

# FlexTrax™

## Installation Guide



**Amphenol**  
NETWORK SOLUTIONS™

## Installation Guide, Part Number 150728

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## Connecting the future for over 35 years

**Amphenol Network Solutions** challenges the status quo and looks beyond what is possible in network connectivity and power management.

Founded in 1982, Amphenol Network Solutions, formerly Telect, is driven by the principles of innovation and customer service. Headquartered in Liberty Lake, WA, the privately held company supports a global network of customers with a comprehensive product portfolio and a values-driven corporate culture.

Our products and solutions are found across communications service-provider networks, data centers and utility networks around the globe.

At **Amphenol** Network Solutions, we pride ourselves on our ability to respond to customer challenges, building a reputation among communications service providers for delivering solutions uniquely tailored to their needs.

- Custom configured solutions
- Products integrate seamlessly into existing infrastructure
- Exceptional customer service
- Hassle-free warranty

## Technical Support

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## 1 Introduction

### 1.1 FlexTrax

Amphenol Network Solutions introduces one of the most innovative and imaginative cable management solutions in the world! With easy assembly and installation, the 2" FlexTrax is a flexible cable manager that enables quick access to cables for rapid changes in complex routing applications. The track design enables high visibility to cable management capacity and measures 2" x 2" x 1ft.

### 1.2 About this Guide

This manual provides a comprehensive overview and installation guidelines for the FlexTrax product line. While care has been taken to define all necessary information, complete details may not be covered. If you have any questions, contact Amphenol Network Solutions Technical Support at [support@amphenol-ns.com](mailto:support@amphenol-ns.com) or call 1.509.926.6000.

## 2 Specifications

### 2.1 Materials

Part	Material	Color	UL94 Flame Rating	Suitable For Use
Channel and Gates	Polypropylene	Black	V-0	Indoor
Mounting Clips, Latch, Exit	PC/ABS	Black	V-0	Indoor
L-Brackets and C-Clamp	Powder Coated Steel	Black	N/A	Indoor

### 2.2 Environmental

Condition	Limits
Operating Temperature	15°C to 55°C
Storage Temperature	-40°C to 70°C
Max Relative Humidity	95%

### 2.3 Cable Capacity

The following capacity limits for fiber optic jumper cables are based on the Telcordia GR-449-CORE trough capacity guidelines using a 50% packing density which includes an allowance for additional fiber jumpers and random packing.

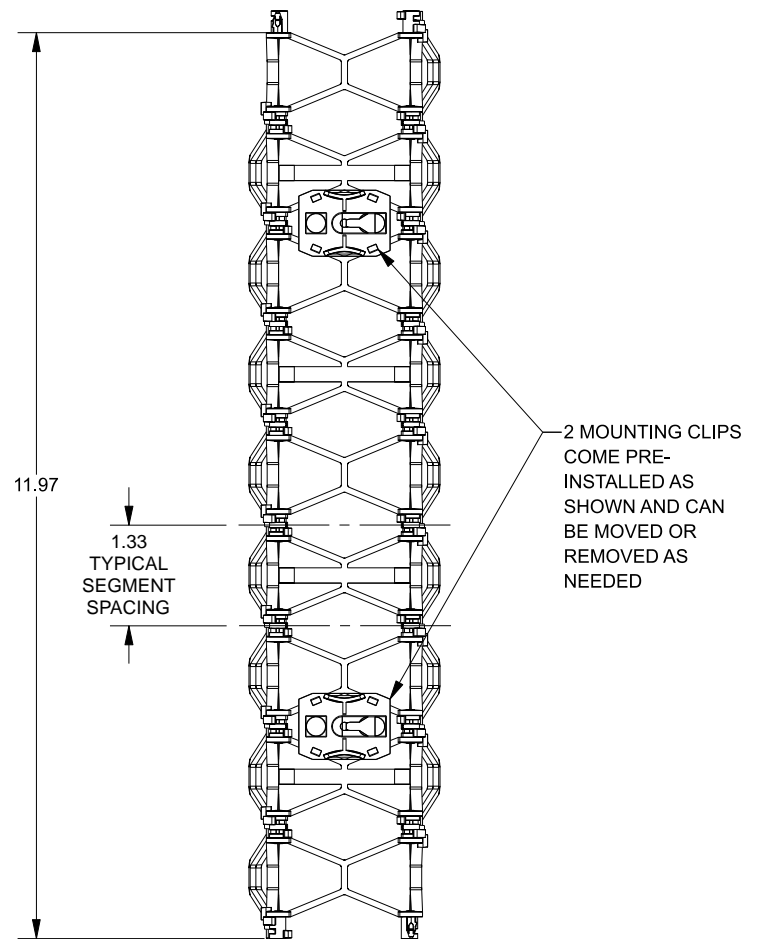
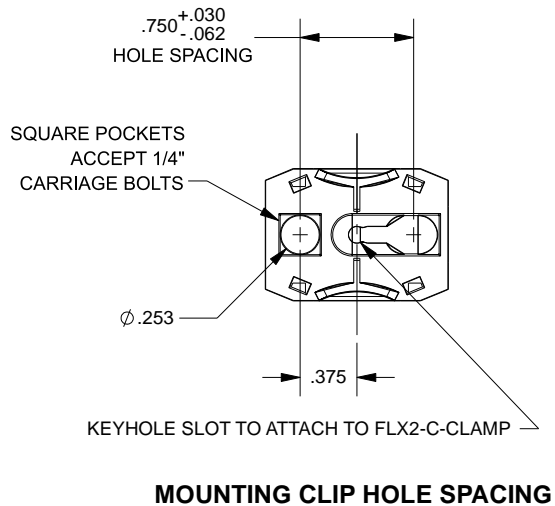
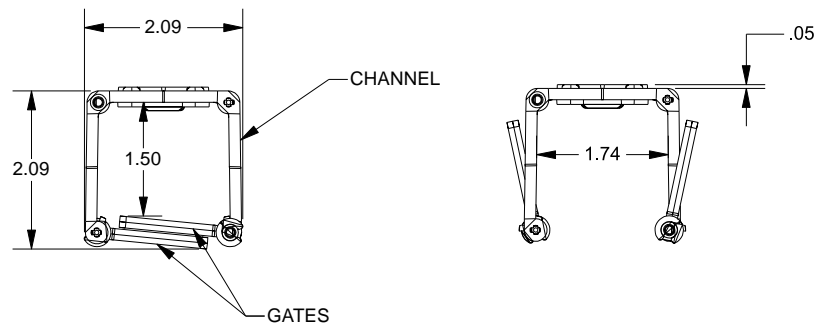
Cable Diameter	Max Capacity
1.2mm	790
1.6mm	444
2.0mm	284
3.0mm	126
2.0mm Duplex Zip	71

Other non-fiber optic cable types such as CAT5/6, HDMI, power, DMX, audio, etc. may be used in FlexTrax. Follow industry guidelines to determine cable density based on cross-sectional area.

FlexTrax Nominal Size	Cross-Sectional Area
2"	2.77in <sup>2</sup>

## 2.4 Size

Dimensions are for reference only.



## 2.5 Flexibility

Parameter	Limits
Inside Bend Radius	6"
Twist	45° per ft
Stretch	+6%
Compression	-3%

FlexTrax can be compressed or stretched to accommodate existing hole spacings. Longer distances will compress and stretch more easily.

As a general rule of thumb, FlexTrax can stretch +6% (.080" per segment) and compress to -3% (.040" per segment). Use the following table as a guideline.

# of Segments	Normal Distance in Inches (mm)	Compressed to -3%	Stretched to +6%
1	1.33 (34)	1.29 (33)	1.41 (36)
2	2.66 (68)	2.58 (66)	2.82 (72)
3	3.99 (101)	3.87 (98)	4.23 (107)
4	5.32 (135)	5.16 (131)	5.64 (143)
5	6.65 (169)	6.45 (164)	7.05 (179)
6	7.98 (203)	7.74 (197)	8.46 (215)
7	9.31 (236)	9.03 (229)	9.87 (251)
8	10.64 (270)	10.32 (262)	11.28 (286)
9	11.97 (304)	11.61 (295)	12.69 (322)
10	13.30 (338)	12.90 (328)	14.10 (358)
11	14.63 (372)	14.19 (360)	15.51 (394)
12	15.96 (405)	15.48 (393)	16.92 (430)
13*	17.29 (439)	16.77 (426)	18.33 (466)
14	18.62 (473)	18.06 (459)	19.74 (501)
15	19.95 (507)	19.35 (492)	21.15 (537)
16	21.28 (541)	20.64 (524)	22.56 (573)
17	22.61 (574)	21.93 (557)	23.97 (609)
18	23.94 (608)	23.22 (590)	25.38 (645)
19	25.27 (642)	24.51 (623)	26.79 (680)
n	n * 1.33	n * 1.33 * .97	n * 1.33 * 1.06

\*The recommended support spacing of every 10RU (17.5") will line up with 13 segments slightly stretched.

## 2.6 Memory

The FlexTrax channel will somewhat retain its shape if it has been in the same position for longer than a few hours. The channel can be easily repositioned into a new shape, but it may require additional mounting points to achieve the desired form.

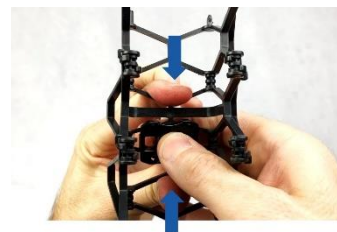
### 3 Components

#### 3.1 FlexTrax Section ([FLX2-1FT](#))

- U-Shaped channel with (2) gates and (2) mounting clips pre-attached
- Sold by the 1 foot section
- Comes bagged in groups of 6. Smaller quantities may be shipped loose.
- Gates provide a light detent to aid in staying closed

##### 3.1.1 Mounting Clip

- Can be moved/removed as needed (either of 3 walls)
- Accommodates a variety of hardware (1/4" carriage bolt, 1/4" or smaller hex head bolt, or 1/4" or smaller screw)
- Use flat washer if using less than #12 size hardware
- Stack mounting clips to secure better and add standoff depth



##### 3.1.2 Joining Sections

Align corners and press together at each corner location.



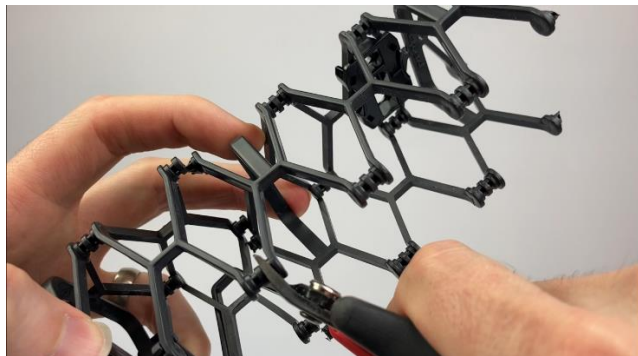
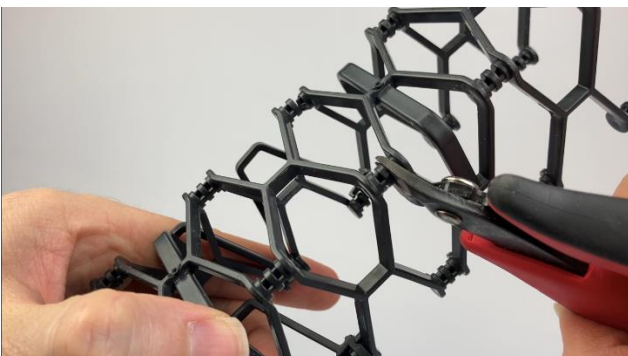
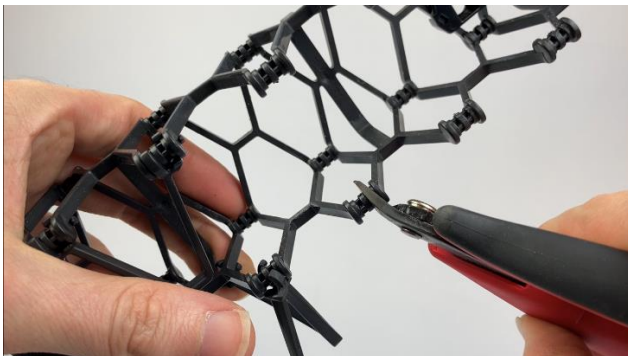
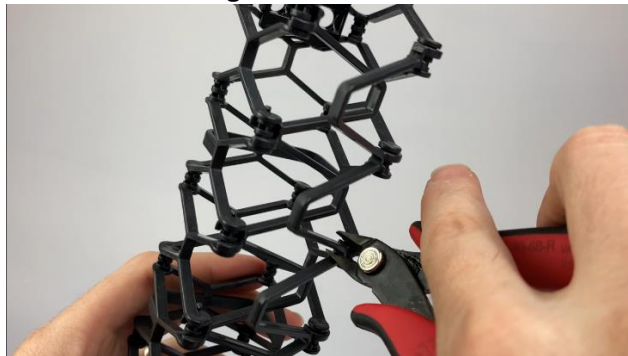


### 3.1.3 Separating Sections

FlexTrax sections are not designed to be reusable, but they can be separated if needed by pulling apart the corner posts one joint at a time. On re-assembly, the joint will not have the same strength as before. In this case, it is recommended to use the compromised channel in a location where the joint is not stressed (end of a run or an unstretched straight run).



### 3.1.4 Trimming Sections







### 3.2 C-Clamp ([FLX2-C-CLAMP](#))

- Clamp to flat surfaces up to 1.3" thick
- Clamp to round surfaces between .125" and 1.04" in diameter
- Mounting clips (supplied with channel) can attach on either of 2 surfaces in 90° rotations
- Mounting clips have a keyhole feature which slides on the post and is retained by a snap

#### 3.2.1 Snapping Mounting Clip on to Channel



### 3.3 End Clamp ([FLX2-END-CLAMP](#))

- Mounts the end of a channel to a flat surface up to .125" thick
- Sharp steel teeth bite into metal or plastic
- Can be used on rear or side walls (or both for additional strength)



#### 3.3.1 Installing the End Clamp (2<sup>nd</sup> Generation)



#### *Unique Features of End Clamp (2<sup>nd</sup> Generation)*

- Narrow tongue fits in CommScope® FiberGuide® T-slot channel
- 10lb holding capacity
- FlexTrax remains parallel to clamping surface
- Compatible with FLX2-EXIT-2

#### 3.3.2 Installing the End Clamp (1<sup>st</sup> Generation, prior to September 2021)

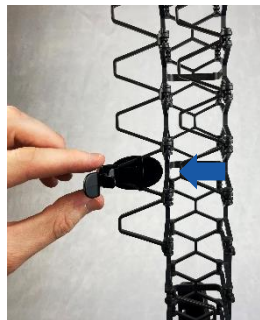
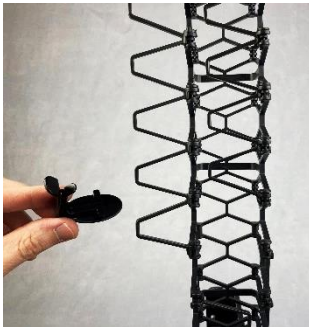


### 3.4 Latch ([FLX2-LATCH-10](#))

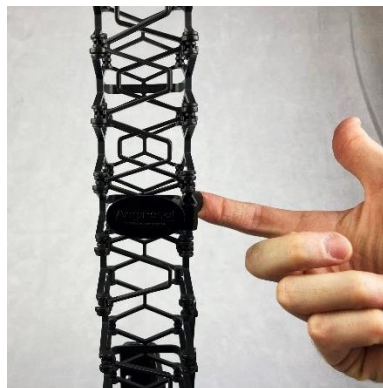
- Use when extra holding power is needed to keep gates closed such as with larger, stiff cables or with sections that open downward
- Sold in packs of 10
- Can snap on anywhere along either side gate
- Amphenol logo will be upside-down when installed on the right-hand gate



#### 3.4.1 Attaching and Closing the Latch



#### 3.4.2 Opening the Latch



### 3.5 Bracket Kit ([FLX2-BRKT-KIT-10](#))

- Includes hardware for various mounting configurations
  - 10 L-Brackets
  - 20 ½-20 x 5/8" Carriage bolts
  - 20 ¼-20 Keps Nuts
  - 10 12-24 Thread Cutting Screws



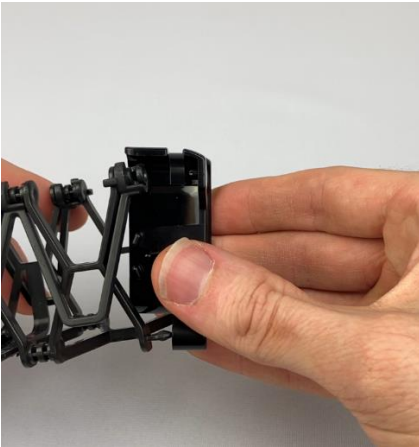
- Contains enough parts to secure a 6ft section vertically to an equipment rack
- Multi-purpose kit can be used in a variety of applications (See Section 4)

### 3.6 Exit (**FLX2-EXIT-2**)

- Can be attached to the end of a section or cut section (see Section 3.1.4)
- Sold in packs of 2
- Provides a smooth exit transition for cables
- Works with 2<sup>nd</sup> Generation FLX2-END-CLAMP



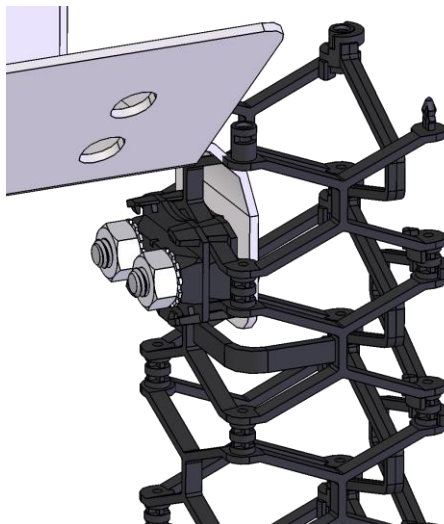
#### 3.6.1 Installing the Exit



## 4 Mounting Examples

### 4.1 Rear Mounted

- Provides smooth transition into channel
- Requires 2 mounting clips, (2) ¼-20 x 1.0" carriage bolts, and (2) ¼-20 Keps nuts



### 4.2 Direct to Wall

- Use screw type according to mounting surface
- Can be offset from wall by stacking one or more mounting clips





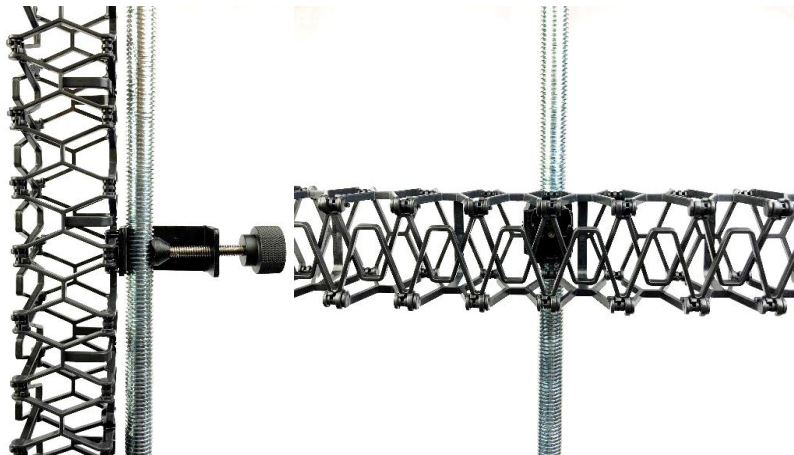
### 4.3 Snap onto Wall Screw

- Secure a #4 partially threaded wood screw partially with approx. 1/16" gap between head and wall
- Snap mounting clip onto screw
- Slide in opposite direction to remove
- Channel will rotate about screw

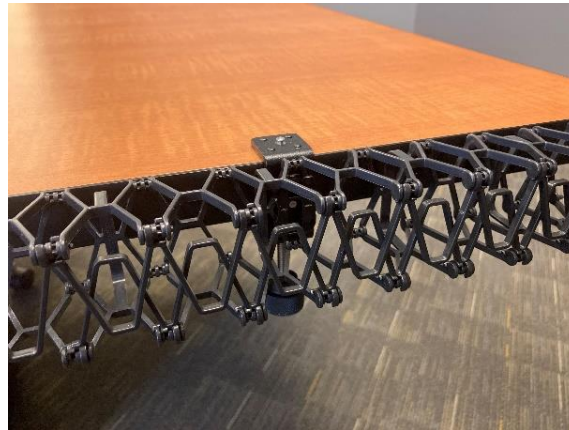


### 4.4 C-Clamp to All-Thread

- Route parallel or perpendicular to all-thread



#### 4.5 C-Clamp to Table



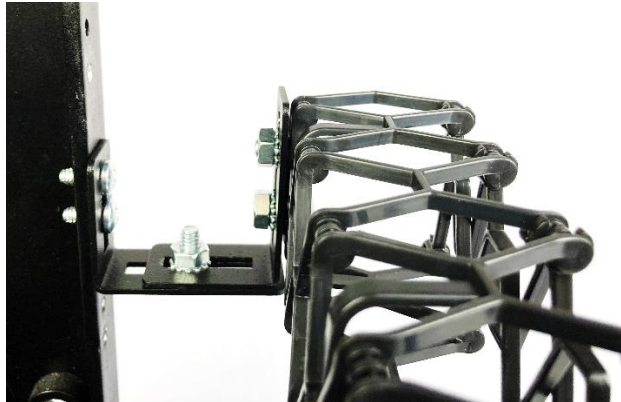
#### 4.6 Wall Mounted EMT Conduit with C-Clamp

- Shown clamped to  $\frac{3}{4}$  EMT conduit mounted against a wall



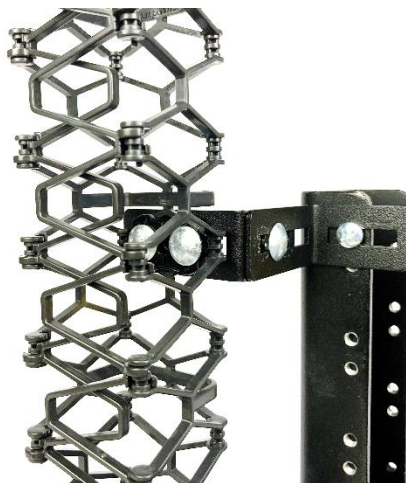
#### 4.7 Typical Horizontal Cable Manager

- Requires 2 FLX2-1FT with ends cut to size (13 segments total), (2) mounting clips, (4) L-brackets, (6) ¼-20 x 5/8" carriage bolts, (6) ¼-20 Keps nuts, and (4) rack screws.



#### 4.8 Typical Vertical Cable Manager

- Recommend brackets every 12-18" (7-10RU)
- Can be extended up to overhead raceway



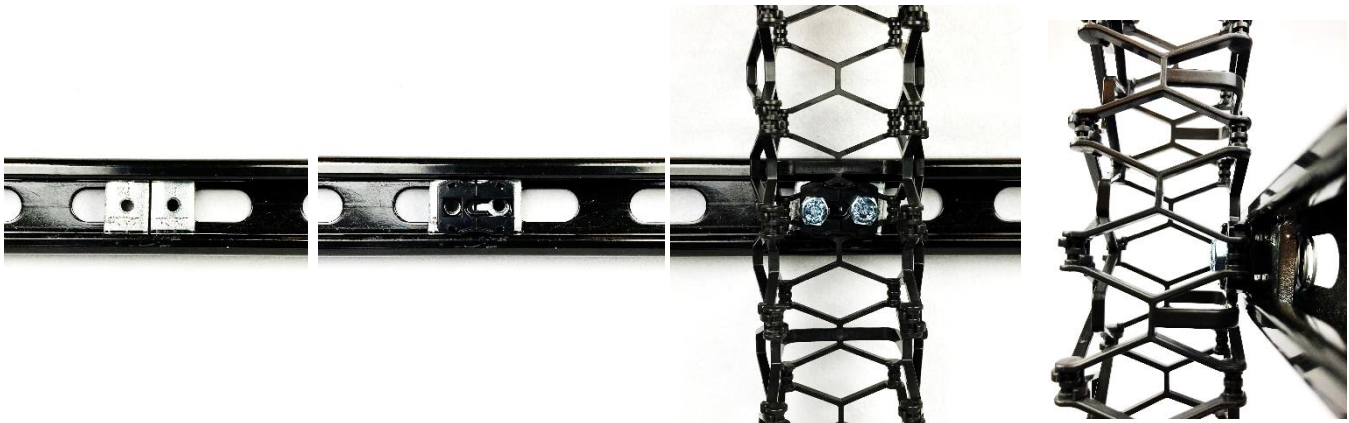
#### 4.9 Attach Perpendicular to Flat Surface

- Requires (2) mounting clips, (2) L-brackets, (2) ¼-20 x 5/8" carriage bolts, (2) ¼-20 Keps nuts
- Use appropriate hardware to attach L-bracket to flat surface



#### 4.10 Perpendicular to Strut

- Requires (2) mounting clips, (2) ¼-20 spring channel nuts, (2) ¼-20 x ¾" hex bolt
- Use a mounting clip as a spacer between the nuts and channel



#### 4.11 Parallel to Strut

- Requires (1) mounting clip, (1) ¼-20 spring channel nuts, (1) ¼-20 x ¾" hex bolt, (2) ¼-20 x 5/8" carriage bolts, and (2) ¼-20 Keps nuts





#### 4.12 Attach to 1-1/2" EMT Conduit Fitting

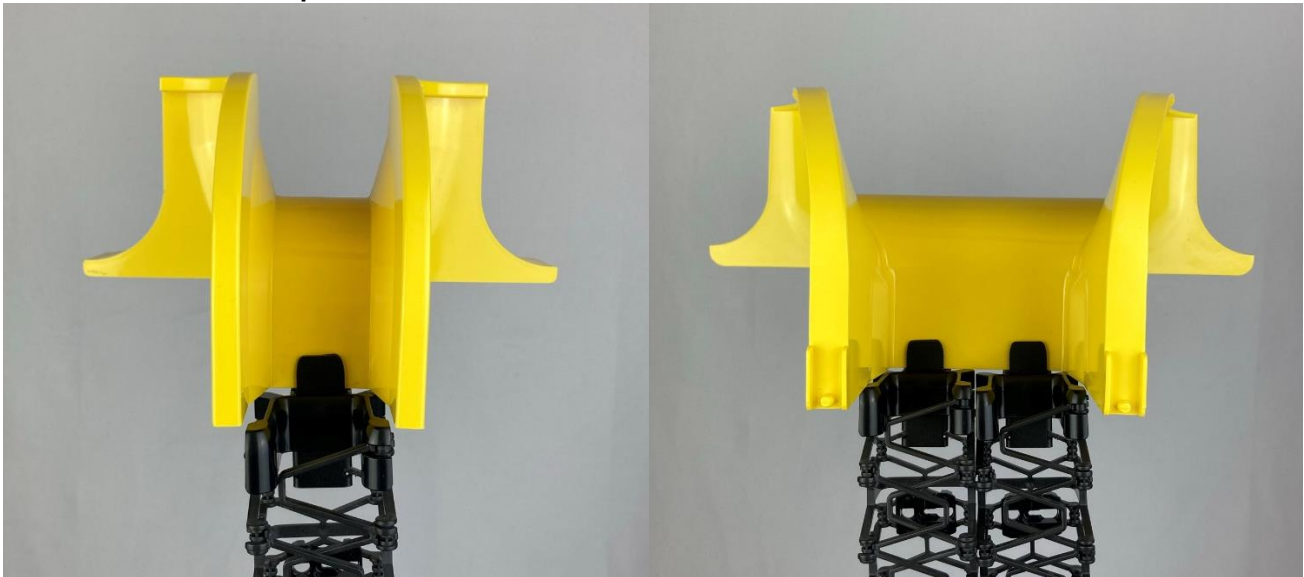
- Use cable ties to secure channel to fitting
- Allows for protected entry into a metal enclosure through a 1-1/2" knockout and EMT conduit fitting



#### 4.13 End Clamp to Fiber Trough Drop

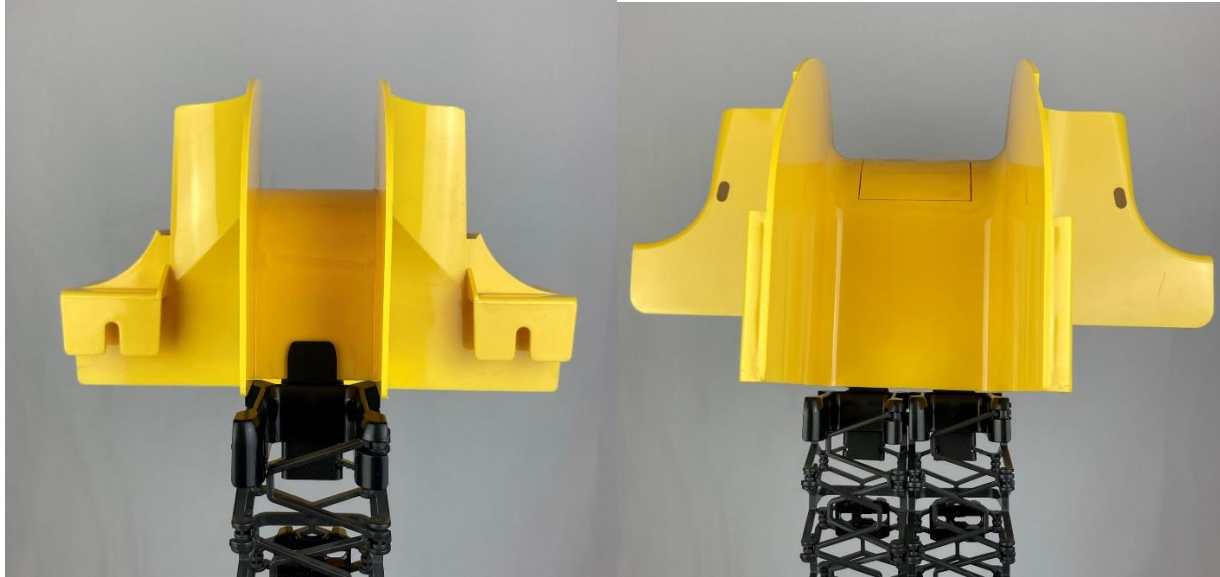
- Can replace split tube for drops from overhead raceway to racks
- Below are a few examples. There are more sizes that are compatible which are not shown.
- Shown with optional FLX2-EXIT-2

##### 4.13.1 2" and 4" Amphenol Network Solutions WaveTrax®

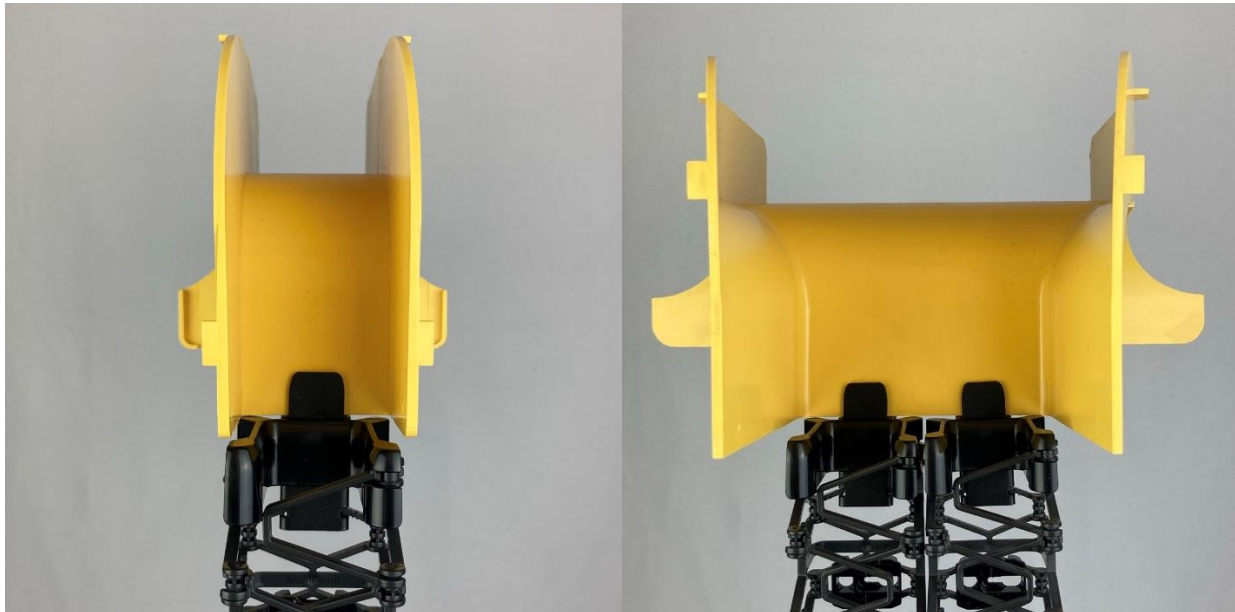




**4.13.2 2" and 4" CommScope® FiberGuide®**

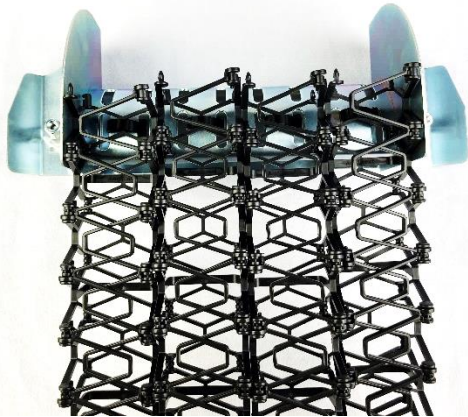


**4.13.3 2" and 4" Panduit® FiberRunner®**



#### 4.14 8" Legrand® Cablofil® Universal “Hang On” Drop Out (UDO)

- Secure with cable ties through the rear of the drop out



#### 4.15 APC® NetShelter™ Zero U Accessory Mounting Bracket (AR7711)

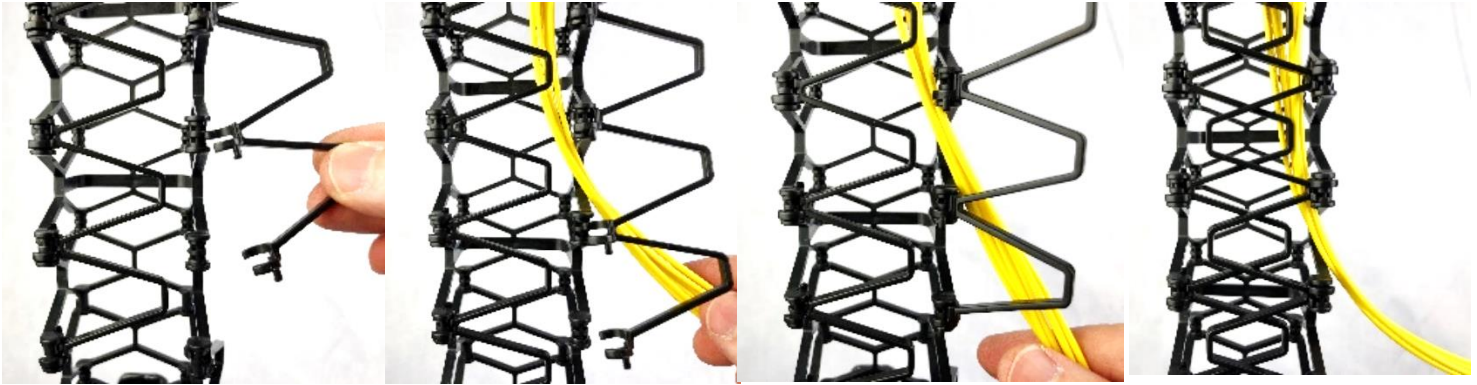
- Use 1/4-20 x 5/8" Carriage bolt or hex head bolt with Keps nut (not supplied)



## 5 Cable Management

### 5.1 Removing Gate to Route Cables Out the Side

- Pull gate to remove and snap back in place after routing cables



### 5.2 Tie Off Cables to Corners or Sides (with Hook-and-Loop or Cable Ties)

- Optionally secure bundles to rear and sides to organize cables

