor.



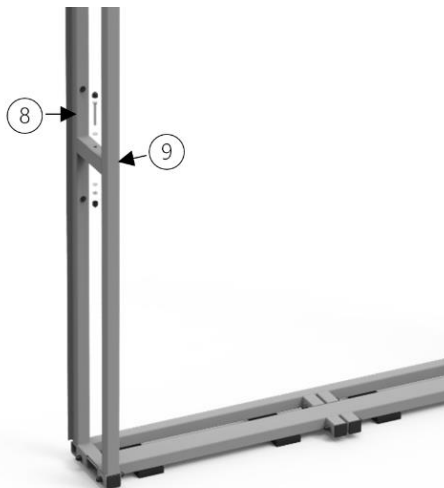
9.2 Mounting the side parts

- Insert the side sections into the base sections on the left and right.
- Screw the side sections together using the supplied M8 x 65 spanner bolts (6) and the corresponding washers and nuts.
- Take the pressure rivets (7) and insert them into the bottom side sections. They serve as end stops for the connectors.
- Then insert 2x connectors into each lower side panel.

The closed sides of the connectors must face inwards to prevent the connectors from slipping through.

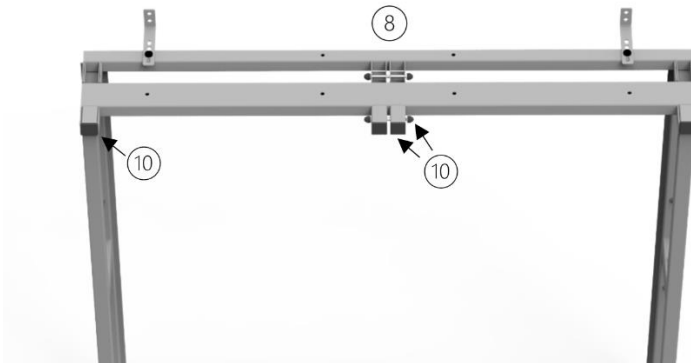


- Screw the two side parts together hand-tight using the supplied M8 x 65 (8) spanner bolts and the corresponding U washers and nuts. For the last battery layer, it may be necessary to move the side parts slightly apart so that the top layer of the battery can be inserted.
- **A raising set is only required for the grid | XtremeStack VR12-170 8x5 (8 batteries next to each other and 5 on top of each other) 1-row and 2-row.** The raising set is installed with the connector and the screws between the bottom and top side sections (9).



9.3 Final assembly of the upper base parts

- Connect the two upper base parts (1) as described in section 1.a, but without the support plates.
- Attention: If you have larger systems and use an aisle connector, please refer to chapter with the aisle connector.
- Place the connected base parts on the upper side parts and screw them together using the supplied M8 x 65 (8) spanner bolts and the corresponding washers and nuts.
- After a successful final check, all screw connections and the front openings on the metal construction must be fitted with plastic caps to ensure protection against accidental contact.



10 Extending the base frame (Full section/Half section)

The base frames can be extended as required. The extension is inserted into the base frame. In the case of an extension, the connecting screws of the side and base parts should only be fitted after the extension base parts have been inserted. The further assembly of the base and side parts, as well as the insertion of the batteries, is carried out as described above for the base frame.

11 Fixing the grid | XtremeStack

It is essential that the stacking device is fixed to the wall to prevent it from tipping over.

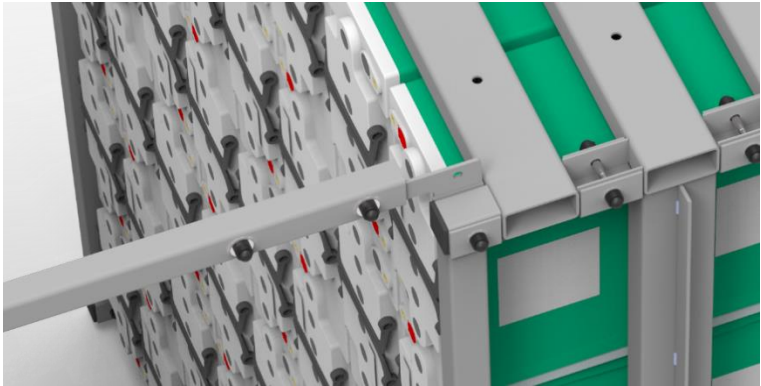
11.1 Wall- and floor mounting

- The 1-row stacking devices must be connected to the wall on each side using the bracket supplied once the batteries have been successfully fitted.
- Alternatively, it is possible to use optional floor fixings to prevent the racks from tipping over. The floor fixings are screwed to the connecting screws of the floor section facing inwards and then fixed to the floor using suitable fixing material (not included).

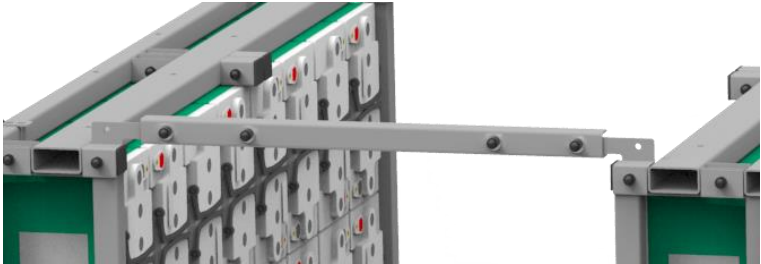


11.2 Aisle connector

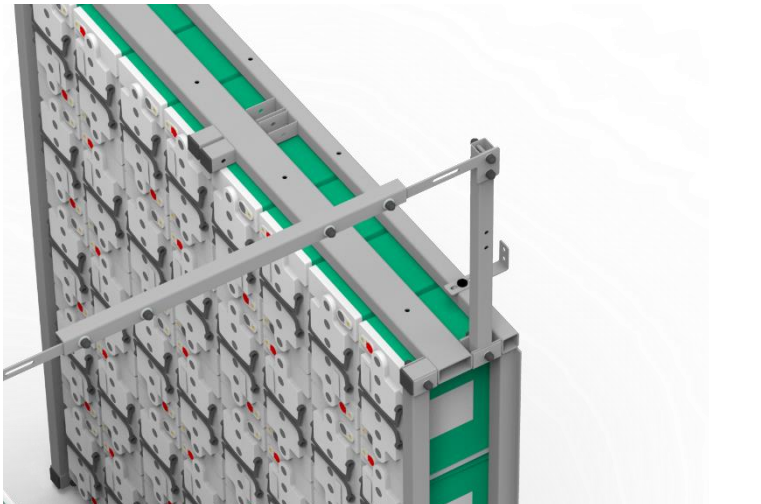
- If 1- and 2-row racks are used to construct a larger system, these racks must be connected to each other with optional aisle connectors to create an overall connection and thus prevent the stacking device from tipping. The aisle connectors are bolted to the upper base assembly and the side section.



- Depending on the aisle width, the connecting part can be screwed in different ways to achieve the desired aisle width.



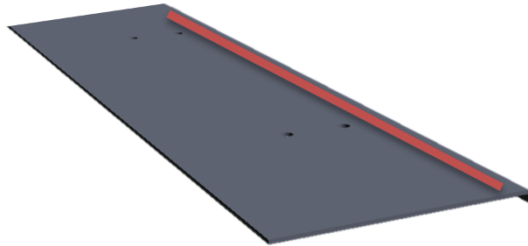
- If the frames have an aisle height of less than 2 metres, an optional elevation set must be used in addition to the aisle connectors.



12 Placing the batteries

The batteries are placed on special intermediate shelves in each layer, including the 1st level (bottom row). It must be ensured that the intermediate shelves are installed in every horizontal plane between the batteries!

Before inserting the intermediate shelves, the anti-slip adhesive tape must be applied to the intermediate shelves along the edge (orange line).



- A maximum of 4 batteries can be positioned on each intermediate shelf.
- For the Base Section and Full Section, insert two intermediate shelves for one level, for the Half Section only one intermediate layer and position the first battery.
- A spacer strip must be placed between each battery to guarantee a distance of 10 mm between each battery.
- Place a battery on the intermediate layer and then attach a spacer next to the battery. Repeat the steps until the first layer is filled.
- Place two intermediate layers on the first row of batteries and repeat the process.

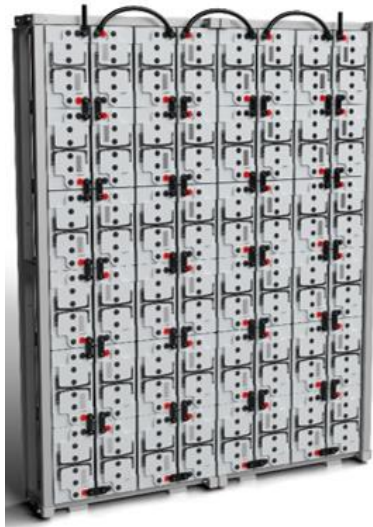


- As soon as the last layer is filled, the connecting screws of the upper and lower side parts must be turned hand-tight to create a slight pressure on the last battery level.

13 Interconnection of the batteries

Once the batteries have been installed and the stacking device has been attached, the batteries can be interconnected. Ensure that the connectors and connection cable are insulated to further ensure protective insulation.

Only fit the flexible connectors at the top; the other batteries can be interconnected using rigid connectors.



When connecting the battery, follow the instructions with the corresponding safety instructions for the battery!

14 Options

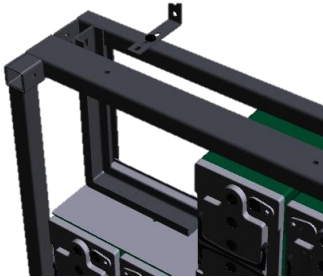
14.1 Raised floor adapter

If the load-bearing capacity of the raised floor is insufficient, the grid | XtremeStack can be placed directly on the subfloor using a raised floor adapter. This is attached to the adapter using a bracket.



14.2 Down-hold clamp

If at least 2 batteries are missing in pairs on the top battery level in a stacking device, the optional hold-down device must be installed. It is attached to the upper connecting screws and fills the area of 2 batteries to apply pressure to the last batteries. Optionally, the empty fields can also be filled with dummy batteries.



14.3 Loadspreader

The load distributor can be used to install an grid | Xtreme Stack in buildings with limited load-bearing capacity. This reduces the surface load to 1000 - 2000 kg/m². The grid | XtremeStack can be placed on the load distributor as on a normal floor.



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