

FOSC Modular Splice Closure

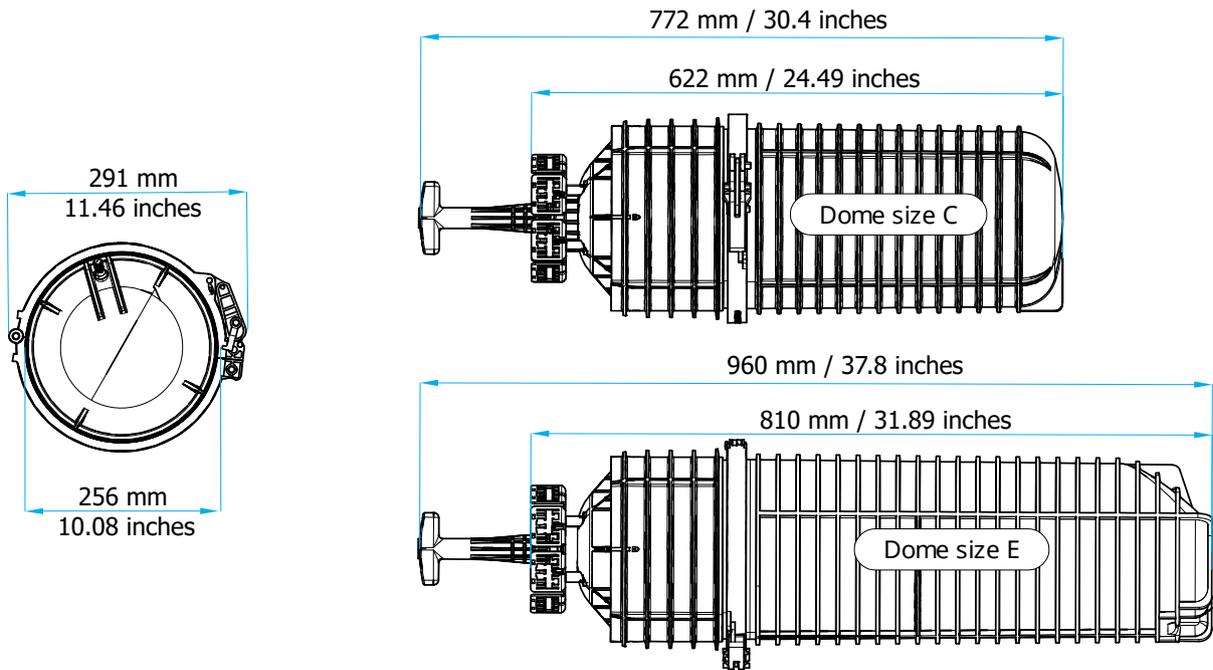
1 About this manual

The FOSC Modular Splice Closure is a modular closure that is composed of different building blocks to meet the specific client needs. This document provides information about the different building blocks and functionality of the closure and provides the instructions of the installation steps required to install this closure.

Images in this manual are for reference only and are subject to change.

2 General product information

2.1 Dimensions



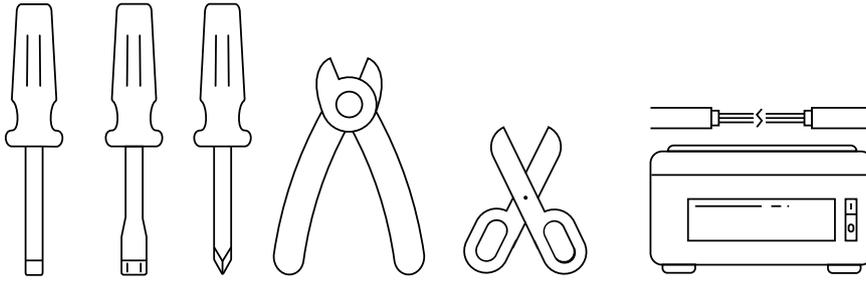
2.2 Cable diameter range

The modular splice closure can hold 8 seal segments. The cable diameter ranges from 1 - 27 mm (0.04 - 1.06 Inches) including flat cable with dimensions 4x8 mm (0.16-0.31 Inches).

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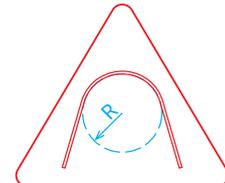
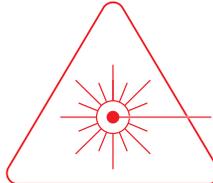
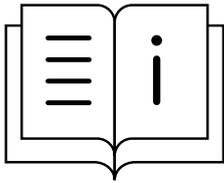
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3 Tools



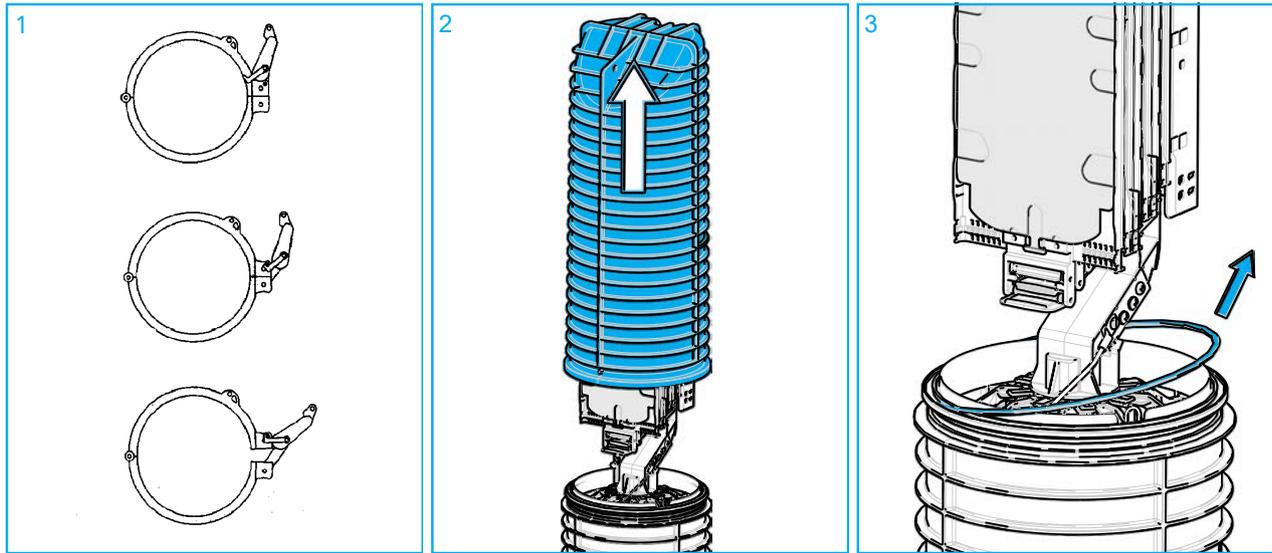
- Flat screw driver
- Socket wrench
- Phillips screw driver
- Small side cutter
- Scissors
- Fiber splice equipment and fiber cleaning tools

4 Warnings and Cautions

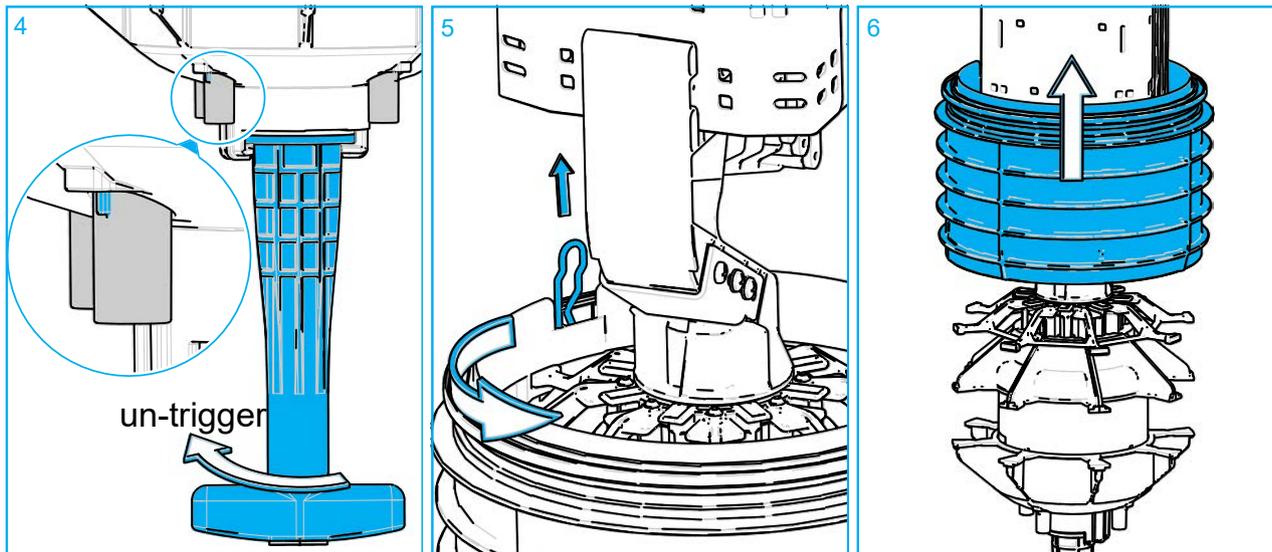


- Follow the installation instruction steps to ensure the performance of the closure. It is necessary to take precautions and keep the working space clean to protect the closure sealing materials and splices.
- Exposure to laser radiation can seriously damage the retina of the eye. Do not look into the ends of any optical fiber. Do not assume the laser power is turned off or that the fiber is disconnected at the other end. Looking into the ends of any optical fiber is entirely at your own risk. A protective cap or hood **MUST** be immediately placed over any radiating adapter or optical fiber connector to avoid the potential of dangerous amounts of radiation exposure. This practice also prevents dirt particles from entering the connector and adapter.
- Fiber optic cables may be damaged if bent or curved to a radius that is less than the recommended minimum bend radius. Always observe the recommended bend radius limit when installing fiber optic cables, subunits and patch cords.

5 Open the closure



- 1 Open and remove the clamp.
- 2 Lift the dome over the fiber management system. The fiber management is fully accessible now.
- 3 Park the O-ring in a clean location for future reuse.

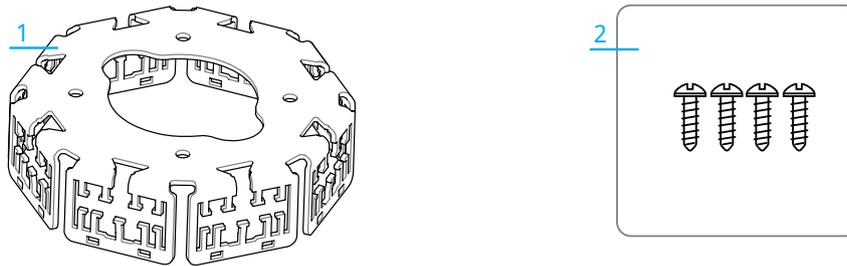


- 4 To remove the base, the trigger system should be un-triggered. The bottom of the seal block will move down over the studs. When the base is flush with the end of the ribs on the studs, the gel is fully uncompressed and the base can be removed.
- 5 Lift the split pen up. Do not remove. Rotate the base relative to the star bracket.
- 6 Lift the base over the fiber management system. The sealing block is now accessible.

6 External cable fixation

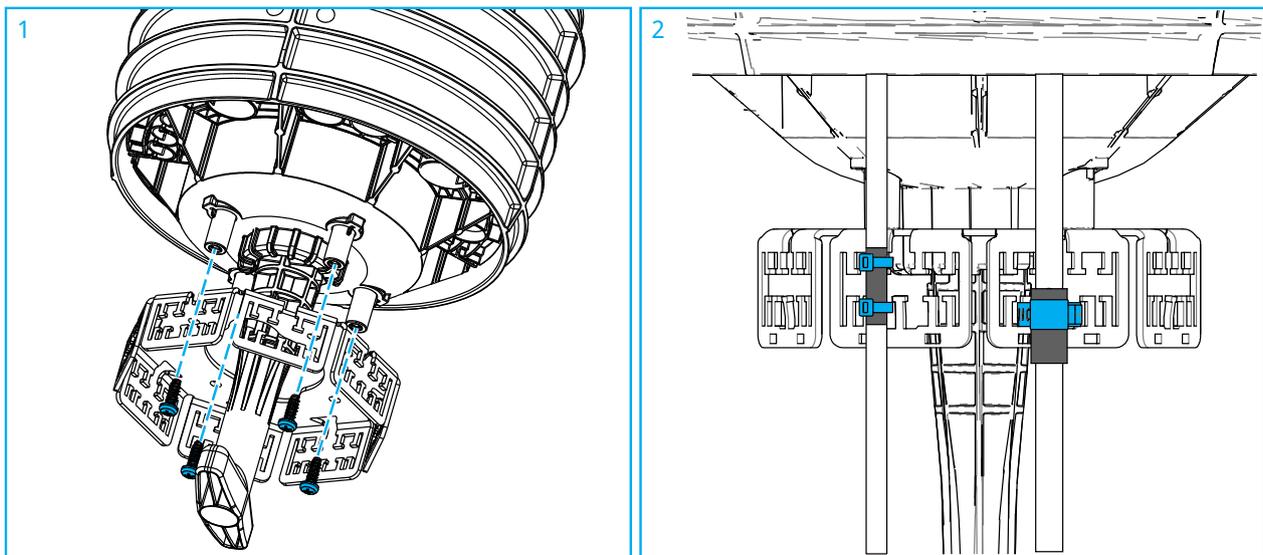
6.1 Kit content

External cable fixation bracket MSC EXT/CF is used to secure cables outside closure. Below are the steps to mount or replace the bracket.



N°	Description	Qty
1	Bracket	1
2	Screws	4

6.2 Installation



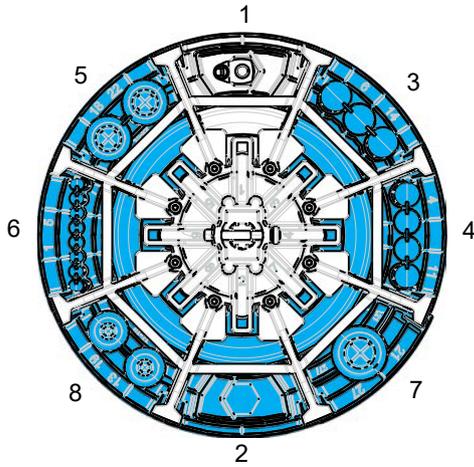
- 1 Mount the external cable bracket with the 4 screws onto the base using a Phillips screwdriver. (Preferable before the cables are installed.)
- 2 Secure the cable to the T-shapes on the bracket with cable ties or hose clamps.

 **Note:** When using thin jacket cables, use felt tape to protect the cables.

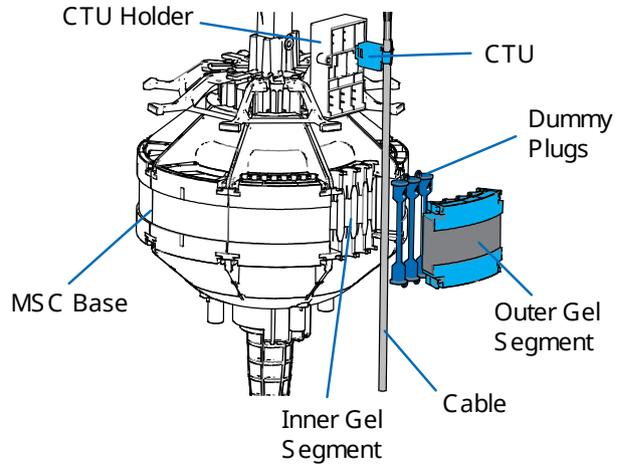
7 Closure preparation

7.1 Install SKG kits

The closure is sealed with in total 8 gel seal segments. This requires that 8 SKG kits shall be installed to seal the closure.



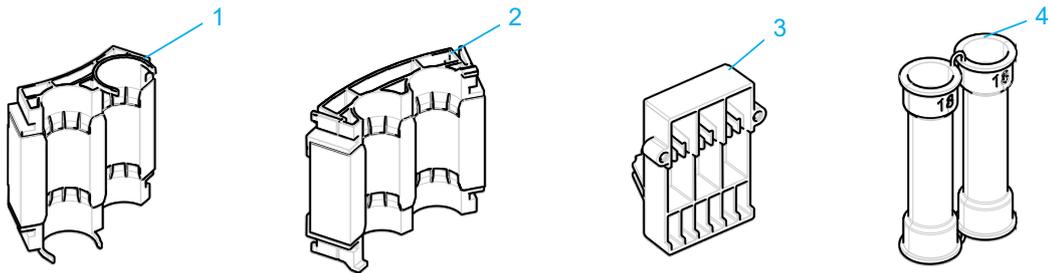
Numbering of Gel Seal Segments



MSC Base with SKG Kit

7.1.1 Kit contents

Different SKG kits exist, depending on the purpose (cable sealing, closure port sealing (dummy) or grounding). SKG kits seal the cables to the closure and differ according to the cable diameter range, grounding requirements and the number of cable positions in the gel seal (1, 2, 3, 4, 6 and 8).



An SKG (except SKG-DUMMY and SKG-FDTHR) always contains: a CTU holder, dummy plugs and two pieces of gel seal segments (figure showing example of an SKG2 kit).

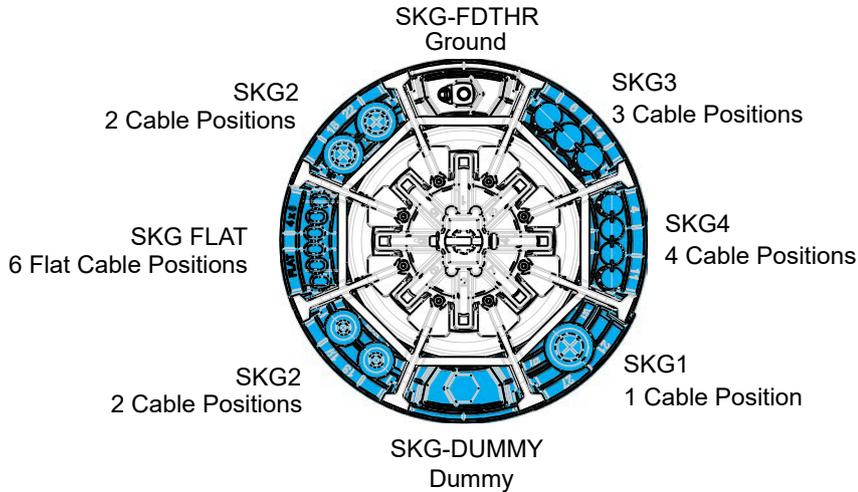
N°	Description	Qty
1	Inner gel segment	1
2	Outer gel segment	1
3	CTU holder	1
4	Dummy plugs	2

Note: SKG-DUMMY and SKG-FDTHR contain only 1 gel segment.

Depending on the cables used in the application different SKG's can be combined. Select the SKG corresponding to the cable diameter used. The cable diameter range of the kit is stamped on the gel seals in the kit. Table below gives an overview of the cable range and amount of cable positions per SKG type:

Gel seal	# cable positions	Cable range (Ø)		Gel seal	# cable positions	Cable range (Ø)	
		mm	Inches			mm	Inches
SKG1	1	21 - 27	0.83 - 1.06	SKG3	3	6 - 14	0.24 - 0.55
SKG2 18/22	2	18 - 22	0.71 - 0.87	SKG4*	4	4 - 11	0.16 - 0.43
SKG2 13/19	2	13 - 19	0.51 - 0.75	SKG8	8	1 - 5	0.04 - 0.2
SKG FLAT	6	4x8	0.16x0.31				

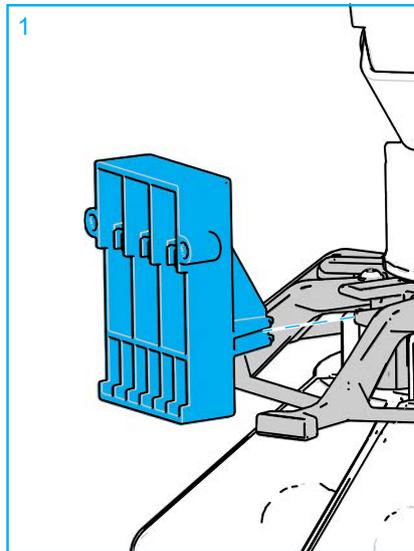
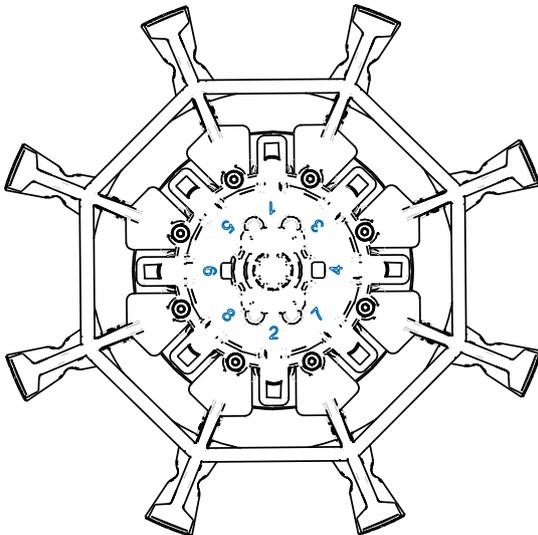
*To secure rigid strength member, always use a 3-, 2-, 1-out gel seal segment.



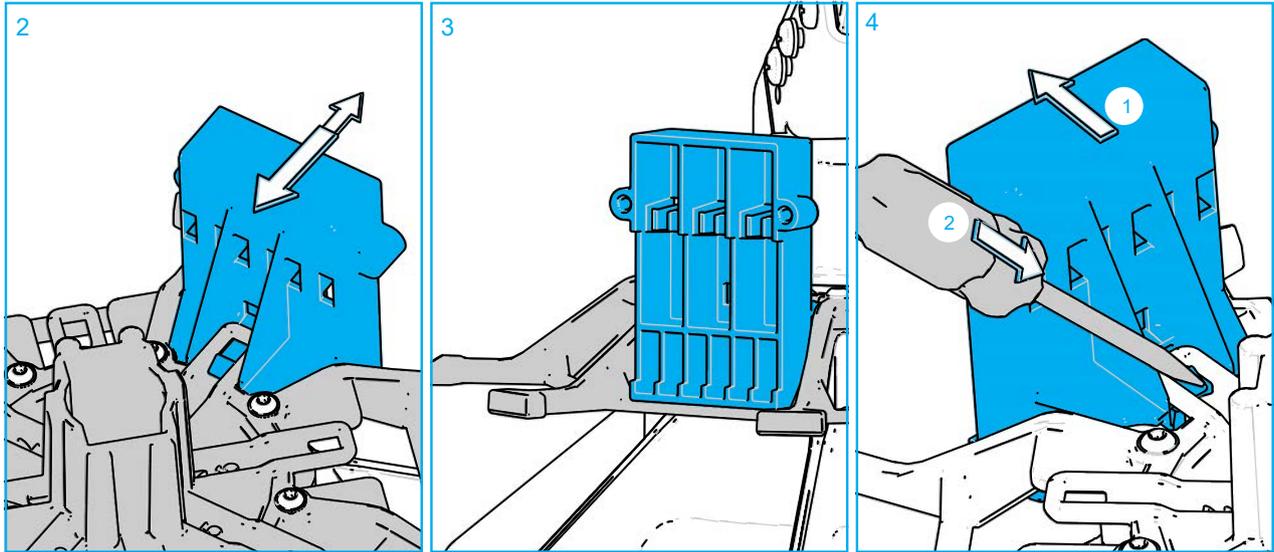
Example Configuration of 8 SKG Kits Installed

Make sure to install the selected seal kit in the assigned port. The port numbers are indicated on the star bracket (see next figure).

7.1.2 Install CTU holder



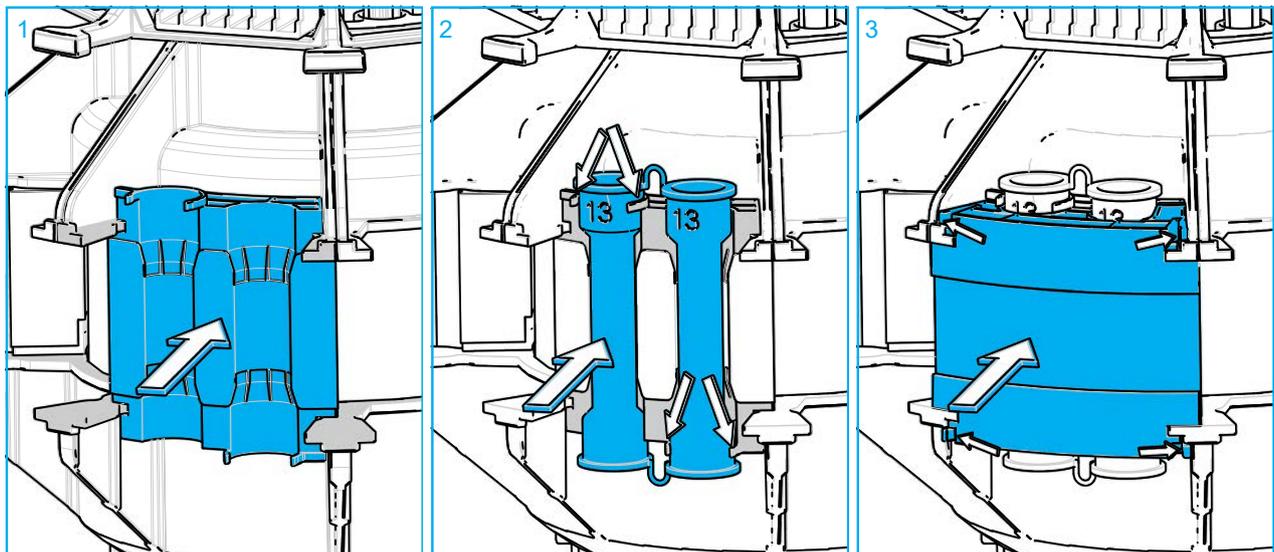
- 1 Select the assigned port in the starbracket and slide the two slots of the CTU holder over the flanges of that port on the star bracket.



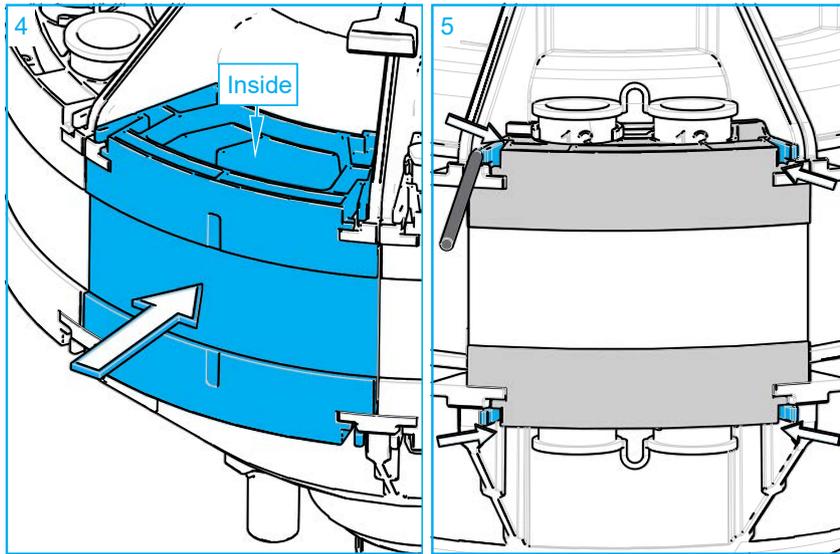
- 2 The snaphook on the CTU holder will fall into the opening in the bracket. The CTU holder can float to be able to position itself towards the position of the strength member.
- 3 CTU holder installed.
- 4 To remove the CTU holder in case a different CTU holder is needed, first slide the CTU holder forward so the snaphook can move downward. Then carefully position a screwdriver on the snaphook and push it downwards. Slide the CTU holder out of the starbracket while keeping the snaphook pushed downwards.

 **Note:** When cables and subunits are installed, be extra careful.

7.1.3 Install gel segments



- 1 To install the gel segments the trigger system should be in the un-triggered state. Slide the inner gel segment over the 4 ribs of the seal block.
- 2 Install the dummy plugs. The dummy plugs click into the snap features on the inner gel segment.
- 3 Slide the outer gel segment over the 4 ribs until it snaps.



- 4 To install a **SKG-DUMMY**, slide the dummy gel seal (one piece) over the 4 ribs until it snaps. Verify the proper orientation of the dummy gel seal, see image above.
- 5 To remove the outer gel segment or the dummy gel seal, push the 4 snaps to the inside, a fiber guidance pen or a small flat head screw driver can be used.

8 Cable preparation

Note: When using the standard tray to store ribbon splices, the ribbons must be routed to the slack basket first. Do not route ribbons directly to the tray unless they will be de-ribbonized for single splicing. See accessory list for ribbon tray description.

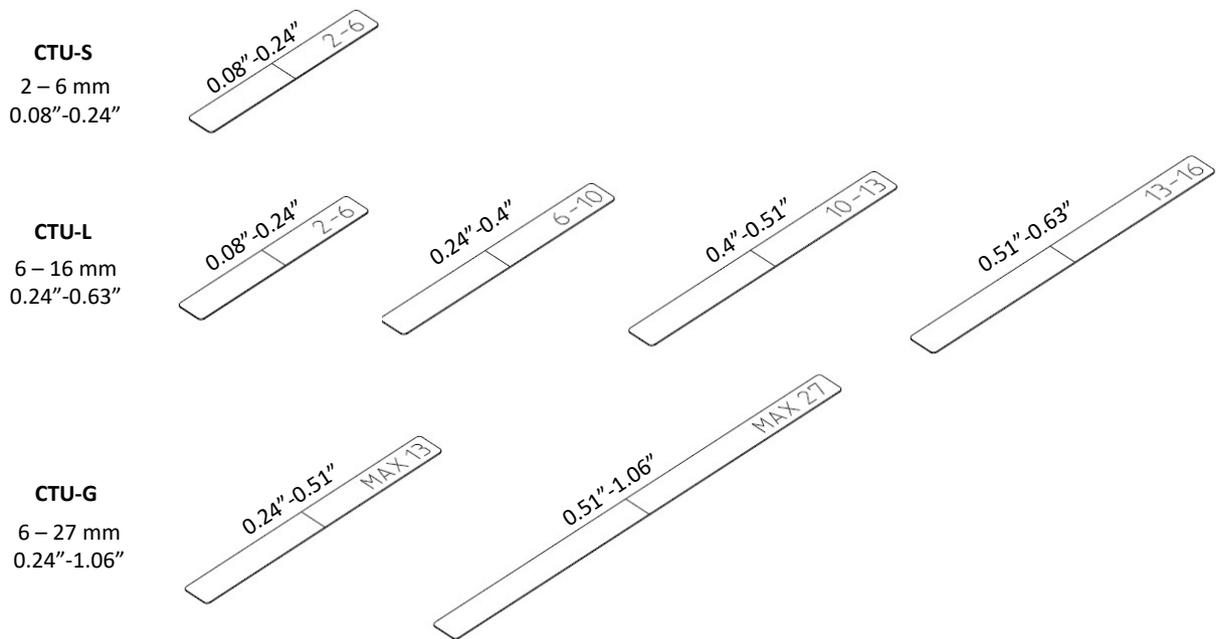
Cable Type	Opening Location	FOSC-MSC-C8 Min. & Max. Suggested Storage Length ***	FOSC-MSC-E8 Min. & Max. Suggested Storage Length ***
Loose Buffer Tube*	Midspan	52" - 112" in Tall basket 52" - 90" in Standard basket	102" - 140" in Tall basket 102" - 120" in Standard basket
	End	43" - 72"	55" - 75"
Loose Buffer Tube Ribbon (Flat or Rollable)	Midspan	60" - 86"	70" - 140"
	End	30" - 45"	70" - 90"
Central Core Tube Ribbon** (Flat or Rollable)	Midspan	60" - 86"	70" - 140"
	End	30" - 45"	70" - 90"

* LBT: 52" goes directly to tray. 90" cut in center makes one small loop in basket and approx. 22" on tray.
 ** Ribbon: 60" small loop in basket in front of tower and onto the tray. 86" loop to the end of the basket and onto the tray.
 *** The Minimum cut length is based on cutting dead-to-the-field side going directly to the tray. The Maximum cut length is based on entry into the basket to tray.

8.1 Install CTU on non-armored cable

Note: For installing armored cable, see chapter Grounding Armored Cable [on page 27](#).

Measure the cable diameter to select the correct CTU and/or the correct cable retention metal strap.



To select the correct cable retention metal strap, the diameter measured should be between the two dimensions indicated on the metal strap. For example, if the measured diameter is 15,5 mm (0.61 inch), select the 13-16 (0.51 - 0.63) band.

Depending on cable size and type of strength member, select one of the following sub sections to terminate the strength member.

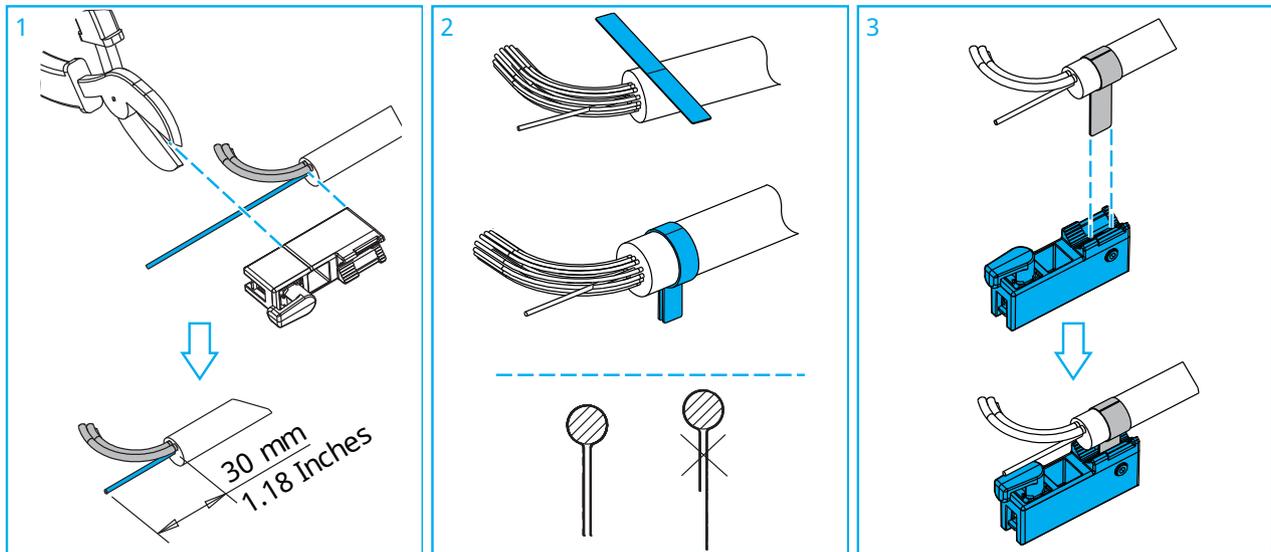
Table 1: CTU Bracket to Gel Seal X-Ref

	CTU Brackets				
	CTU-S	CTU-L	CTU-G	CTU-BRKT-1	CTU-BRKT-2
Cable Ø Range	2 - 6 mm 0.08" - 0.24"	6 - 16 mm 0.24" - 0.63"	6 - 27 mm 0.24" - 1.06"	1 - 11 mm 0.04" - 0.43"	6 - 27 mm 0.24" - 1.06"
Gel Seals	SKG4* SKG6 FLAT SKG8	SKG3	SKG1 SKG2 SKG3 GRND	SKG4 SKG6 FLAT SKG8	SKG1 SKG2 SKG3

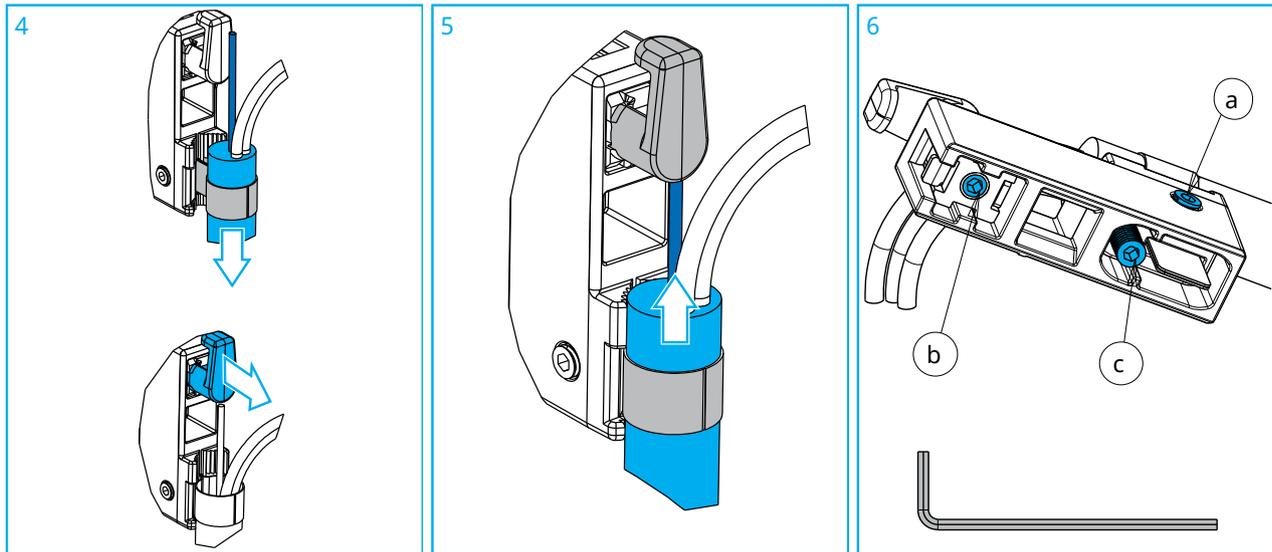
*CTU-S will work with SKG4 up to 6mm

- CTU-L - central strength member [on page 11](#)
- CTU-L - dual strength member [on page 12](#)
- CTU-L - aramid yarn [on page 13](#)
- CTU-S - aramid yarn [on page 14](#)
- CTU-S - flat cable [on page 15](#)
- CTU-G - central strength member [on page 15](#)
- CTU-G - dual strength member [on page 16](#)
- CTU-G - large strength member [on page 17](#)
- CTU-G - aramid yarn [on page 18](#)

8.1.1 CTU-L - central strength member



- 1 Cut the strength member to a length of 30 mm (1.18 Inches). To mark this distance, the line on the side of the CTU can be used. Hold the cable jacket flush with the bottom of the CTU and mark the strength member at the height of the line.
- 2 Bend the selected metal strap around the cable while maintaining the centerlines (centerline of the metal strap on the center of the cable). Make sure both ends of the metal strap have equal lengths.
- 3 Insert the wrapped metal strap in the CTU slot.



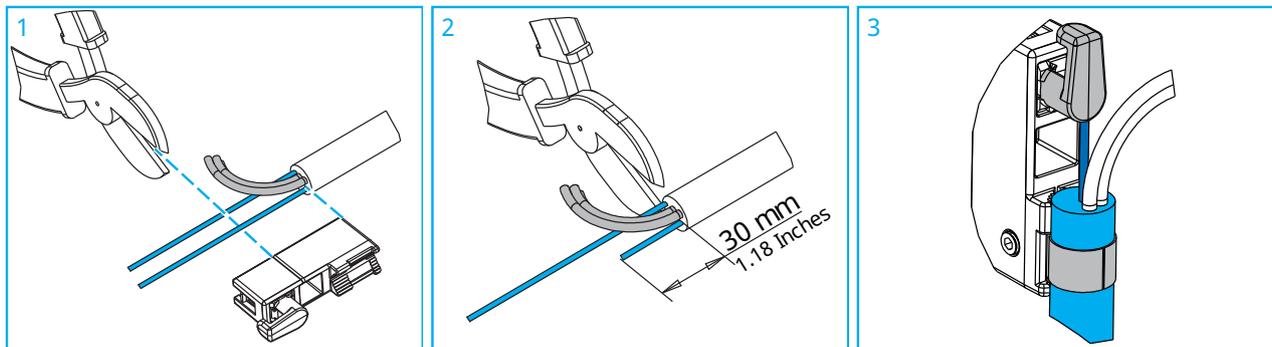
- 4 To insert the strength member in the strength member holder, first pull the cable slightly back (making sure the jacket doesn't pass the metal strap), then move the strength member holder forward.
- 5 Then push the cable upwards again until the central strength member butts against the strength member holder's top surface.

 **Note:** Some strength members may need to be trimmed in width to fit properly.

- 6 Tighten the screws with the Allen key included.
 - a **First** tighten the screw on the side to secure the metal strap to the CTU. The cable is left unsecured at this point.
 - b **Second** tighten the screw to secure the strength member.
 - c **Third** tighten the screw to secure the cable jacket.

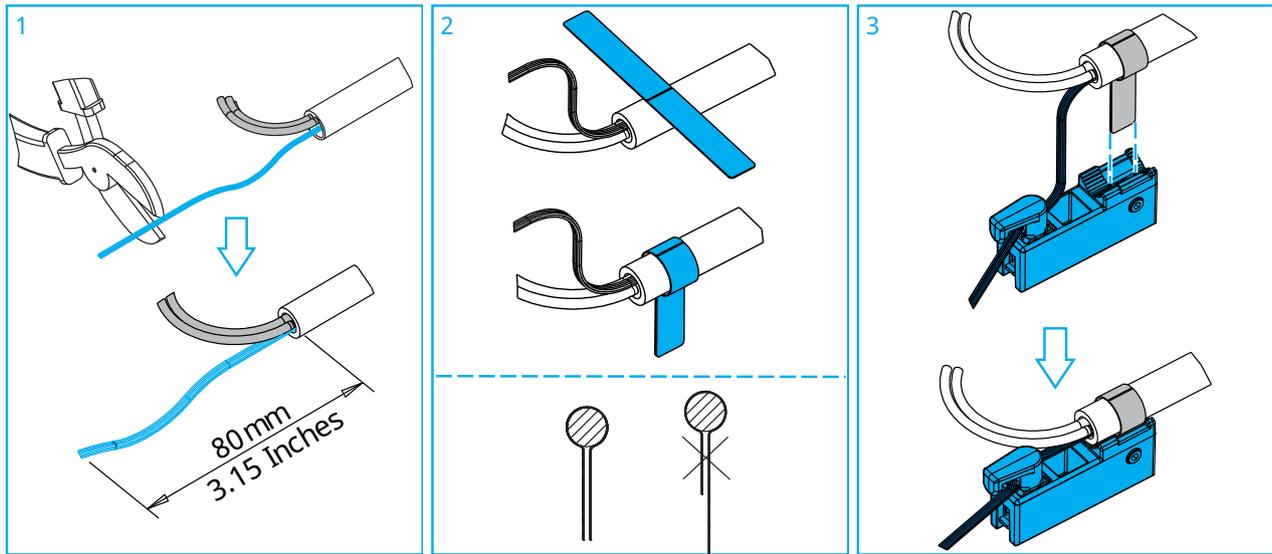
The cable is now fully secured to the CTU.

8.1.2 CTU-L - dual strength member

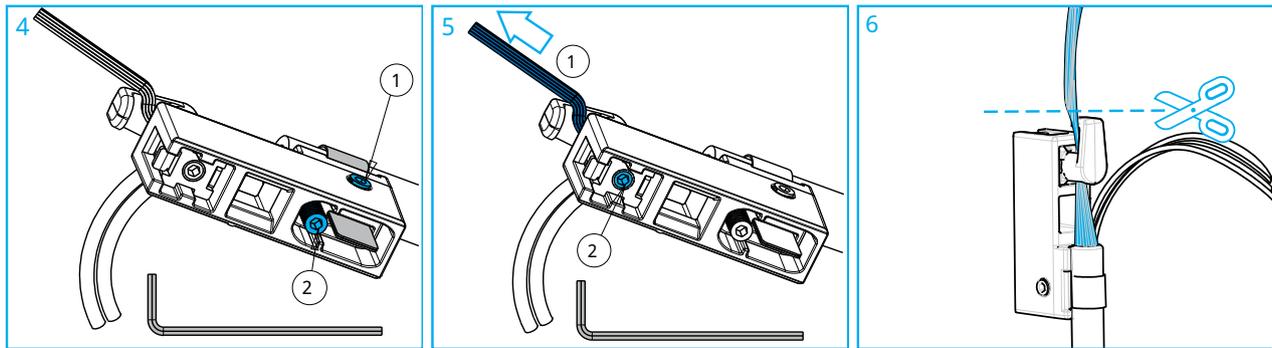


- 1 Cut one of the two strength members to a length of 30 mm (1.18 Inches). To mark this distance, the line on the side of the CTU can be used. Hold the cable jacket flush with the bottom of the CTU and mark the strength member at the height of the line.
- 2 Remove the other strength member completely (cut it flush with the cable jacket).
- 3 Proceed with steps [2 to 5](#) in the section [CTU-L - central strength member](#) [on page 11](#) to secure the cable jacket and the strength member to the CTU. Position the cable such that the remaining strength member is closest to the CTU.

8.1.3 CTU-L - aramid yarn

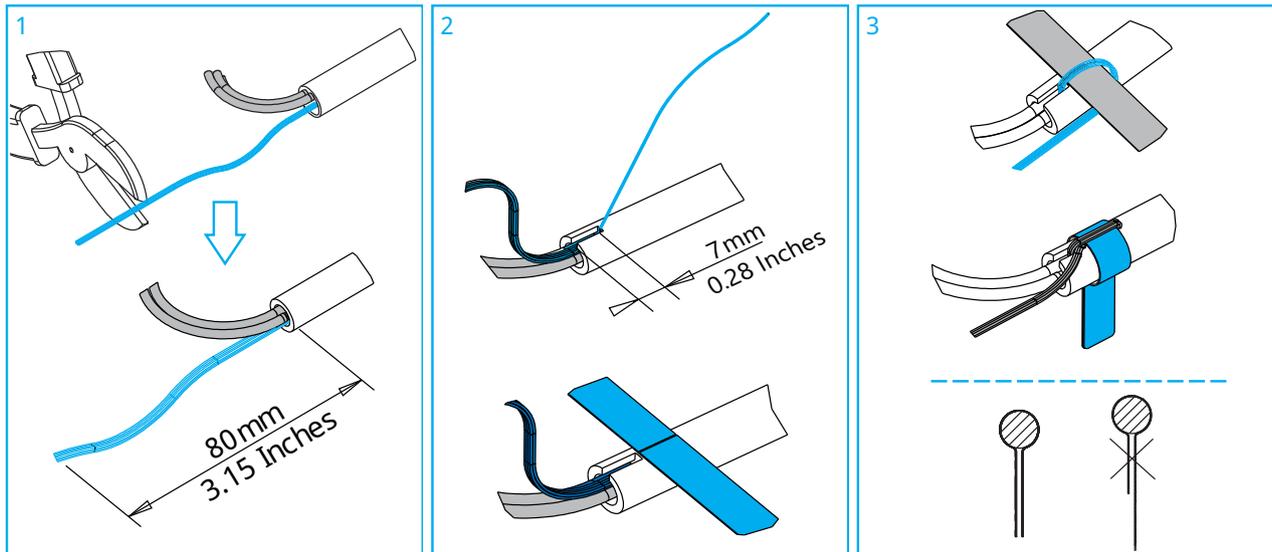


- 1 Cut the aramid yarn to a length of 80 mm (3.15 Inches).
- 2 Bend the selected metal strap around the cable while maintaining the centerlines (centerline of the metal strap on the center of the cable). Make sure both ends of the metal strap are of equal lengths.
- 3 Insert the wrapped metal strap into the CTU slot. Guide the aramid yarn through the strength member holder.

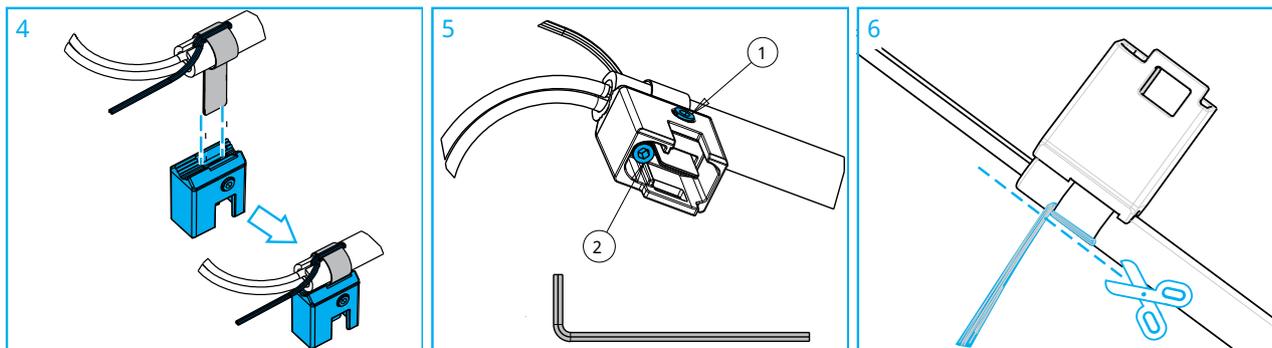


- 4 Secure the jacket of the cable to the CTU by first tightening the screw on the side and then tightening the screw at the back side of the CTU.
- 5 Pull on the aramid yarn and secure it in the strength member holder by tightening the screw of the backside of the CTU.
- 6 Cut the excessive aramid yarn as shown.

8.1.4 CTU-S - aramid yarn

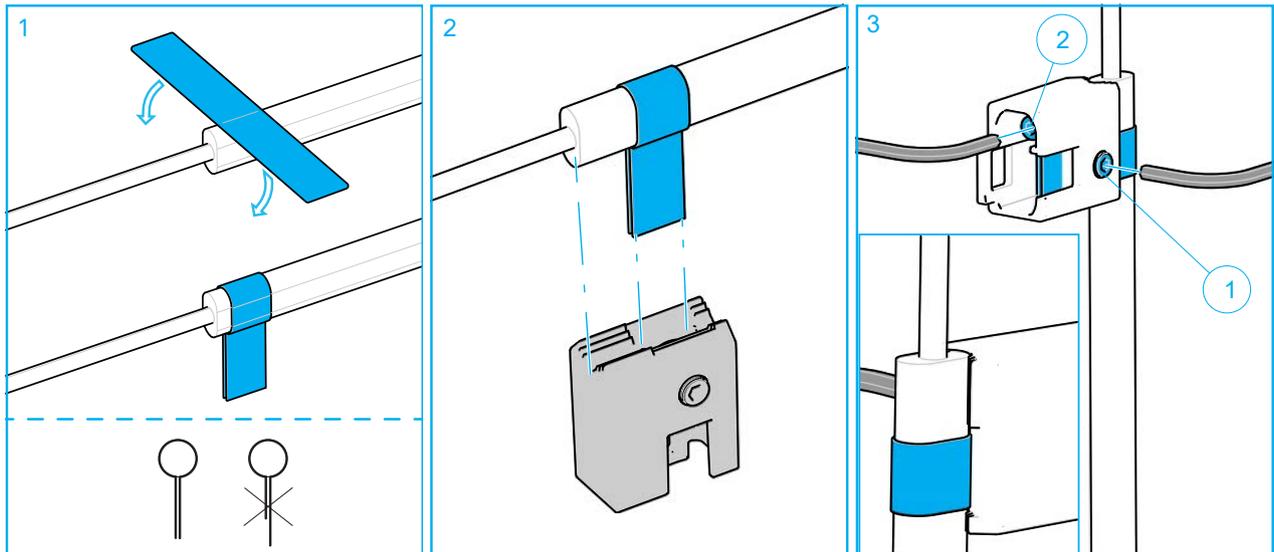


- 1 Cut the aramid yarn to a length of 80 mm (3.15 Inches).
- 2 Make a slit of 7 mm (0.28 Inches) in the jacket by pulling on a part of the aramid yarn. Position the metal strap on the cable maintaining the centerlines.
- 3 Wrap the aramid around the band. Bend the band around the cable making sure both ends are of equal lengths.



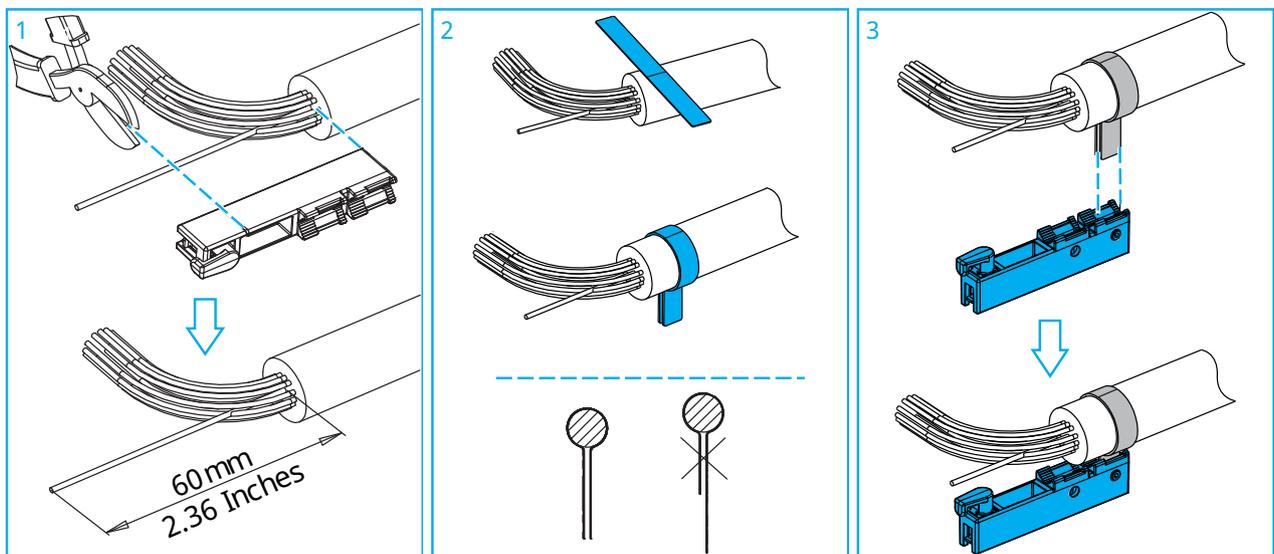
- 4 Insert the wrapped metal strap in the CTU slot.
- 5 Secure the jacket of the cable to the CTU by first tightening the screw on the side and then tightening the screw at the back side of the CTU.
- 6 Cut the excessive aramid yarn as shown.

8.1.5 CTU-S - flat cable

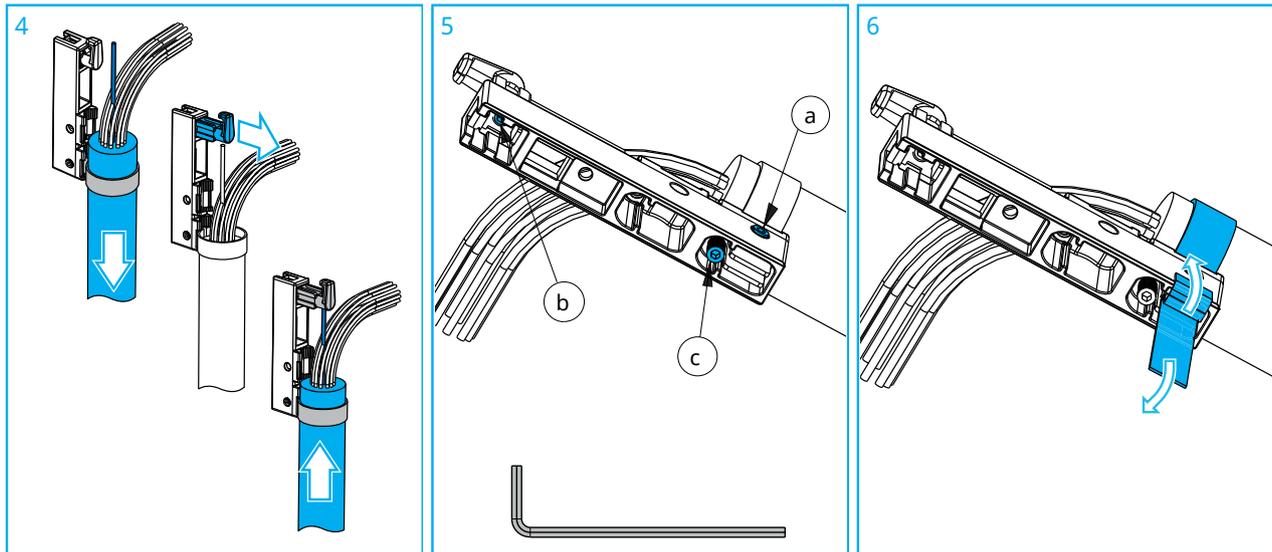


- 1 Bend the selected metal strap around the cable while maintaining the center lines (center line of the metal strap on the center of the cable). Make sure both ends of the metal strap have equal lengths.
- 2 Insert the wrapped metal strap in the CTU slot.
- 3 Secure the jacket of the cable to the CTU by first tightening the screw on the side and then tightening the screw at the back side of the CTU.

8.1.6 CTU-G - central strength member



- 1 Cut the strength member to a length of 60 mm (2.36 Inches). To mark this distance, the line on the side of the CTU can be used. Hold the cable jacket flush with the bottom of the CTU and mark the strength member at the height of the line.
- 2 Bend the metal strap around the cable while maintaining the centerlines (centerline of the metal strap on the center of the cable). Make sure both ends of the metal strap are of equal lengths.
- 3 Insert the wrapped metal strap in the first CTU slot.



4 Insert the strength member in the strength member holder. First pull the cable slightly back (making sure the jacket doesn't pass the metal strap), then move the strength member holder forward and then push the cable upwards again until the central strength member butts against the strength member holders top surface.

Note: Some strength members may need to be trimmed in width to fit properly.

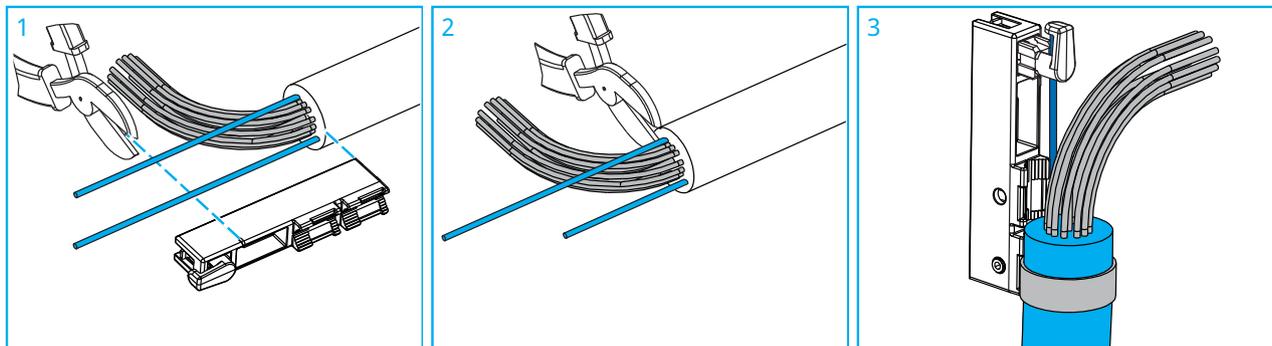
5 Tighten the screws with the allen key.

- a **First** tighten the screw on the side to secure the metal strap to the CTU. The cable is left unsecured at this point.
- b **Second** tighten the screw to secure the strength member.
- c **Third** tighten the screw to secure the cable jacket.

The cable is now fully secured to the CTU.

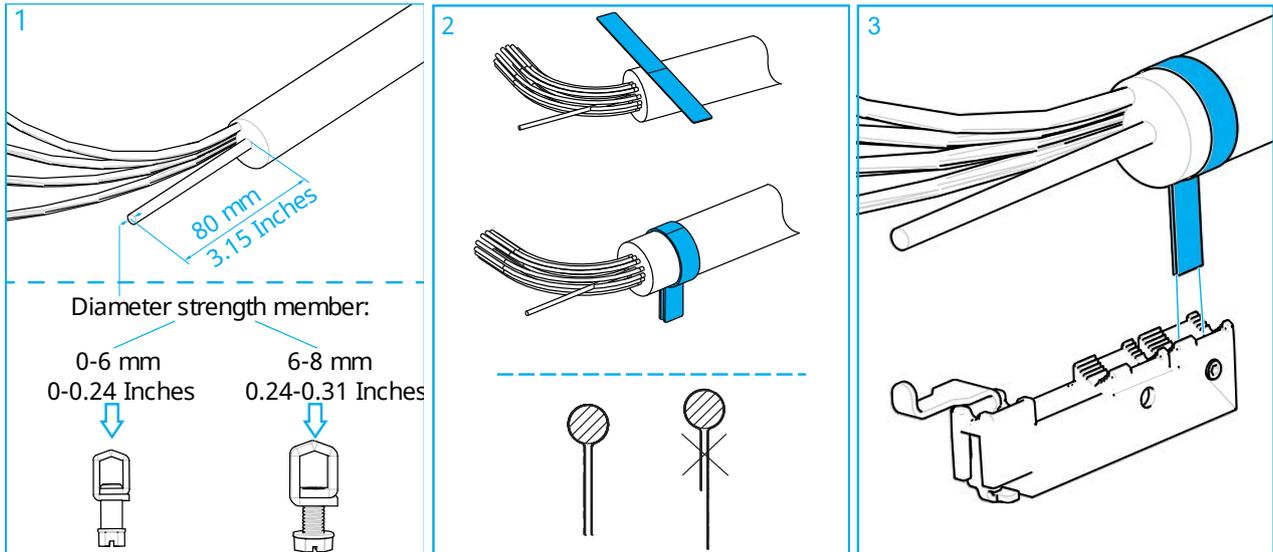
6 Fold over both ends of the metal strap. Fold the left end towards the left side and the right end to the right side over the outer surface of the CTU.

8.1.7 CTU-G - dual strength member

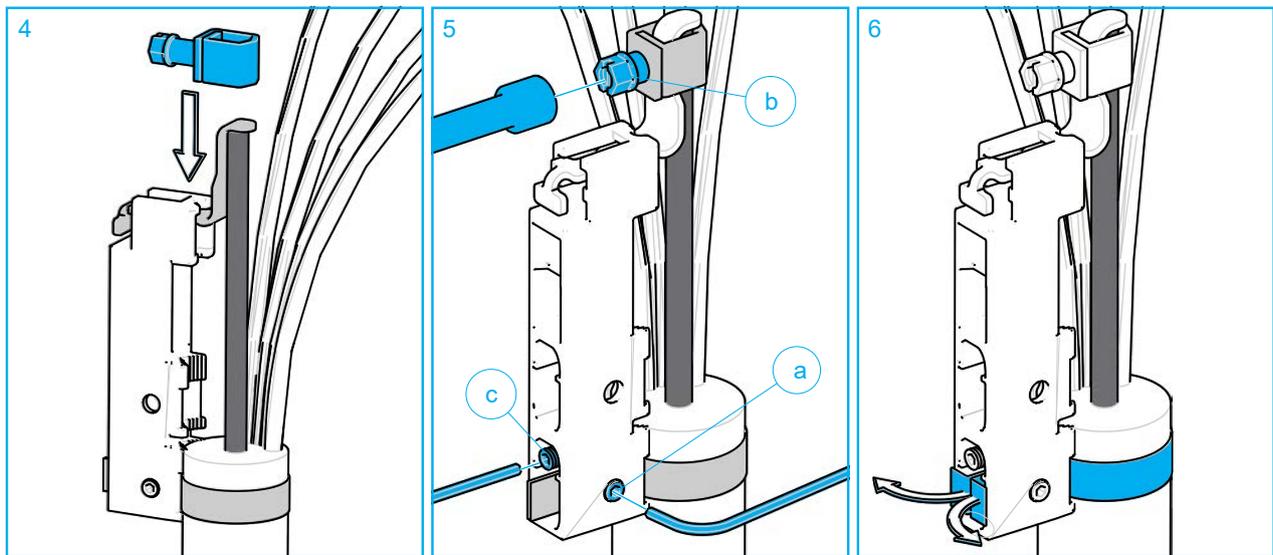


- 1 Cut one of the two strength members to a length of 60 mm (2.36 Inches). To mark the distance, the line on the side of the CTU can be used.
- 2 Remove the other strength member completely (cut it flush with the cable jacket).
- 3 Proceed with steps [2 to 6](#) in the section CTU-G - central strength member [on page 15](#) to secure the cable jacket and the strength member to the CTU. Position the cable such that the remaining strength member is closest to the CTU.

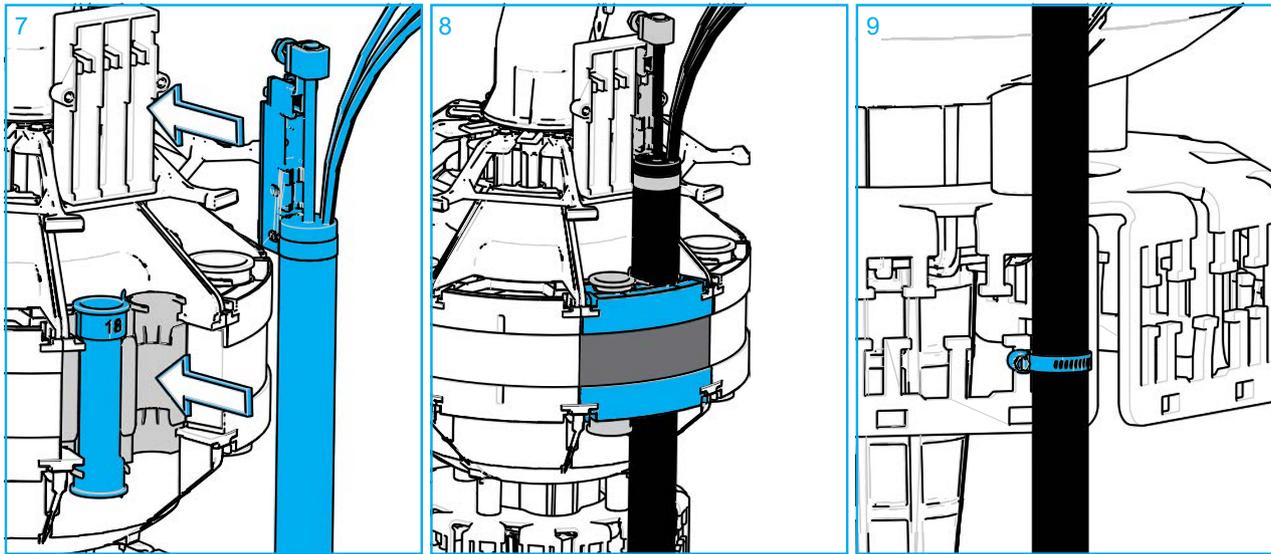
8.1.8 CTU-G - large strength member



- 1 Cut the strength member to a length of 80 mm / 3.15 Inches. Select the correct lug depending of the diameter of the strength member.
- 2 Bend the metal strap around the cable while maintaining the center lines (center line of the metal strap on the center of the cable). Make sure both ends of the metal strap are of equal lengths.
- 3 Insert the wrapped metal strap in the slot (bottom position) of the CTU.



- 4 Slide the lug over the strength member and the metal plate as shown.
- 5 Secure the cable to the CTU by securing the screws in the following order:
 - a **First** tighten the screw on the side to secure the metal strap to the CTU with the allen key. The cable is left unsecured at this point.
 - b **Second** tighten the lug with a 1/4" socket wrench to secure the strength member.
 - c **Third** tighten the screw at the back to fully secure the cable jacket.
- 6 Fold over both ends of the metal strap.



- 7 Click the CTU in the plastic holder. Make sure dummy plugs are installed in unused cable ports.
- 8 Place the outer gel segment on top of the cables and push until snap hooks are properly installed.
- 9 Secure the cable to the T-shapes on the external bracket with a hose clamp. Two hose clamps are included:
 - 1 hose clamp with a \varnothing range of 8-22 mm / 0.31-0.87 Inches.
 - 1 hose clamp with a \varnothing range of 20-27 mm / 0.79-1.06 Inches.

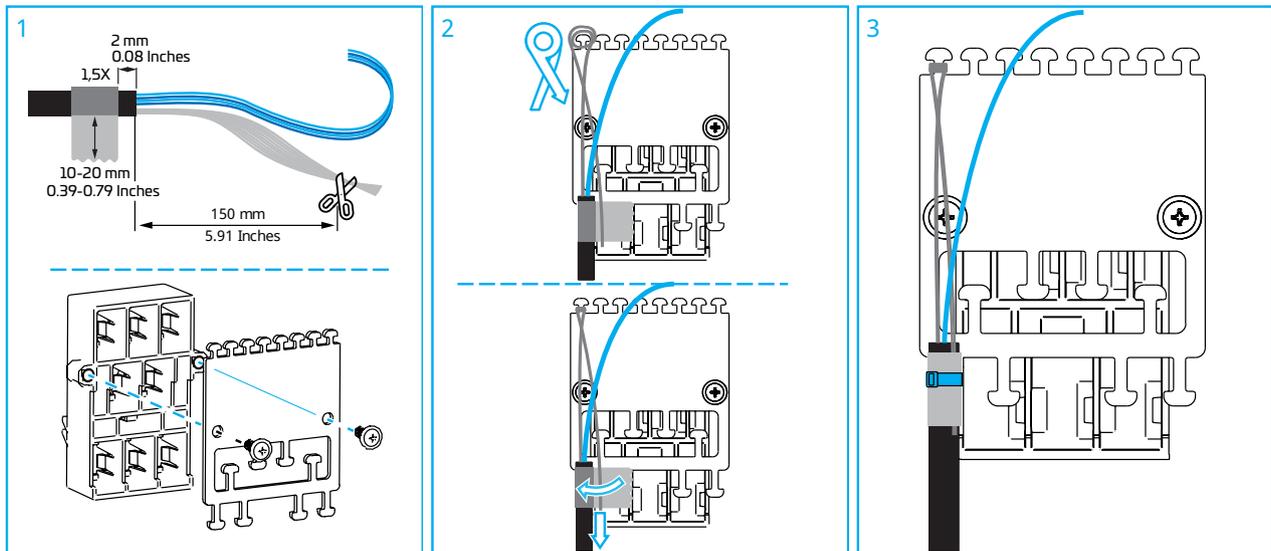
8.1.9 CTU-G - aramid yarn

Also aramid yarn can be secured with the CTU-G. It is the same way of working as explained in the section: CTU-L - aramid yarn [on page 13](#).

 **Note:** Make sure to use the first slot to secure the cable with the metal strap to the CTU.

8.2 Metal plate installation

8.2.1 CTU-BRKT 1- aramid yarn

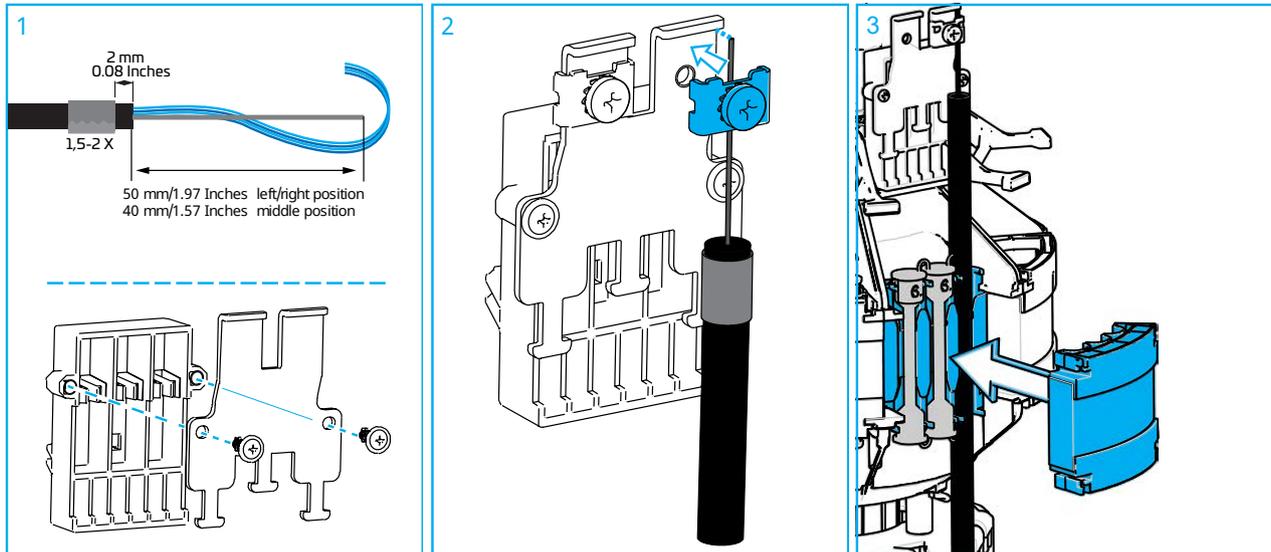


- 1 Cut the aramid yarn to a length of 150 mm (5.91 Inches). Apply one and a half turns of felt tape around the cable and keep 10 to 20 mm (0.39 to 0.79 Inches) over length. Secure the metal plate onto the CTU holder with the two included screws.
- 2 Position the cable on top of the metal plate, jacket end located above a large T-shape. Wrap the aramid yarn one and a half turns around the small T-shape located on the top of the bracket. (Take the T-shape in line with the

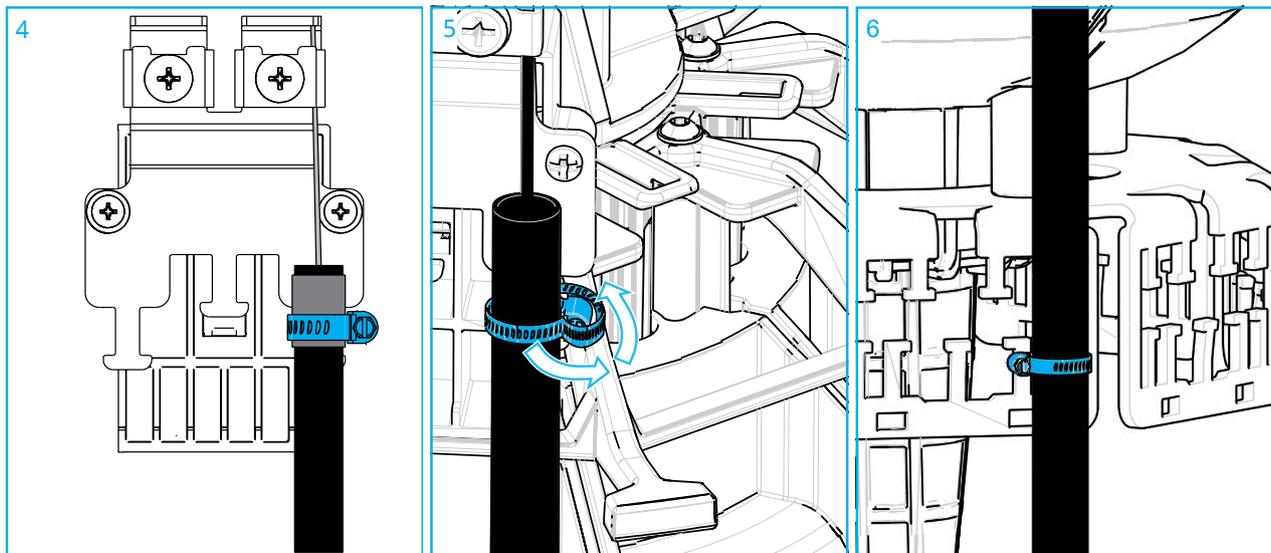
position of the cable.) Wrap the remaining piece of felt tape around the cable with the aramid yarn in between. Make sure to put tension on the aramid yarn while performing this action.

- Secure the cable with a cable tie to the bracket on the position where the felt tape is located. The CTU holder can now be installed in the star bracket as explained in section Install CTU holder [on page 7](#).

8.2.2 CTU-BRKT 2 - hose clamp



- Cut the rigid strength member to length, depending on its position on the metal plate. For thin jacket cables, apply 1.5-2 turns of felt tape around the cable. Secure the metal plate onto the CTU holder with the two ejot screws.
- Secure the strength member under the metal plates. The end of the strength member should be positioned against the bent side. **The strength member length of the cable positioned left and right should be 50 mm (1.97 Inches), the strength member length of the cable positioned in the middle should be 40 mm (1.57 Inches).**
- Place the inner gel segment. Install the CTU holder in the star bracket as explained in the section Install CTU holder [on page 7](#). Place the cable and make sure dummy plugs are installed in unused cable ports. Place the outer gel segment on top of the cables and push until snap hooks are properly installed.



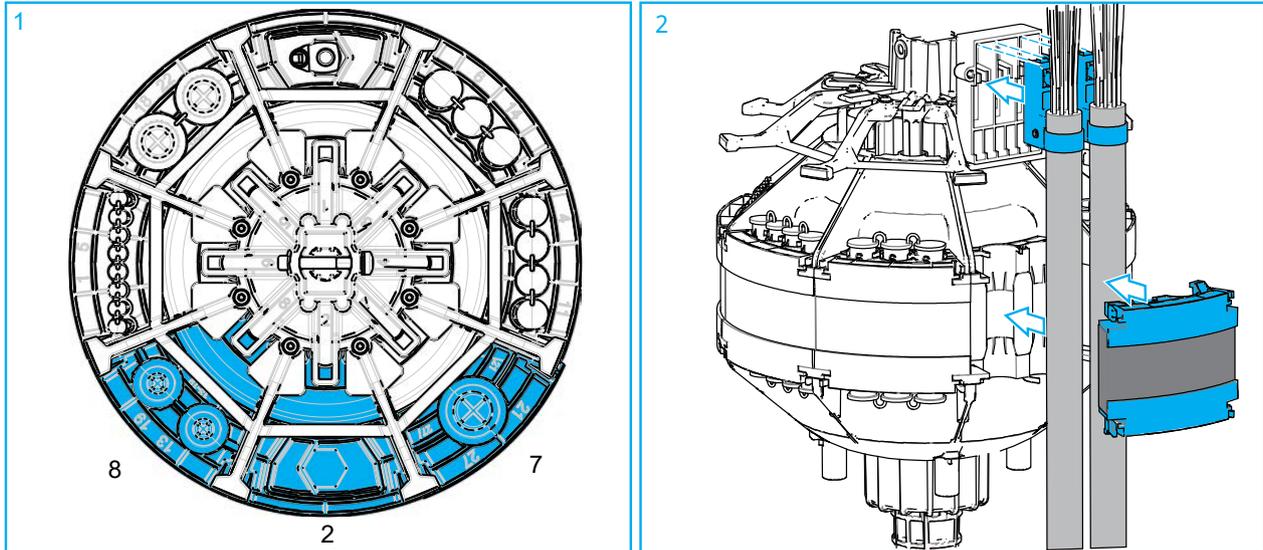
- Secure the cable with a hose clamp to the bracket on the position where the felt tape is located. Make sure the position of the hose clamp is as shown in image above.
- Bend over the hose clamp over length so it will not interfere with the closure base.
- If **cable diameter > 14 mm / 0.55 inch**: Secure the cable with a hose clamp to the T-shapes of the external bracket.

Note: When using thin jacket cables, use felt tape to protect the cables.

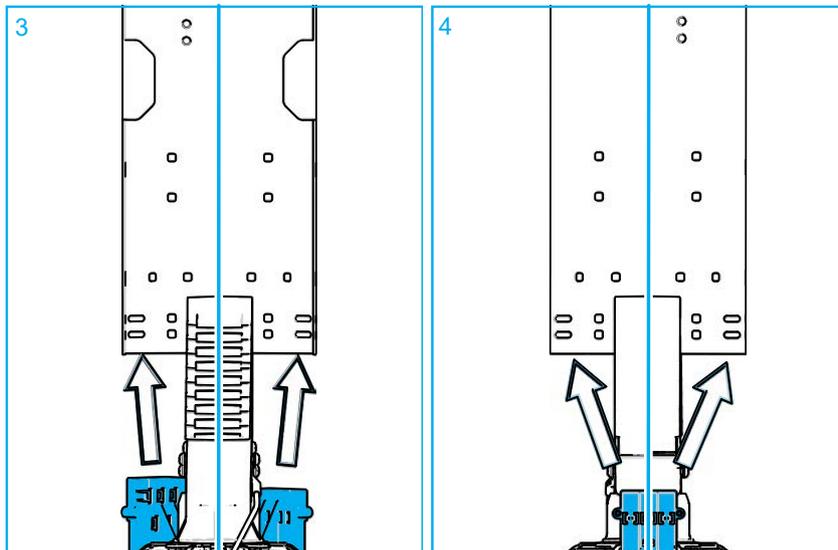
9 Cable installation

9.1 Install looped feeder cable

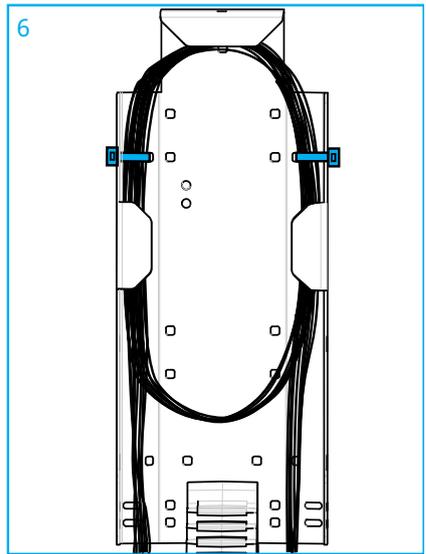
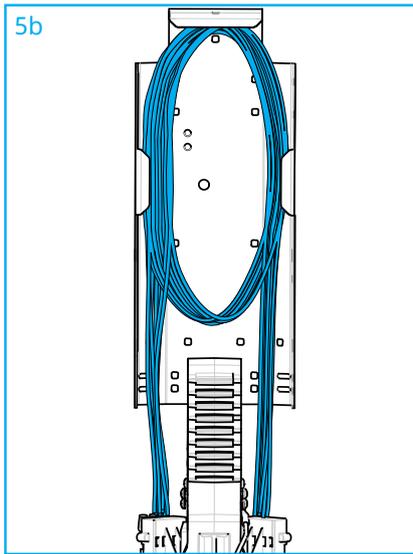
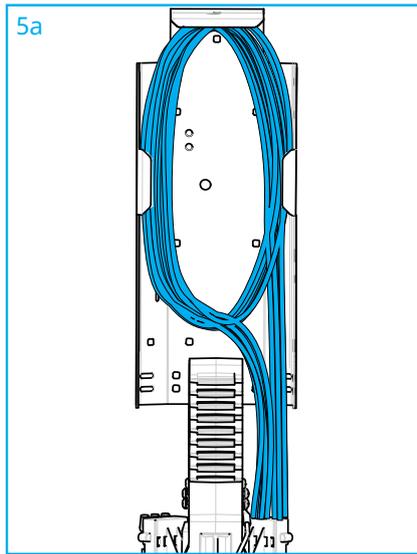
9.1.1 Install looped feeder cable



- 1 The looped feeder cable (both ends) can be positioned in port 2,7 or 8. (two ends in one port or one end in two separate ports)
- 2 Click both CTU's in the CTU holder. Select the two outer positions in the CTU holder. Place the outer gel segment on top of the cables and push until snap hooks are properly seated.

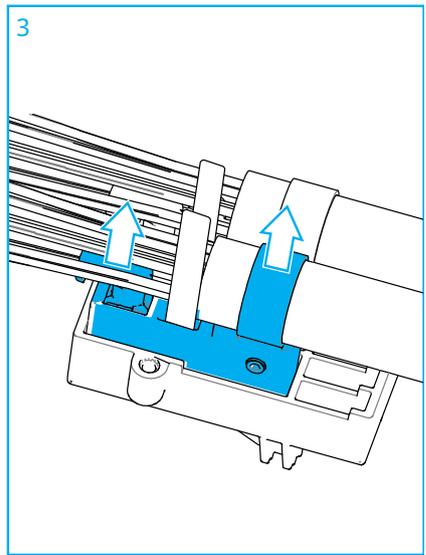
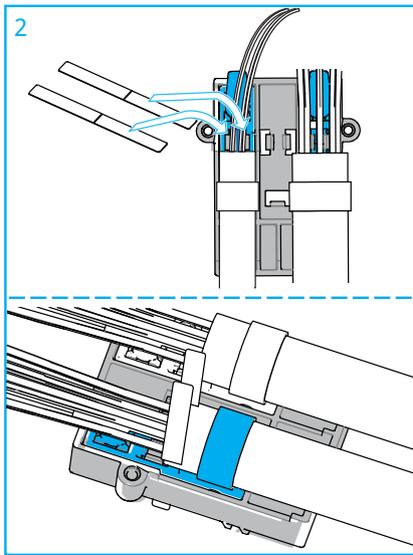
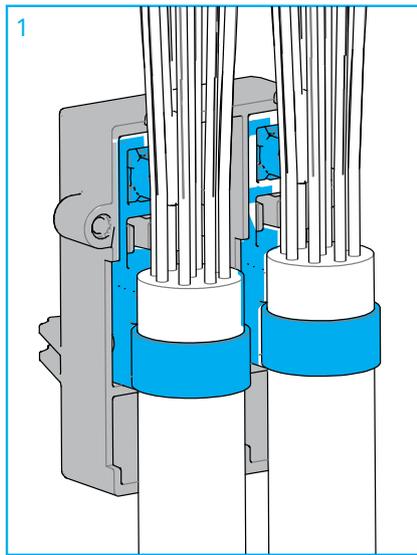


- 3 To store the loop in the basket, always go to basket as straight as possible.
- 4 When using port 2 (middle gate) you can choose which side to go to the basket



- 5 Store the loop into the basket
 - a Two ends in one port.
 - b One end in two separate ports.
- 6 Secure the loop with two cable ties.

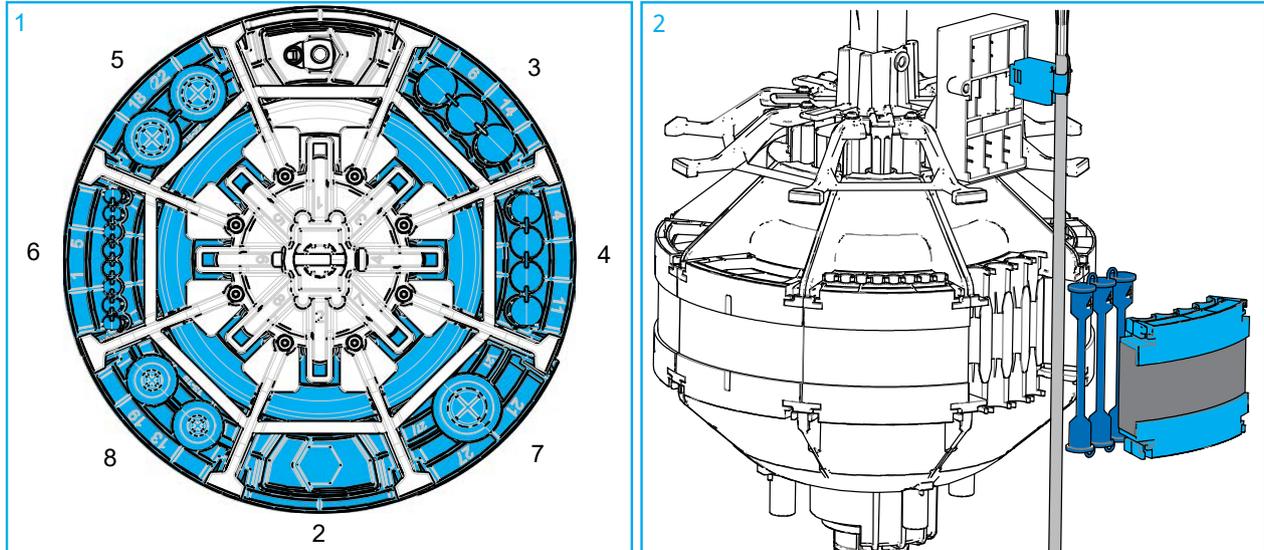
9.1.2 Remove CTU-L (CTU-G)



- 1 CTU installed in the CTU holder. The 2 snap hooks in the CTU cavity prevent the CTU from being removed.
- 2 To remove the CTU, the 2 snap hooks should be pushed to the inside. This can be done by using two metal straps. Push the metal strap between the snap hooks and the metal part. The metal strap should slide down through the CTU holder. Best practice to perform this action, is to lay the closure in flat position.
- 3 Grasp the CTU with cable on two positions and slide it out its cavity.

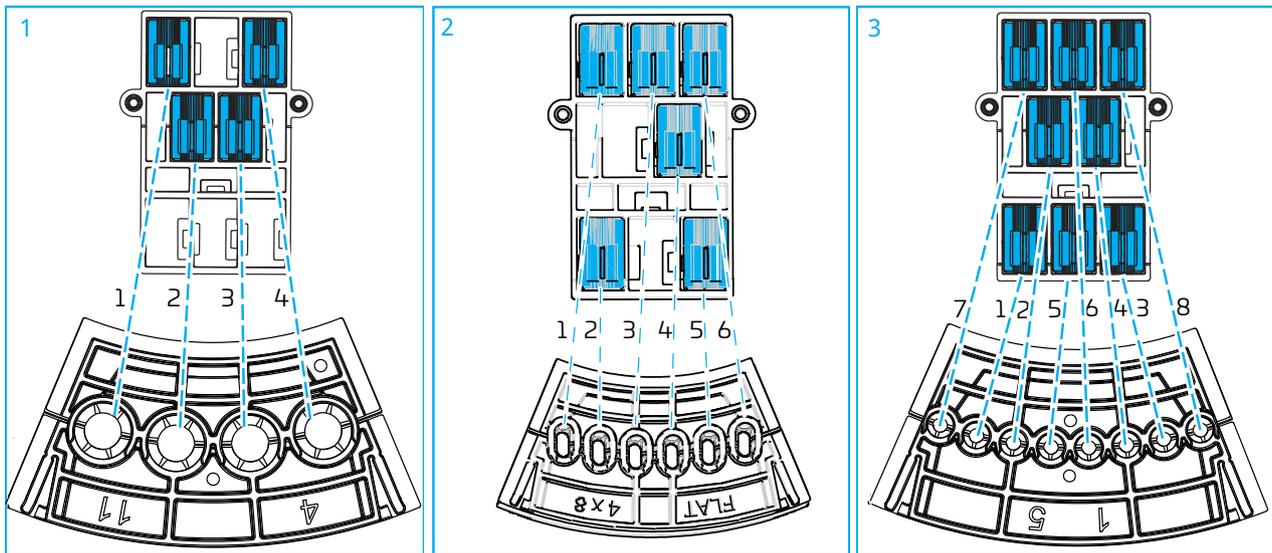
9.2 Install drop cable

9.2.1 Install drop cable



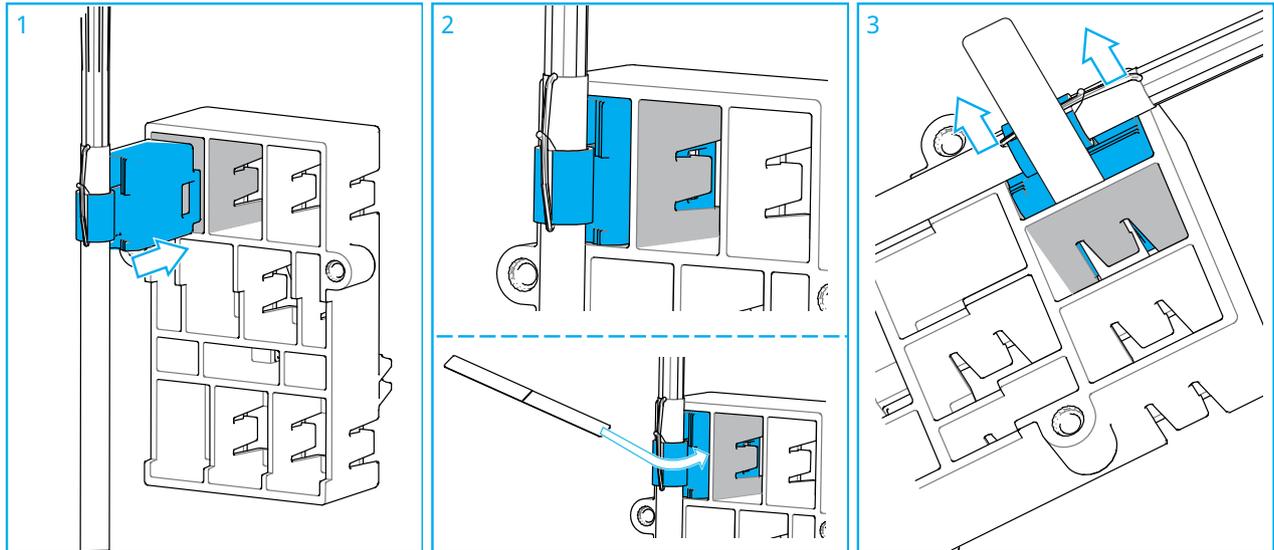
- 1 Select gel sealing position for drop cables so that fibers have easy transition to dedicated splicing tray. Drop cables can be installed in port 2,3,4,5,6,7 and 8.
- 2 Click the CTU in the plastic holder (for more details, see figure 1 and 2 in section Install CTU-S in CTU holder [on page 22](#)). Make sure dummy plugs are installed in unused cable ports. Place the outer gel segment on top of the cables and push until snap hooks are properly installed.

9.2.2 Install CTU-S in CTU holder



- 1 If installing a cable in a 4-out seal port, the position of the cable in the seal port determines the position of the CTU in the CTU holder. Observe image above.
- 2 If installing a flat cable in the flat seal segment, the position of the cable in the seal port determines the position of the CTU on the CTU holder. Observe image above.
- 3 If installing a cable in a 8-out seal port, the position of the cable in the seal port determines the position of the CTU in the CTU holder. To avoid crossings of cables, install the cables in the numerical sequence as shown above.

9.2.3 Remove CTU-S



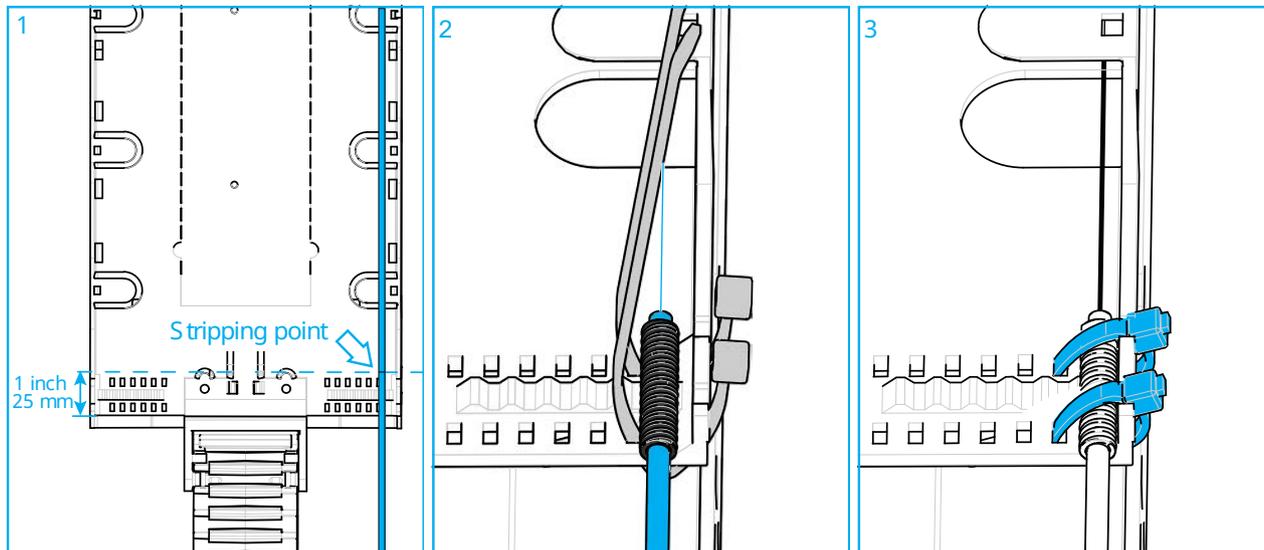
- 1 CTU installed in the CTU holder. The snap hook in the CTU cavity prevent the CTU from being removed.
- 2 To remove the CTU, the snap hook positioned at the left side, should be pushed to the outside. This can be done by using a metal strap. Push the metal strap between the snap hooks and the metal part. The metal strap should slide down through the CTU holder. Best practice to perform this action, is to lay the closure in flat position.
- 3 Grasp the CTU with cable on two positions and slide it out its cavity.

10 Tube/subunit routing

Route cables to the basket or directly to the tray. In case of bare fibers install a transportation tube over the fibers.

 **Note:** Route to the tray or basket as straight as possible. Changing sides and storage is done in the basket.

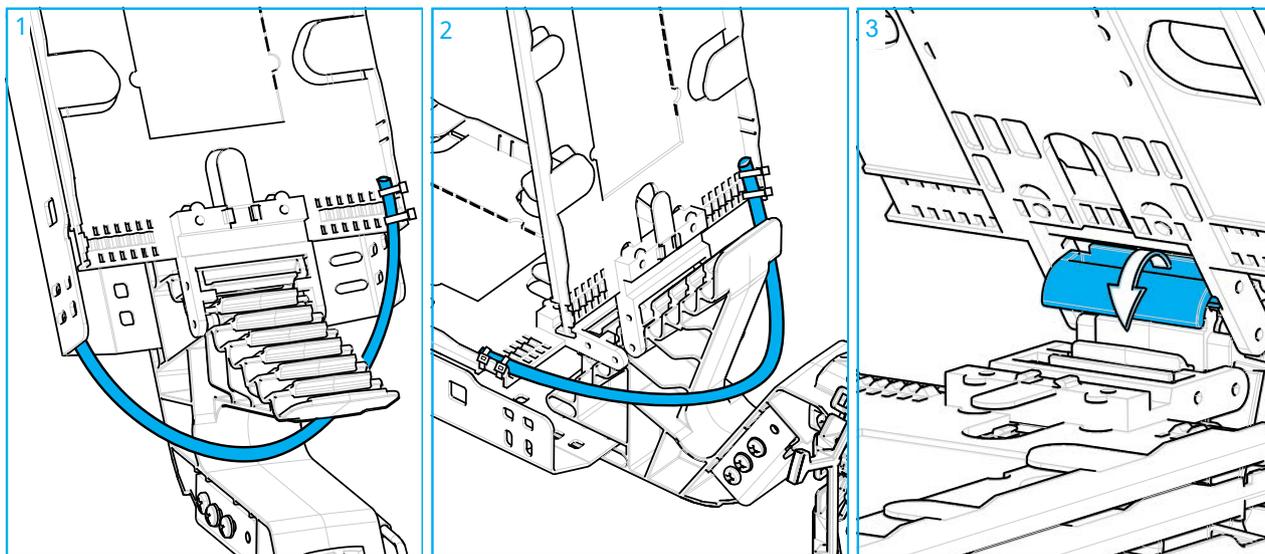
10.1 Route tubes to tray



- 1 Place a mark on the buffer or transportation tube 25 mm (1 Inch) past the edge of the tray. Cut and remove the buffer tube(s) and clean fibers with an approved degreaser cleaner
- 2 Wrap the loose buffer tubes with a 25 mm (1 Inch) long piece of adhesive felt wrap near the end of the buffer tube where it will be secured to the splice tray.
- 3 Secure the tubes to the tray with two tie wraps.

 **Note:** It is helpful to arrange ribbons in order or organize ribbons prior to inserting them into the transportation tube (basket location). This will improve organization on the tray.

10.2 Install transformation tube

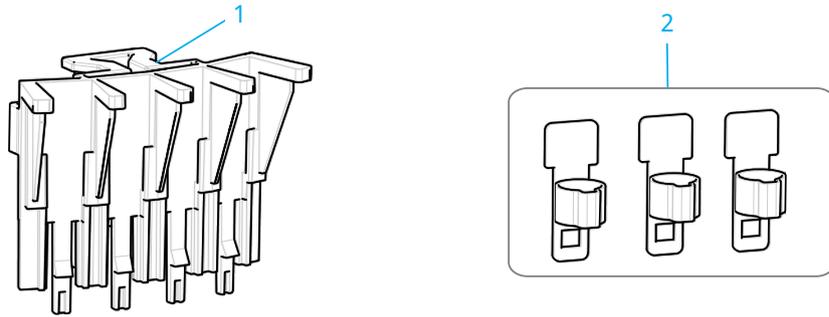


- 1 Basket to tray: Route a transportation tube from the basket behind the tower to the tray. Secure both ends with two cable ties.
- 2 Inter tray jumping: Route the transportation tube from the bottom tray, behind the tower, over the already installed loose tubes to the allocated tray. Secure both ends with two cable ties.
- 3 The tray can be locked in place with the tray wedge. Turn the wedge to the shown position.

11 Speed pipe/ micro duct installation

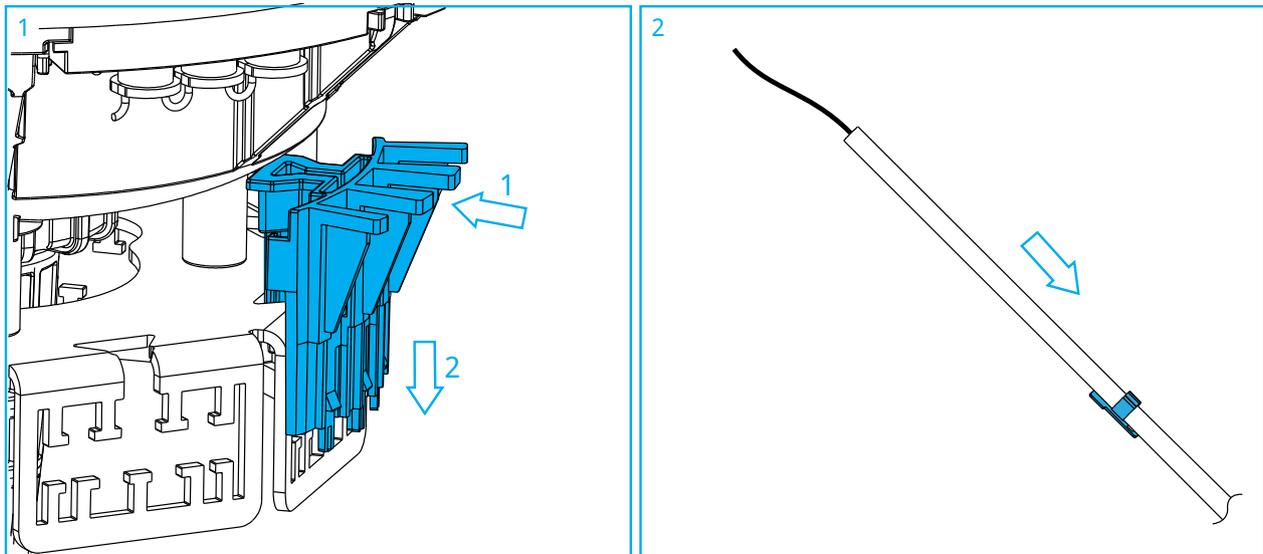
11.1 Micro duct kit

Multiple types of micro duct kits are available (Micro ducts/speed pipes not included). Size and quantity depends on the kits ordered.



MSC-CRx contains:	
1	Crimp ring receiver
2	Crimp rings

11.2 Install crimp ring receiver and crimp ring

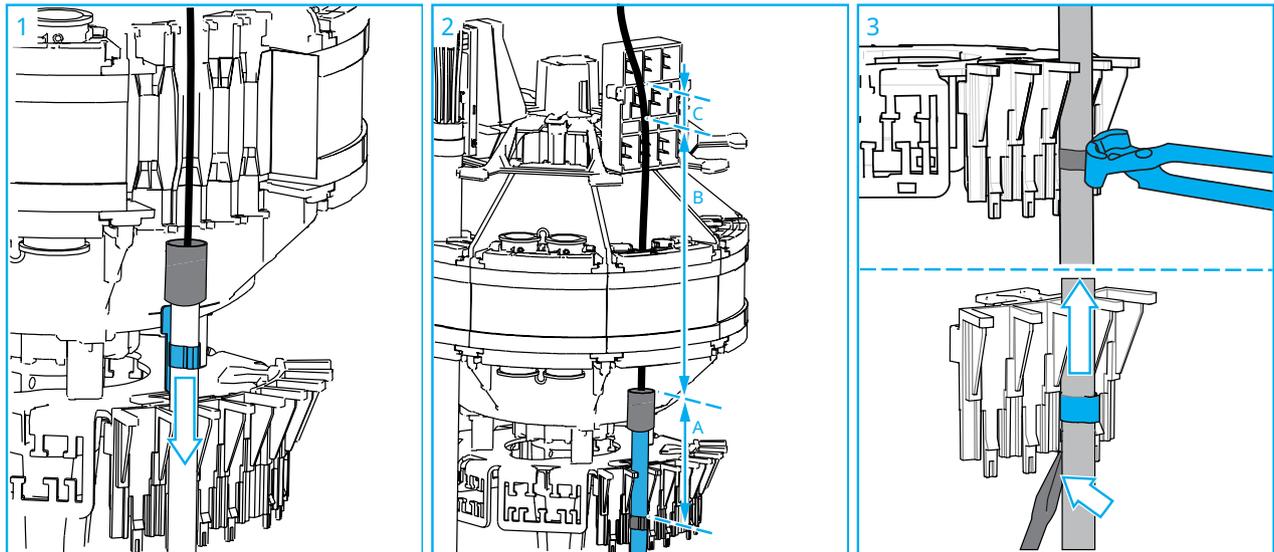


1 Install the crimp ring receiver on the external bracket. First bring the receiver through the dove tail opening, then slide the receiver downwards until a clicking sound is observed.

 **Note:** See section External cable fixation [on page 5](#) how to install the external bracket onto the closure.

2 Install the micro duct over the cable. Install the crimp ring over the cable and the micro duct.

11.3 Gas blocking - outside



- 1 Install the gas/water blocking device per local practice on the micro duct cable transition. Make sure the width of the device fits in the required configuration. Position the cable in the gel port, and slide the crimp ring in the receiver. Make sure the gas/water blocking device is properly positioned between the gel seal segment and the receiver.
- 2 Position the micro duct and cable in the gel port and close/secure the crimping (figure 3 top). Mark the position of the CTU (**dim. B and dim. C**) on the cable. Verify to use the correct slot of the CTU holder, see section Install CTU-S in CTU holder [on page 22](#).
- 3 Release the crimp ring and continue with the preparation of the cable outside the closure. Prepare the cable as explained in section Cable preparation [on page 10](#). Install the CTU as explained in section CTU-S - aramid yarn [on page 14](#). Slide the crimp ring again in the crimp ring receiver and click the CTU in the CTU holder. Make sure dummy plugs are re-installed in unused cable ports. Install the outer gel segment.

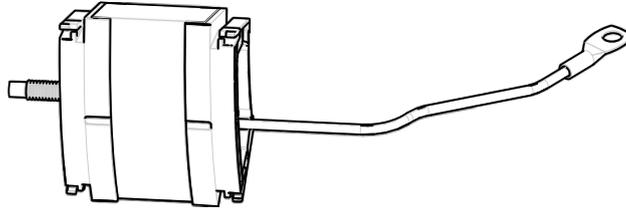
 **Note:** If there's any issue applying gas blocking in your application, please contact your local CommScope representative. See chapter Contact information [on page 32](#).

12 Grounding Armored Cable

12.1 Grounding using the feedthrough grounding segment

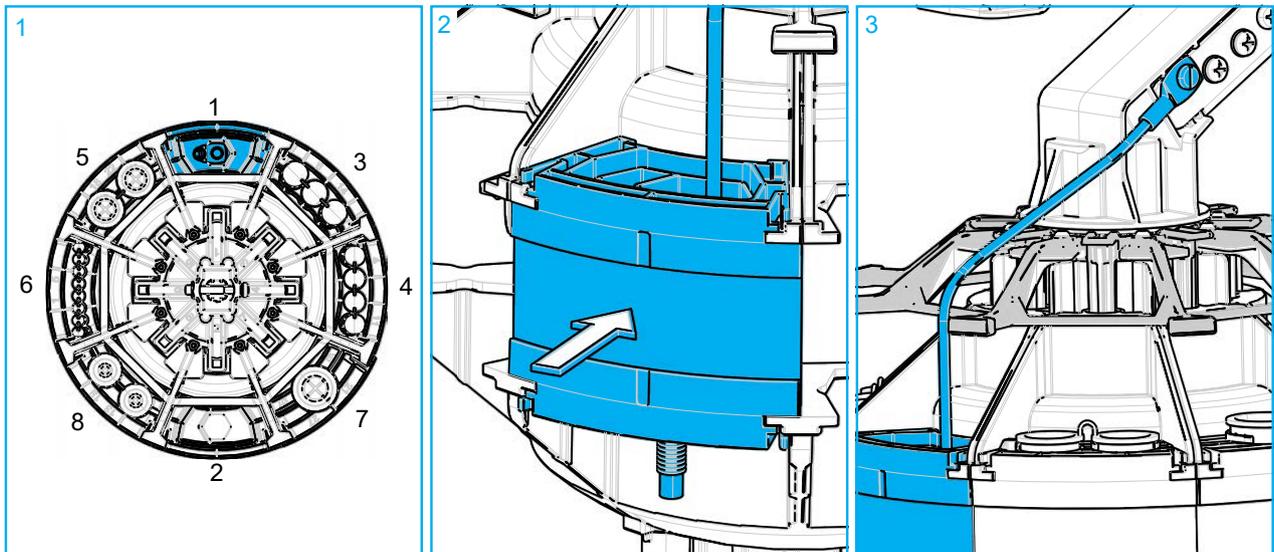
12.1.1 Install Feedthrough grounding segment

12.1.1.1 Feedthrough grounding segment kit



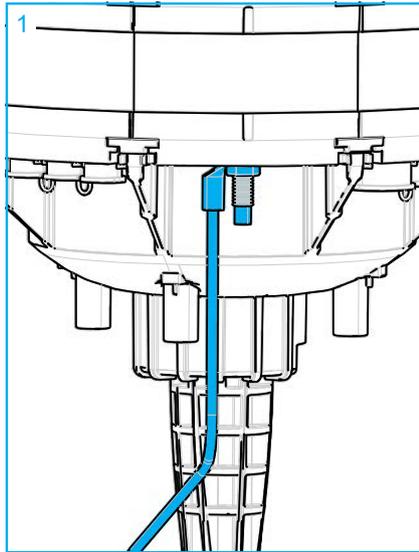
Description	Qty
Feedthrough grounding segment	1

12.1.1.2 Install Feedthrough grounding segment



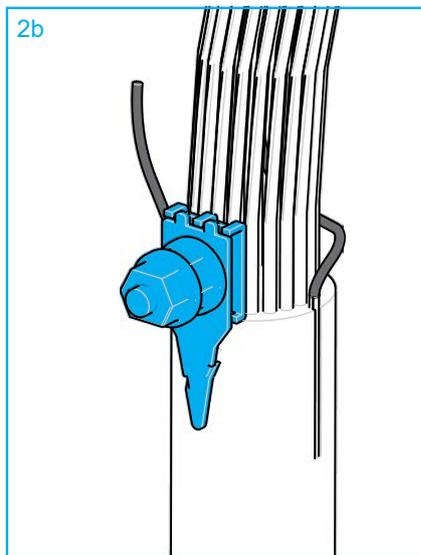
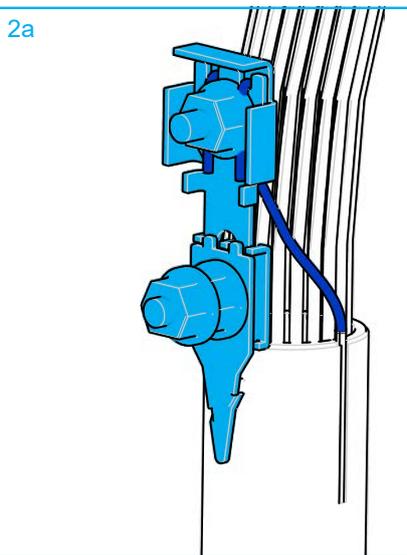
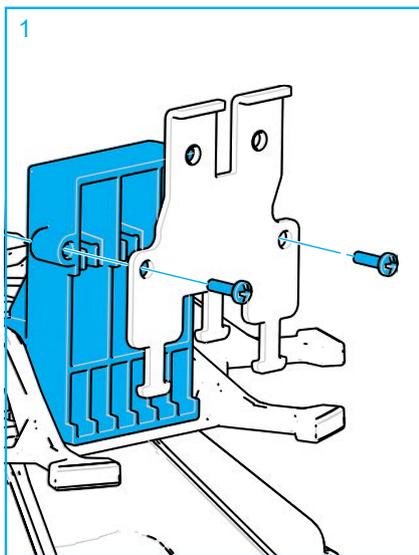
- 1 The Feedthrough grounding segment has to be positioned in port 1.
- 2 Install the Feedthrough grounding segment in port 1 with the pre-installed wire on top. Push until snap hooks are properly seated.
- 3 Attach the pre-installed wire to the tower with the bolt and the star washer mounted on a stud. More than one wire can be attached to one stud.

12.1.2 Grounding connection Feedthrough grounding segment



- 1 The grounding wire to connect the dummy gel seal to an object outside the closure is not included in the kit. Install this grounding wire onto the screw at the outside of the Feedthrough grounding segment, using the pre-installed star washer and nut. Tighten the nut with a hex socket wrench, size 1/2" or size 13.

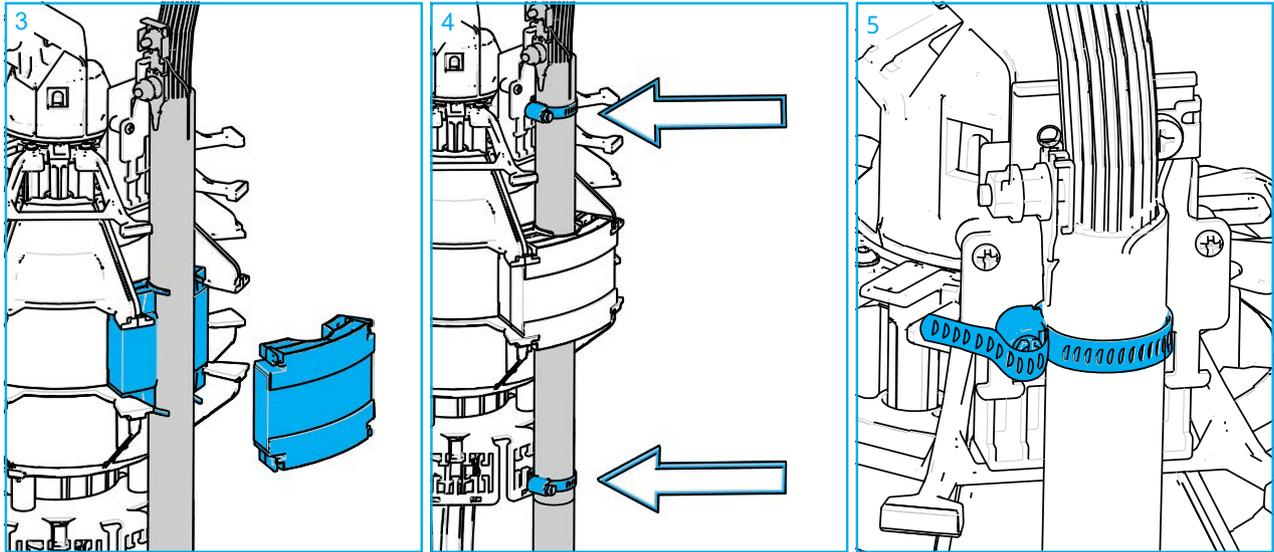
12.2 Grounding using the AWG #6 grounding kit



- 1 Secure the metal plate to the adapter.
- 2 Secure the 4460D/FO bonding clamp to the cable per standard practice.
 - a Armored cable with metal strength members

 **Note:** If metal strength members are present, secure them to the bonding clamp as shown.

- b Armored cable without metal strength members.



3 Install the inner gel segment, place the cable and make sure dummy plugs are installed in unused cable ports. Place the outer gel segment on top of the cables and push until snap hooks are properly installed.

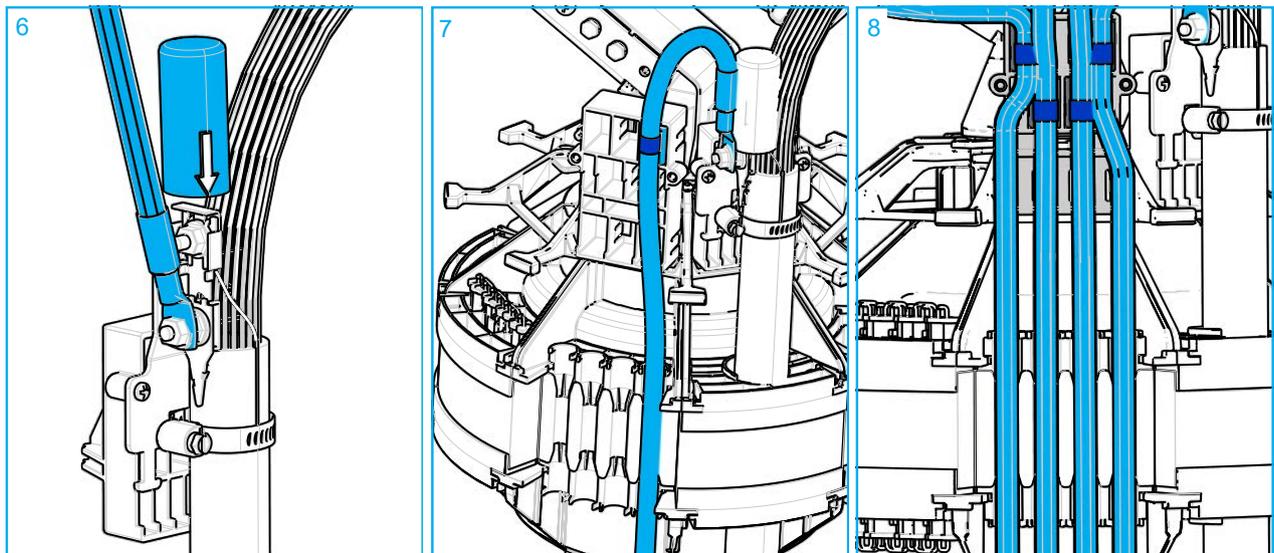
4 If the strength members are non metal, they can be secured to the metal plate CTU-BRKT 2. Secure the cable to the metal plate CTU-BRKT 2 and to the external fixation bracket with a hose clamp.

! **Important:** Make sure the bond clamp is positioned left or right of the cable and **does not touch the metal plate or hose clamp.**

📄 Note: For a 1-OUT port, use the middle T-shape. For a 2-OUT port, use T-shape at the left and the right.

📄 Note: For 2-OUT/3-OUT gel segment with a cable already installed on the metal bracket: First loosen the hose clamps of that cable, then install all the cables in that gel segment according to step 3 and retighten the hose clamps.

5 Bend over the hose clamp over length of the top hose clamp so it will not interfere with the closure base.



6 Connect the AWG #6 grounding wire to the bonding clamp and isolate the bond clamp with the rubber boot per standard practice.

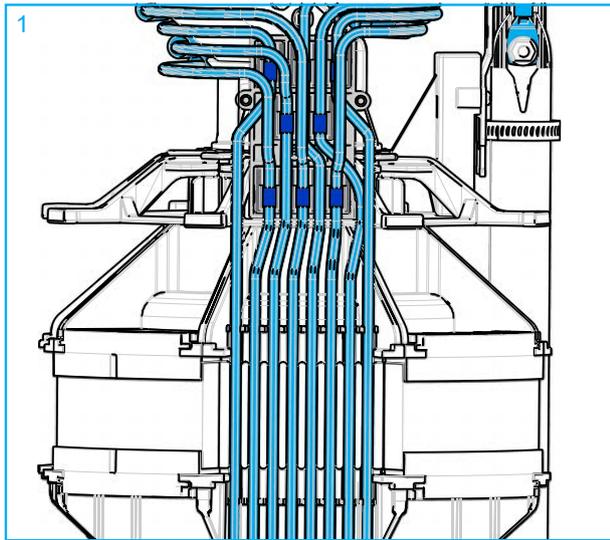
7 Route the AWG #6 grounding wire to a 4-OUT port. Secure the grounding wire with the metal band in the CTU-S.

📄 Note: best practice is to use the adjacent port.

8 Four (4) AWG #6 grounding wires installed.

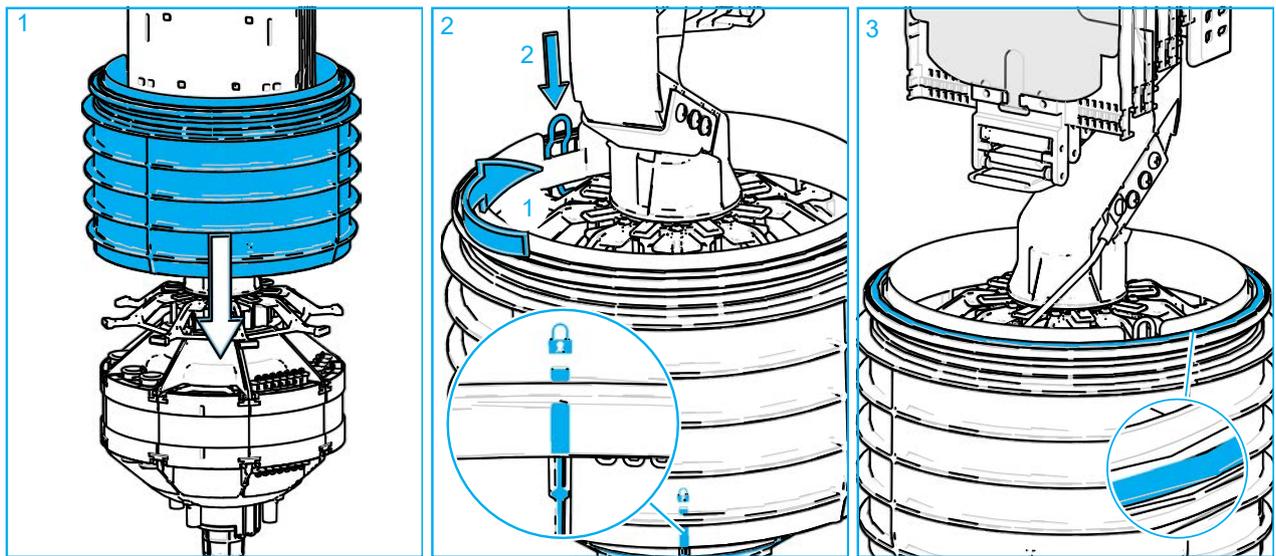
📄 Note: To lead the AWG #6 grounding wire outside the closure, use the SKG4 seal kit

12.3 Grounding using the AWG #10 grounding kit



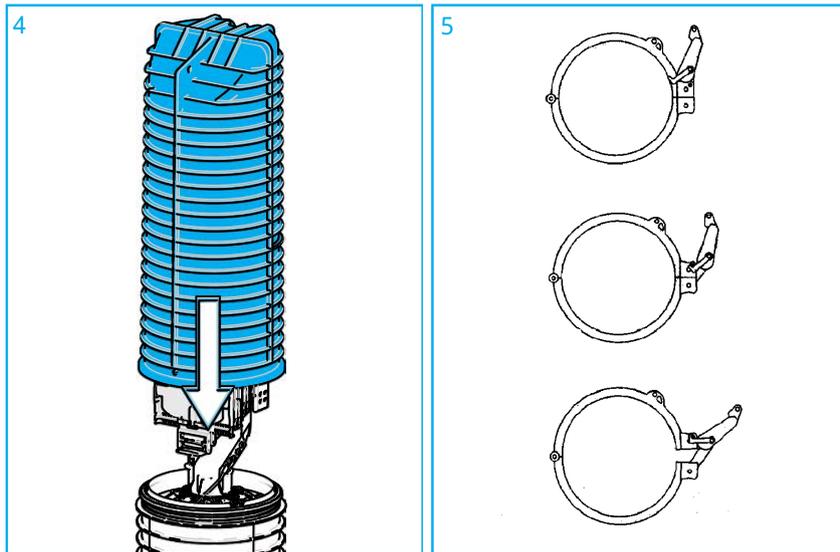
- 1 Bound the cable per local practice and attach the grounding wire AWG #10 to the cable. Route the grounding wire to the adjacent port using the SKG8 sealing kit.

13 Close the closure



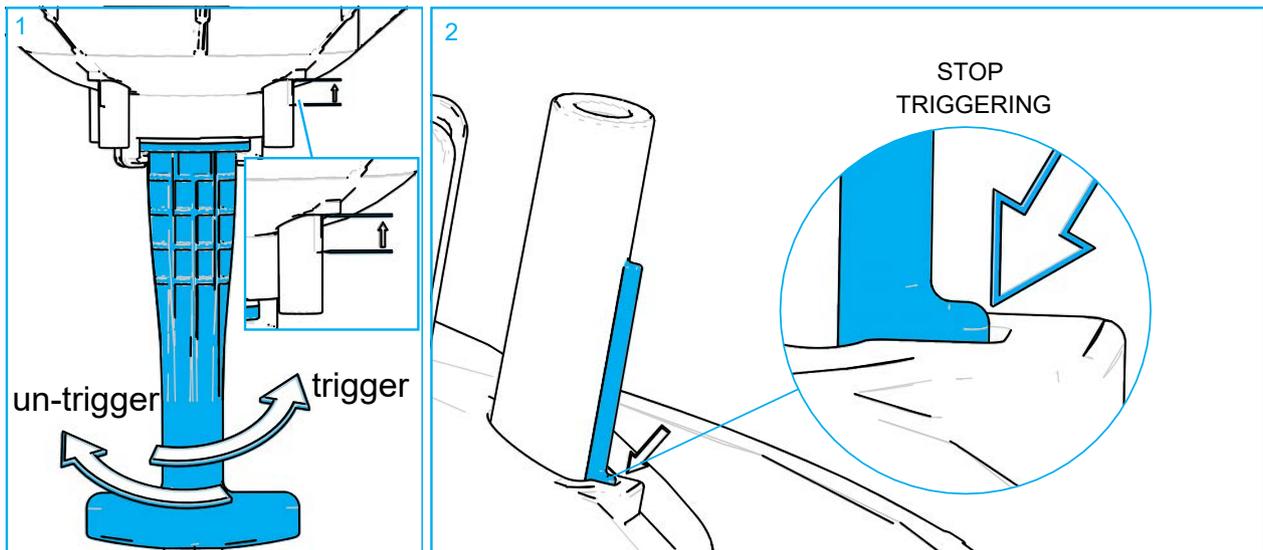
- 1 Slide the base over the fiber management system until it is in the end position.
- 2 Rotate the base relative to the star bracket. When the small ribs on the base (indicated with a key lock) are aligned with a rib of the seal block bottom, the base can be locked. Slide the split pen down into its lock position.
- 3 Re-install the O-ring into the groove.

 **Note:** Make sure the O-ring is dust free!



- 4 Slide the dome over the fiber management system.
- 5 Install the clamp around the dome and the base and close the clamp

14 Activate seal mechanism



- 1 Activate the seal mechanism by turning the handle (trigger). The bottom of the seal block will move up over the studs.
 - 2 If the second rib on the studs appears, the seal system is properly activated.
- ⚠ **Warning:** The closure is completely sealed if the second rib appears. It is important to respect this point, as continuing triggering can cause damage.

15 Additional information

The following parts come with separate installation instructions with more detailed information.

Basket

- installation and removing basket
- Routing in basket

Trays

- installation and removing of trays on tower.
- Routing on tray.

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For technical assistance, customer service, or to report any missing/damaged parts, visit us at:

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