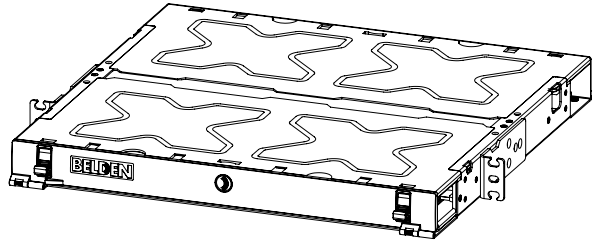


# ECX - 1U/2U INSTALLATION GUIDE

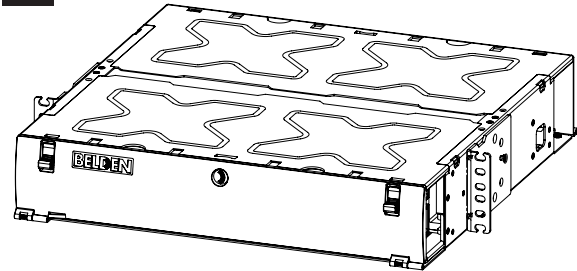


ES: Visite nuestra pagina web [www.belden.com](http://www.belden.com) para obtener el guía de instalación en español.  
FR: Veuillez visiter notre site web au [www.belden.com](http://www.belden.com) pour obtenir le guide d'installation en français.

**1U**



**2U**



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## 1. Precautions



**WARNING:** Never look at the end of a fiber that may be carrying laser light.



**CAUTION:** Wearing safety glasses can prevent injuries (or accidents) related to handling chemicals, cables or working with sharp pieces of glass.

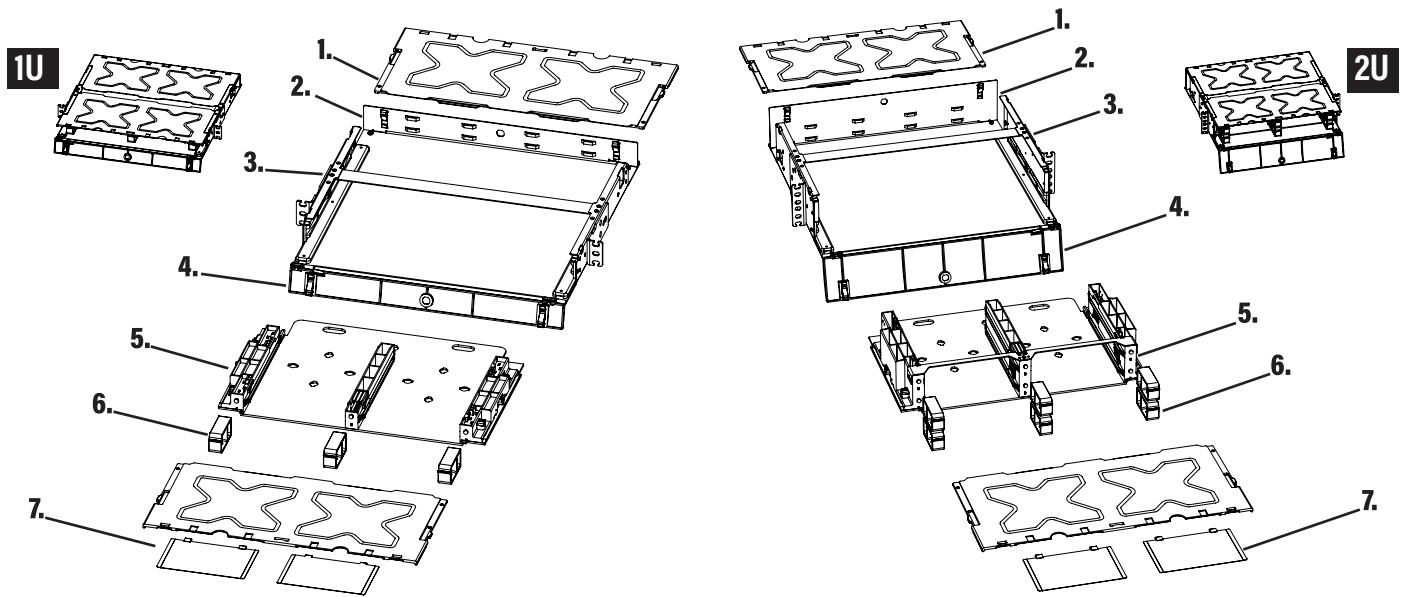


**CAUTION:** Avoid contact between broken glass fibers. These glass fiber fragments are sharp and can penetrate the skin easily. The use of safety gloves is highly recommended.



**CAUTION:** Maintain a clean work area by sweeping all the fiber debris and disposing of them appropriately.

## 2. Carton contents



- 1. Removable top covers (2x)
- 2. Rear door
- 3. Housing
- 4. Front door

- 5. Sliding tray
- 6. Patch cord management clips  
(3x for ECX 1U and 6x for ECX 2U)
- 7. Labels cards (2x)

- 8. Installation guide [ECX: Splice cassette and 1U/2U QSG - not shown]
- 9. Hardware kit [not shown]

### 2.1. Hardware kit contents

Contents quantity		
Part #	ECX 1U	ECX 2U
1.	2x	4x
2.	8x	8x
3.	1x	2x
4.	1x	1x
5*	R= 1x, L= 1x	R= 1x, L= 1x
6.	4x	4x
7.	4x	4x
8.	2x	2x
9.	4x	4x
10.	2x	2x
11.	4x	4x
12.	4x	4x
13.	4x	4x
14.	2x	2x
15.	2x	2x
16.	2x	2x



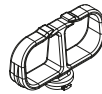
1. Blank frames



7. #6-19 x 1/4" - screw for plastic



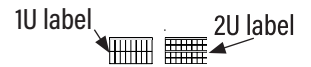
13. 8" Velcro cable tie



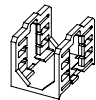
2. Management clips



8. #6-19 x 1/2" - screw for plastic



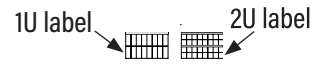
14. [3/6/12] I.D. label ports



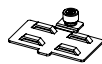
3. Intermediate strain relief



9. #12-24 - machine screw



15. [8/16] I.D. label ports



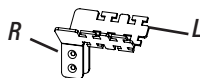
4. Internal strain relief



10. #10-32 - machine screw



16. Door lock opening cap



5. External strain relief [R&L]



11. 4" self-locking cable tie



6. M4 x 5mm - Metric screw



12. 7" self-locking cable tie

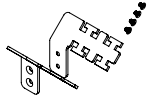
\*R&L= Right and left sides

NOTE: Refer to section 10.2. to see detailed illustrations of I.D. labels.

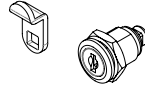
### 3. FX ECX accessories and tools required

Please take note that the following products may be required depending on your application. These components are ordered separately. For further information regarding ECX accessories, please visit our website at [www.belden.com](http://www.belden.com)

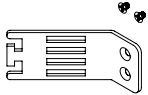
#### 3.1. FX ECX accessories



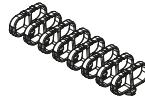
- FX ECX external strain relief right (1x) and left (1x) (ECX-1U2U-EXSTR)



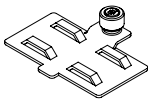
- Mini lock kit (ECX-LOCKKIT)



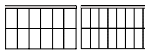
- FX ECX angled external strain relief (ECX-1U2U-EXSTRA)



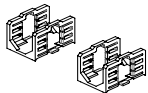
- FX ECX managements clips (8x) (ECX-MGTCLIPS)



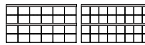
- FX ECX internal strain relief (ECX-1U2U-INSTR)



- I.D. labels for 1U ports (2x) (ECX-LBL-1U)



- FX ECX intermediate internal strain relief (2x) (ECX-INTERSTR)



- I.D. labels for 2U ports (2x) (ECX-LBL-2U)

*NOTE: Refer to section 10.2. to see detailed illustrations of I.D. labels.*

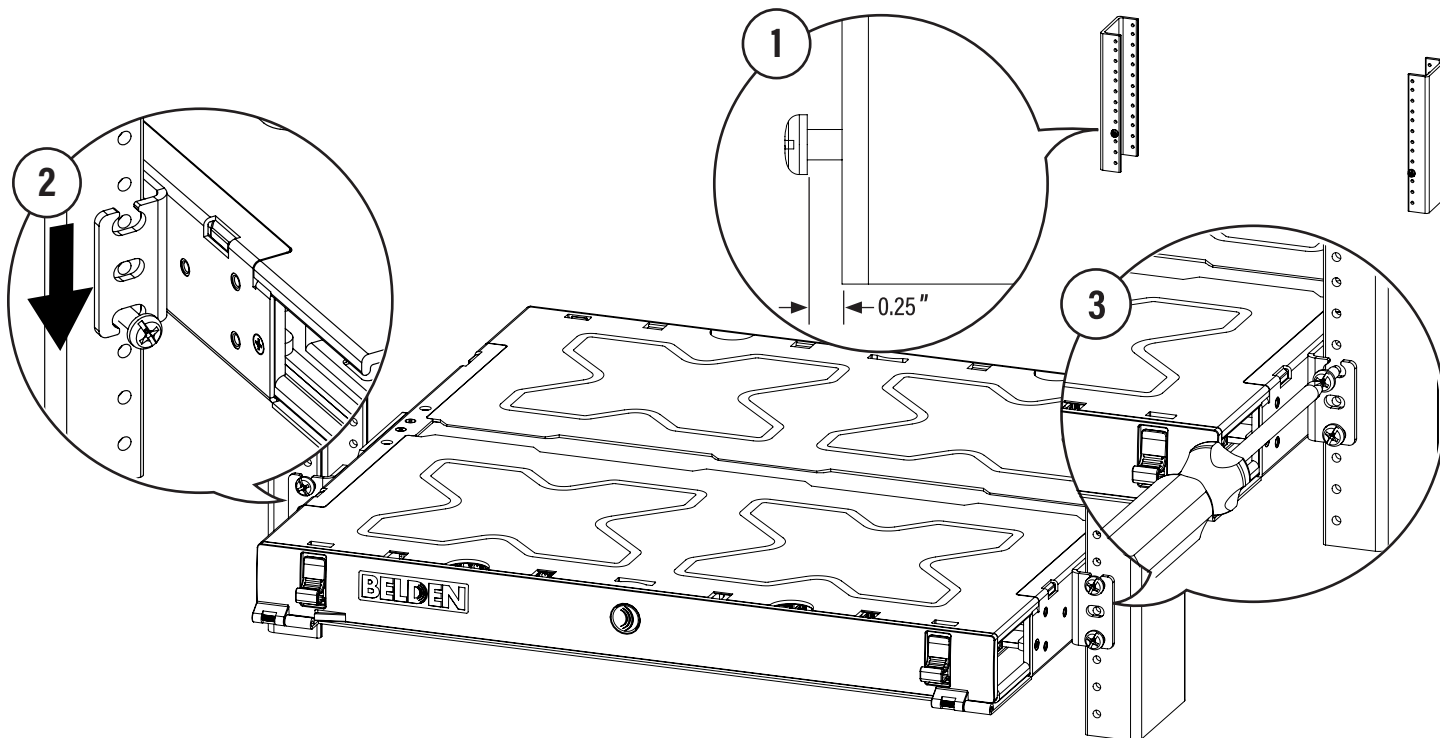
#### 3.2. Tools required

- Phillips screwdriver
- Cutting pliers

## 4. Mounting the ECX housing

This section shows how to install the ECX 1U/2U to a 19" rack or cabinet.

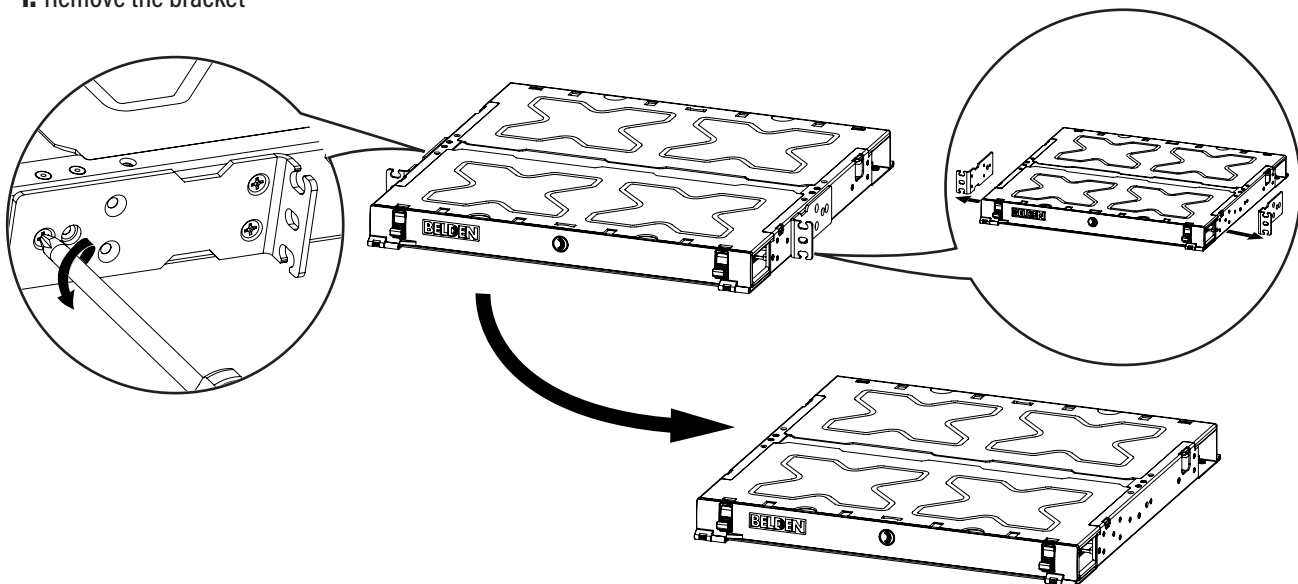
1. Insert the bottom screws into the rack as shown (use #12-24 or #10-32 screws provided in the hardware kit).
2. Install the housing to the rack and position the bottom slots of the mounting brackets onto the installed screws. These screws will carry the weight of the housing during the installation.
3. Tighten the bottom screws firmly. Insert and tighten the top screws.



## 5. Changing the position of the rack mounting brackets (optional)

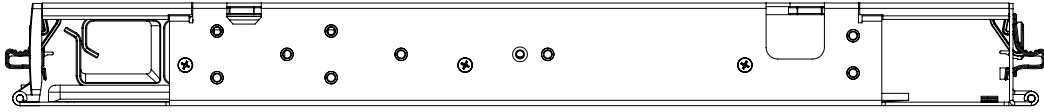
Depending on your application, the ECX mounting brackets can be adapted to different positions.

1. Remove the bracket

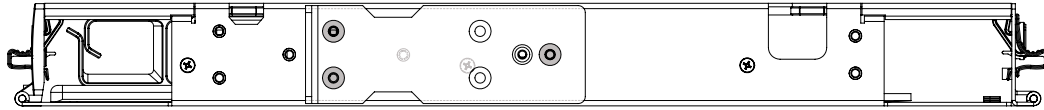


**2. Identify the mounting hole location where the brackets will be installed.**

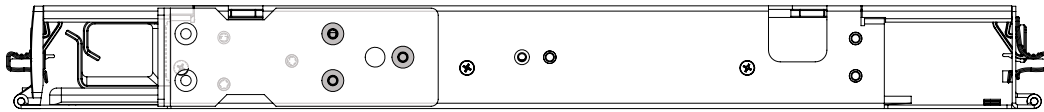
*Without brackets:*



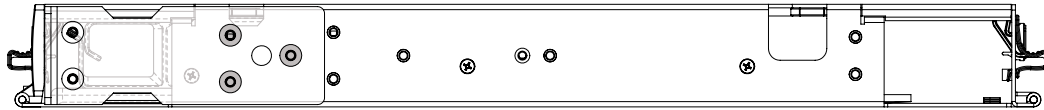
*Standard position:*



*3" position:*

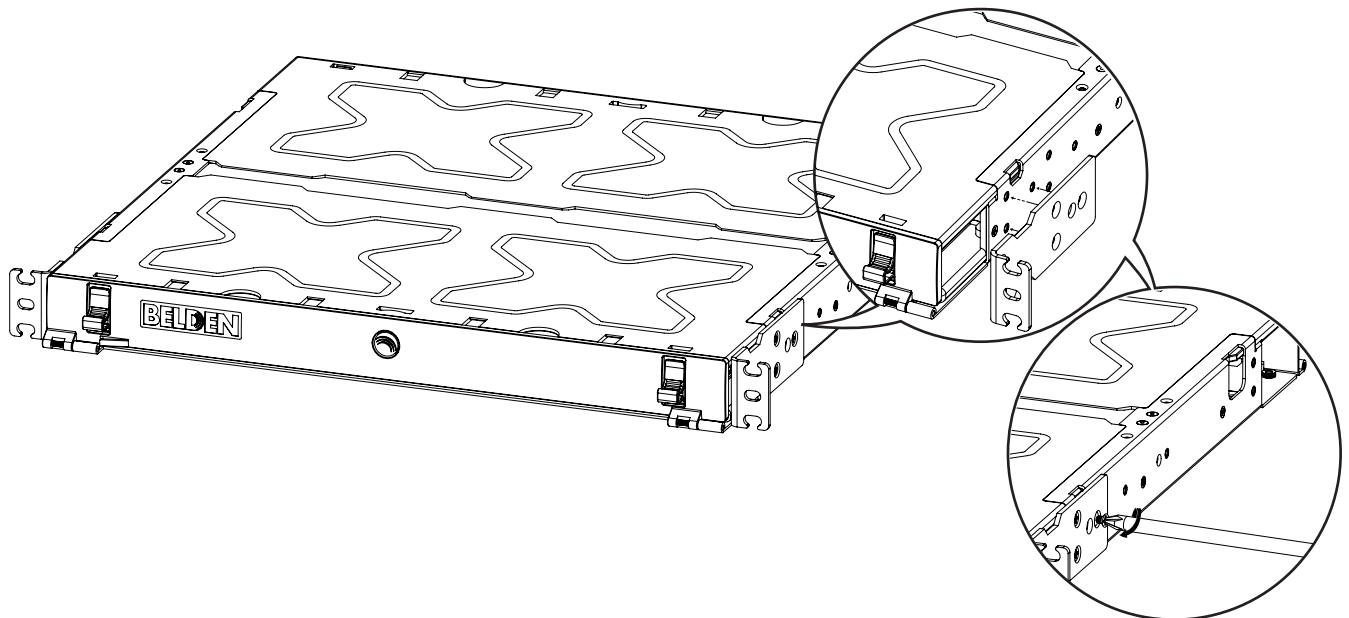


*Flush position:*



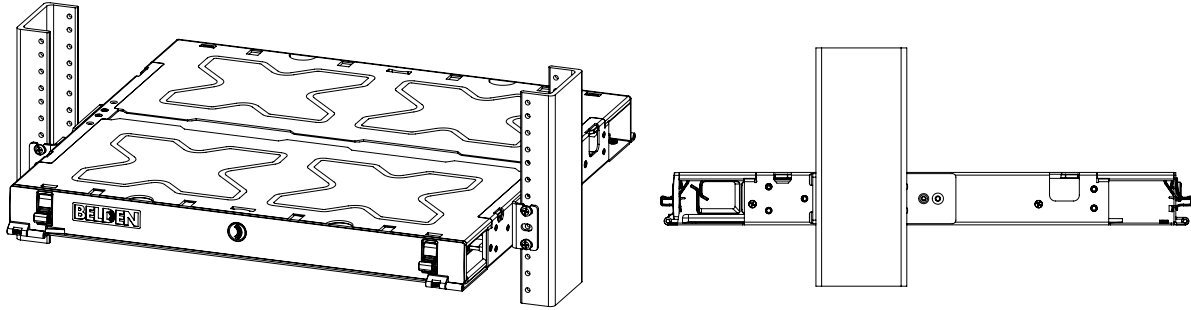
■ = Mounting brackets installation areas.

**3. Install the bracket by reusing the same screws.**

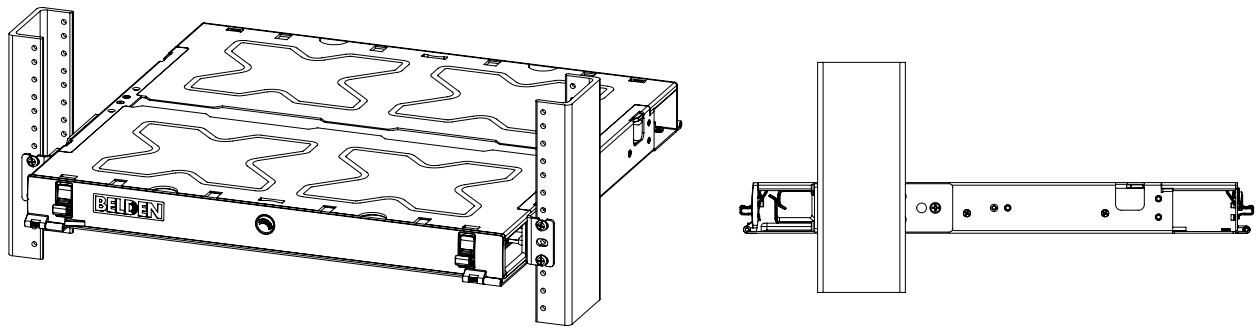


**4. Mount the housing to the rack.**

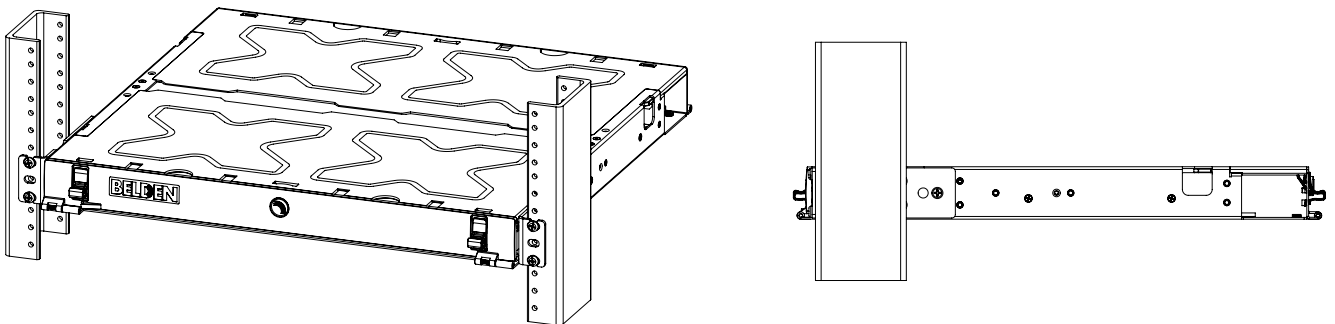
*Standard mounting position:*



*3" mounting position overview*



*Flush mounting position overview*





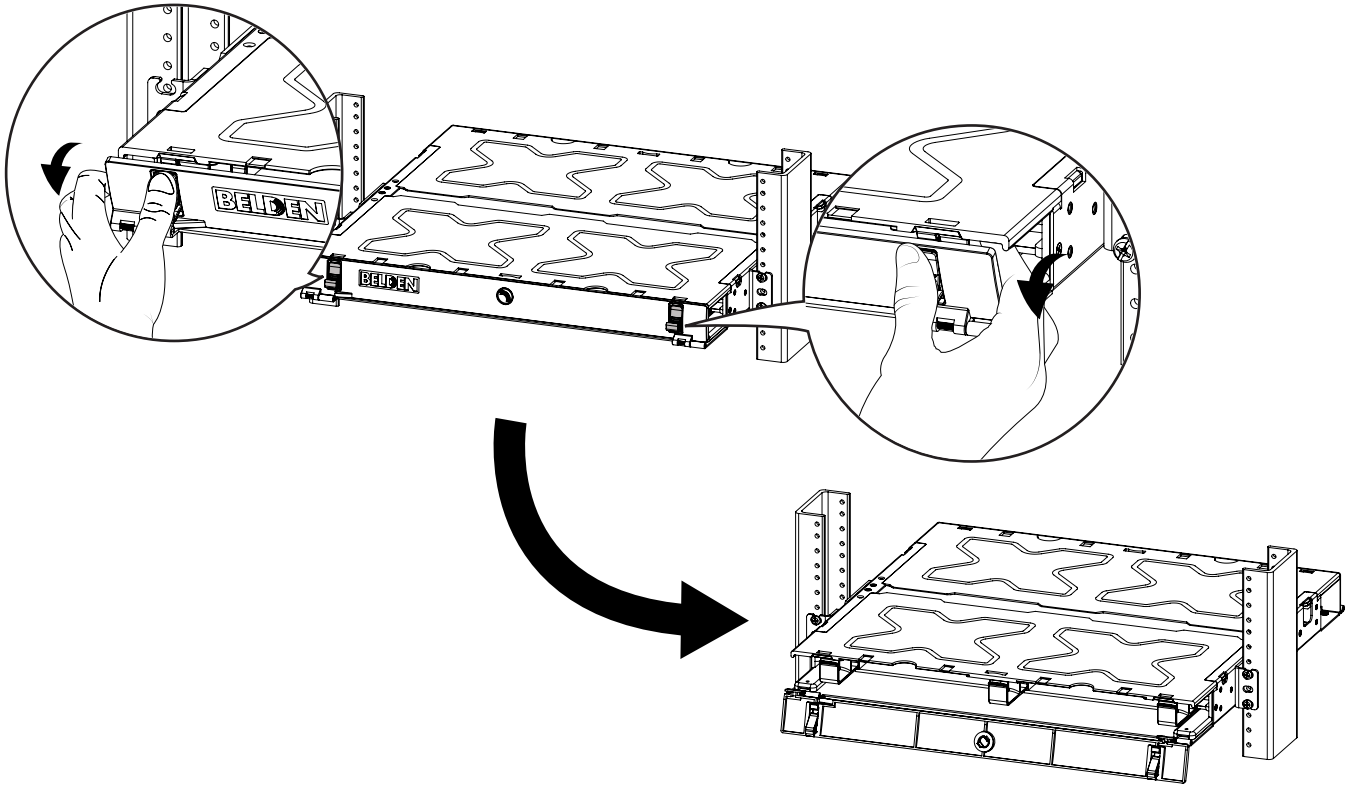
## 6. Housing features and manipulation

This section explains accessibility features of the ECX housing and its components.

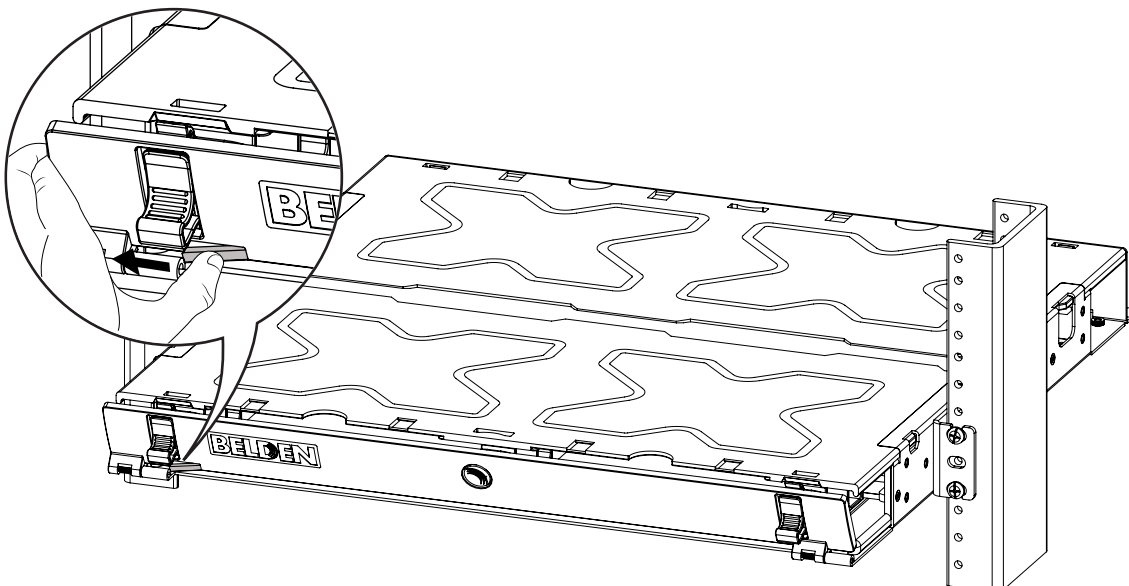
### 6.1. Opening and removal (optional) of the ECX doors [front and rear]

#### A. Front door

1. To open the door, press both latches downwards simultaneously.



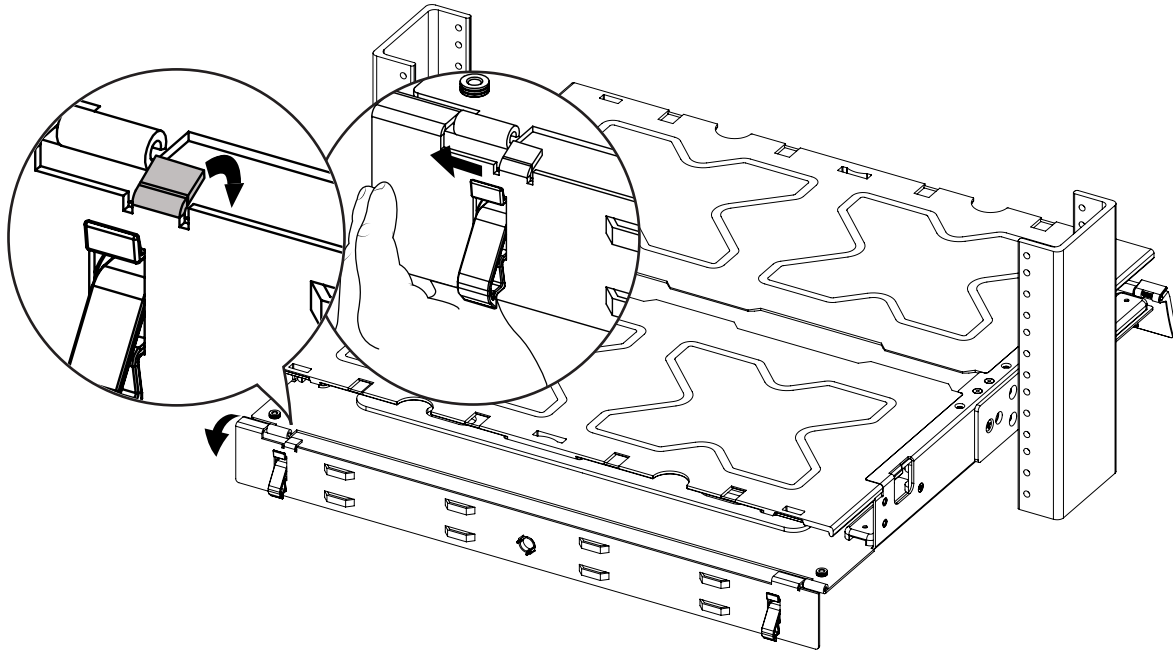
2. To remove the door, press the bottom tab and slide the door to the left as shown.



## B. Rear door

*NOTE: The rear door opens identically to the front.*

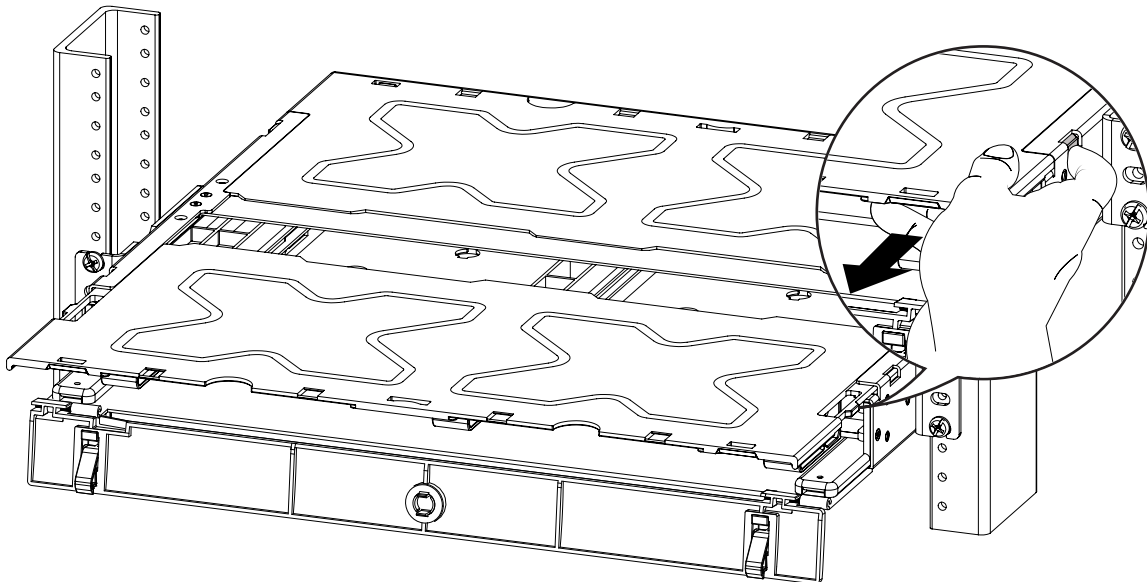
To remove the rear door, bend the metal tab downwards and slide the door to the left.



## 6.2. Removal of the top covers

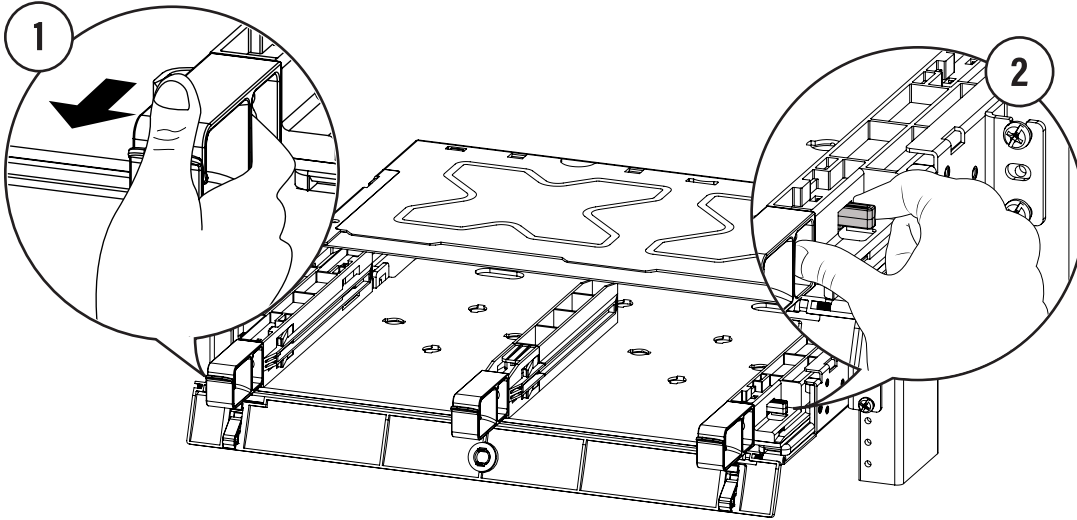
Remove the front or rear cover by pressing the side latches simultaneously.

*NOTE: When the brackets are in the flush position, the front cover latches are inaccessible. However, the cover can be removed by pulling it with a slight tug.*

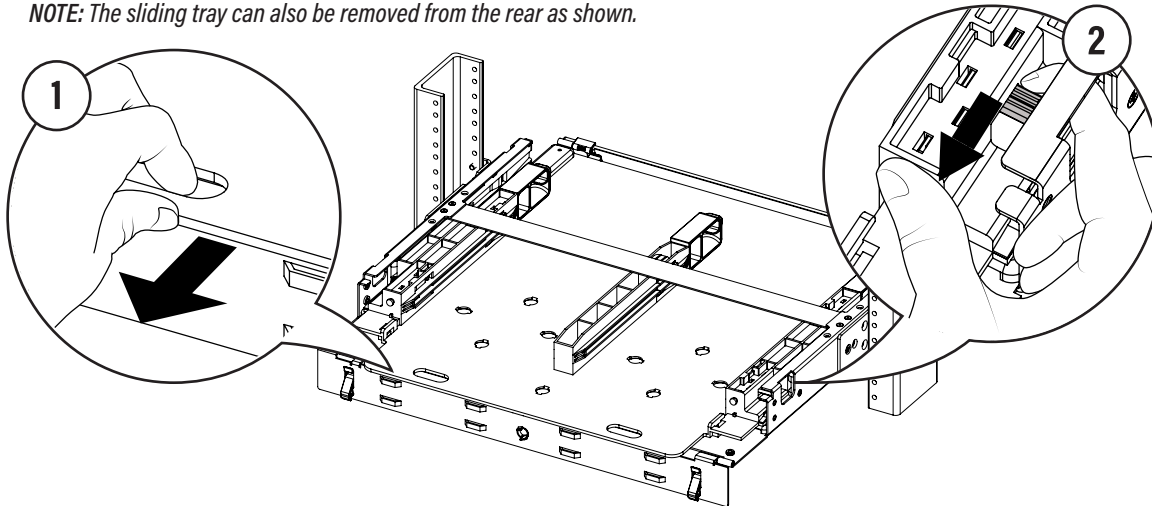


### 6.3. Removal of the sliding tray

- 1 Pull the tray from both sides simultaneously with enough force to disengage the neutral position as shown.
- 2 Squeeze latches on both sides simultaneously to release the tray as shown.

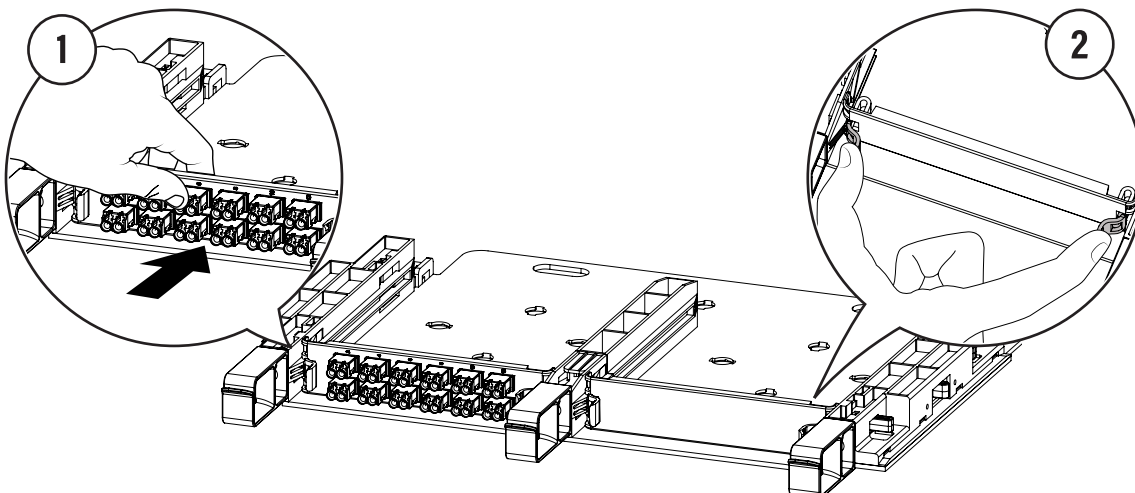


*NOTE: The sliding tray can also be removed from the rear as shown.*



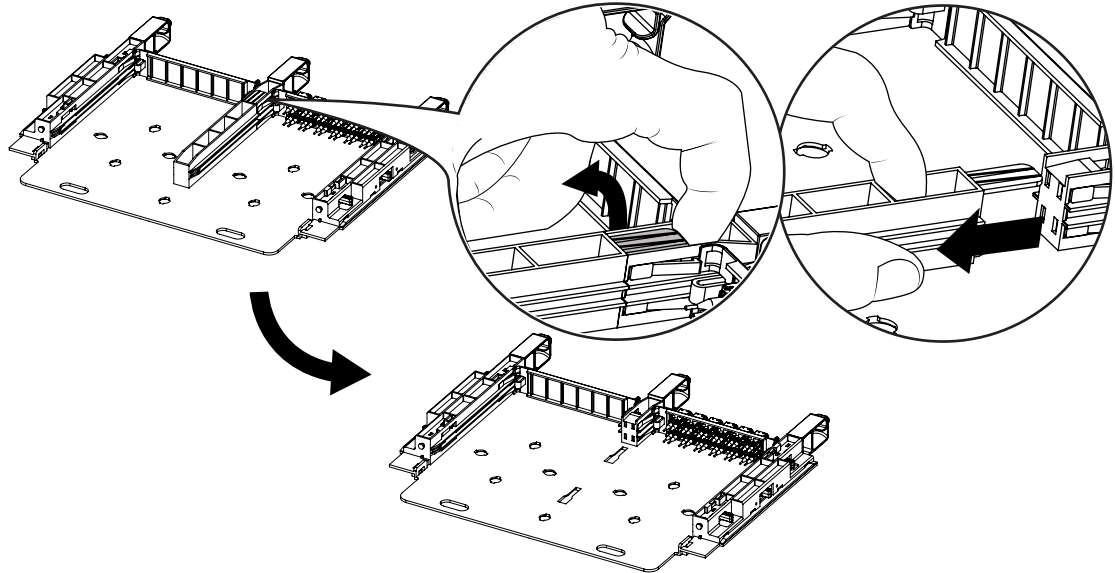
### 6.4. Installation and removal of ECX frames

- 1 Insert the desired frame as shown.
- 2 To remove the installed frame, press on both tabs simultaneously.



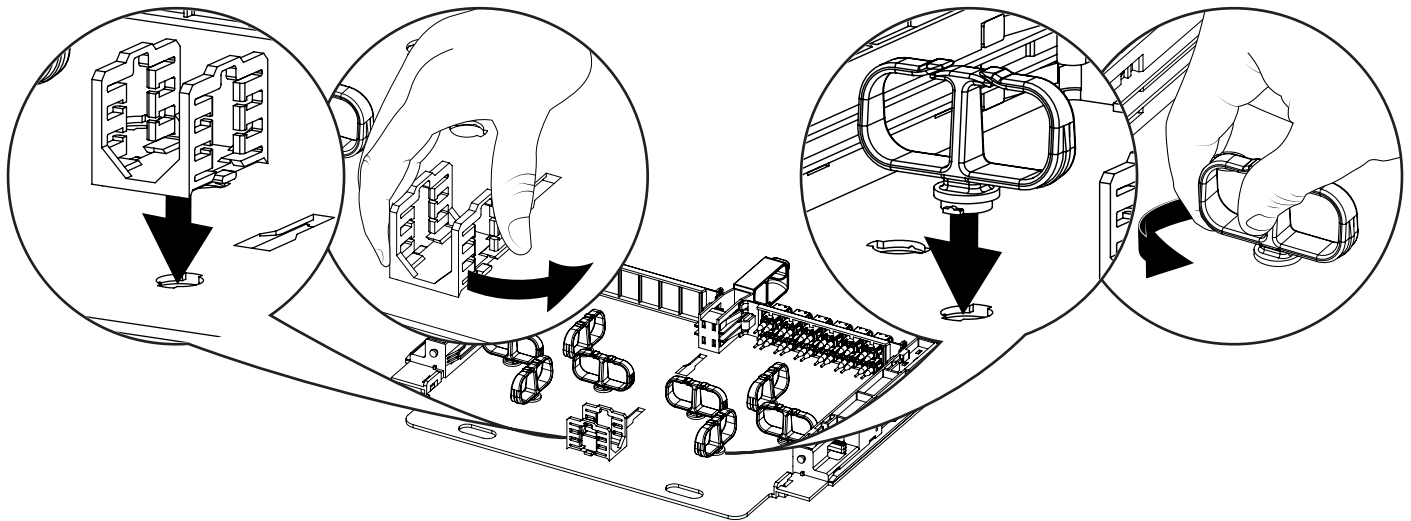
## 6.5. Removal of the cassette guide

Remove the cassette guide by pulling the latch upwards and sliding the guide backwards.

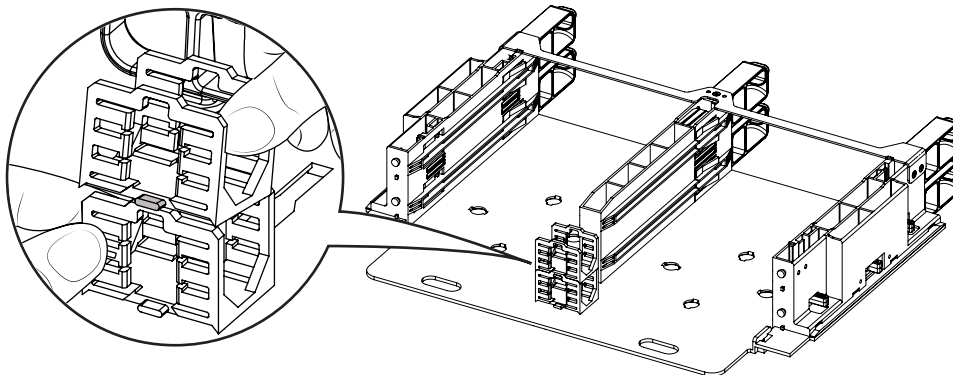


## 6.6. Installation of cable routing components

Align the intermediate strain relief and management clips with their respective holes and secure the parts by turning them 90°.



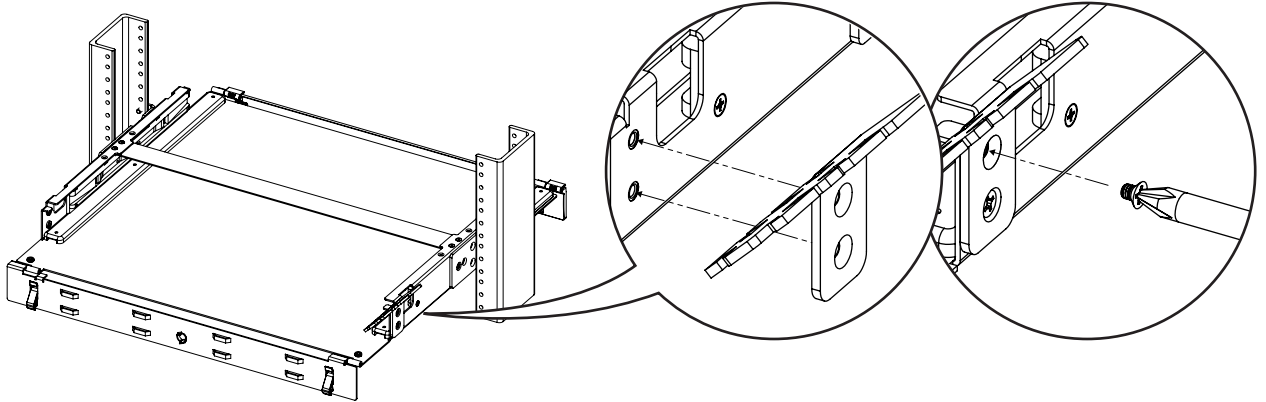
*NOTE: The intermediate strain relief can also be stacked on the ECX 2U.*



## 6.7. Installation of the external strain relief

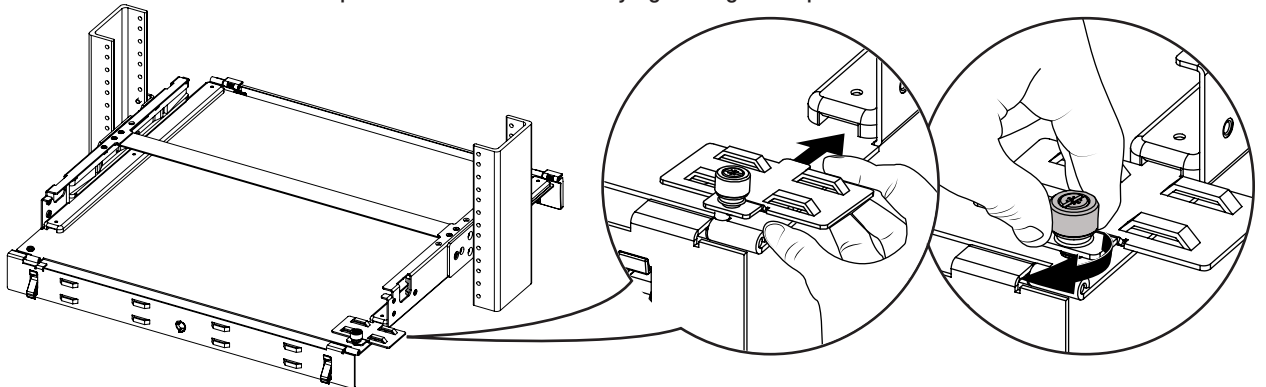
*NOTE: The hardware kit contains two different external strain reliefs (right and left) that can be installed on either side (top or bottom), depending on the application. The external strain relief angled (ECX-1U2U-EXSTRA) can be installed from both sides and has the same installation procedure.*

- 1 Align the external strain relief to its respective location and secure it by inserting the provided screws.



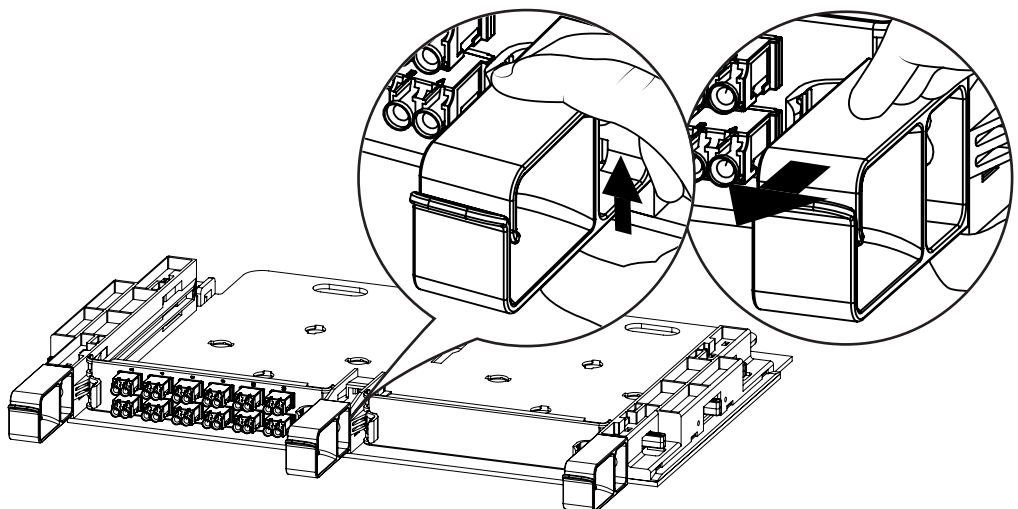
## 6.8. Installation of the the internal strain relief

- 1 Align the internal strain relief tab with its respective hole and secure it by tightening the captive screw.



## 6.9. Removal of the patch cord management clips (optional)

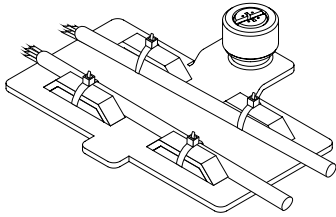
- 1 (If needed) release the patch cord management clips by lifting them upwards.



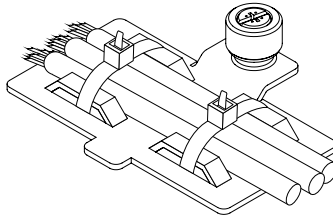
## 7. Cable routing

### 7.1. Securing a distribution cable to the internal strain relief

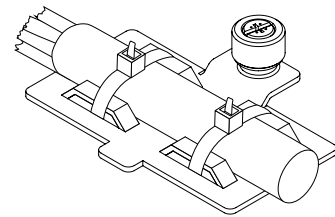
See below options for securing distribution cables.



Smaller diameter cables



Medium (or multiple) diameter cables



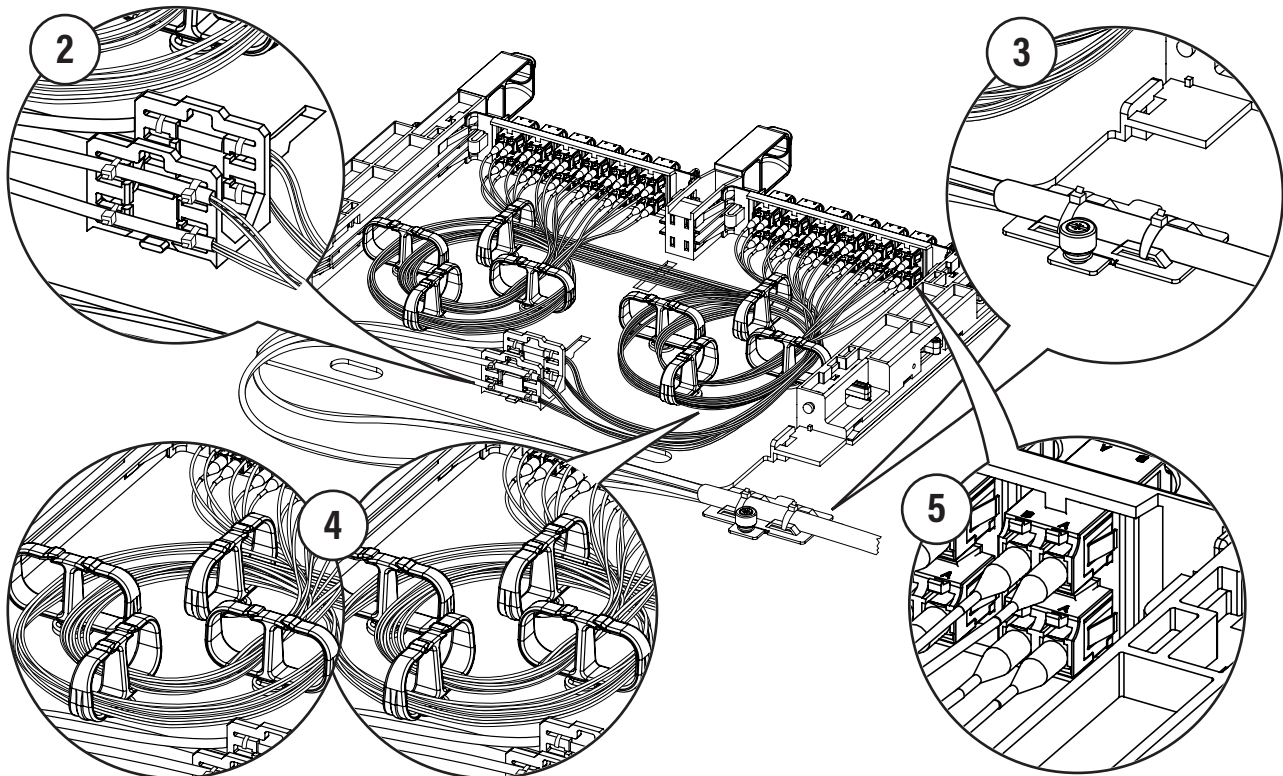
Larger diameter cables

### 7.2 Installing distribution cable for field termination

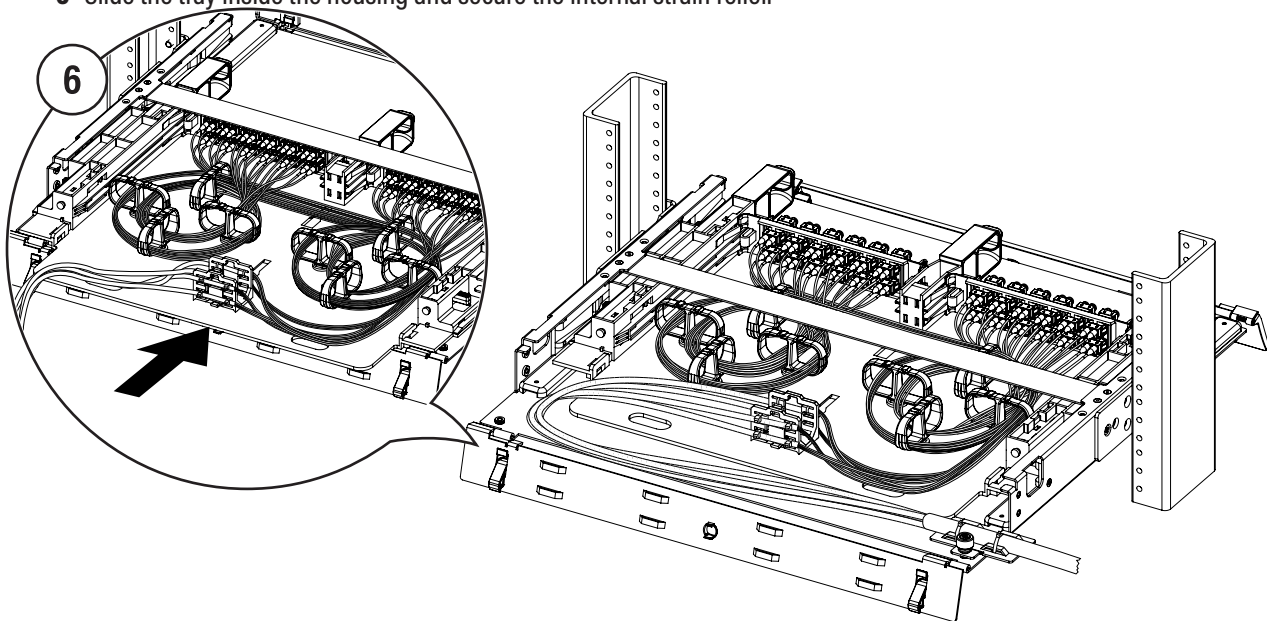
This section explains and shows different cable routing methods for the ECX 1U/2U.

#### A. Standard recommended procedure

- 1 Prepare the cable as follows: leave 25" (0,64 m) of sub-unit and 84" (2,13 m) of 900µm fiber.
- 2 Secure the end of the sub-unit cables to the intermediate strain relief by using the provided (4") cable ties.
- 3 Loop and secure the distribution cable to the internal strain-relief.
- ⚠ **CAUTION:** Do not over-tighten the cable ties.
- 4 Route the 900µm fiber by using the management clips.



- 5 Install the connectors in the desired frame.
- 6 Slide the tray inside the housing and secure the internal strain relief.

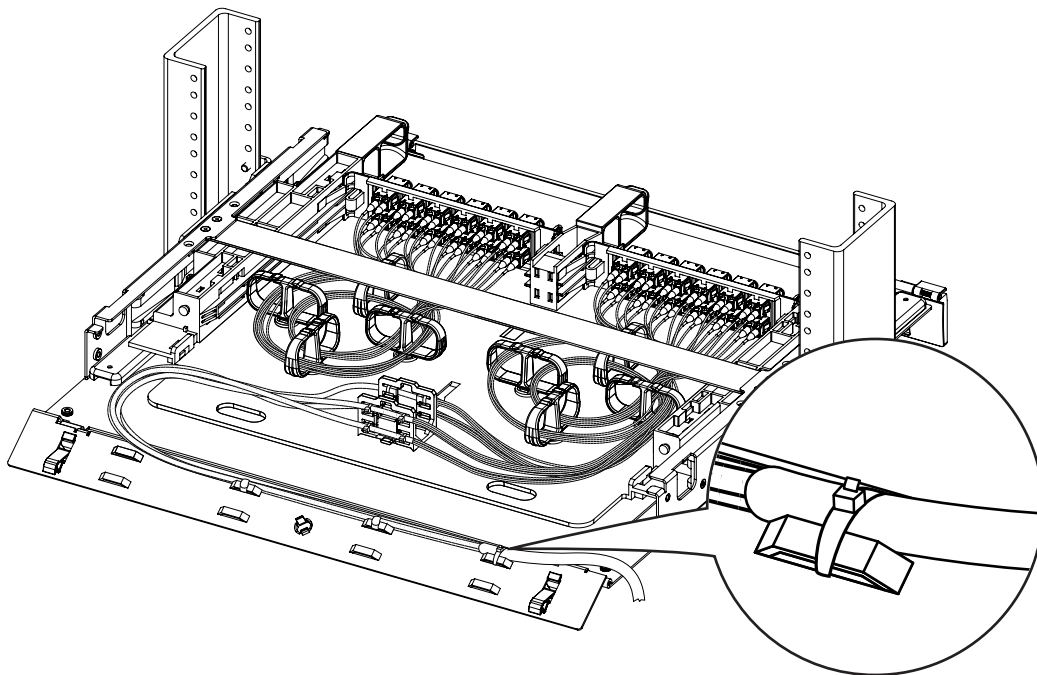


Install the covers (if they are removed) and close the doors.

### B. Distribution cable attachment on the rear door (optional)

*NOTE: The ECX 1U can only secure smaller or medium diameter cables on the rear door.  
This method has the same installation steps as mentioned at section 6.2.*

- 1 Use the cable tie (7") to secure the sub-unit cables together and the distribution cable to the rear door. Follow the *step 2 to 5 of section 7.2.* to complete the fiber routing.

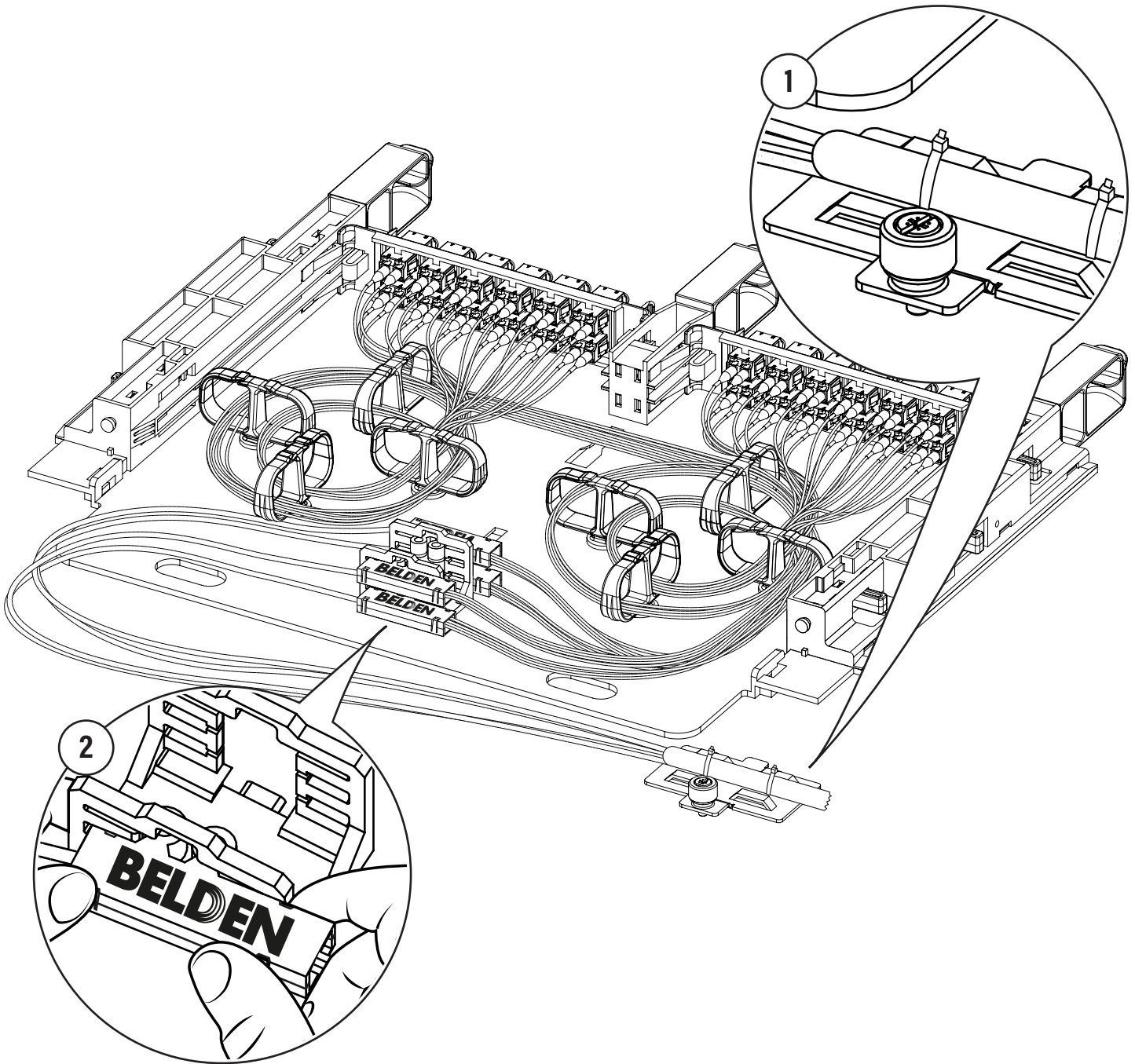


### C. Break-out kit cable routing

**IMPORTANT:** This installation guide does not include how to install the fiber cables into the break-out kit components.

For further information, please refer to the break-out kit installation guide or visit our website at [www.belden.com](http://www.belden.com).

- 1 Loop and secure the distribution cable to the internal strain relief.
- 2 Secure the break-out kit by leaning it against the intermediate strain relief and pushing inwards as shown. Once the break-out kit is installed, follow the step 4 to 6 of section 7.2. to complete the fiber routing.





## 8. Installing distribution cable for ECX splice cassette

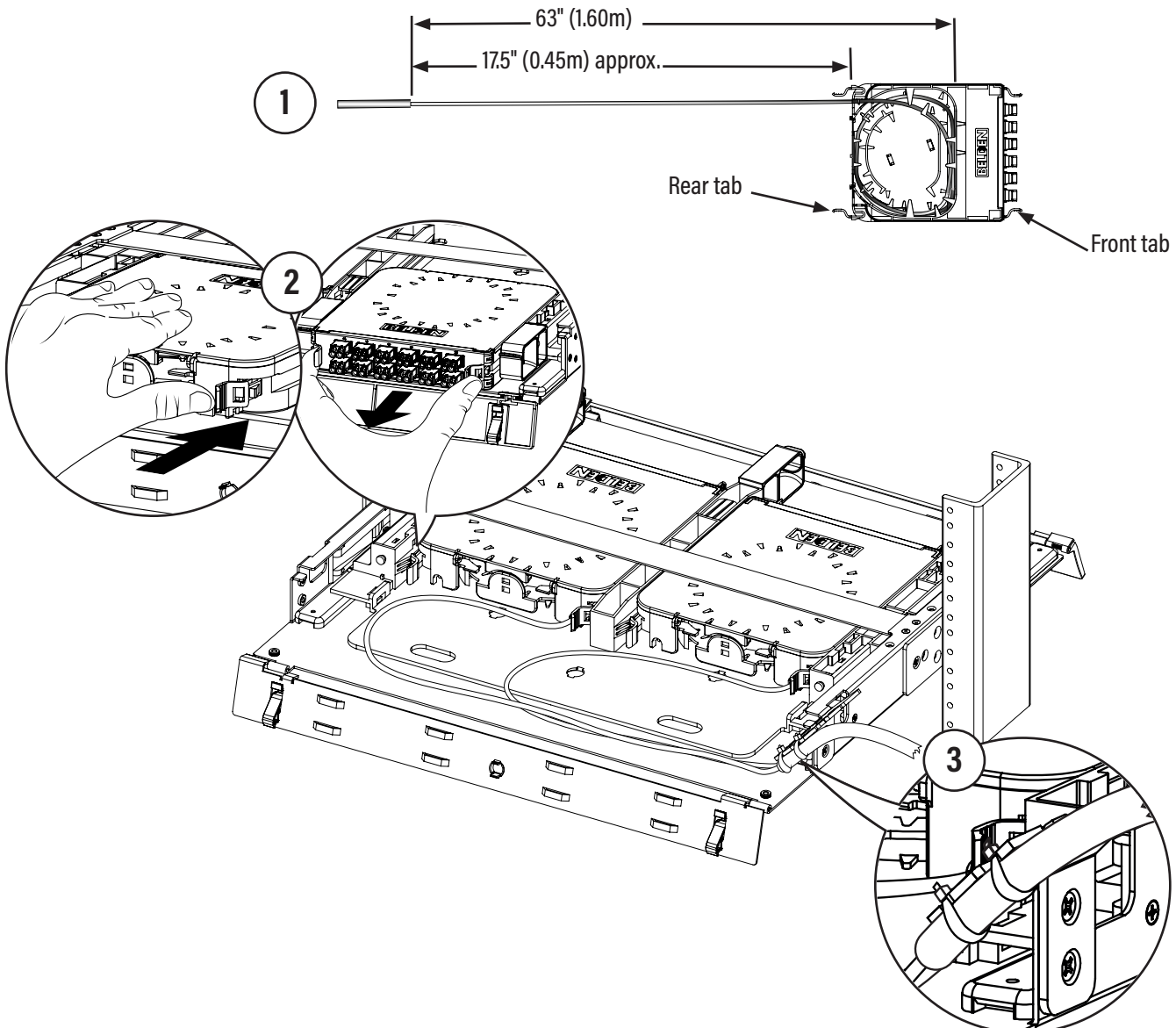
This section shows the recommended procedures for securing the distribution cable to the cassettes. This installation guide does not include the ECX cassettes routing details. For further information on the cassette routing, please refer to the ECX splice cassette installation guide or visit our website at [www.belden.com](http://www.belden.com)

### 8.1. Standard and optional recommended procedures

#### A. Standard procedure

- 1 Measure 17.5 " (0.45 m) of sub-unit cable from the end of the cassette.
- 2 Slide the cassette in the tray until the latches are secured.  
(If needed) remove the cassette by pressing on the rear or front tabs simultaneously.  
*NOTE: Cassettes can be installed or removed from the front and rear housing.*
- 3 Attach the distribution cable to the internal strain relief with the provided cable tie.  
Reinstall the cover (if removed).

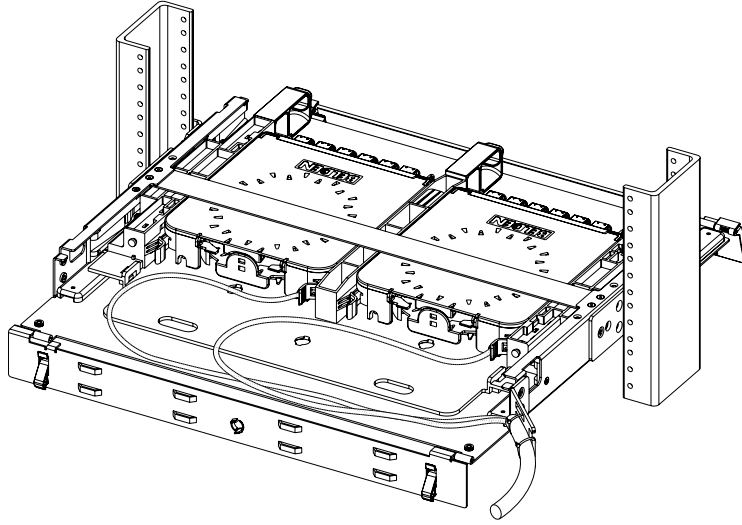
⚠ **CAUTION:** To prevent cable damage, close the housing rear door slowly and (if needed) move the sub-unit to prevent any pinching between the slot of the door and the cable. When attaching the distribution cable, do not over-tighten the cable tie.



## 8.2 Optional recommended procedures

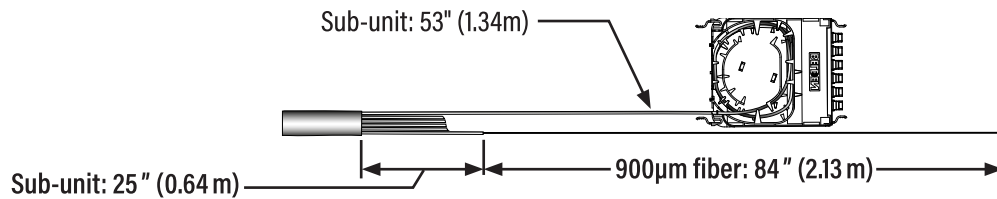
### A. Distribution cable attachment on the angled external strain relief

This method has the same installation steps as mentioned in *section 8.1*.



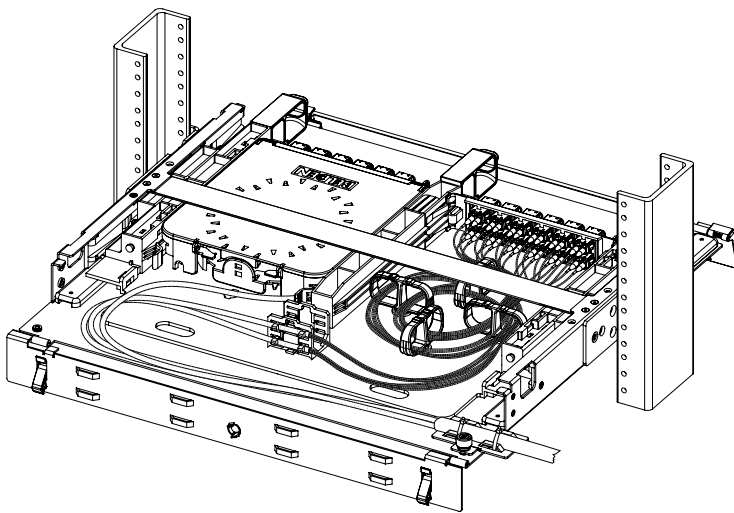
### B. Field termination with ECX accessories: splice cassettes and frames (optional)

- 1 Prepare cables by following the illustrated image as shown below.



- 2 Install the cassette and route the fiber cables.

*NOTE: For more details about the cable routing and cassette installation, please refer to the **section 7.2**. (step 2 to 5) and **section 8.1**. (step 2).*

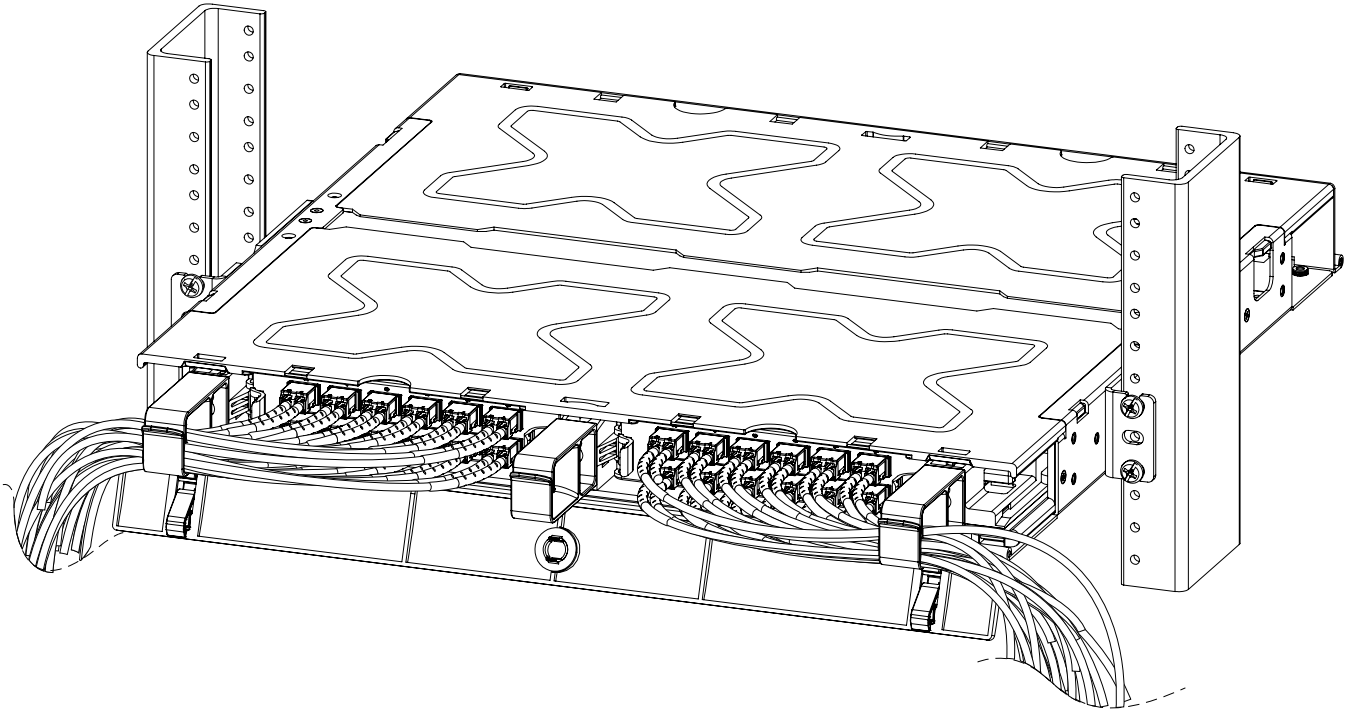


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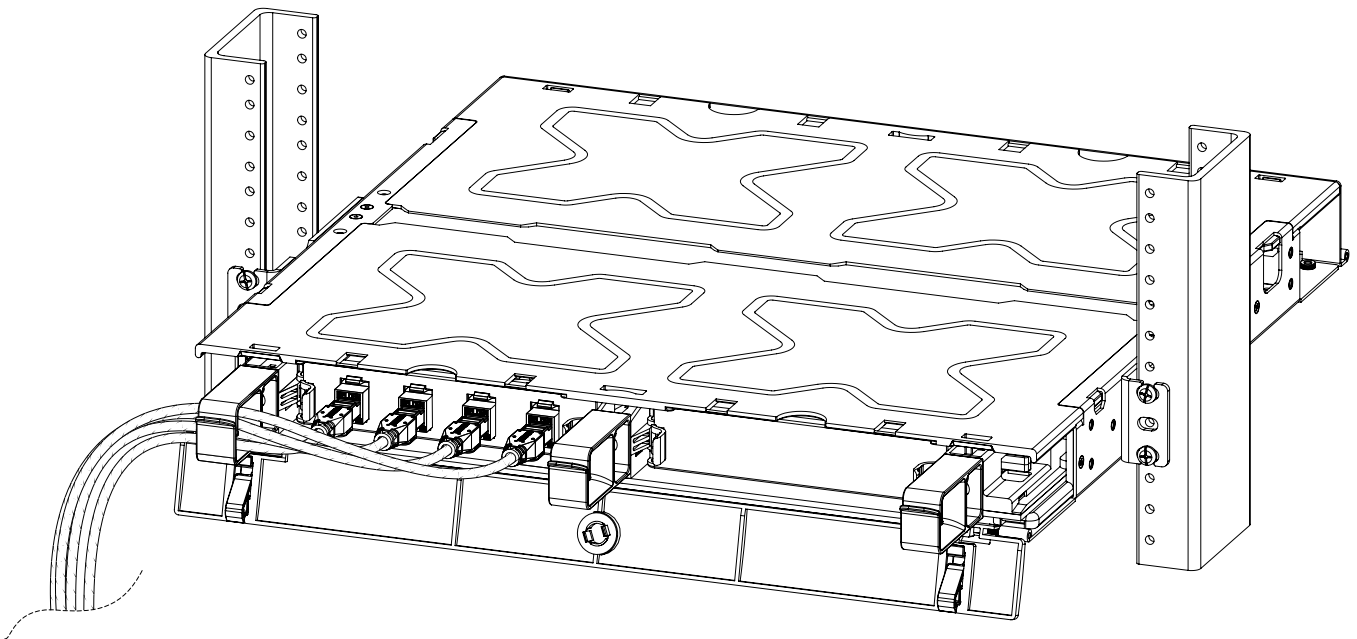
## 9. Proposed front patch cord management

*NOTE: For both options presented below; the tray is pulled forward for clarity.*

### 9.1. Fiber patch cord management



### 9.2. Copper connectivity

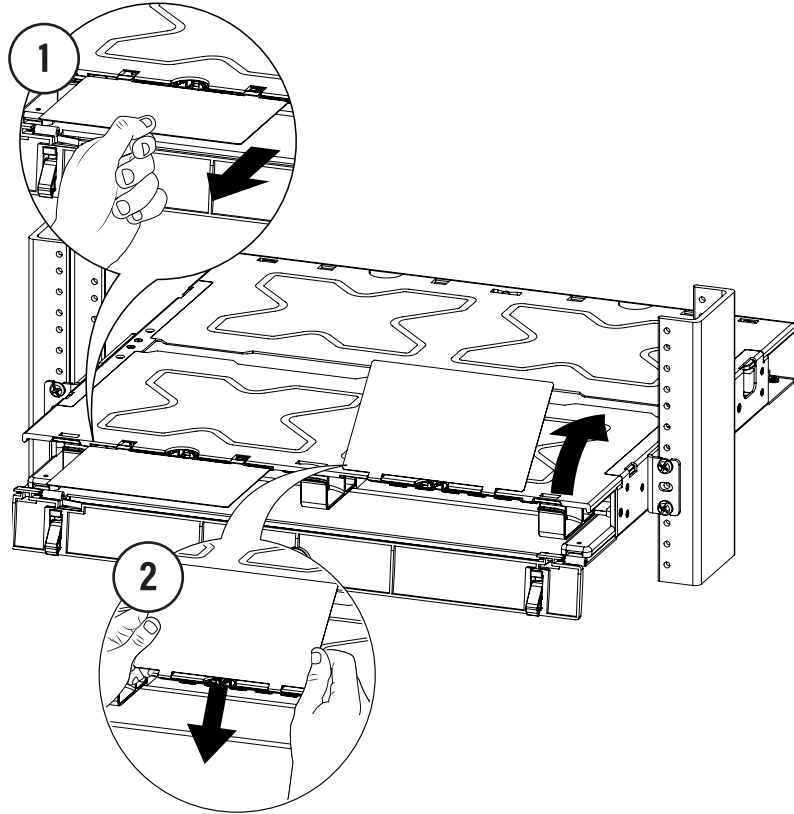


## 10.ECX labeling

This section shows how to apply the provided I.D. labels onto the label card and how to access it within the housing.

### 10.1. I.D. label card access, position and removal

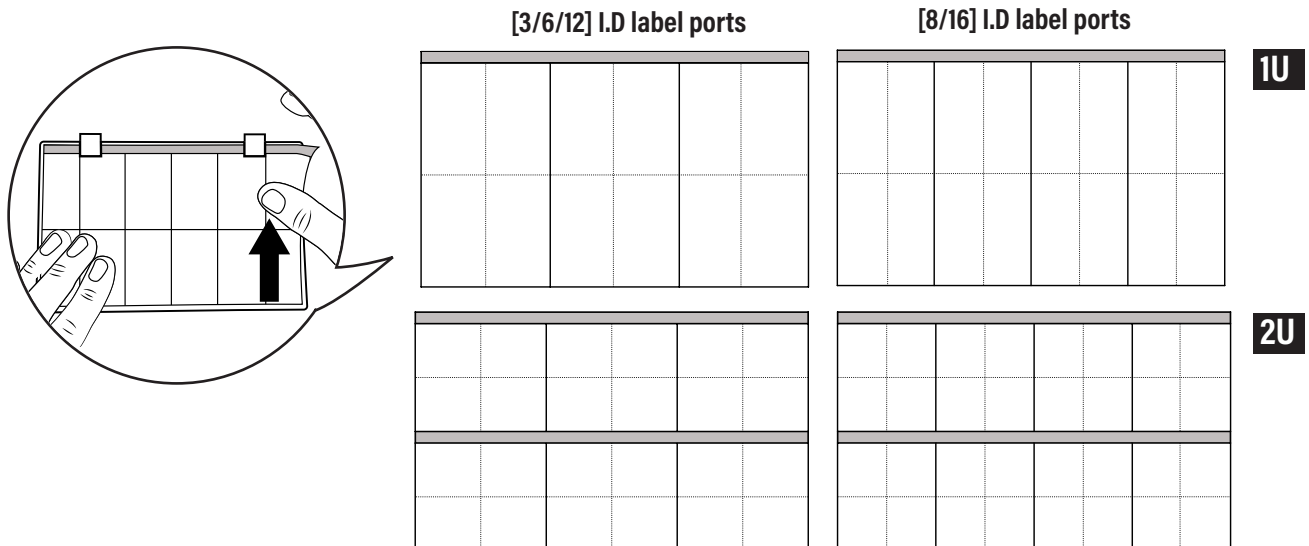
- 1 To access the label card, pull out the card and tilt it upwards.
- 2 (If needed) remove the card by pushing downwards.



### 10.2. Applying I.D. label

Select the desired I.D. label and apply the provided sticker on the label card from bottom to top as shown.

*NOTE: Surface should be cleaned properly before applying the I.D. label.*

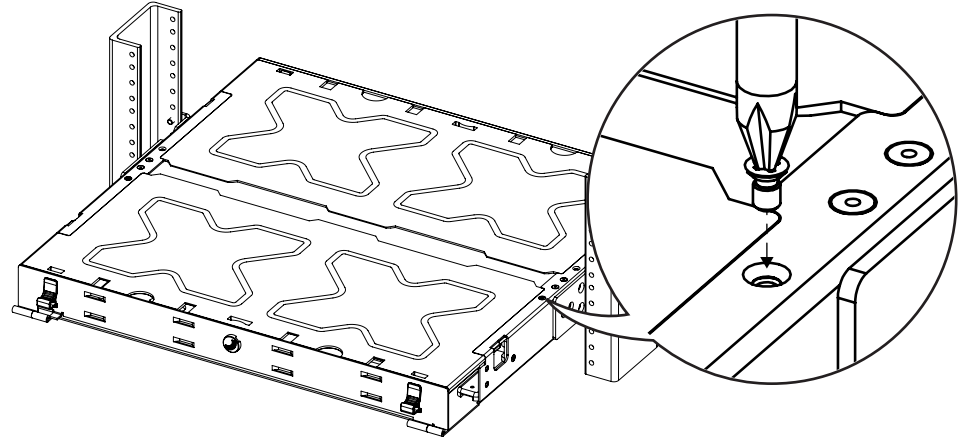


## 11. Securing the ECX 1U/2U (optional)

This section shows the possible methods to prevent an unauthorized access to the ECX 1U/2U.

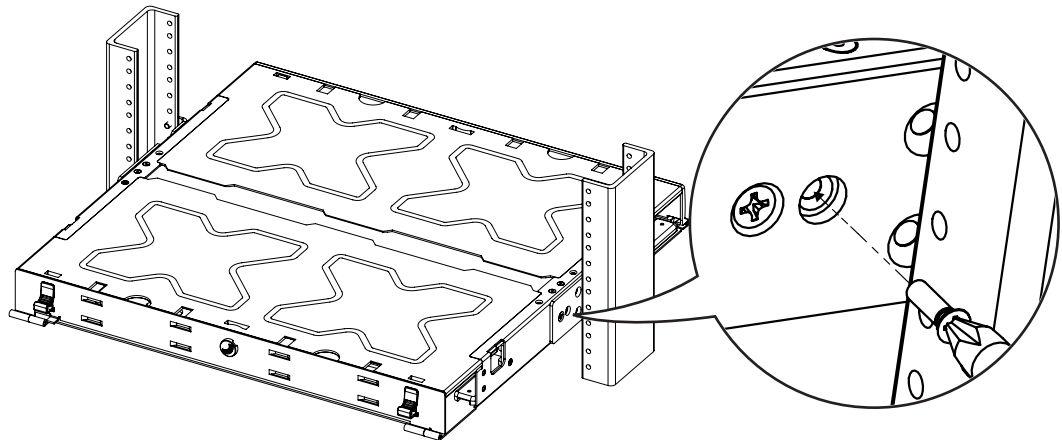
### 11.1. Securing the top covers

- 1 Install the provided screws (4x) in the housing top holes and into the cover of both sides (use the #6-19 x ¼" screws provided with the hardware kit).



### 11.2. Securing sliding tray

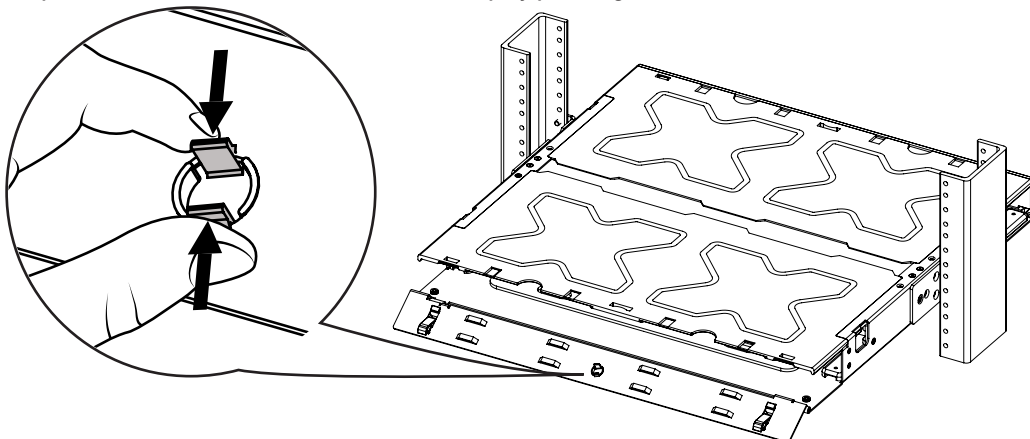
- 1 Install the provided screws in their respective location in each side (use the #6-19 x ½" screws provided with the hardware kit).



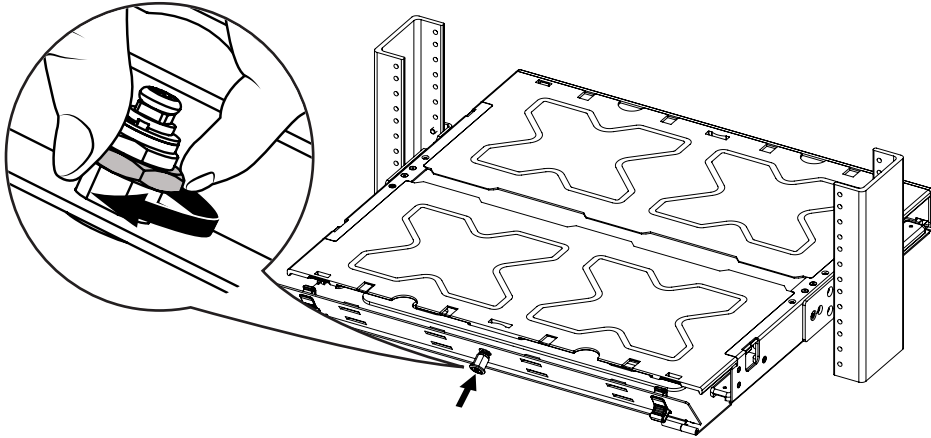
### 11.3. Lock kit installation

*NOTE: This accessory can be installed on the front and rear doors.*

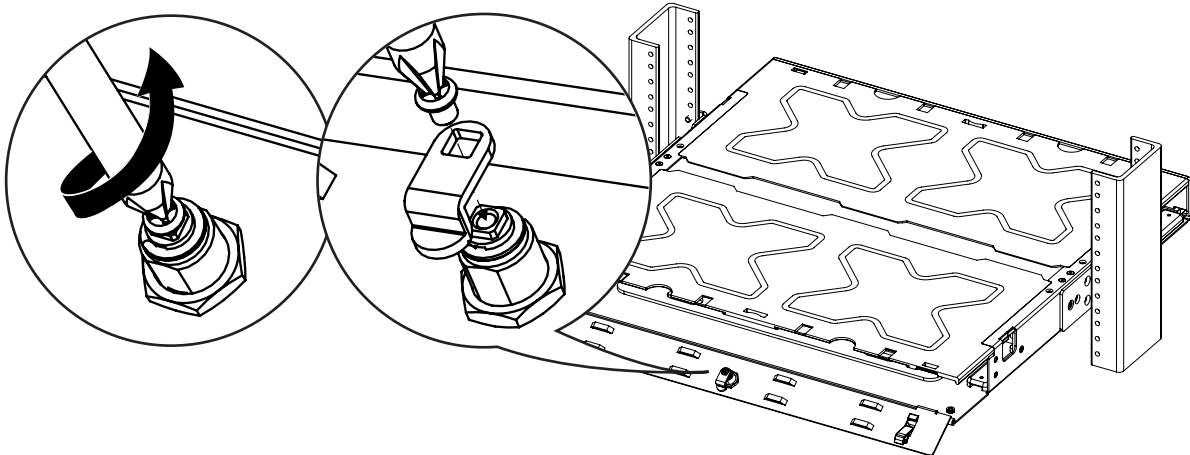
- 1 Open the rear or front door and remove the cap by pinching the rear tabs as shown.



- 2 Install the lock in its respective location.  
Secure the lock by tightening the flat nut as shown.



- 3 Remove the screw that is installed in the lock.  
Insert and secure the clamp by tightening the screw.



- 4 Once the lock kit is installed, close door and secure it with the provided key.  
*NOTE: When the lock-kit is installed, the top covers (section 11.1) must always be secured.*

