# PANDUIT

# HD Flex
# Fiber Cassette Enclosures

Part Numbers: FLEX1U, FLEX4U

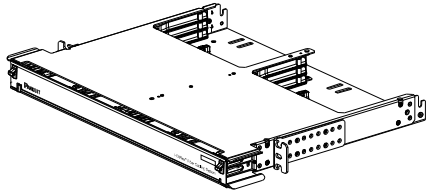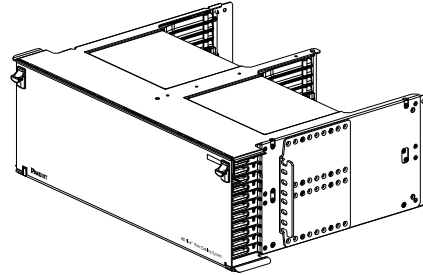**INSTALLATION INSTRUCTIONS** **FS111A**

Note: HD Flex Enclosures are compatible with HD Flex Fiber System Components. HD Flex may not be compatible with other systems and is not recommended.



**FLEX1U**

**FLEX4U**

## CONTENTS: (#) indicates 4U quantity

| | | | |
|---|---|---|---|
| 1 - ENCLOSURE | 4 (8) - #12-24 x 1/2" screws | 1 - Fiber Caution Label | 4 (8) - Pan-Ty Cable Ties |
| 10 (20) - Tak-Tys, 6" pcs. | 4 (8) - M6 x 1.0 x 15mm screws | 1 - Laser Warning Label | |

**WARNING: UNMATED CONNECTORS MAY EMIT INVISIBLE LASER RADIATION. DO NOT LOOK DIRECTLY INTO THE END OF THE CONNECTOR. DO NOT INSPECT WITH MAGNIFYING DEVICES. MAINTAIN DUST CAPS ON UNMATED CONNECTORS.**

**CAUTION:**

Fiber optic cable is sensitive to excessive pulling, bending, and crushing forces. Consult the manufacturer's cable specification sheet for the specific cable in use.

Follow TIA/EIA-568-A, 569, 606, and 607 installation guidelines where applicable.

Care should be taken when opening or closing a fully loaded drawer in order to protect the fiber components.
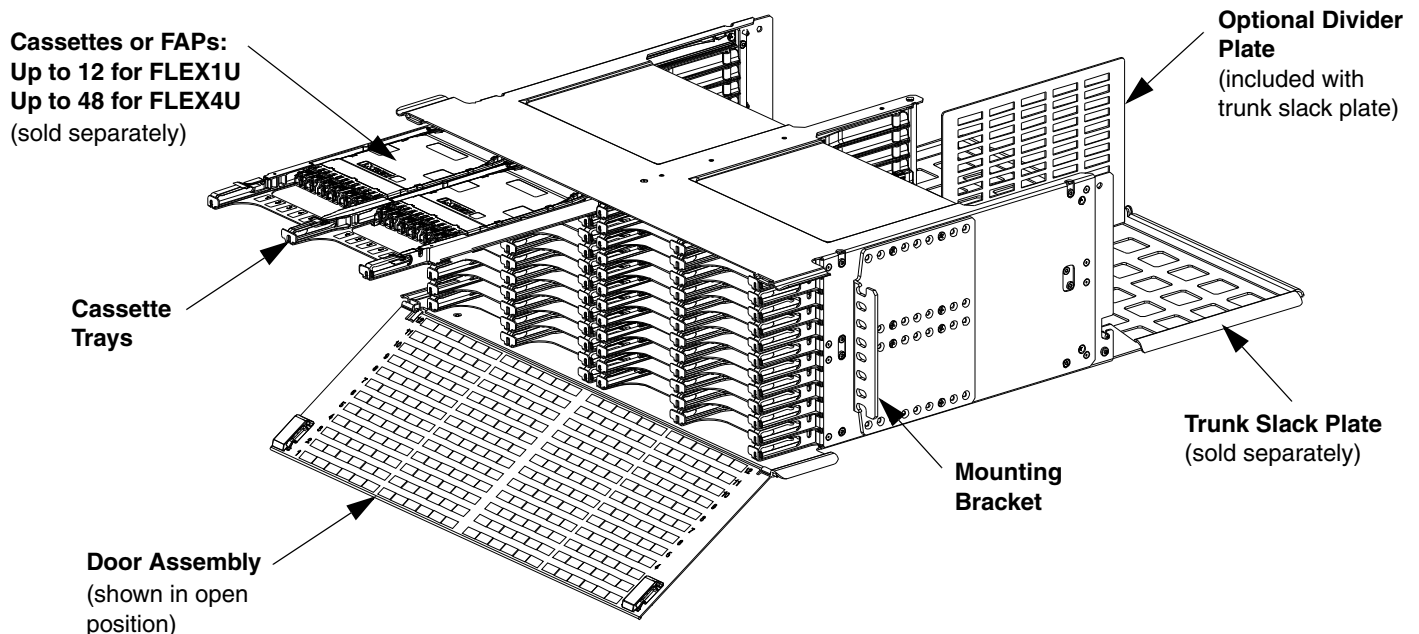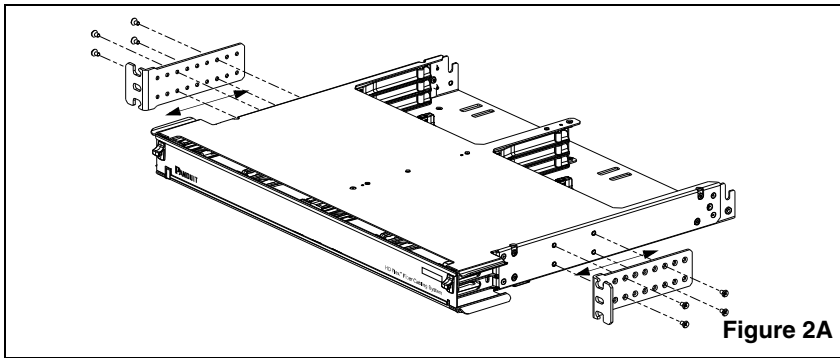
## ASSEMBLY VIEW (FLEX4U shown)



**Cassettes or FAPs:**
**Up to 12 for FLEX1U**
**Up to 48 for FLEX4U**
(sold separately)

**Cassette Trays**

**Door Assembly**
(shown in open position)

**Optional Divider Plate**
(included with trunk slack plate)

**Trunk Slack Plate**
(sold separately)

**Mounting Bracket**

**Figure 1**

*For Technical Support: www.panduit.com/resources/install_maintain.asp*

## Preparation and Rack Mounting



**Figure 2A**

If desired, mounting brackets can be adjusted to change the position of the front of the enclosure relative to the equipment rails. Brackets are adjustable in 0.50" increments.



Shipping bracket

**Figure 2B**
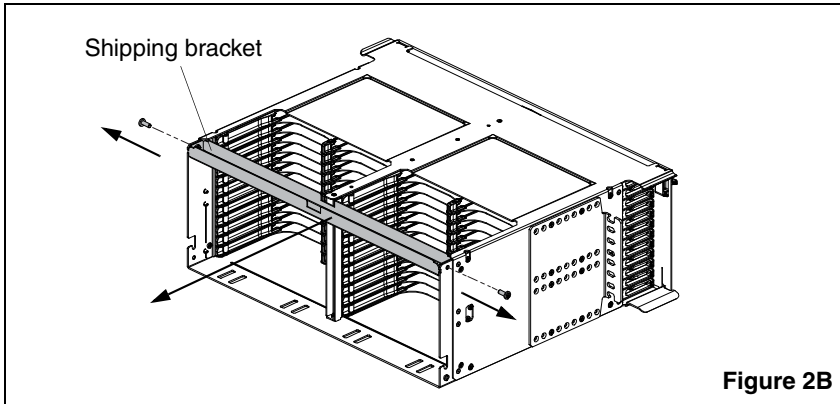
Note: The shipping bracket on the FLEX4U must be removed prior to installation.



1RU

4RU

**Figure 3**
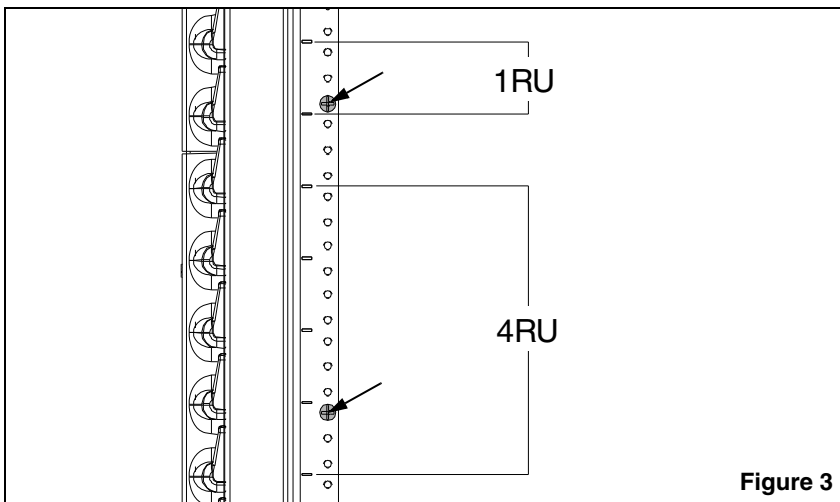
If RU space is open above enclosure location, partially install two screws, one on each side of the rack. These partially installed screws will assist in mounting the enclosure to the rack.

- For the FLEX1U pre-install two screws in the bottom hole location of the rack position desired.

- For the FLEX4U pre-install two screws in the top hole location of the bottom most RU in the rack position desired.

If RU space is <u>not</u> open above enclosure location, do not pre-install screws. Place enclosure into position and secure with a minimum of four screws.
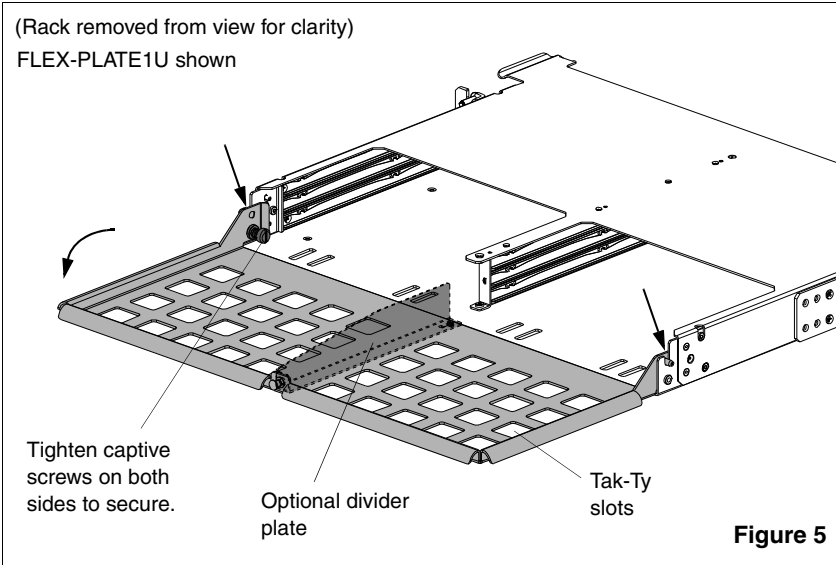


Enclosure door latches

**Figure 4**
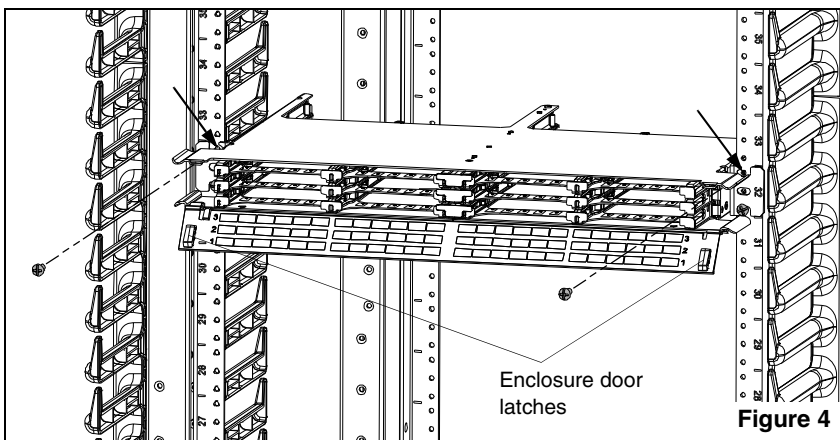
For the pre-installed screws mounting method, place enclosure into rack and allow enclosure mounting brackets to rest on the partially installed screws.

The enclosure door needs to be open to access all screw hole mounting locations. To open door, hold latches down and swing door open.

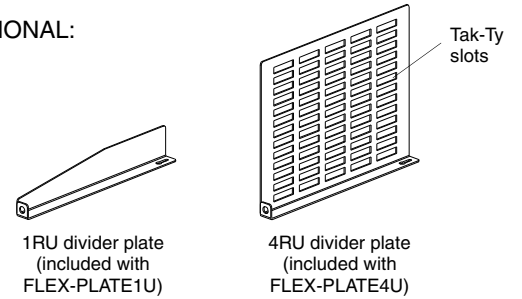Install the remaining screws and tighten all to secure the enclosure. Use a minimum of four screws.

*For Technical Support: www.panduit.com/resources/install_maintain.asp*

## Enclosure Trunk Slack Plate Installation (sold separately)

(Rack removed from view for clarity)
FLEX-PLATE1U shown

Tighten captive screws on both sides to secure.

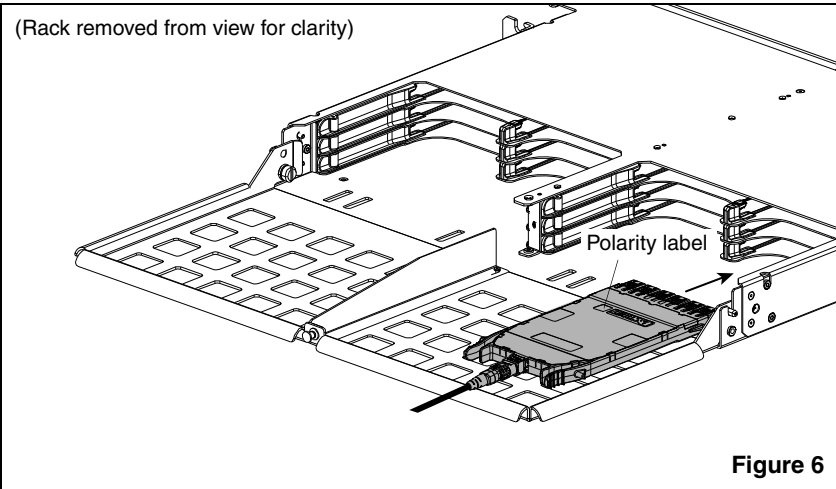Optional divider plate

Tak-Ty slots

**Figure 5**

The enclosure trunk slack plate (sold separately as Panduit part no. FLEX-PLATE1U and FLEX-PLATE4U) installs to the rear of the enclosure. Engage the pins on the plate into the slots on the enclosure and tilt down into place. Tighten captive screws to secure.

The trunk slack plate includes an optional vertical divider to aid in organizing and managing the cables. Divider plates are recommended for split routing. Do not use the divider if routing all rear cables to one side of the rack.

OPTIONAL:

Tak-Ty slots

1RU divider plate (included with FLEX-PLATE1U)

4RU divider plate (included with FLEX-PLATE4U)

## Cassette Installation (sold separately)

(Rack removed from view for clarity)

Polarity label

**Figure 6**

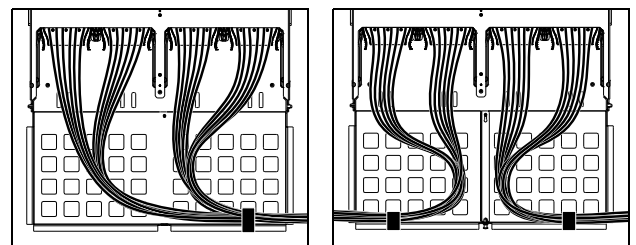Note: Prior to cassette installation, make sure door on front of enclosure is closed.

First, attach trunk cabling to the rear port of the cassette or FAP to be installed. Note the polarity label on the cassette and orient properly as needed. Cassettes should be installed one at a time starting with the bottom most slot on the right, as shown. To install cassettes, insert into slot and push forward until it clicks into place.

Populate the entire row across from right to left before moving to the next row above. Repeat process until all desired slots are filled. FLEX1U can hold up to 12 cassettes or FAPs and FLEX4U can hold up to 48 cassettes or FAPs.
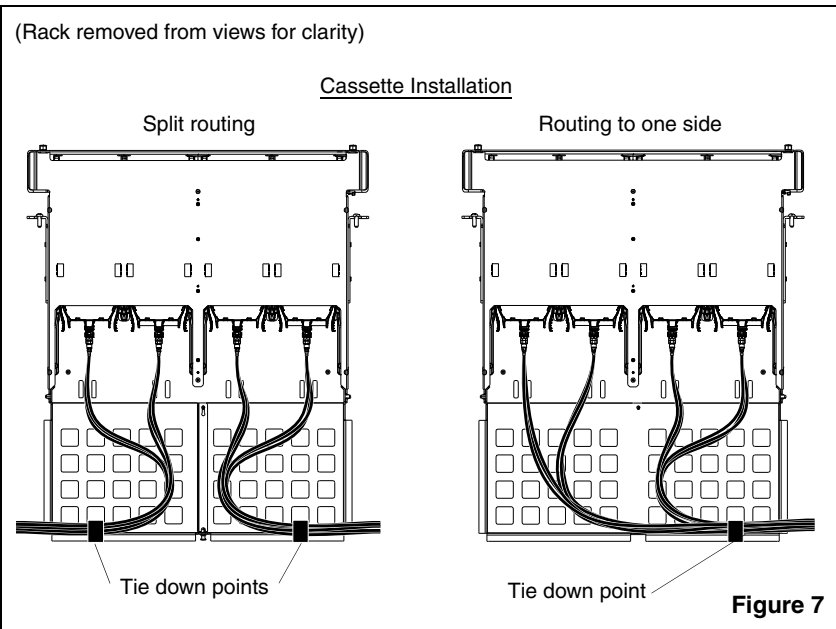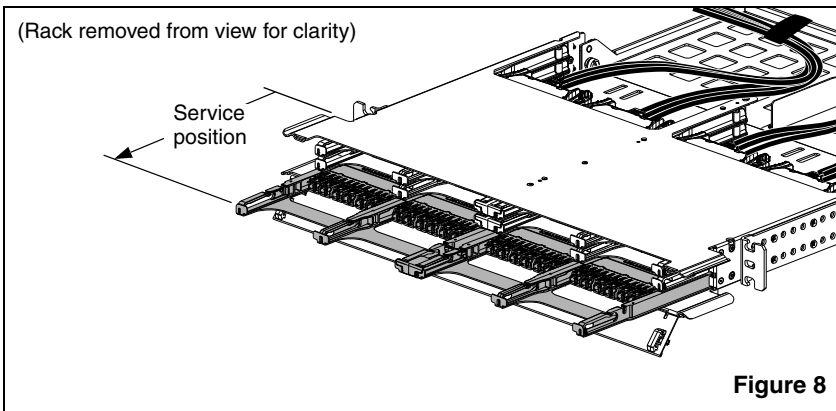
Create a slack loop for all incoming trunk cable. Slack is required to allow movement of the trays from the front of the enclosure. For split routing, allow a minimum of 28" of slack from the rear of the cassette to the tie down point. When routing cables all to one side, allow a minimum of 32" of slack from the far side of the enclosure to the tie down point. Use Tak-Tys to secure trunk cables to the cable slack plate or vertical cable manager as needed. Test trays to make sure they move freely after routing cable and adjust if necessary.

(Rack removed from views for clarity)

Cassette Installation

Split routing

Routing to one side

Tie down points

Tie down point

**Figure 7**

FAP Installation

## Patch Cord Installation (sold separately)

(Rack removed from view for clarity)

Service position

**Figure 8**

Patch cable is installed from the front of the enclosure. Open enclosure door to expose cassettes. Pull bottom tray out slowly until it clicks into the first stop position, the service position.

Cassettes are compatible with LC Uniboot patch cords.
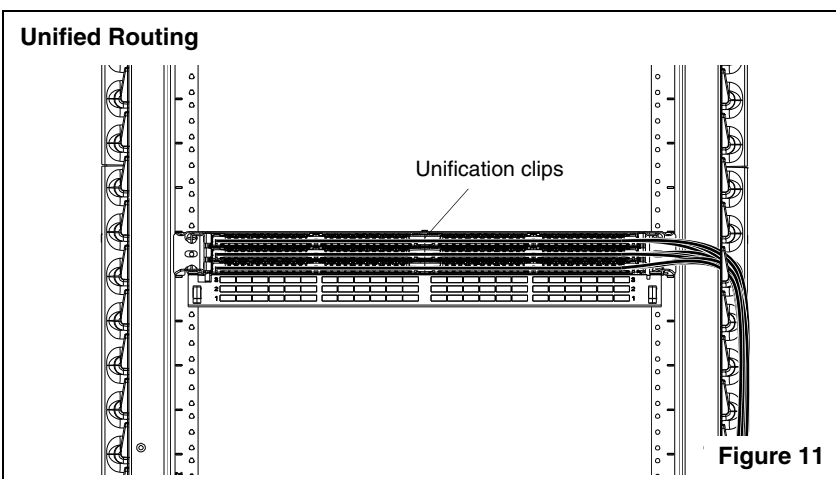
Unification clip

90°

**Figure 9**
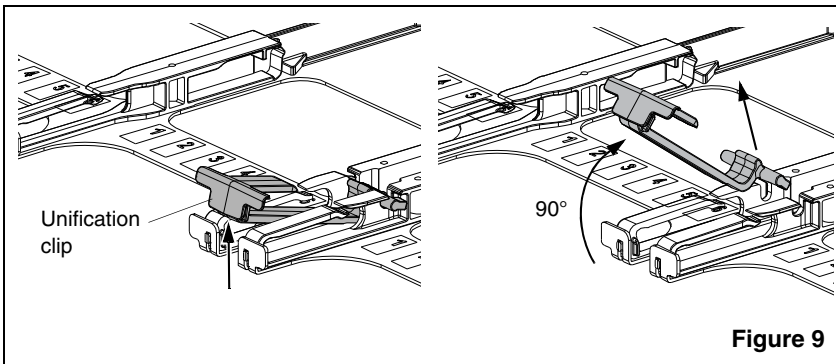
Panduit recommends split routing for patch cable. For split routing, the unification clip must be removed to allow each side of the tray to move independently.

To remove the clip, lift up on the front of the clip, rotate upward 90°, and lift out. Discard or set aside for future use as needed.

**Split Routing (Recommended)**

**Figure 10**
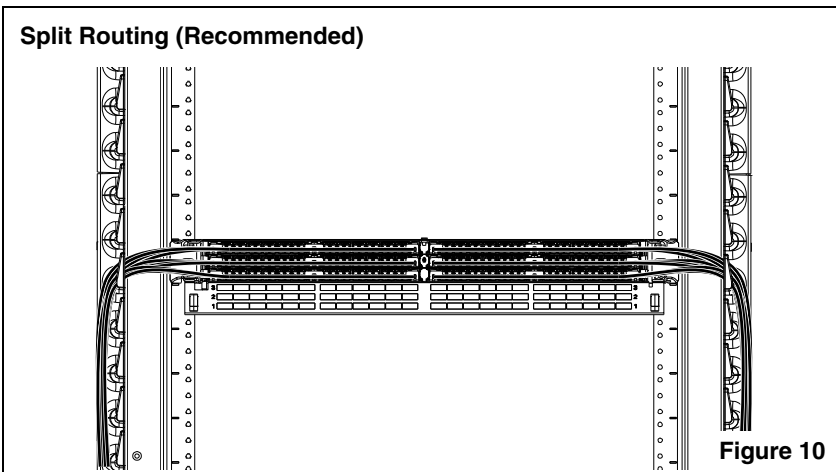
Install patch cords into the front of the cassettes working from left to right starting with the bottom most row. Populate each row across before moving to the next row above. Repeat process until all patch cabling is installed.

**Unified Routing**

Unification clips

**Figure 11**

For unified routing (all cables routed to one side) leave unification clips installed.

*For Technical Support: www.panduit.com/resources/install_maintain.asp*

## Cassette Replacement or Migration to MPO FAP



(unification clip removed as shown)

Cassette change position

**Figure 12**
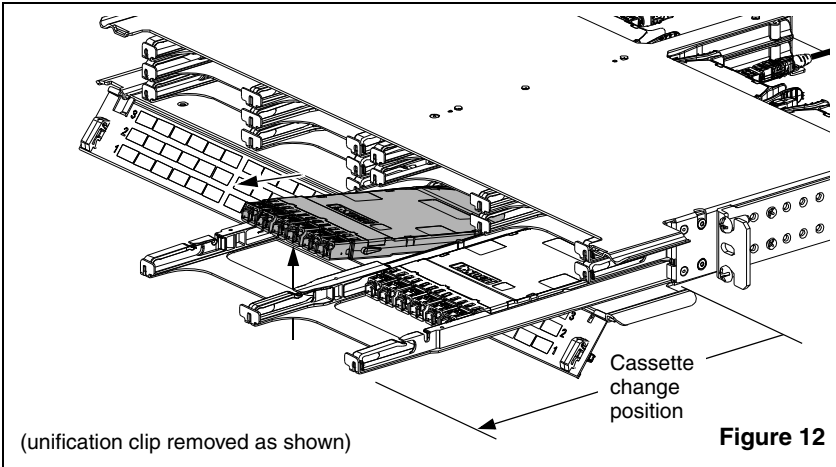
Cassettes can be removed from the front of the enclosure as needed for replacement or migration.

Open door and slide tray out slowly until it clicks into the second stop position, the cassette change position.

Disconnect patch cords from the front of the cassette. Lift cassette up from the front to disengage it from the tray and remove.



**Figure 13**
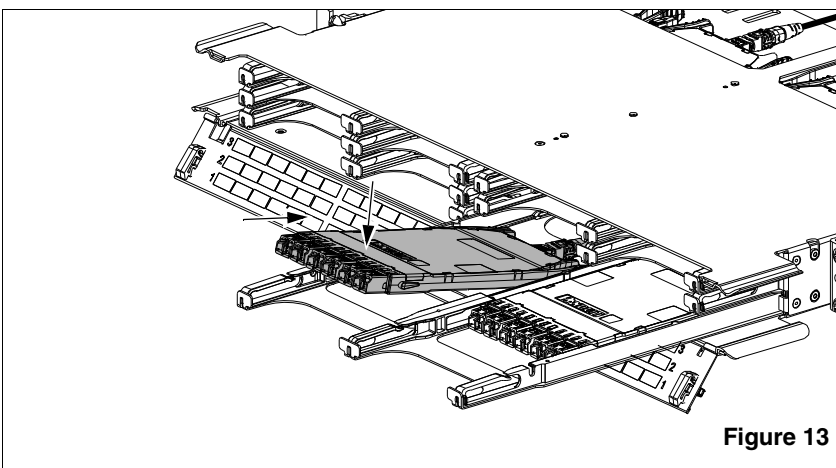
Disconnect trunk cable from the rear of the cassette and connect it to the rear of the replacement cassette.

Re-install cassette or MPO FAP opposite the way it was removed. Align the rear of the cassette or MPO FAP in the tray first, push inward until the cassette stops, then press down gently on the top of the cassette, near the front/center, until it clicks into place.
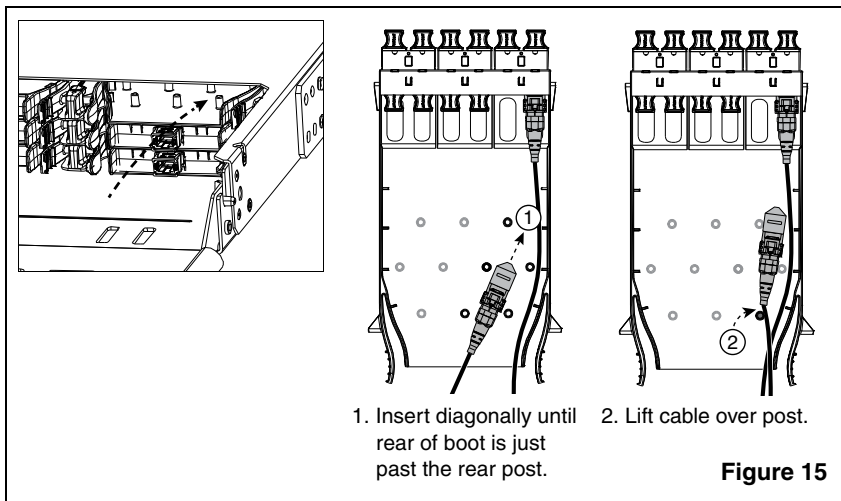
Re-attach patch cords (for cassette changes) and push tray back into the enclosure to the home position.

Note: Tray resistance is intended to support cassette during patch cord installation. This resistance must be overcome to return tray to the home position.
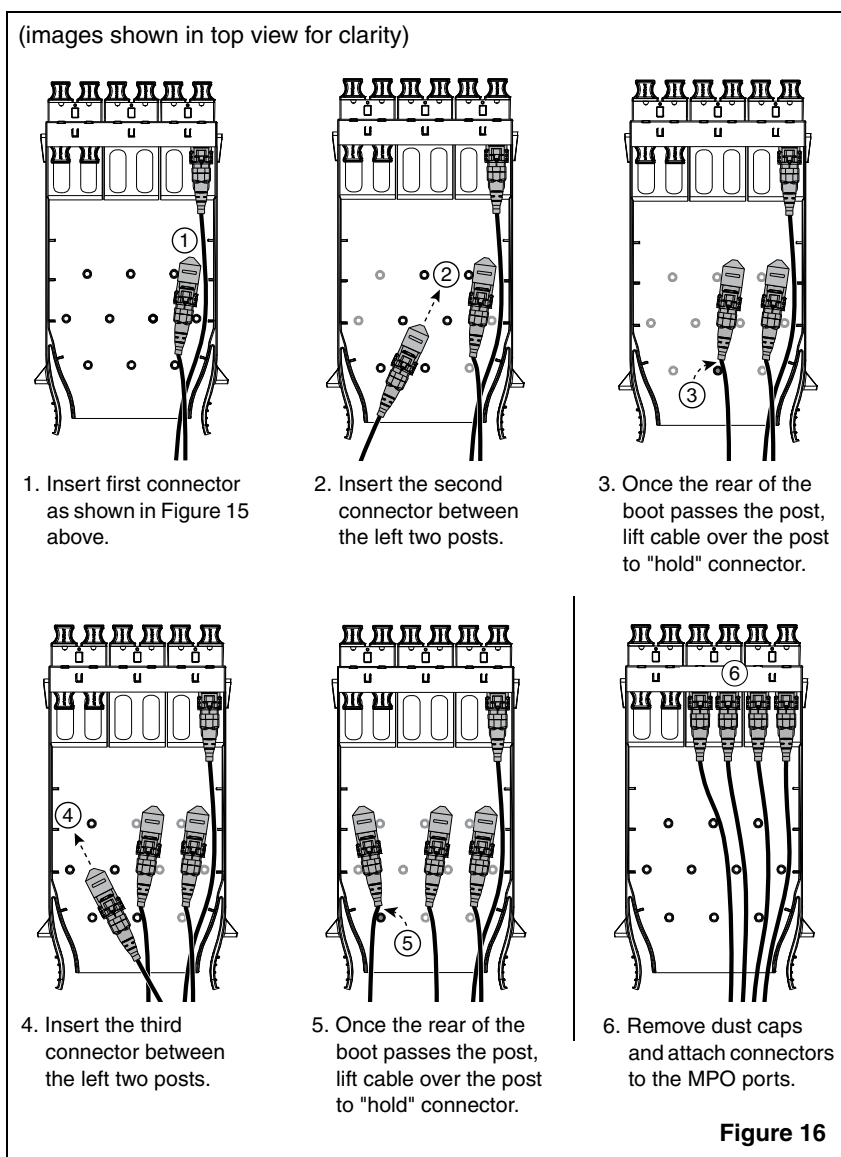


Port 1

MPO FAP

1        6

**Figure 14**
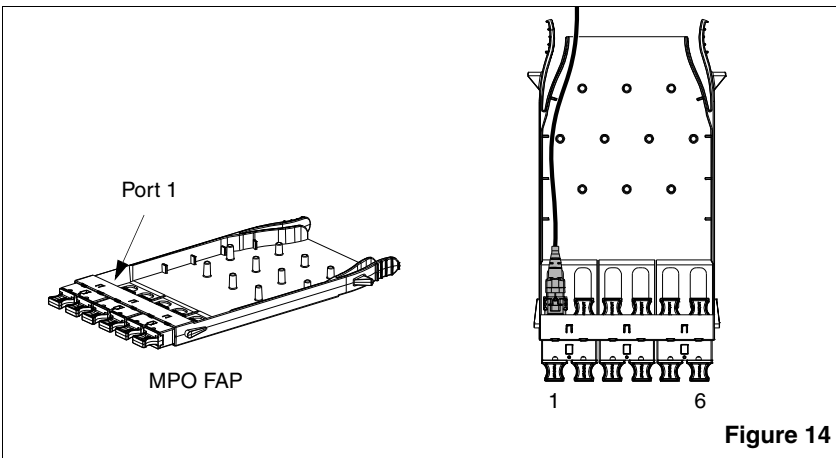
If migrating to an MPO FAP, connect the MPO trunk cable to left most position, port 1.

## Installing Additional MPO Trunks



1. Insert diagonally until rear of boot is just past the rear post.

2. Lift cable over post.

**Figure 15**

From the rear of the enclosure, select the FAP to add additional MPO trunk cables to. Insert the MPO connector into the rear of the FAP diagonally between the posts. Push connector in until the rear of the boot just passes the rear post and lift the cable over the post to "hold" the connector in place.

Move to the front of the enclosure and pull open the tray containing the FAP with the "held" MPO trunk cable to the cassette change position (as shown in Figure 12). Remove the dust cap and connect the MPO to the appropriate port on the FAP. Return tray to the home position.

(images shown in top view for clarity)



1. Insert first connector as shown in Figure 15 above.

2. Insert the second connector between the left two posts.

3. Once the rear of the boot passes the post, lift cable over the post to "hold" connector.

4. Insert the third connector between the left two posts.

5. Once the rear of the boot passes the post, lift cable over the post to "hold" connector.

6. Remove dust caps and attach connectors to the MPO ports.

**Figure 16**

FAP can accommodate "holding" up to 3 MPO connectors at a time. Follow the steps in Figure 16.

Once all connectors are held in place, move to the front of the enclosure and pull open the tray containing the FAP to the cassette change position (as shown in Figure 12). Remove dust caps and attach the MPO connectors to the appropriate ports (Step 6). Return tray to the home position.

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## Labeling

Labeling options for the HD Flex Fiber Enclosures allow for identification to follow the EIA 606-B labeling standards. Panduit labels, used in conjunction with Panduit Easy-Mark Labeling Software, simplifies label creation and allows for ease of editing and label replacement when necessary. The labeling location in the upper right corner of the enclosure door, as shown in Figure 17, is used for identifying the enclosure within the cabinet or rack. Panduit label part #C125X030FJJ fits in this area.
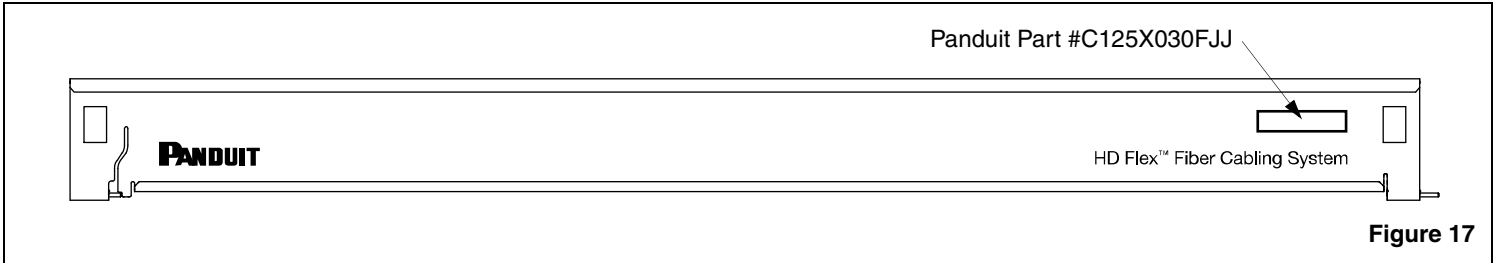
Panduit Part #C125X030FJJ

HD Flex™ Fiber Cabling System

**Figure 17**

The labeling layout for the 1U enclosure is shown in Figure 18 below. The layout for the 4RU is identical but contains twelve (12) trays instead of three (3). Panduit label part# C061X030FJJ can be used for single port identification, or Panduit label part# C379X030FJJ for six port identification.
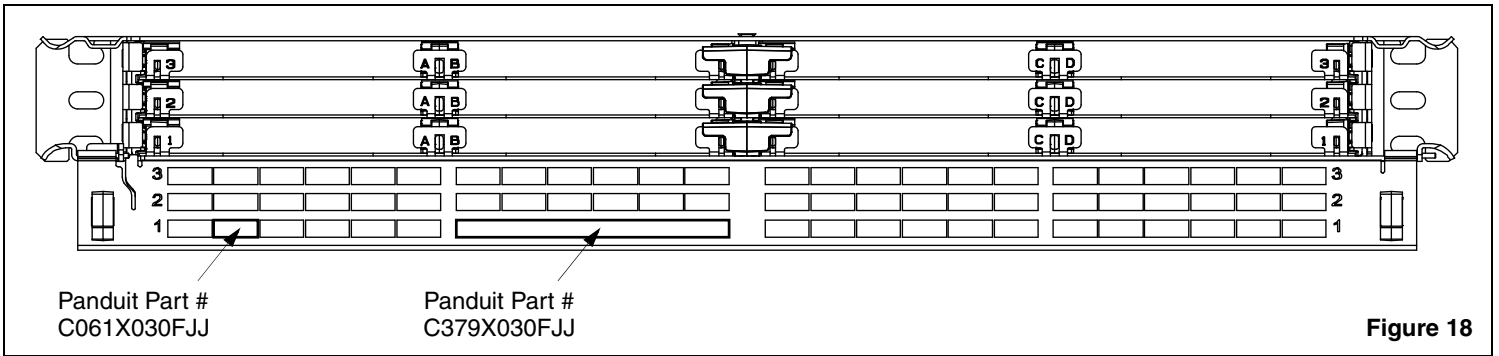
Panduit Part #
C061X030FJJ

Panduit Part #
C379X030FJJ

**Figure 18**

The label on the inside of the front cover coincides with the port and tray labeling as shown below in Figures 19 & 20. Tray 1 is the lower most tray and is identified with Row 1 on the label (the layout shows ports 1 - 24 on the first tray).
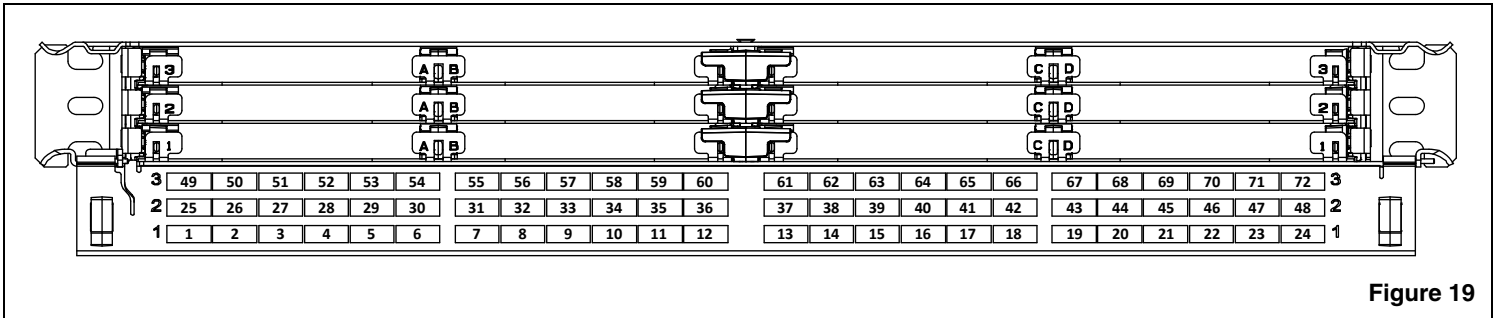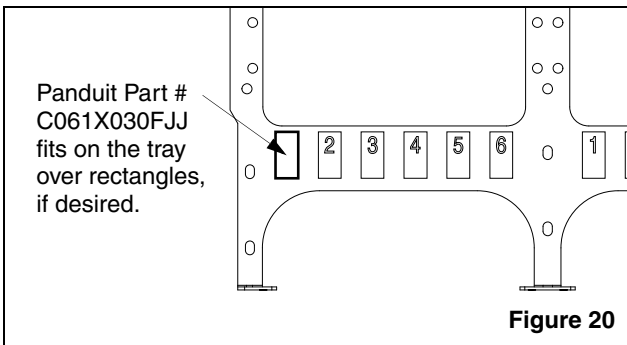
| 3 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 3 |
| 2 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 2 |
| 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 1 |

**Figure 19**

Panduit Part #
C061X030FJJ
fits on the tray
over rectangles,
if desired.

**Figure 20**

### Panduit Label Part Numbers

| Part Number | Description |
| --- | --- |
| C061X030FJJ | White, adhesive polyolefin label, 1 port identifier |
| C125X030FJJ | White, adhesive polyolefin label, 2 port identifier |
| C379X030FJJ | White, adhesive polyolefin label, 6 port identifier |
| PROG-EMCCD3 | Easy-Mark Labeling Software (CD-ROM) |
| PROG-EM2GO | Easy-Mark Labeling Software (USB Flash Drive) |