CHARGE SAFE
USER MANUAL

PATENT PENDING
REV. 07-28-2022

CellBlock®
Fire Containment Systems

CellBlock CHARGE SAFE Battery Rack
USER MANUAL

BEFORE YOU START

The CHARGE SAFE is SAFETY EQUIPMENT!
Please familiarize yourself with this user manual and ensure that all staff are trained in the appropriate use and operation of the CHARGE SAFE.

INTRODUCTION

Without the appropriate separation and safety measures in place, charging multiple high watt hour batteries poses a dormant but potentially devastating threat. CellBlock FCS's Charge Safe battery racks were designed to accommodate powered mobility device batteries and to safely suppress fires in the event of a thermal runaway.

- CSA Group Tested with 1008 Wh batteries.
- Engineered to comply with fire codes and AHJ requirements for safety.
- Integrated charging with fire resistant barriers between each battery bay.
- CellBlockEX's simple deployment system halts propagation, preventing the spread of fire to adjacent batteries.
- Powder-coated steel and aluminum construction.
- Rechargeable extinguishing system.
- Equipped with heavy-duty locking wheels.

The Charge Safe FireShield offers additional protection while providing easy access during business hours. Constructed from CellBlock's proprietary textiles, these covers have been tested at over 1000°C (1832°F) for 30 minutes under test standard 14 CFR 25.1193(d).

- Back panel features a single zipper for access to power strips and charger cords.
- Front panel zips on either side and rolls up when access is required.
- When fully zipped, the cover will contain flames and projectiles during a thermal runaway situation.
- Engineered to mitigate explosion potential.
- The FireShield is included with every Charge Safe rack.

SECTIONS

Wheel Installation

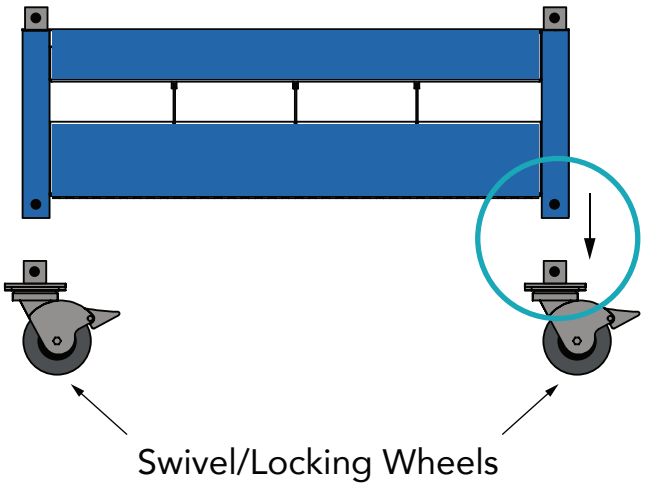


fig. 1

NOTE
Wheels are provided for ease of handling. Once electrical installation is complete, the rack must remain in place and the wheels MUST be locked.

CAUTION
Take care to not puncture the bottom of the module shelves. Puncturing the bottom of a shelf will release the fire-suppression media.

Step 1: Install wheels on left and right sides of bottom base module by sliding wheels into corner channels as shown in fig. 1. Secure each wheel with the provided locking pins as shown in fig. 2 Note that the power strip should face the back of the unit.

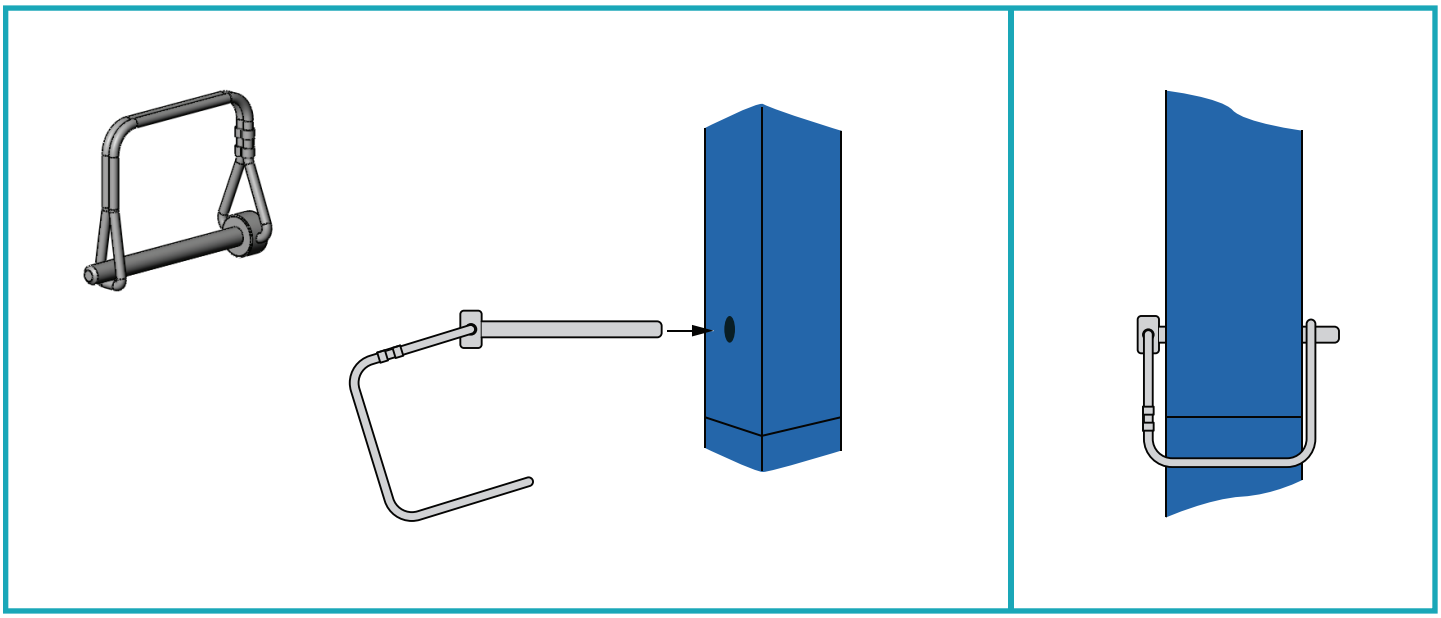


fig. 2

Modules Installation

CellBlock FCS Modular Battery racks are easily assembled **up to 5 units** high (4 base units, plus a top unit)

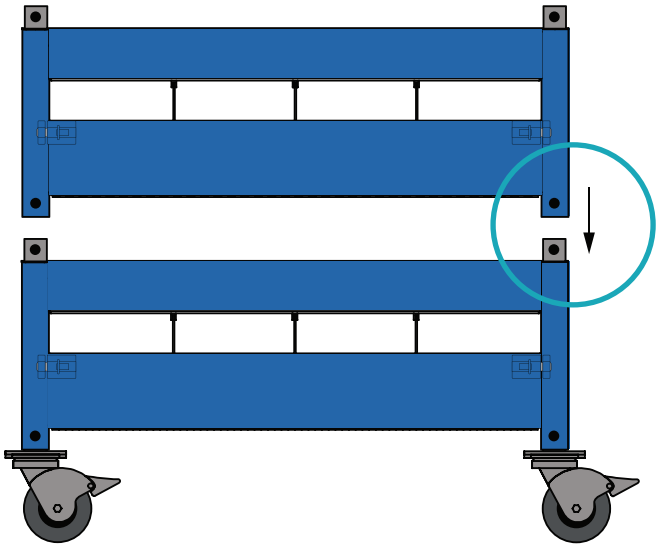


fig. 3

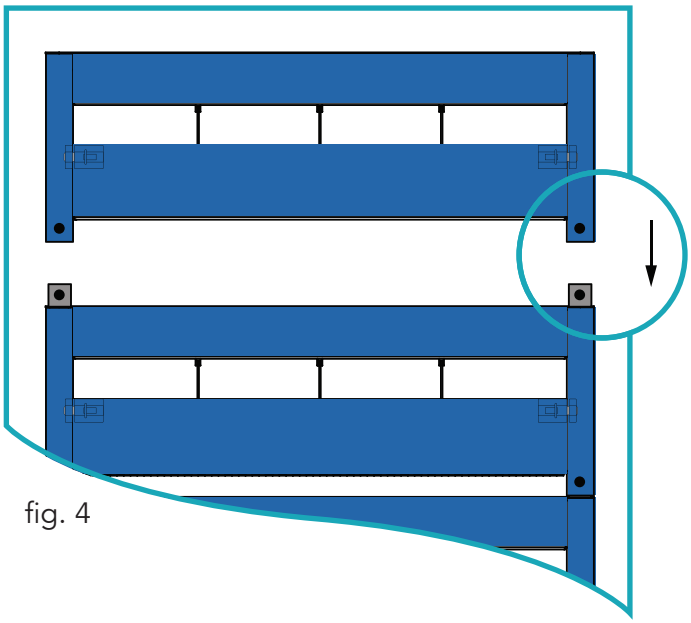


fig. 4

CAUTION
Take care to not puncture the bottom of the module shelves. Puncturing the bottom of a shelf will release the fire-suppression media

Step 2: Install up to 3 additional base modules by aligning corner channels and sliding together as shown in fig. 3. Secure each module with the provided locking pins as shown previously in fig. 2

Note that power strips must face the back of the unit.

Step 3: Install top modules by aligning corner channels and sliding together as shown in fig. 4. Secure each module with the provided locking pins as shown previously in fig. 2

Electrical Installation

Step 4: Thread the electrical cords through the corner grommets on each module (fig. 5 and 6). Secure wires with provided Velcro straps (fig. 7). Have a **licensed electrician** wire each cord as outlined below.

NOTE
Cabinet electrical installation must be performed in conformance with state and local electrical codes.

- Outlets and power strips are color-coded (fig. 8) for ease of installation.
- Each power strip is rated for **20 amps**. Depending on the required amperage draw, your installer may opt to wire one strip per circuit, or may wire two power strips per circuit.
- A sub panel is recommended.
- **Lock wheels in place once rack is positioned.**
- **Also refer to Rack Placement** (page 10)

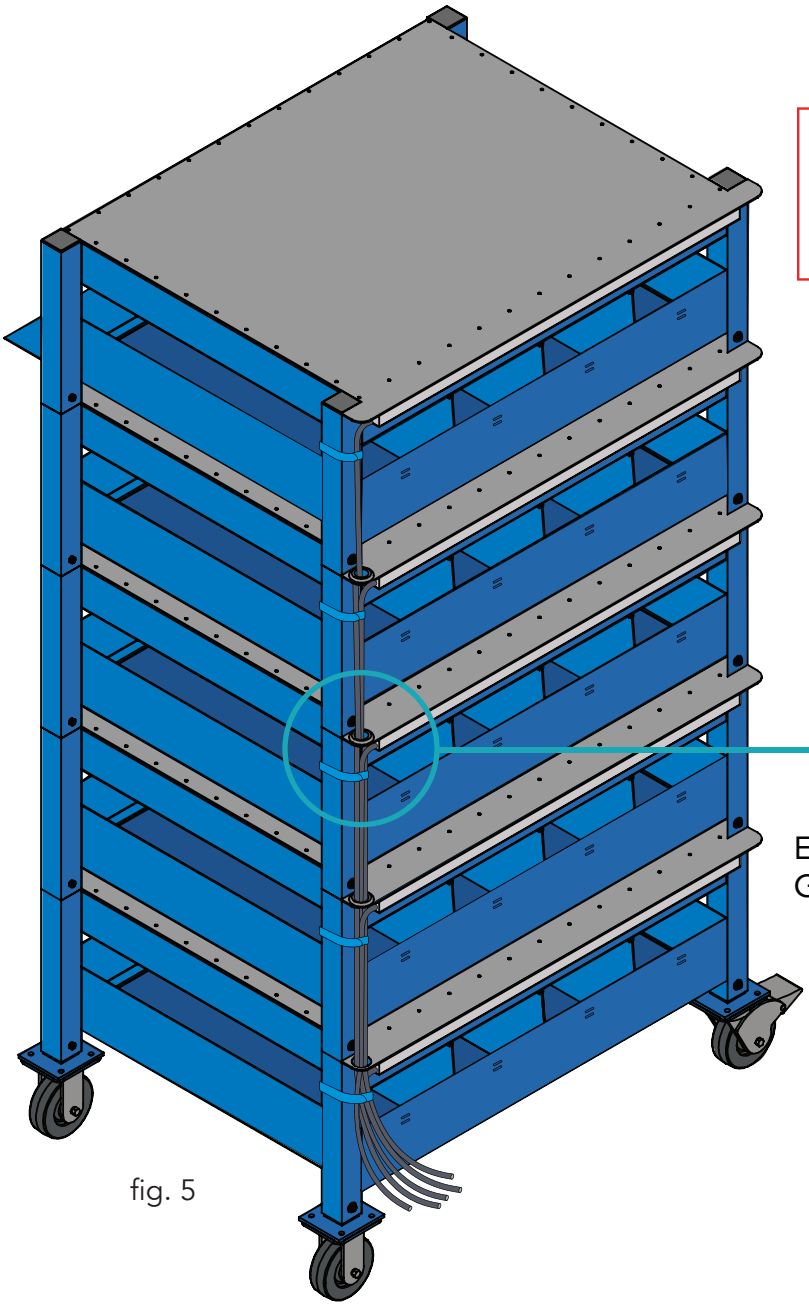


fig. 5

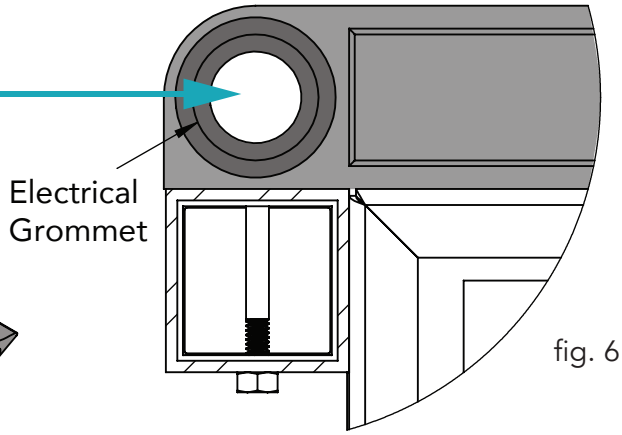


fig. 6

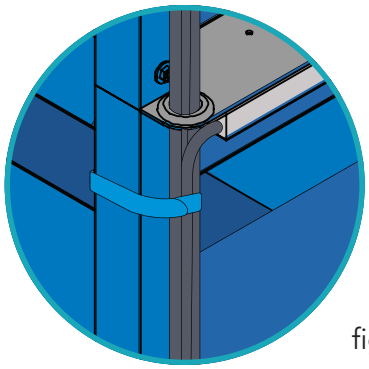


fig. 7

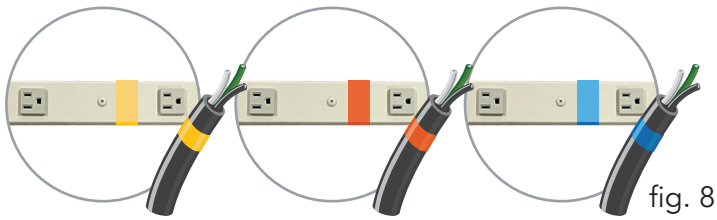


fig. 8

Install Chargers

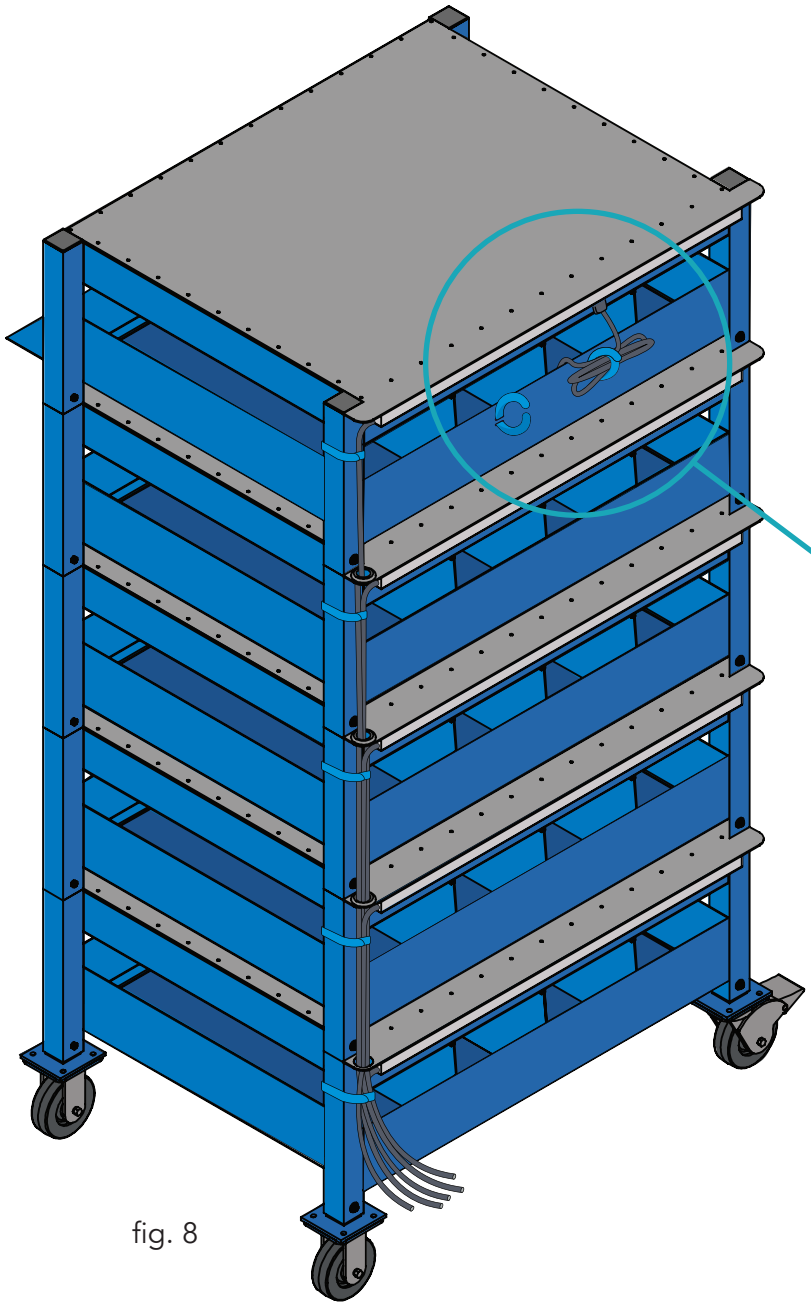


fig. 8

Step 5: Prior to installing the Fire Shield cover, place battery chargers inside the modules. Install one charger per cubicle and plug each cord into the power strip above the shelf.

Cords should be neatly bundled to adhere to fire codes. Velcro straps are provided. Thread each Velcro strap though the slots at the back of each cubicle as shown in fig 9. Bring the charger cords to the back of the unit and secure with Velcro.

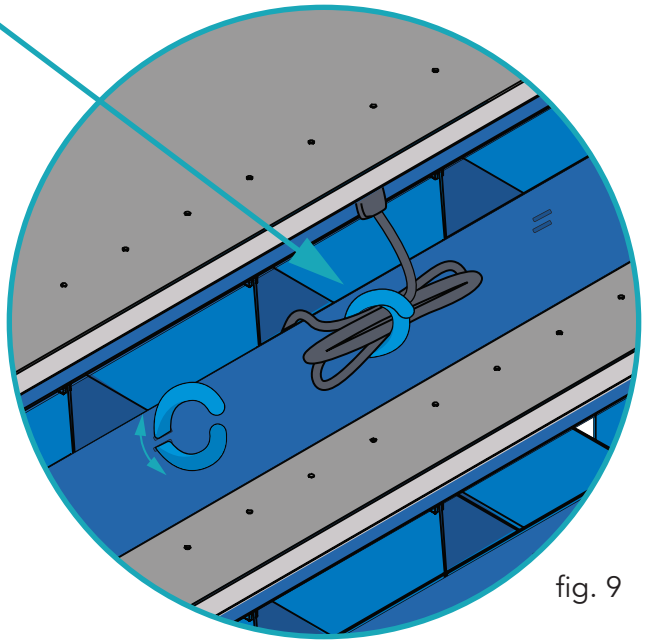


fig. 9

Install Cover

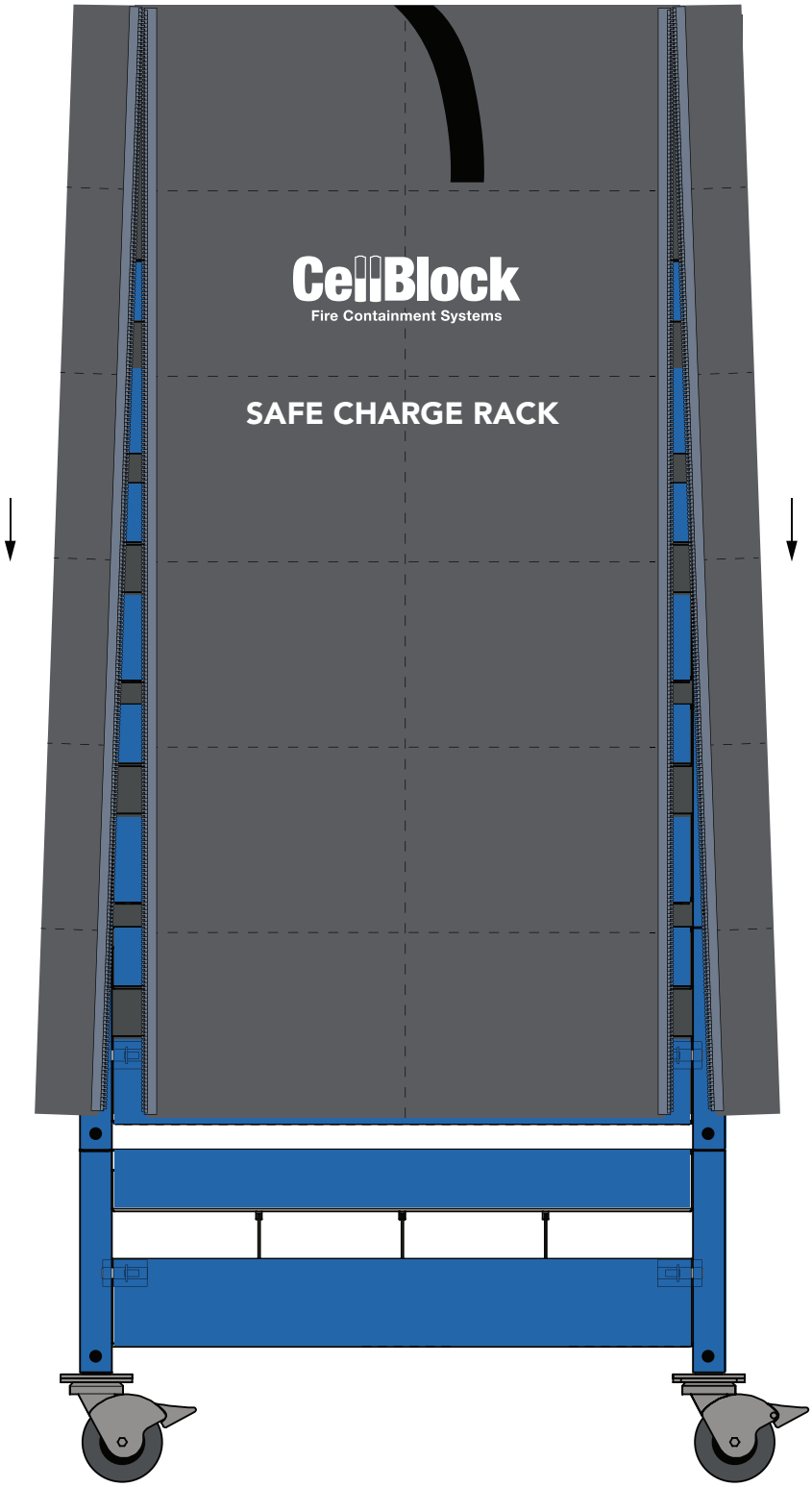


fig. 10

Step 6: Once all chargers are placed inside the modules, install the Fire Shield cover. The cover is equipped with 3 zippers: one in the center back and two in front. The single zipper in the back allows access if one of the chargers needs to be replaced. The two zippers in front are for daily access to the cubicles.

Open all zippers for ease of installation and slide cover over the battery rack.

Zip back zipper. **This back zipper should remain zipped at all times unless access to the power strips is needed.**

Once the cover is in place, use provided Velcro straps at inside corners to secure cover to corner posts. (fig. 11) There are two Velcro straps per side.

Front zippers should be secured when rack is unmonitored and batteries are actively being charged.

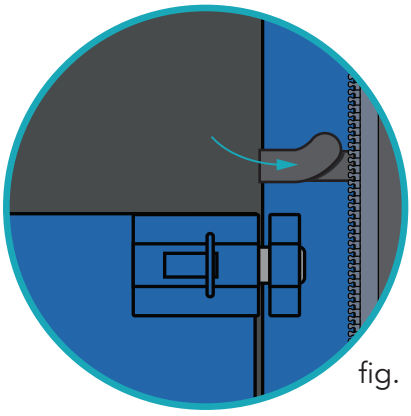


fig. 11

CellBlock CHARGE SAFE Battery Rack
Section 2 - Operation and Maintenance

Emergency Response

The procedures in this manual should be considered recommendations and are provided as guidance only. It is the responsibility of the business or organization management to perform a risk assessment and author their own safety procedures and protocols.

With these principles in mind, CellBlock suggests the procedures listed in this document when charging batteries and handling thermal runaways.

The CHARGE SAFE is SAFETY EQUIPMENT!
Please familiarize yourself with this user manual and ensure that all staff are trained in the appropriate use and operation of the CHARGE SAFE.

The presence of an electrical odor or strange chemical scent, the emission of smoke, or small popping sounds may indicate a potential thermal event. If any of these signs are observed, and it is safe to approach the rack, immediately secure the cover.

Do not approach if there are visible flames.

In the event of a thermal runaway follow your fire response procedures and alert 911.

Post Incident Procedures

Clean Up
Following a thermal event, the damaged battery and contaminated CellBlockEX must be disposed of properly.

For battery disposal/recycling, please contact Call2Recycle for DOT approved packaging and battery retrieval: call2recycle.org or 1-877-723-1297

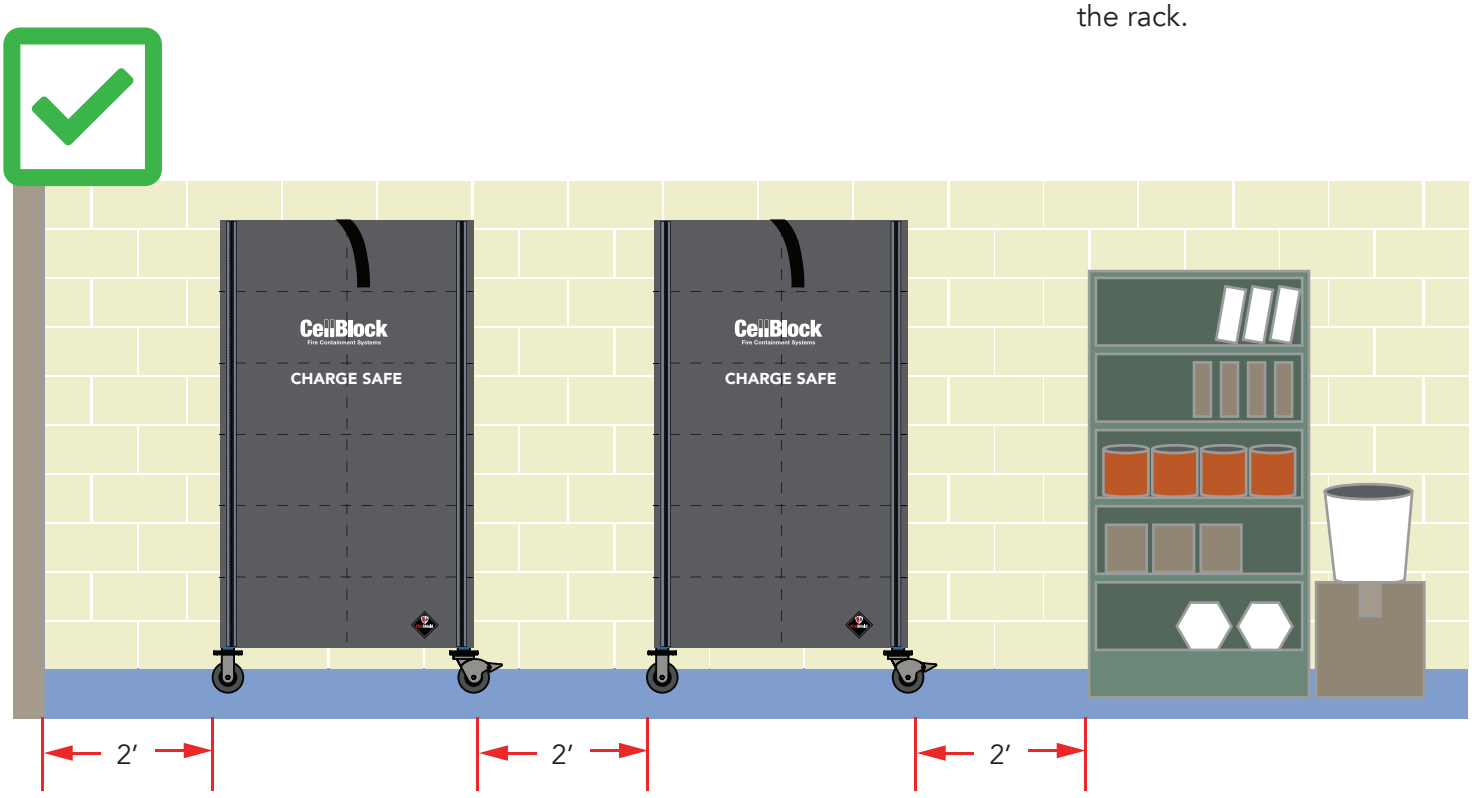
Contaminated CellBlockEX should be properly disposed of in accordance with your local and State regulations for hazardous waste.

Returning the Battery Rack to Service
The ChargeSafe Battery Rack will require manufacturer restoration, recharging and recertification after a thermal event.
Contact CellBlock FCS: cellblockfcs.com or 1-800-440-4119

Battery Rack Placement

The Charge Safe Battery Rack was designed to maximize battery storage space, while also meeting safety requirements. Should a battery catch fire, flames may exit the rack. This is an intentional design to prevent the buildup of dangerous gases. Therefore a safe distance should be maintained between adjacent racks, as well as other materials.

- Maintain at least 2′ of distance between racks and other combustible materials.
- Never place items on top of the rack.



CellBlock Fire Containment Systems
CellBlockEX FIRE/HEAT/SMOKE SUPPRESSANT
800-440-4119 INFO@CELLBLOCKFCS.COM CELLBLOCKFCS.COM

FireShield Cover

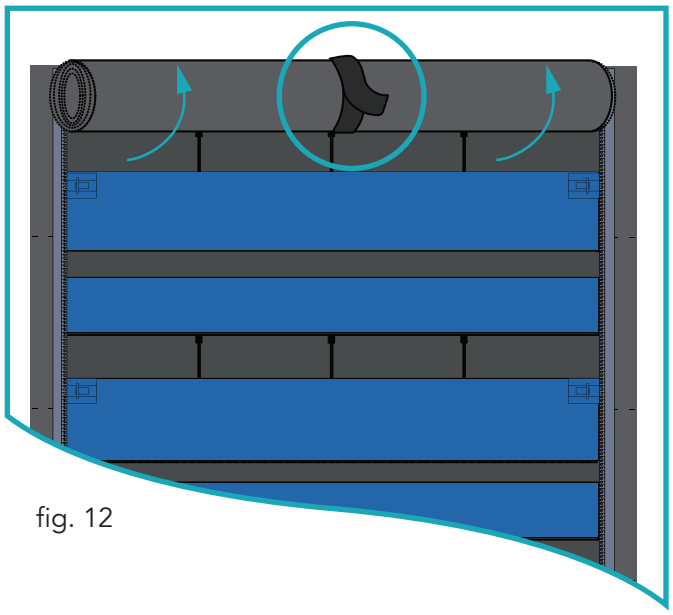


fig. 12

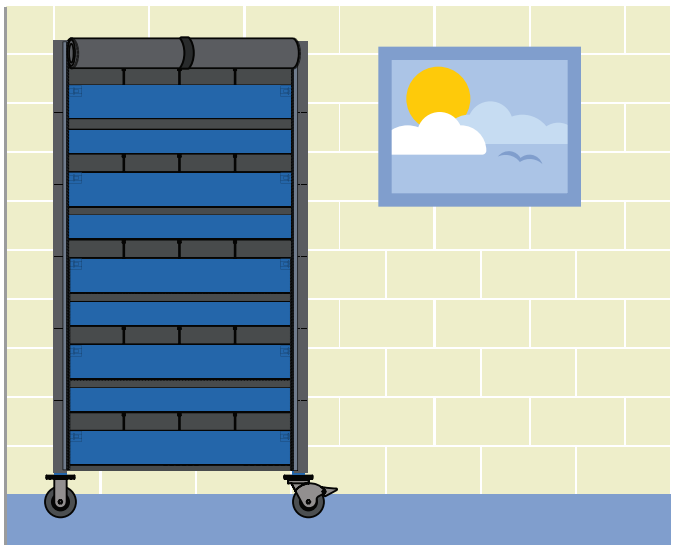
The FireShield cover is constructed from fire-rated textiles which help to contain flames and projectiles. The open-bottom design also prevents the build up of gas and pressure.

The FireShield is equipped with three full length zippers. The center back zipper provides access to the electrical ports and allows for easy installation and organization of chargers. The two front zippers allow daily access to the charging bays.

- The FireShield cover should be installed from the onset of use.
- Once all chargers have been installed, the back center zipper should remain zipped.
- To access the battery rack, unzip the two front zippers and roll the flap up to the top. Secure with the provided 2" Velcro straps (fig. 12)
- The front flap should be re-secured whenever possible and **must be secured when the rack is unattended**. This will not impact the batteries during charging.
- It is permissible to leave the cover open provided that the rack is actively monitored. This allows for heat dissipation during charging.

Unmonitored Charging
Keep FireShield closed

Monitored Charging
FireShield may remain open



Charging Batteries /Appropriate Spacing

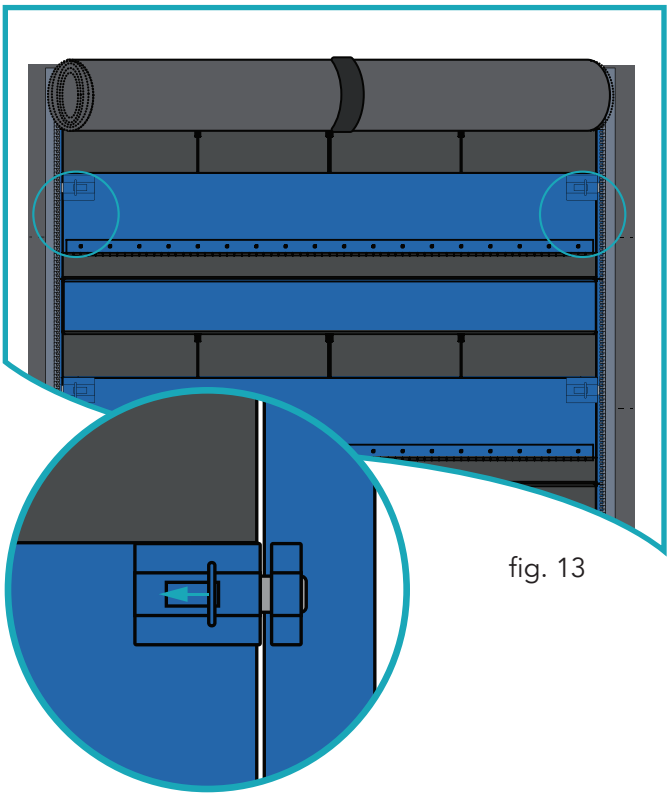


fig. 13

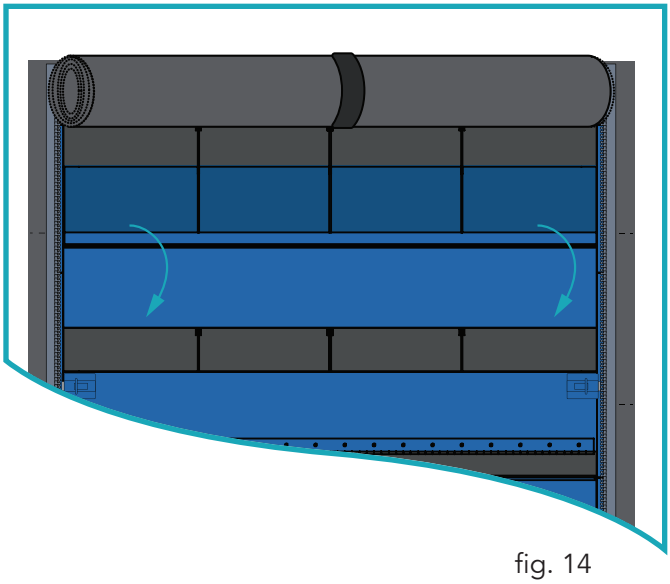
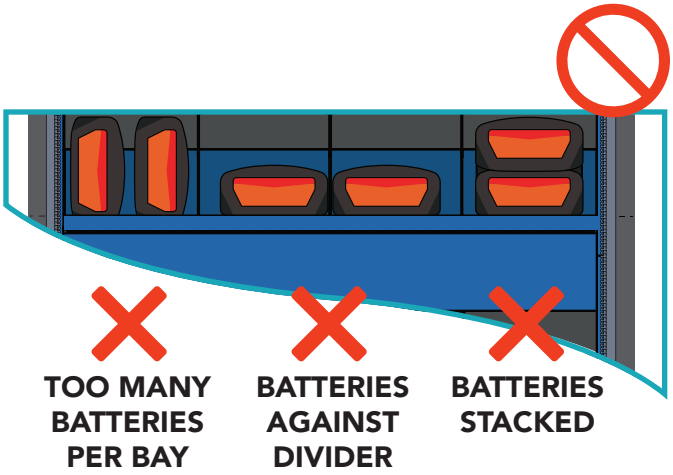


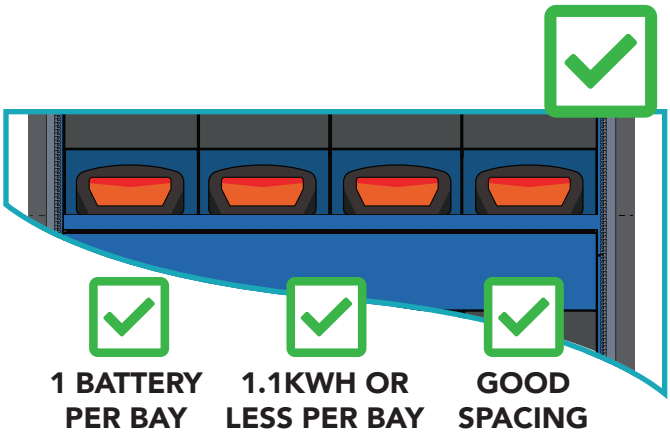
fig. 14

Battery charging bays are pre-installed to accommodate the maximum number of batteries safely. To access the individual charging bays, release the slide-bolt latch at either side of the front entry door (fig.13) and lower the door (fig. 14).

- Place only **ONE BATTERY PER BAY** and **NEVER DOUBLE STACK BATTERIES.**
- No more than **1.1 KWH** per bay.
- Do not place batteries against bay walls - take care to center the battery in the charging bay, allowing airspace on either side, front, and back.
- **KEEP FRONT ENTRY DOOR CLOSED** at all times. Open only to remove or replace batteries.

Take care to not puncture the bottom of the module shelves. Puncturing the bottom of a shelf will release the fire-suppression media and the unit will need to be recharged.





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