

NOVUX™ Fiber Optic System CC 150 Basic Instructions

About this manual

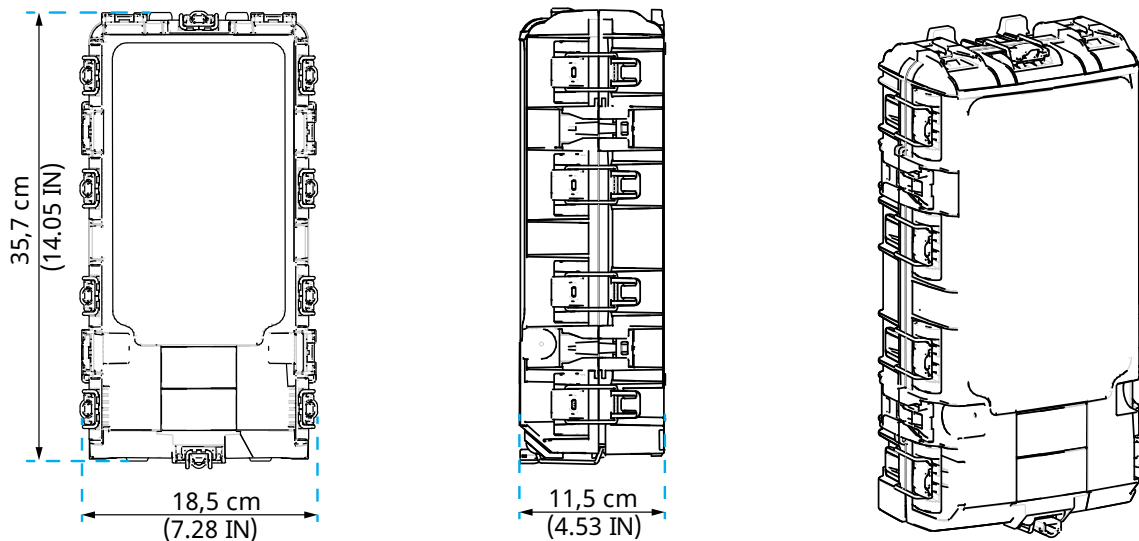
This manual describes the basic installation steps of the Compact Closure 150. The document starts with providing an overview of the tools required to perform the installation. Also warnings and cautions are indicated, which should be observed before starting the product installation.

Installation steps in this document are limited to: closure preparation, organizer preparation, feeder cable preparation and installation, storing feeder fibers, closing the closure and mounting the closure. For the installation steps required for the branch application, refer to TC-1514-IP-BR: CC 150 Branch application. For the installation steps required for the splice application, refer to TC-1514-IP-SP: CC 150 Splice application. For the installation steps required for the patch application, refer to TC-1514-IP-PA: CC 150 Patch application.

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

General product information

Dimensions

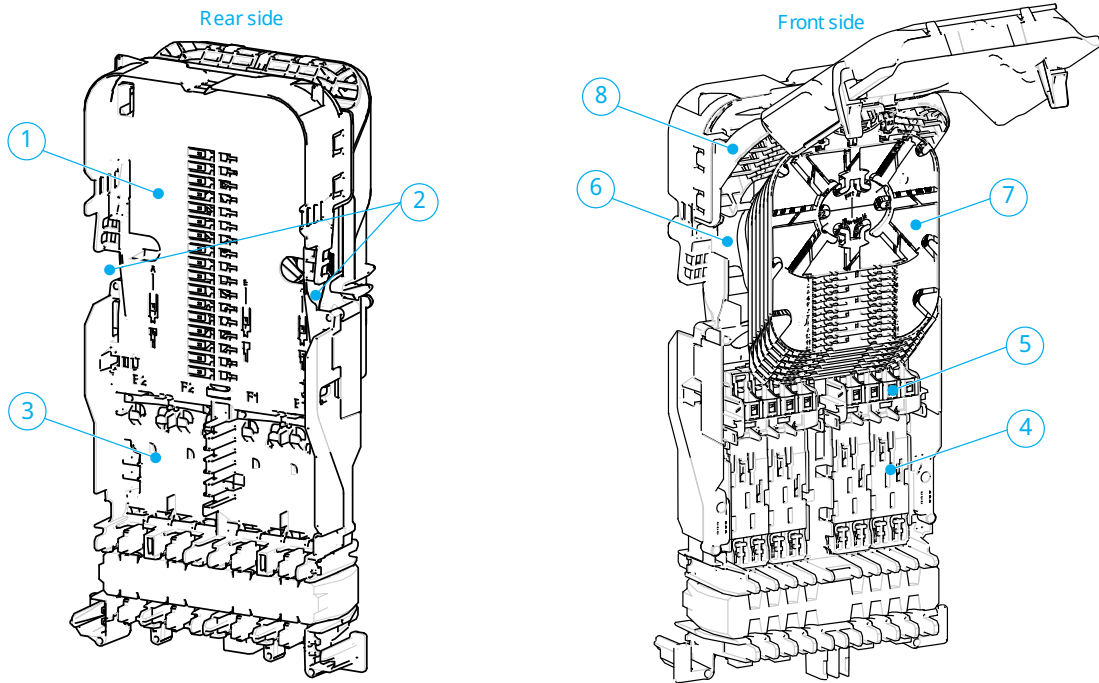


Cable diameter range

Position	Cable diameter	
	mm	Inches
Feeder cable	≤ 18	≤ 0.71
Branch cable	≤ 18	≤ 0.71
Single drops	≤ 8 (flat cable: 8 x 4,5)	≤ 0.32 (flat cable: 0.32 x 0.18)
Dual drops	≤ 6,2	≤ 0.25

Cable retention module	Cable diameter (mm/Inches)	Cable capacity		
		Rear side		Front side Drop
		Feeder	Branch	
NVX-CR-SA-LA-NN	6-18 / 0.24-0.71	2	2	-
NVX-CR-TI-SM-NN NVX-CR-SA-SM-NN	≤ 8 / 0.32	-	4	8
NVX-CR-MC-RD-NN	4-6,2 / 0.16-0.25	-	4	8
NVX-CR-MC-FT-NN	flat: 8x4,5 / 0.32x0.18	-	4	8
NVX-CR-DU-FL-NN	≤6,2 / 0.25	-	-	16

Overview organizer



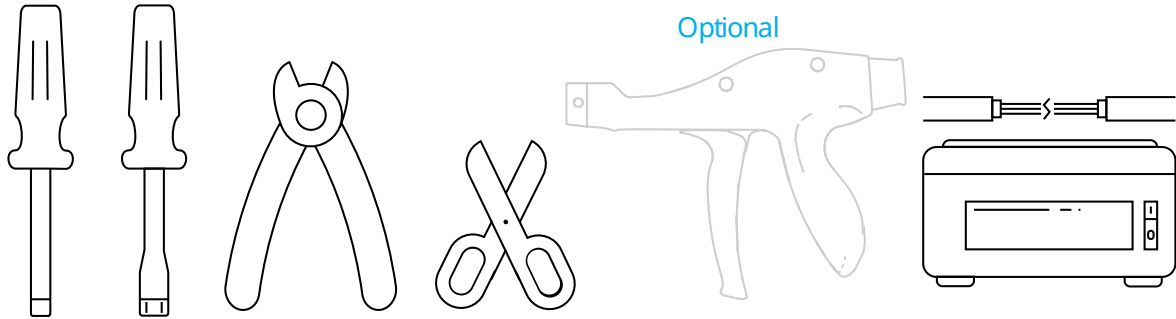
- 1 Loop storage basket
- 2 Subunit transition zones
- 3 Feeder/ Branch Cable retention
- 4 Drop Cable retention
- 5 Patch area or drop feed through (depending on application)
- 6 Pocket
- 7 Splice trays
- 8 Tower

1 Abbreviations

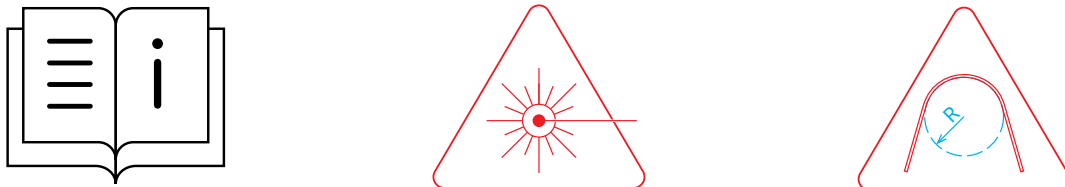
CC: Compact Closure

UMB: Universal Mounting Bracket

2 Tools

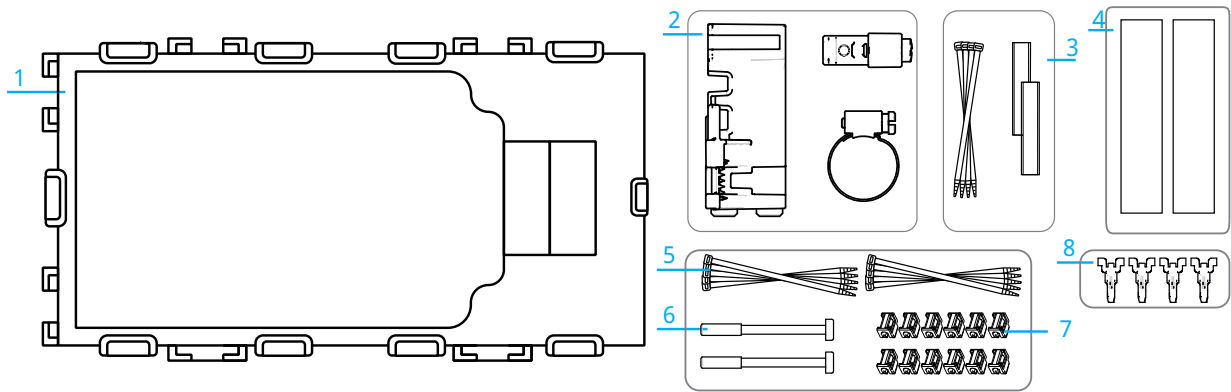


3 Warnings and Cautions




- 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.

4 Kit contents

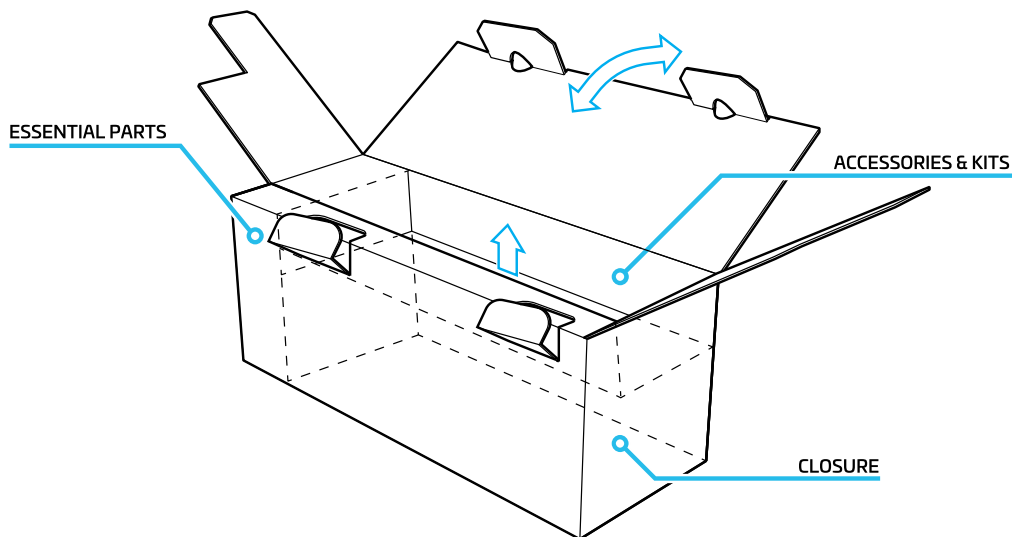


N°	Description	Qty	N°	Description	Qty
1	Closure with organizer	1	5	Cable ties	2x6
2	Feeder cable retention kit (NVX-CR-SA-LA-NN) with a strip of silicone tape of 2,5 cm / 1 Inch width	4	6	Demarcation cover security screws	2
3	Drop cable retention kit (4 cable ties + 2 strips of silicone tape of 1,25 cm /0.5 Inches)	4	7	Tube holders	12
4	Octopus™ gel blocks	1x2	8	Yellow snaps	4

 **Note:** Contents can vary depending on the configuration.

5 Closure preparation

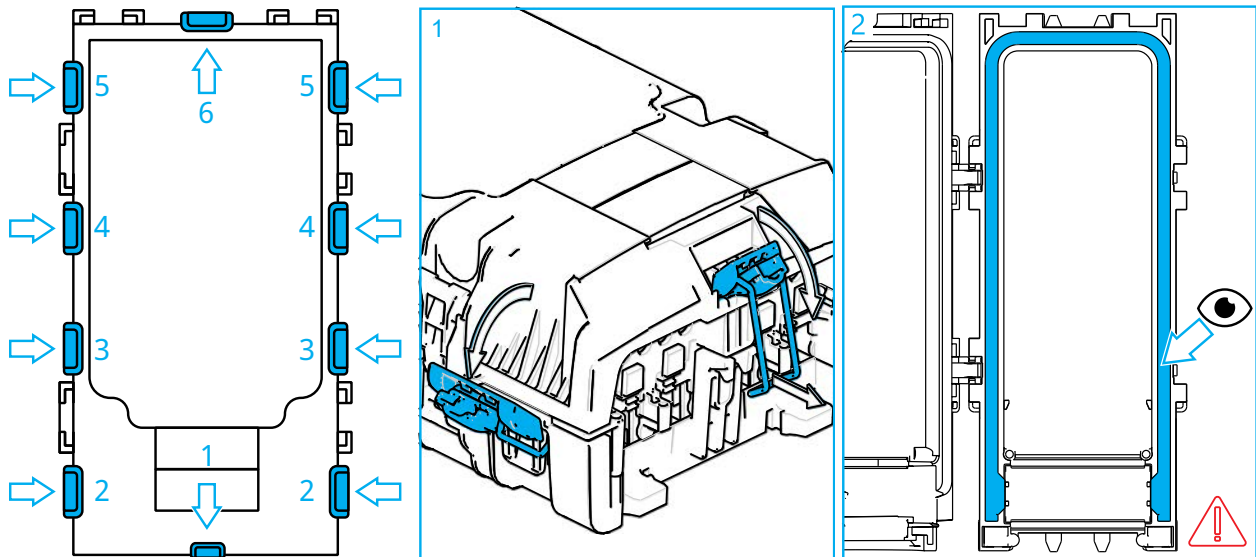
5.1 Open the packaging box



Open the packaging box and verify the kit contents.

Kits and accessories are stored on the top layer. The essential parts under which the Octopus™ gel blocks and the yellow snaps, are stored in the side compartment. The closure with organizer is stored under the accessory shelf.

5.2 Open the latches

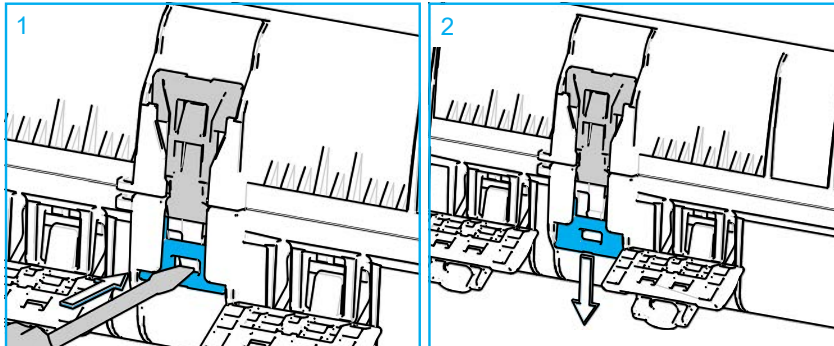


- 1 To open the closure, open the latches. Start with the front latch (1). Then continue opening the latches front side to backside. When opening the front latch, pull the metal part a bit frontwards to avoid that it gets stuck when opening the cover.
- 2 Rotate the cover. Verify the long seal remains correctly seated within the closure cavity.

5.3 Install the hinges in another position

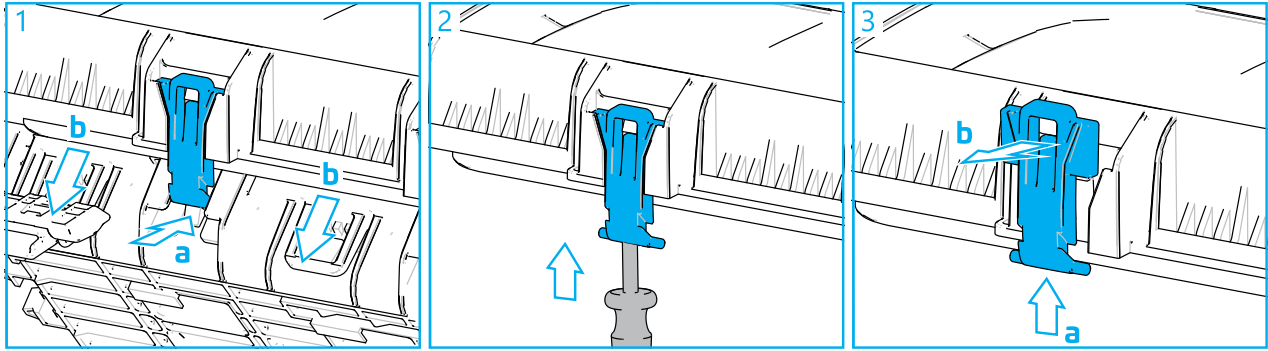
The hinges are pre-installed on the left side. However it is possible to install them in another position. First the hinges should be removed.

5.3.1 Remove the hinge lock



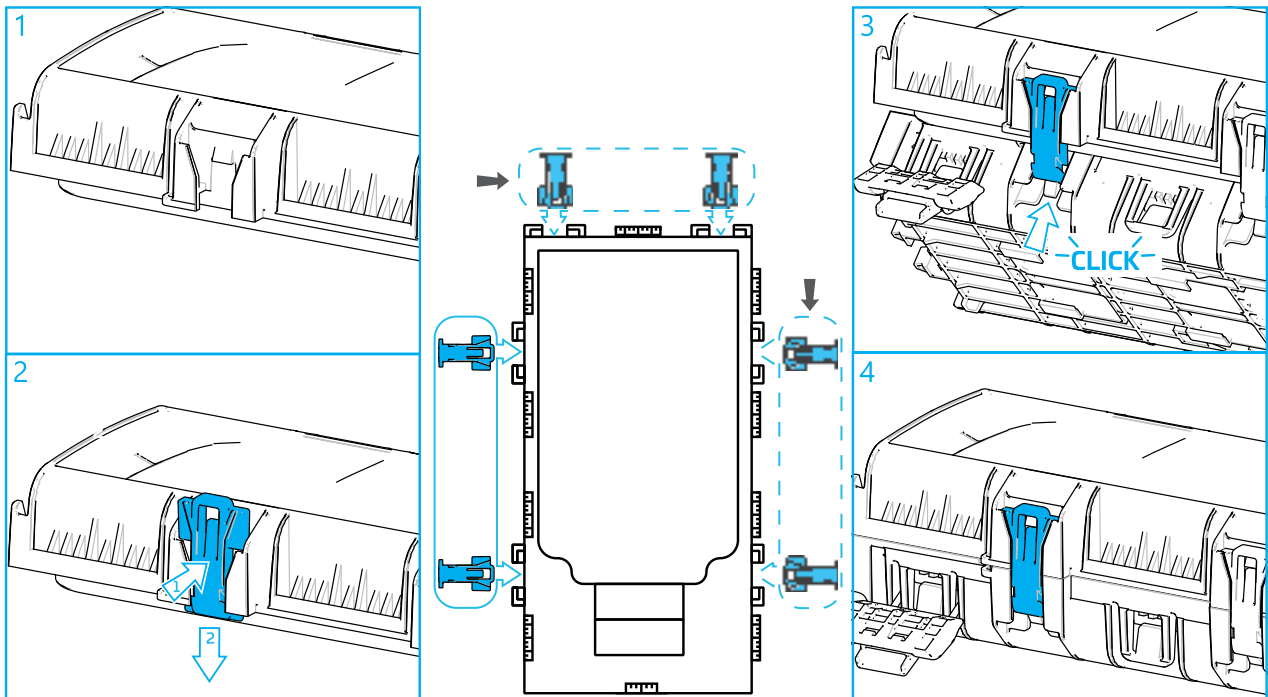
- 1 Remove the lock of the hinge in the base. Use a screw driver to push the snap hook backwards.
- 2 Then slide the lock downwards to remove it.

5.3.2 Remove the hinges



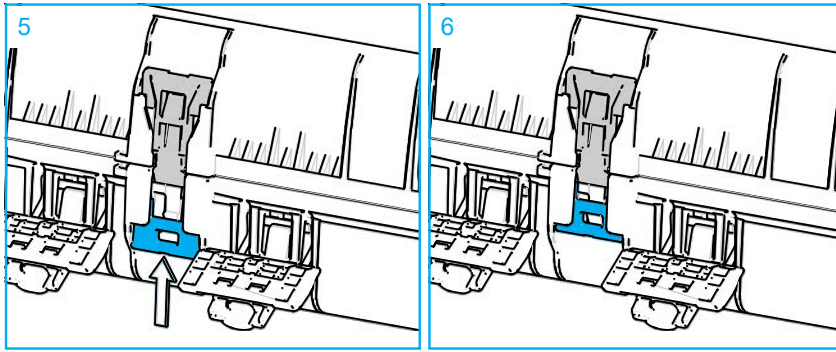
- 1 Remove the cover from the base.
 - a Push on the snap features under the hinge on the base.
 - b Slide the cover with the hinges over the snap features.
- 2 Use a screw driver to disassemble the hinges from the cover.
- 3 Lift the hinges up and then remove.

5.3.3 Re-install the hinges



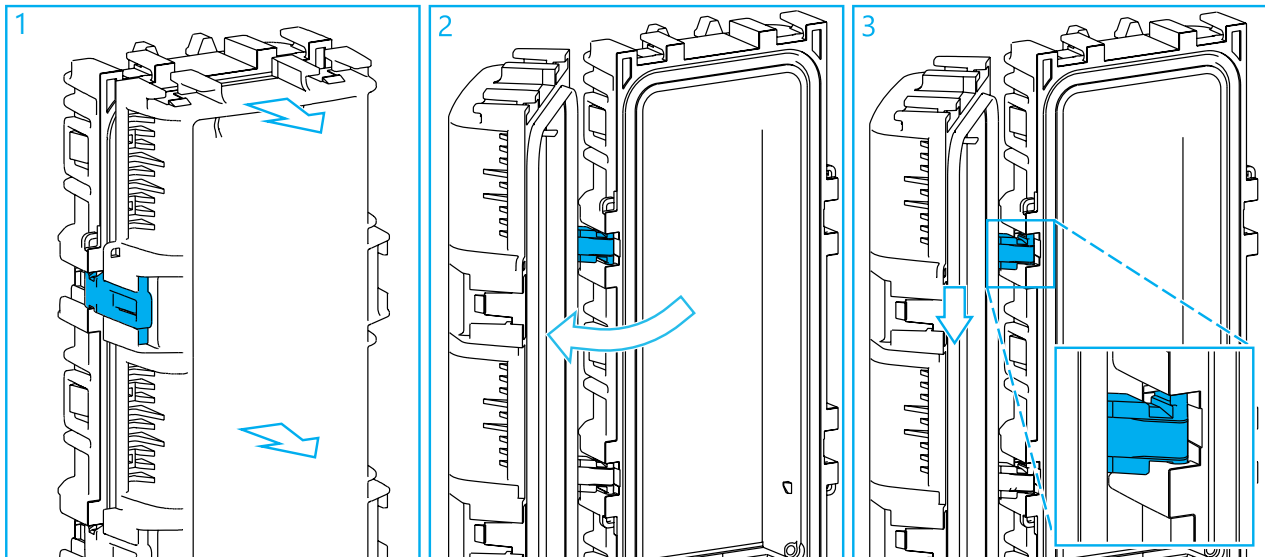
The hinges can be installed on the left, right or at the top of the cover.

- 1 Slide the hinge into the openings of the cover.
- 2 Then slide the hinge down in its lock position.
- 3 Assemble the cover and base by sliding the cover hinges into the cavities within the base. The hinges are properly seated in the base if a clicking sound is noticed.
- 4 Rotate the cover towards the base and close the cover.

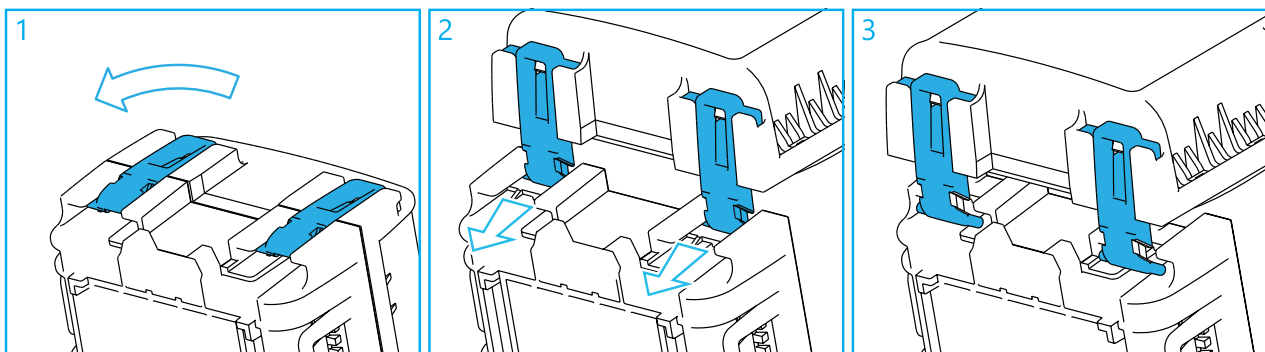


- 5 Re-install the lock of the hinge in the base.
- 6 Lock installed

5.4 Access the inside of the closure

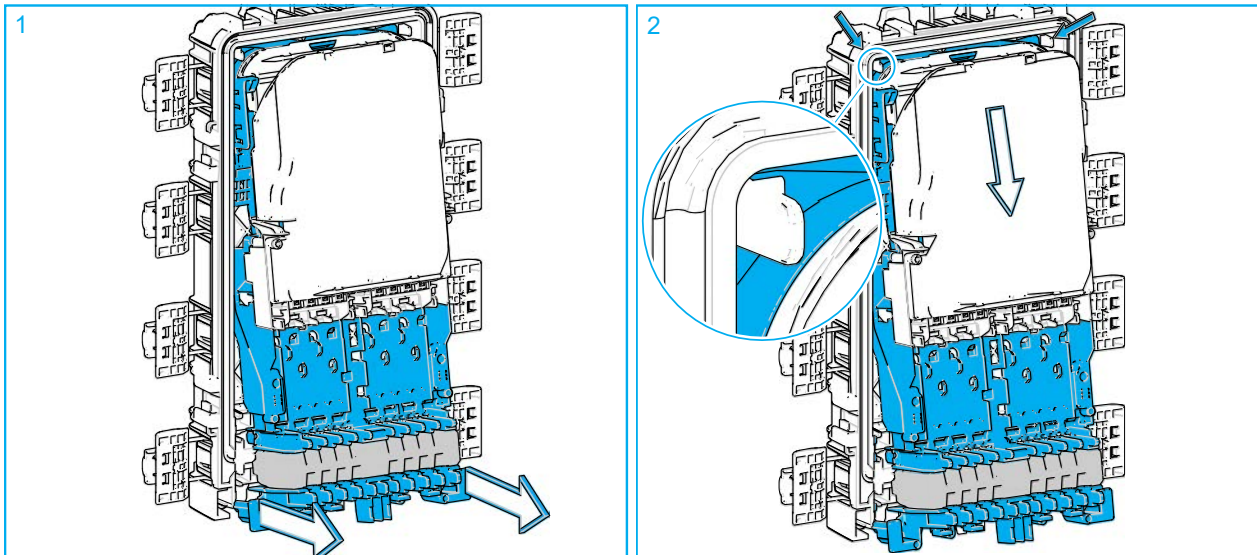


- 1 Open the closure, lift the cover up.
- 2 Hinge the cover open to the side of the installed hinge.
- 3 Secure the cover in open position: the cover with hinges will move downwards and will lock into the base.




Note: If the hinges are installed in the top position, the cover **cannot be secured in open position**. To access the inside of the closure, the cover should be detached.

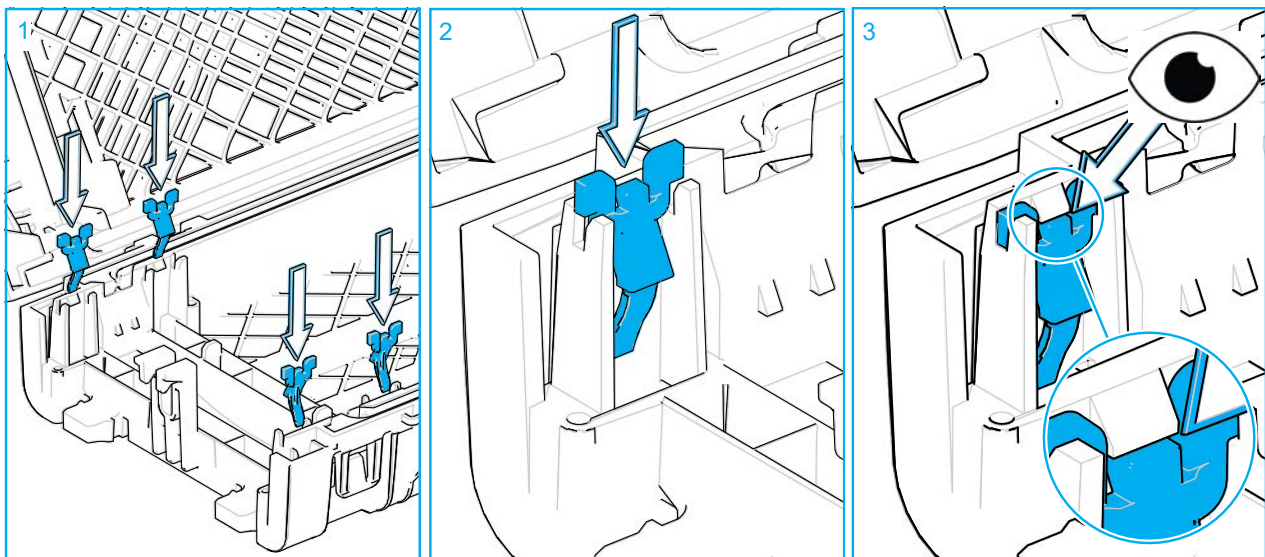
5.5 Remove the organizer (first day)



- 1 Lift the bottom part of the organizer frontwards.
- 2 Slide the organizer downwards to release it from the top snap hooks.

 **Note:** This is the first day procedure only. For re-entry see section Re-entry [on page 23](#).

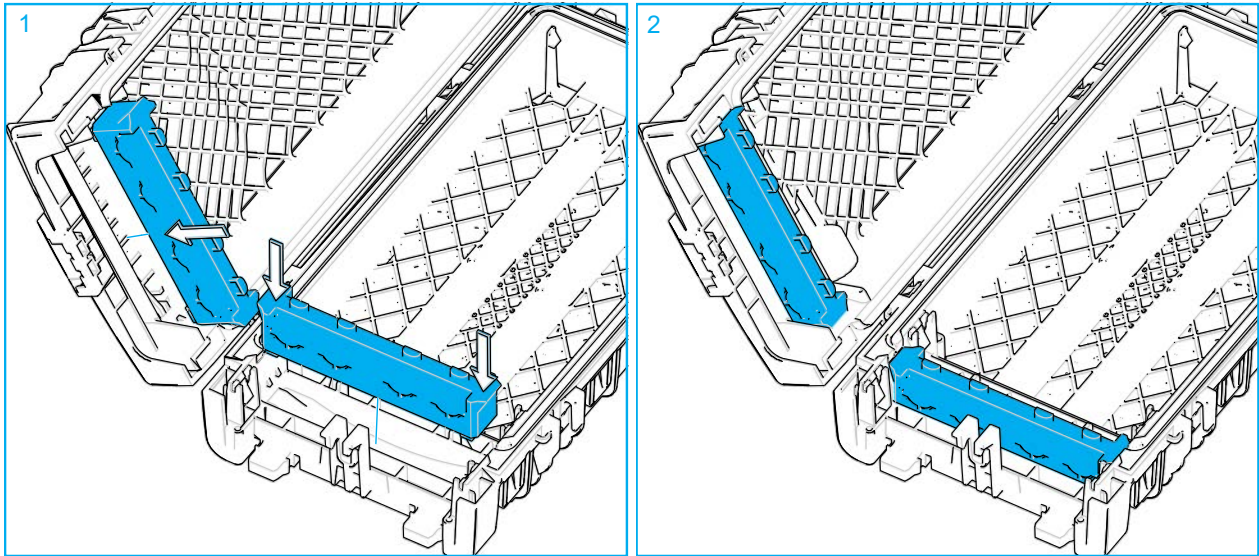
5.6 Install the yellow snaps



- 1 Push the 4 snaps in its cavity in the base.
- 2 Slide the snap downwards while keeping it in place.
- 3 Verify the snap is correctly installed: the middle part of the snap should be locked underneath the locking feature in the base as shown.

5.7 Install the Octopus™ gel blocks

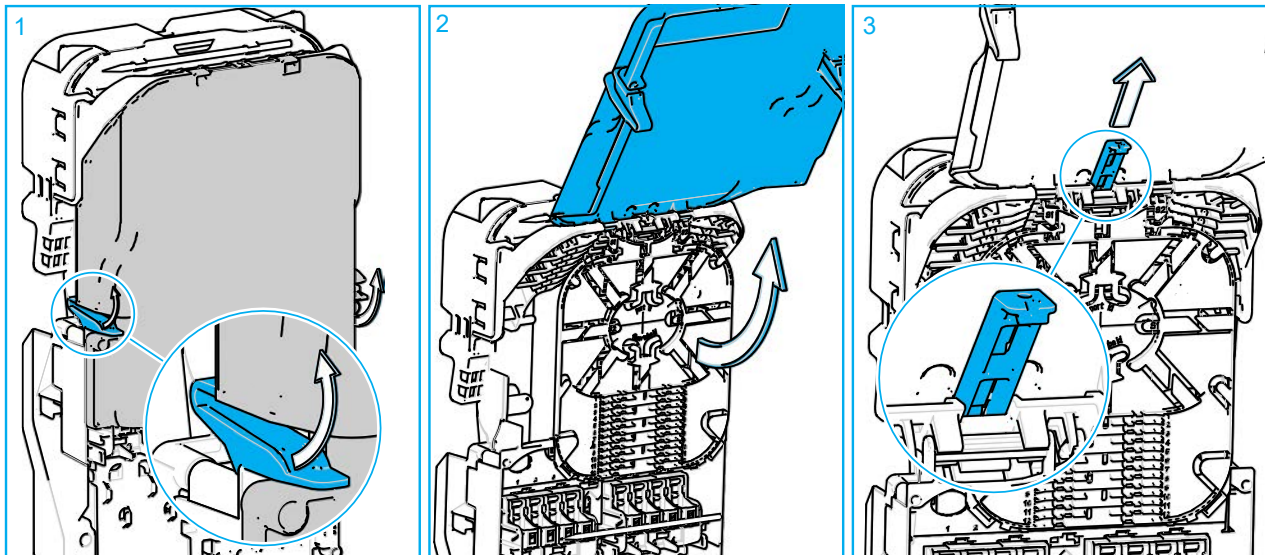
One Octopus™ gel block must be installed in the cover, another in the base.



- 1 Install the Octopus™ gel blocks with the plastic support of the gel block facing downwards. Push the gel blocks on the ends into its cavity and push it in its cavity as far as possible.
- 2 Now the Octopus™ gel blocks are correctly installed.

6 Open demarcation cover

The CC 150 comes with a demarcation cover. This cover protects the splice trays, the fiber storage trays and the feeder connectors in the adapters (in case of a patch application).

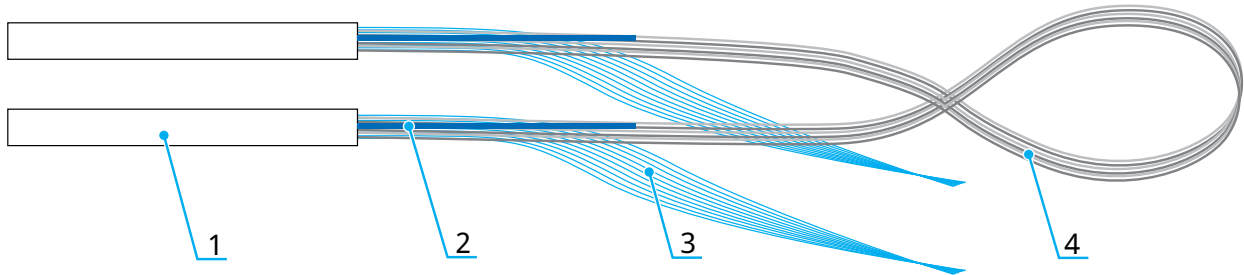



- 1 Lift the snap hooks to release the cover.
- 2 Hinge the cover upwards.
- 3 To lock the cover in open position, pull out the blue locking feature.


7 Feeder cable

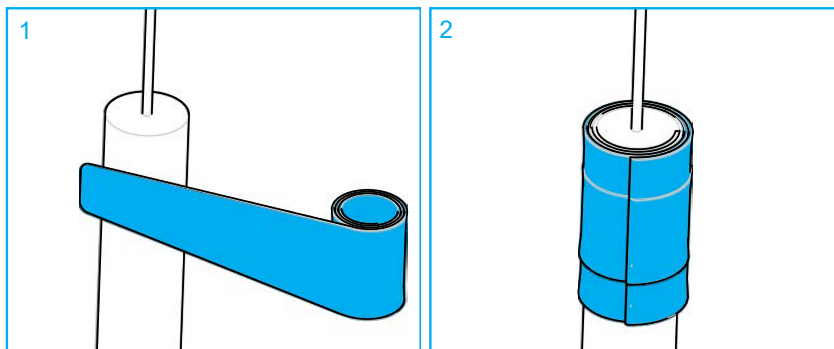
7.1 Feeder cable preparation

7.1.1 Prepare cable



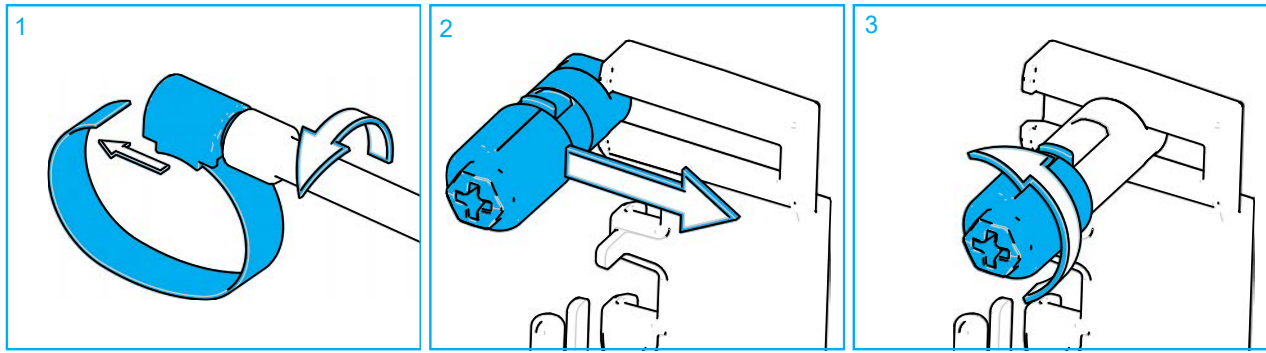
N.º	Description	Preparation
1	Jacket	WINDOWCUT : • 270 ±5 cm / 106 ±2 Inches STUB END/ BRANCH CABLE: • 135 ±2,5 cm / 53 ±1 Inch
2	Rigid Strength members	Leave 4,5 ±0,5 cm / 1.6 ±0.2 Inches.  Note: Maximum diameter = 4 mm / 0.16 Inches Minimum diameter = 1 mm / 0.04 Inches
3	Aramid yarn	Leave 20 ±1 cm / 7.9 ±0.4 Inches of aramid yarn.
4	Subunits	Clean the subunits, remove all grease if applicable.

 **Note:** Make sure your hands are clean and degreased before preparing and installing the cables. Degrease the cable where the cable will enter the closure.

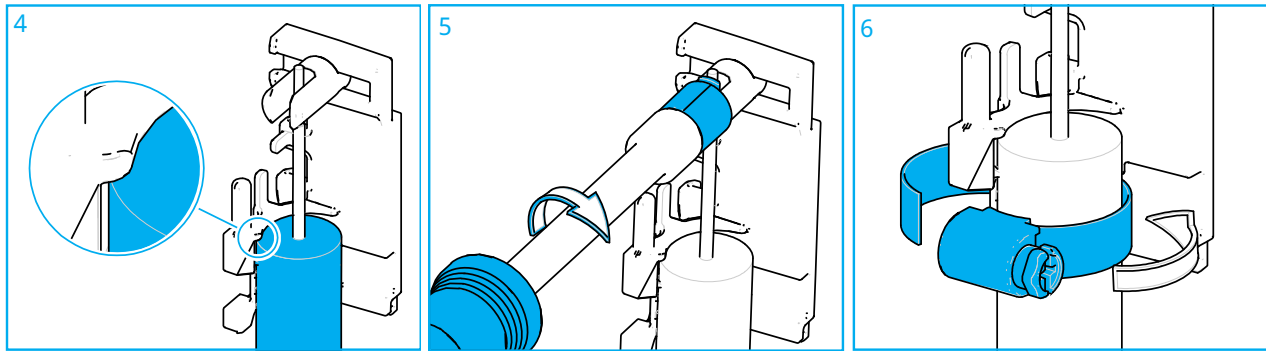


- 1 If the diameter is smaller than 9 mm / 0.35 Inches or if the jacket is a thin jacket, add 5 wraps of silicon tape (width 2,5 cm / 1 Inch) .
- 2 Stretch the tape minimum 50% while wrapping the tape around the cable. Make sure the tape is wrapped where the hose clamp will be positioned.

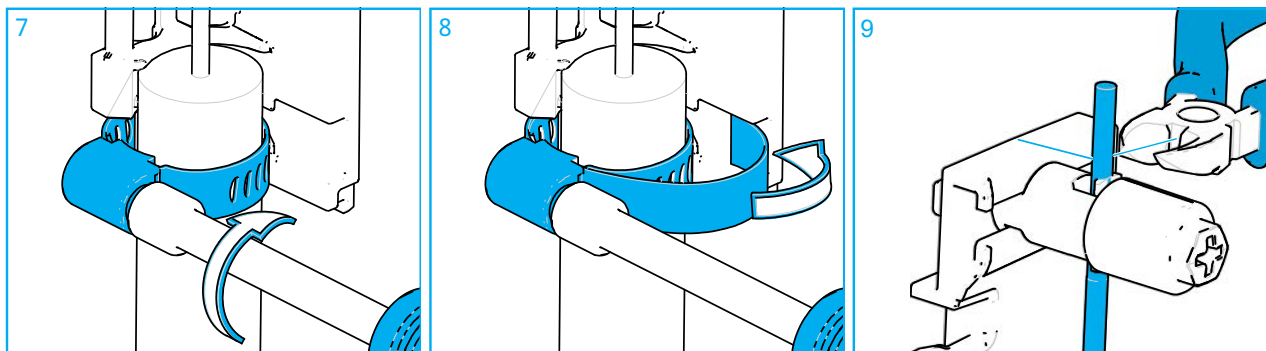
7.1.2 Rigid strength member



- 1 Open the hose clamp completely and put aside.
- 2 Slide the strength member fixation nut into the groove of the bracket.
- 3 Remove the top part of the strength member fixation nut.

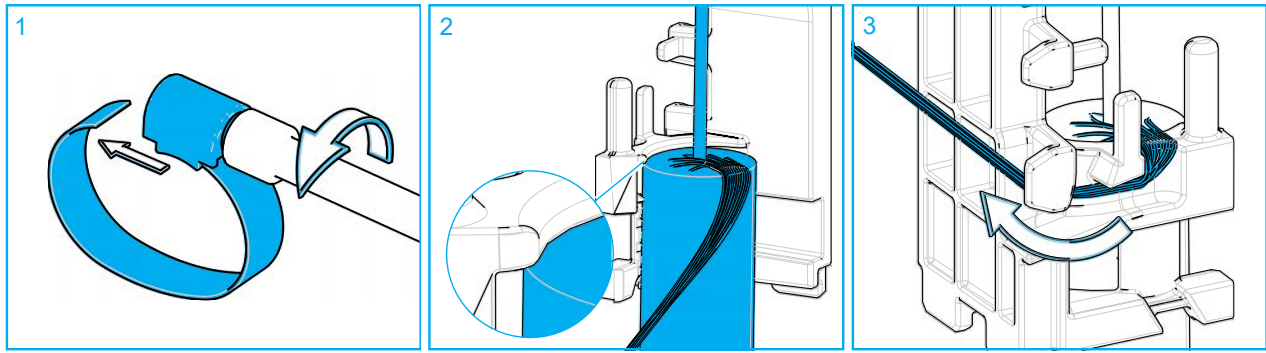


- 4 Position the cable on the bracket (cable jacket positioned against the rib) and slide the rigid strength member into the opening of the strength member fixation nut.
- 5 Reposition the top part on the strength member fixation nut and secure using a socket wrench.
- 6 Install the open hose clamp into the bracket.

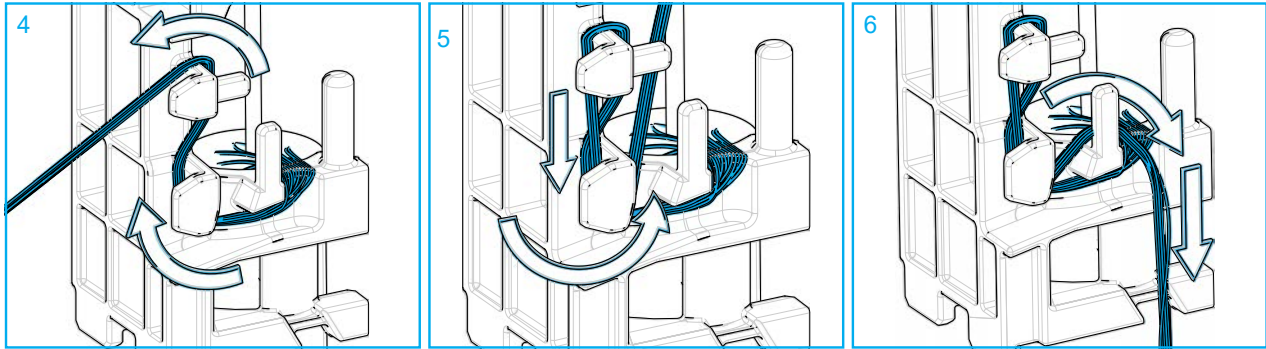


- 7 Tighten the hose clamp with the hex 7 socket wrench.
- 8 Excess band must be pushed into the slot between the cable and the bracket.
- 9 Cut off excess rigid strength member at the bracket edge, if applicable.


7.1.3 Aramid yarn



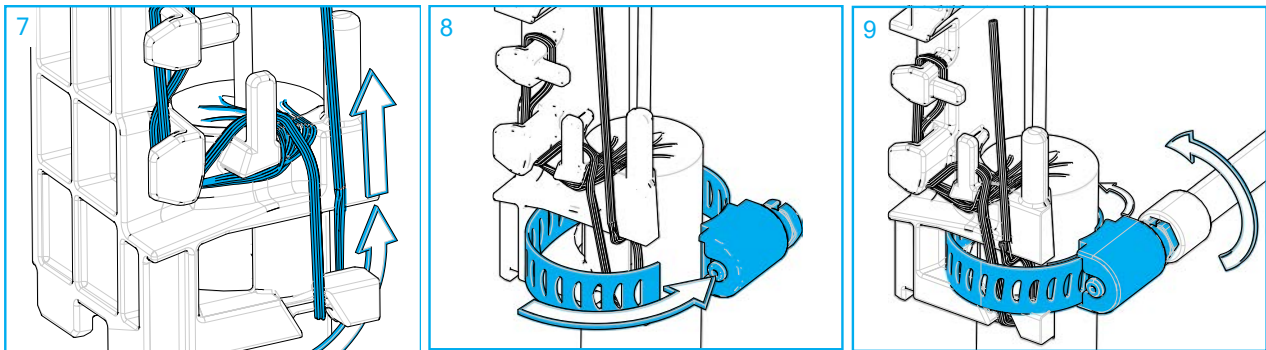
- 1 Open the hose clamp completely and put aside.
- 2 Position the cable on the bracket (cable jacket positioned against the rib).
- 3 Pull the aramid yarn to the side. For easier routing twist the yarn. Put the yarn under tension.



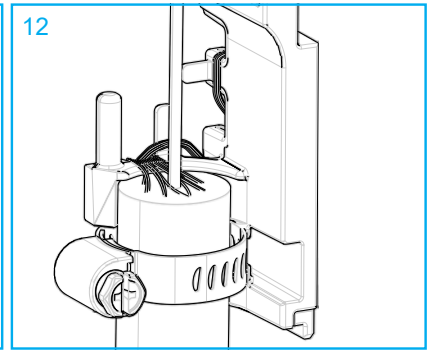
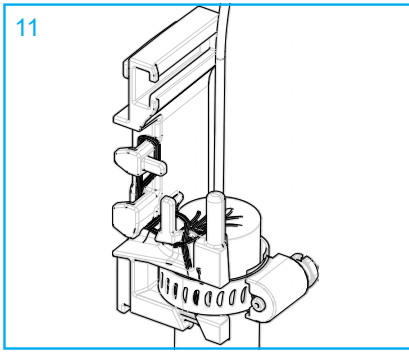
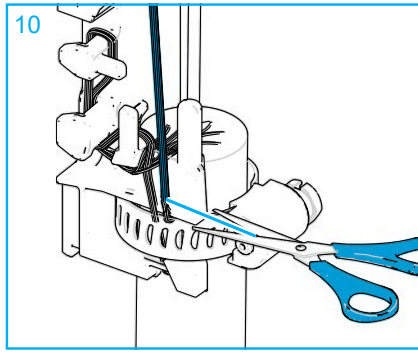
- 4 Route the yarn over the stud and around the first hook. Continue routing the yarn behind the second stud.

 **Note:** Keep the aramid yarn under tension during the routing.

- 5 Route the yarn down again, returning under the first hook.
- 6 Route the yarn over the stud further down.



- 7 Make a turn around the hook at the bottom and come back again. Keep the aramid yarn under tension.
- 8 Install the open hose clamp into the bracket around the cable and the aramid yarn, while keeping the aramid yarn under tension.
- 9 Tighten the hose clamp with the hex 7 socket wrench. Excess band must be pushed into the slot between the cable and the bracket.



- 10 Cut off excess aramid yarn.
- 11 Installation completed.
- 12 Installation completed.

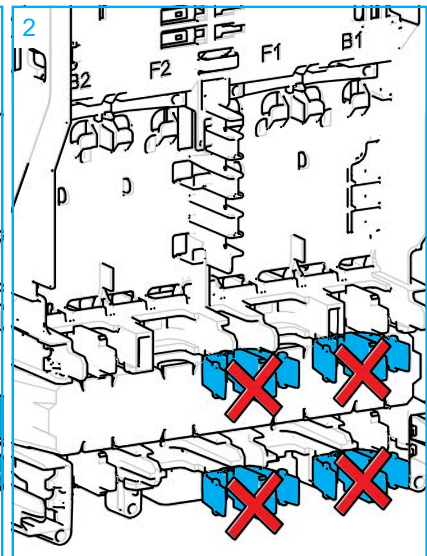
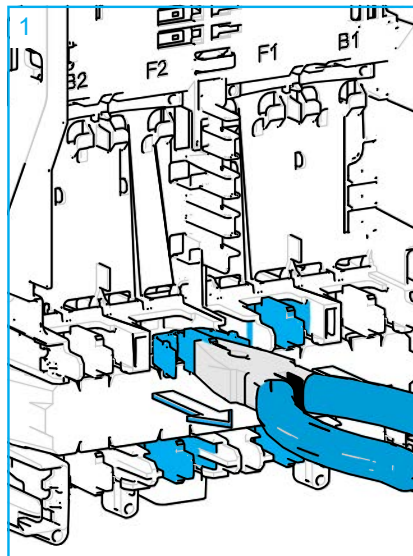
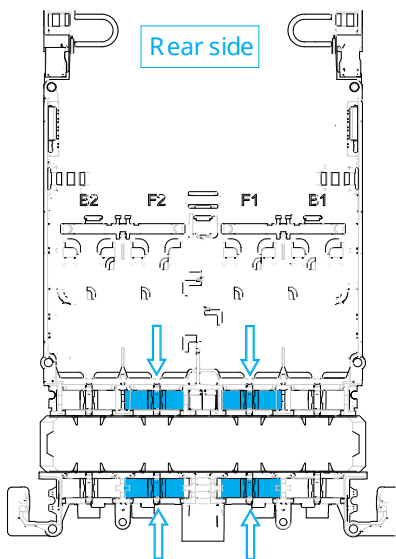
7.2 Feeder cable installation

7.2.1 Port reducers and gel cups

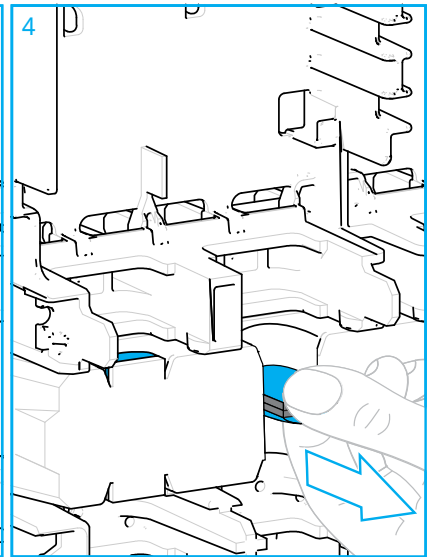
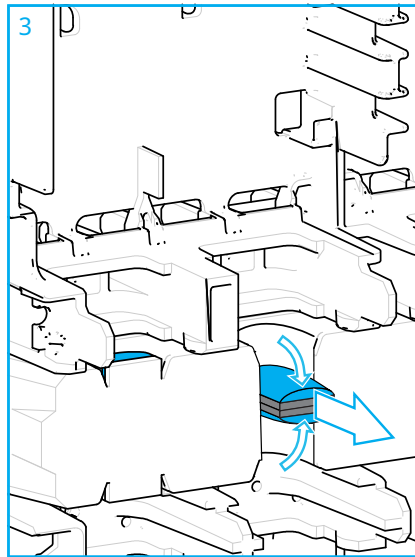
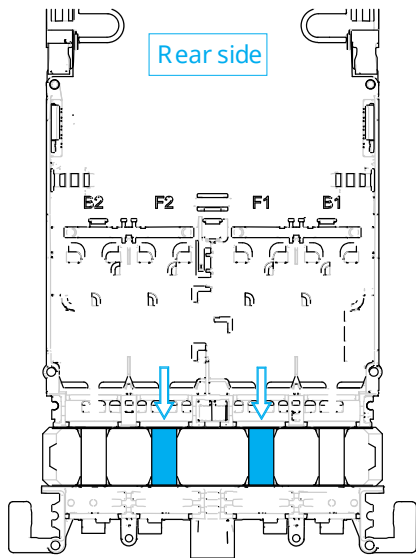
Port reducers are installed above and below the Octopus™ gel seal. Depending on the cable diameter, the port reducers and gel cups should remain or need to be removed.

If the cable diameter is **less than or equal to 14 mm (0.55 Inches)**: keep the two port reducers and the gel cups in place. In this case, continue with the next section. Steps below are not applicable.

If the cable diameter is **more than 14 mm (0.55 Inches)**: remove the two port reducers and the gel cups of the respective port. In this case, continue with the steps below.

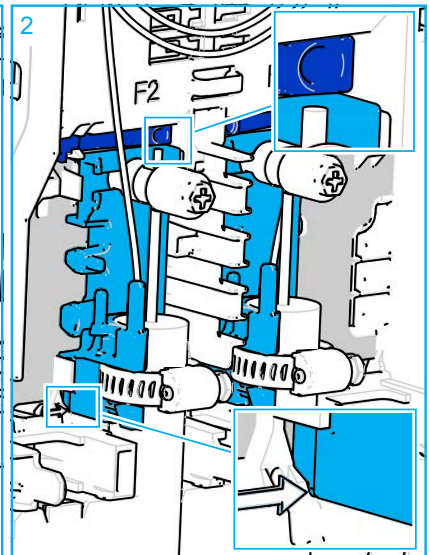
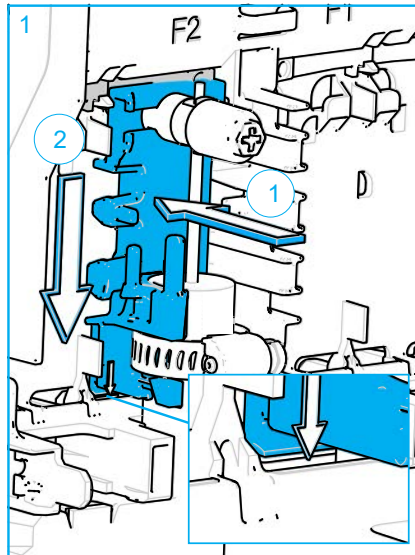
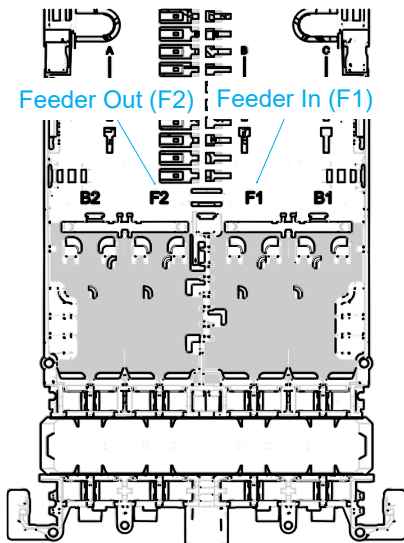


- 1 Lift up the two port reducers at both sides of the Octopus™ gel seal with a pair of pliers.
- 2 Remove the both parts of the respective port. (In total 4 parts for a looped feeder cable.)



- 3 To remove the gel cups, fold the top and bottom piece together.
- 4 Manually pull out the gel cups.

7.2.2 Install feeder cable

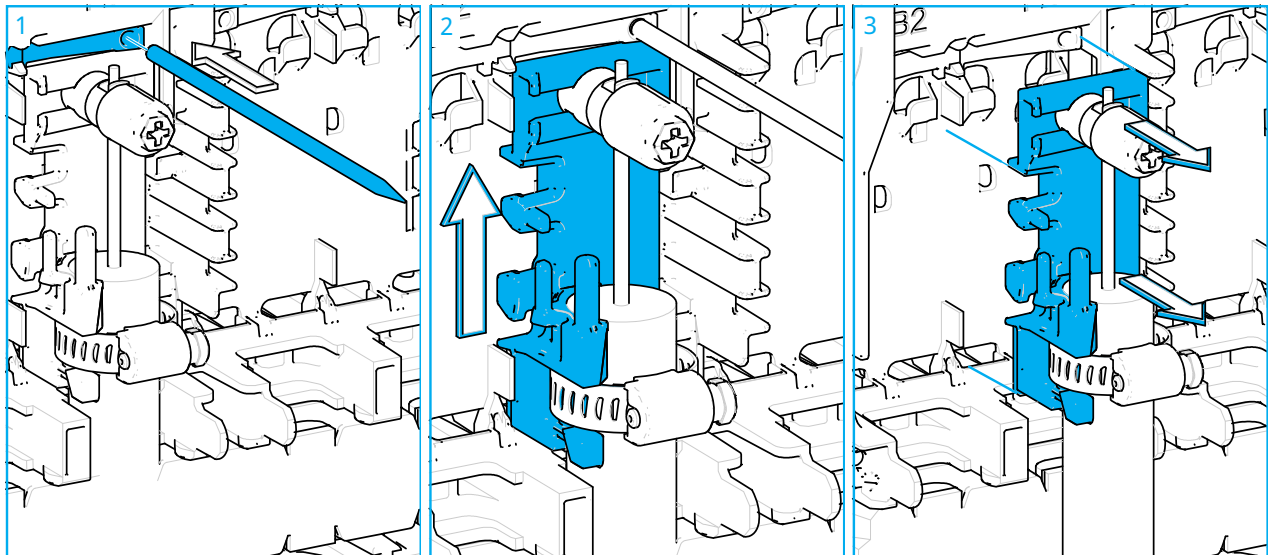


- 1 Install the feeder cable (with its cable retention) into the organizer. A looped feeder cable will typically be installed one end left (F2 - feeder out) and one end right (F1 - feeder in).
- 2 The cable retention bracket snaps into the interface plate of the organizer.

Note: Check that the bracket is correctly positioned behind all the locking features in the organizer. (See illustration 2.)

Note: For a cable with diameter less than or equal to 14 mm / 0.55 Inches, install the cable at the left side of the port reducer middle flange, in line with the retention bracket. The middle flange of the port reducer will be pushed to the right side if needed.

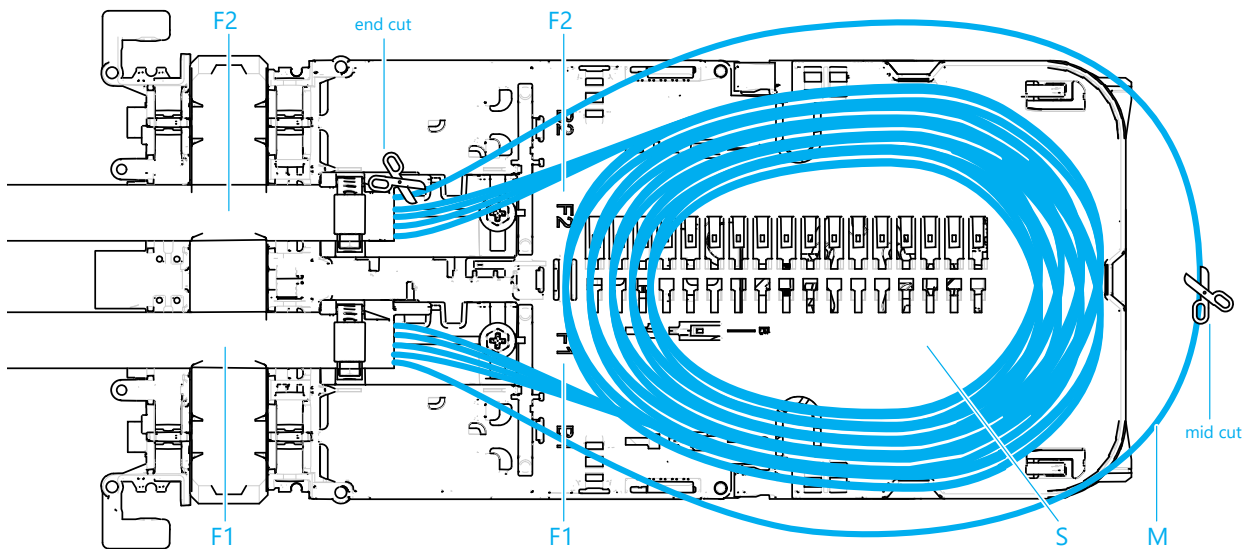
7.2.3 Remove cable retention



- 1 Push the snap hook backwards with the flat side of the fiber guidance pen.
- 2 Lift the bracket upwards.
- 3 Remove the retention bracket.

7.3 Route feeder fibers to storage

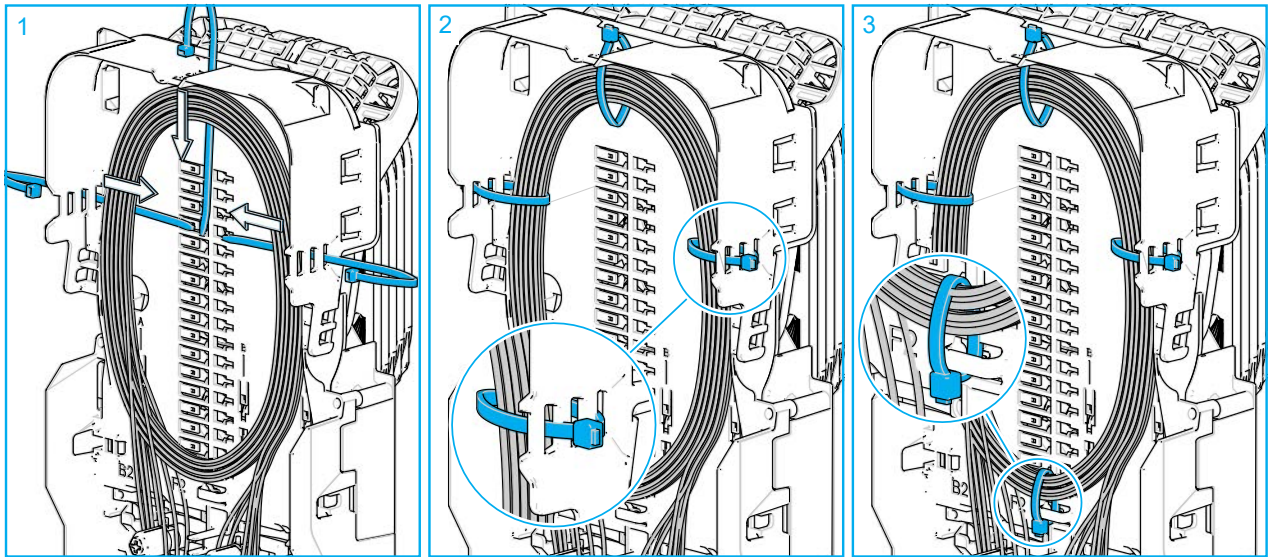
7.3.1 Route subunits to loop storage basket



- F1: Entry
- F2: Exit
- S= Storage area
- M: subunit
- mid cut: cut the subunit in the middle
- end cut: cut the subunit at the jacket end at exit side (F2)

- 1 Select the feeder subunits that will be used for splicing to the drops or branch cable. Keep them separate.
- 2 Make loops of the subunits that will not be used and store it in the loop storage basket.

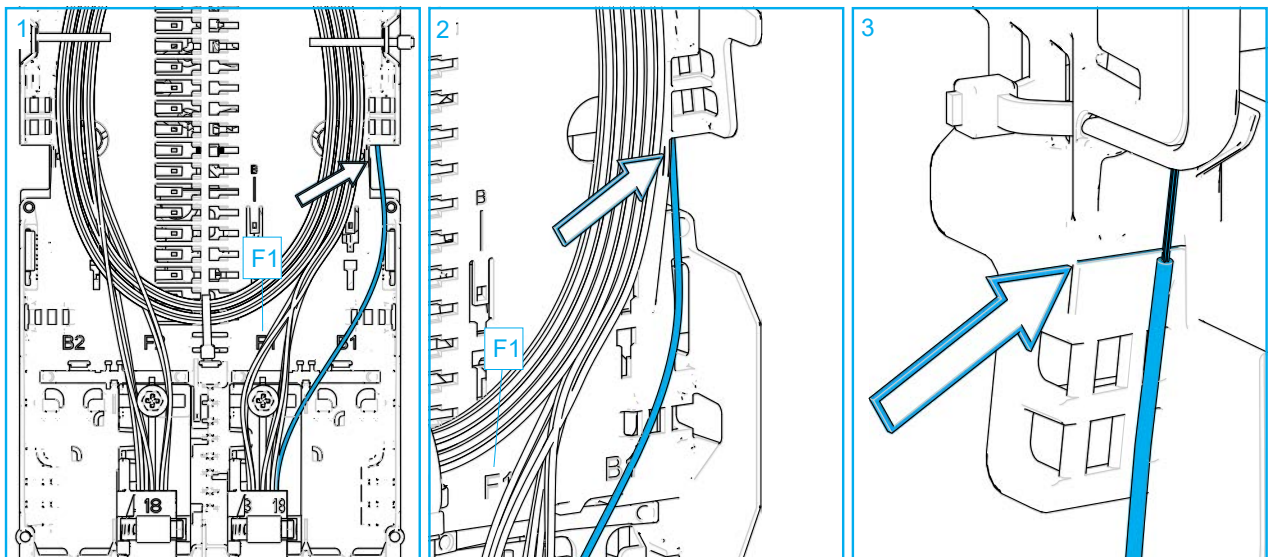
Note: The maximum storage capacity depends on the construction and diameters of the subunits in the cable and the number of subunits required to store.



- 3 Slide 3 cable ties through the openings under the loop as shown.
- 4 Secure the cable ties and position the cable tie with the head outside the loop storage zone. It has a recess where the cable tie head should fit in.
- 5 Secure the bundle on the bottom side with a fourth cable tie (cable tie head pointed downwards).
- 6 The different options for the selected subunits are:
 - a **Shaving:** bring the subunit to the front side and mark the stripping point left and right, remove the tube of the unit between these two points.
 - b **Endcut:** cut the subunit at the jacket end of cable at the exit (F2) and route the subunit to the stripping point (right) at the front side.
 - c **Midcut:** cut the subunit in the middle of the unit and store the end that will not be used (F2) in the loop storage basket (using a cable tie to secure the end). Route the other end to the stripping point (right) at the front side.

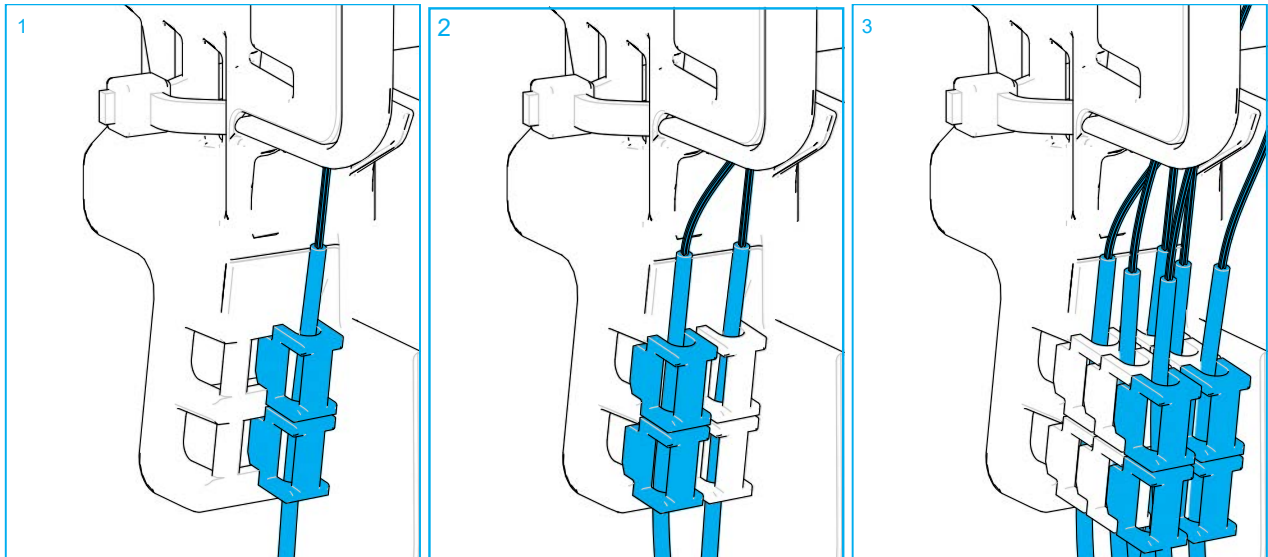
7.3.2 Route feeder fibers to front side

7.3.2.1 Subunit stripping point




- 1 Route the feeder fiber to the front side via F1 (right side).
- 2 A line at the front side indicates the stripping point. Mark the subunit at the stripping point and remove the tube per local practice.


7.3.2.2 Tube holder

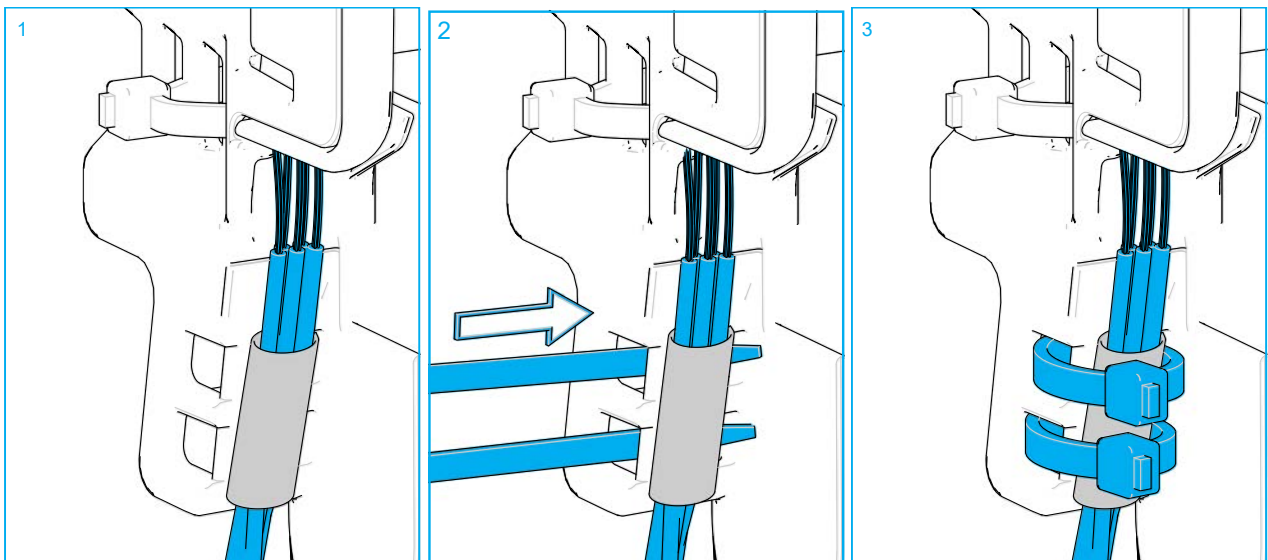


- 1 Take the first subunit and secure it to the organizer with two tube holder clips. Start at the inside position.
- 2 To add the next subunit, take two new tube holder clips and install them on top of or next to the already installed subunit.


 **Note:** Maximum 2x3 subunits with a maximum diameter of 2.7 mm / 0.1 Inches can be installed per transition side.

7.3.2.3 Foam and cable tie

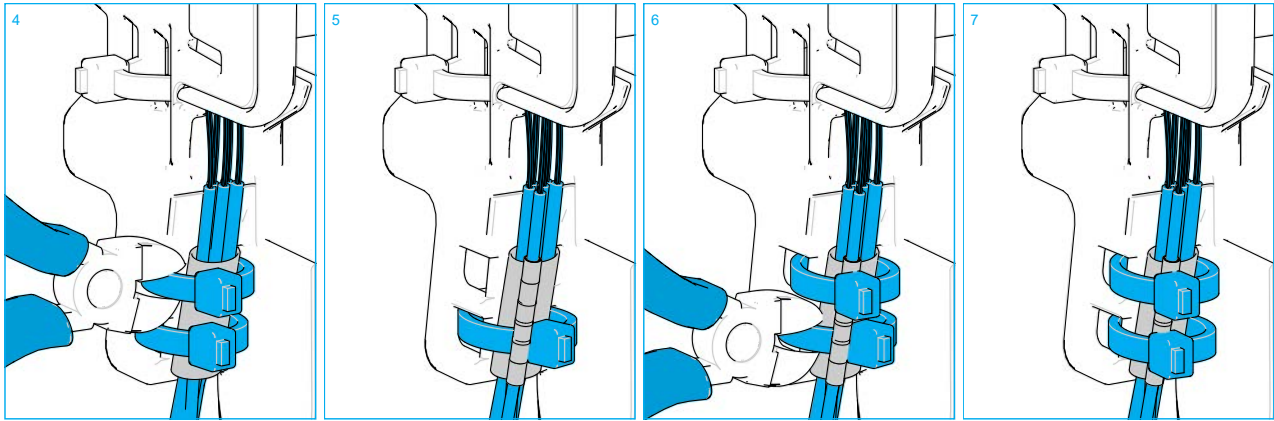
 **Note:** If the subunit is thicker than 2.7 mm / 0.1 Inches or if more than 6 subunits should be installed, use foam and cable tie. Foam not included.



- 1 Prepare all subunits, wrap a layer of foam around the bundle.
- 2 Slide the cable ties into the cavities under the foam.

 **Note:** Make sure that the cable tie head ends up on top of the foam bundle.


- 3 Secure the bundle with two cable ties. Cut off excess cable tie band.

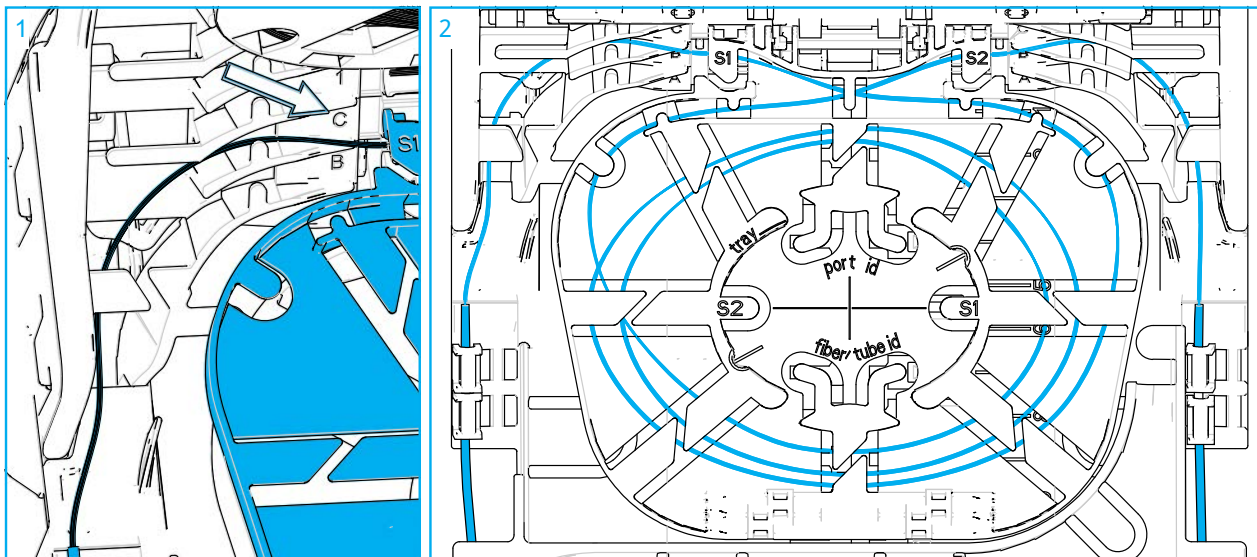


- 4 To add a subunit, remove one cable tie.
- 5 Wrap a layer of foam around the subunit(s) to be added. Add the subunit(s) with foam to the bundle.
- 6 Secure the new bundle with a new cable tie to the existing bundle and cut away the second existing cable tie.
- 7 Secure a second cable tie around the new and existing bundle.


7.3.3 Route fibers to slim storage tray

Typically 250 μ m fibers are stored on this tray.


 **Note:** The tray can hold a maximum of 24 250 μ m fibers.



- 1 Bring the subunit via the transition area(s) to the front side. Strip the subunit at the stripping point(s) and route the fibers to the tray via groove C.
- 2 Store the fibers in loops on the tray.

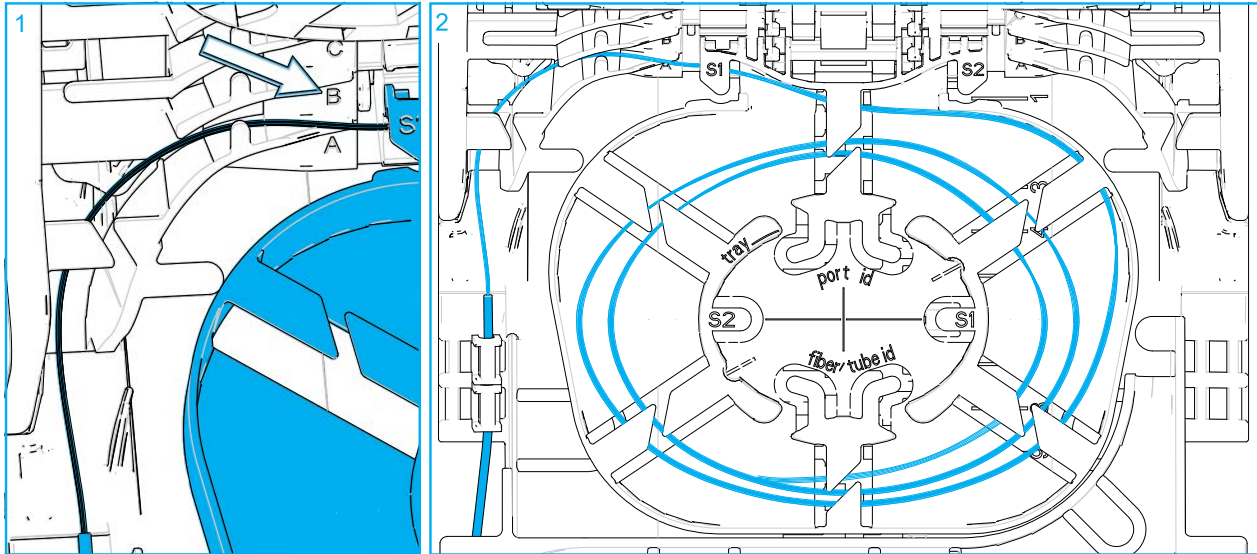
 **Note:** The middle circle on the tray can be used to store the ends of dead fiber.

 **Note:** Make sure all fibers are properly positioned under the lips and avoid bulging of the fiber.

 **Note:** The fiber guidance pen can be used to position all the fibers under the lips.


7.3.4 Route fibers to storage tray


This tray can be used to store the fibers temporarily.



- 1 Bring the subunit via the transition area(s) to the front side. Strip the subunit at the stripping point and route the fibers to the tray via groove B.
- 2 Store the fibers in loops on the tray.

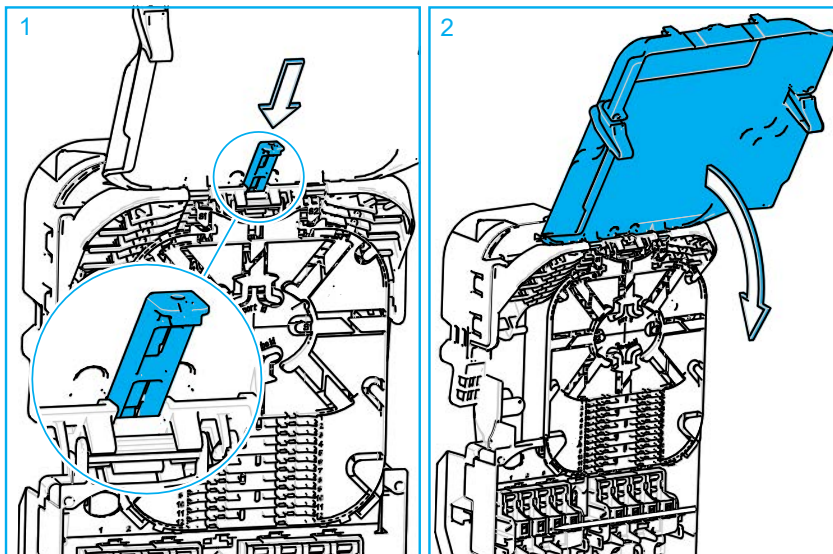
 **Note:** 900µm fiber should always be stored in the outer circle, not in the inner circle.

 **Note:** Make sure all fibers are properly positioned under the lips and avoid bulging of the fiber.

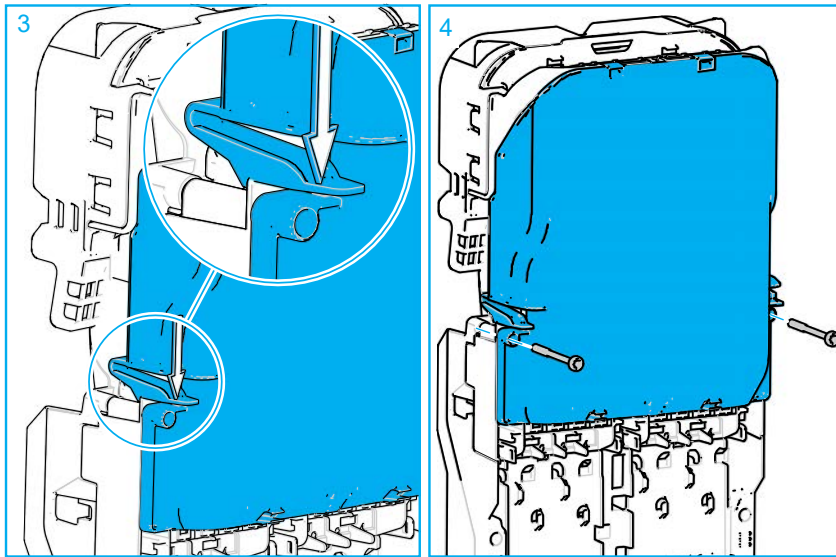
 **Note:** The fiber guidance pen can be used to position all the fibers under the lips.

8 Re-install organizer

8.1 Close demarcation cover

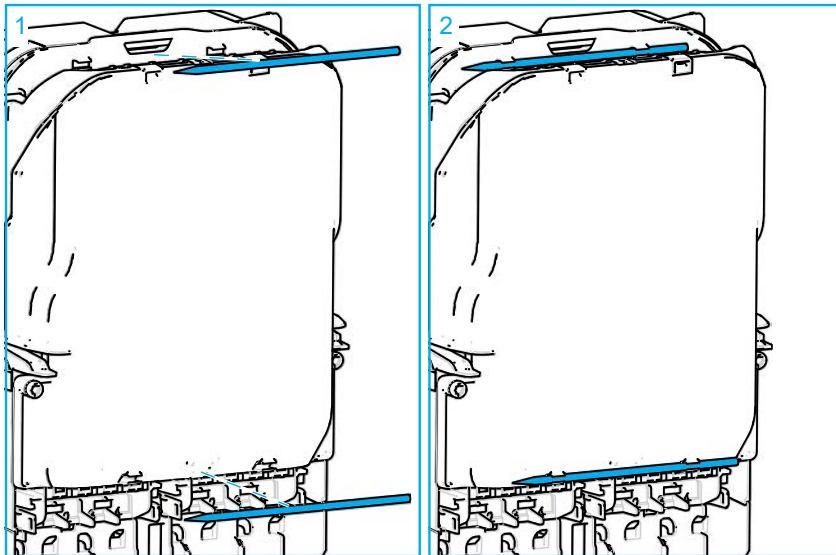


- 1 Slide the lock downwards to unlock the cover.
- 2 Close the cover.



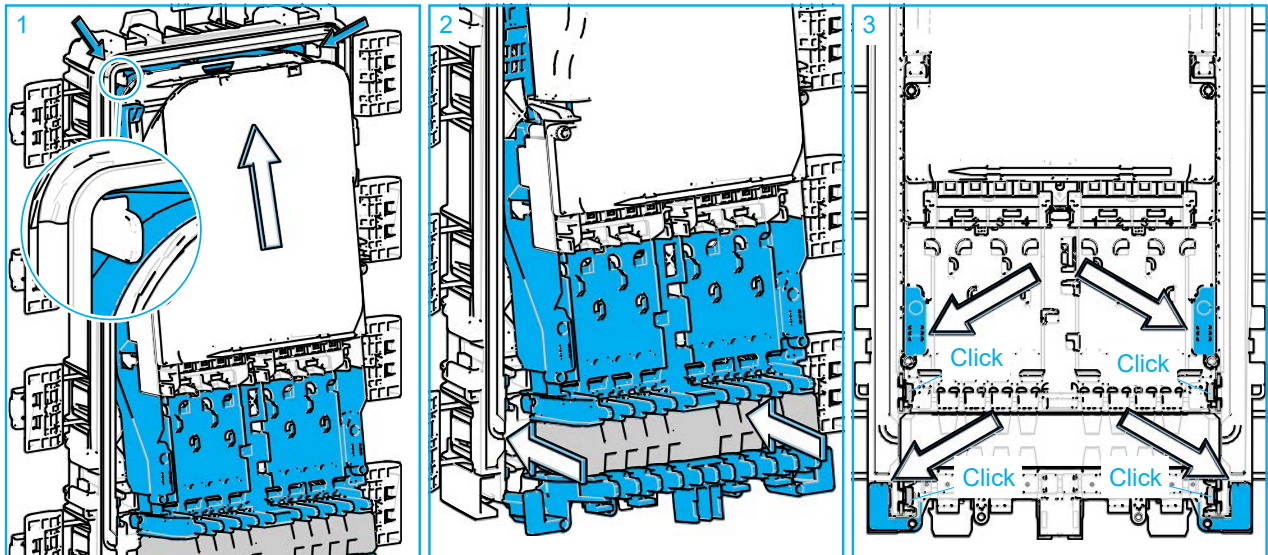
- 3 Make sure the snap hook is correctly positioned under the locking feature.
- 4 Secure the cover with the two screws.

8.2 Fiber guidance pen placement



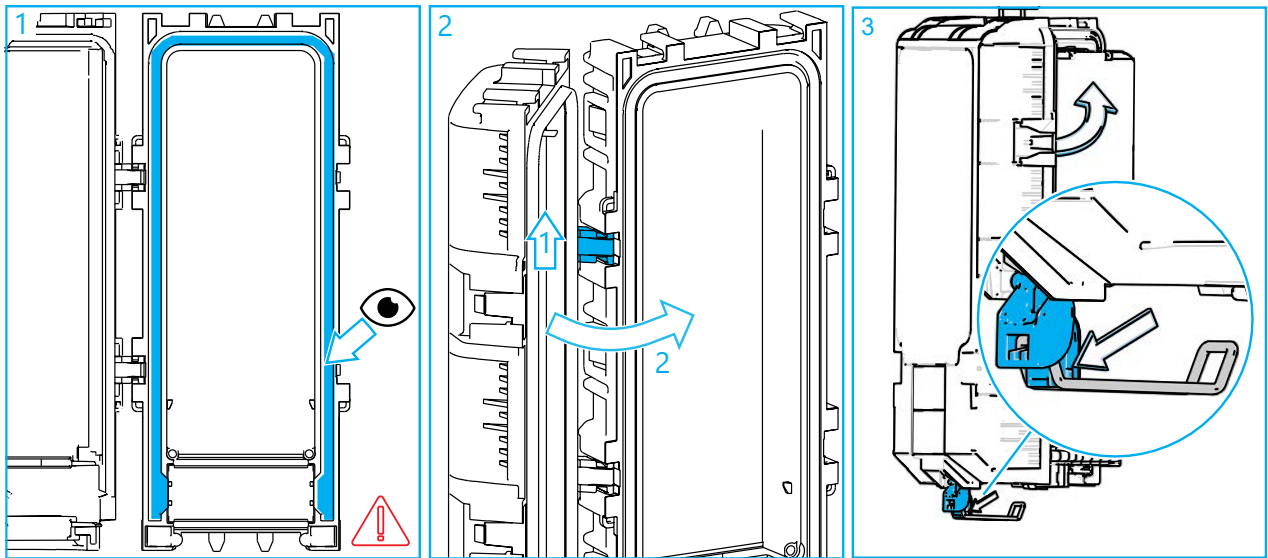
- 1 There are two positions to store the fiber guidance pen: one on the tower and one on the demarcation cover.
- 2 Store the fiber guidance pen back to one of these positions.

8.3 Re-install organizer

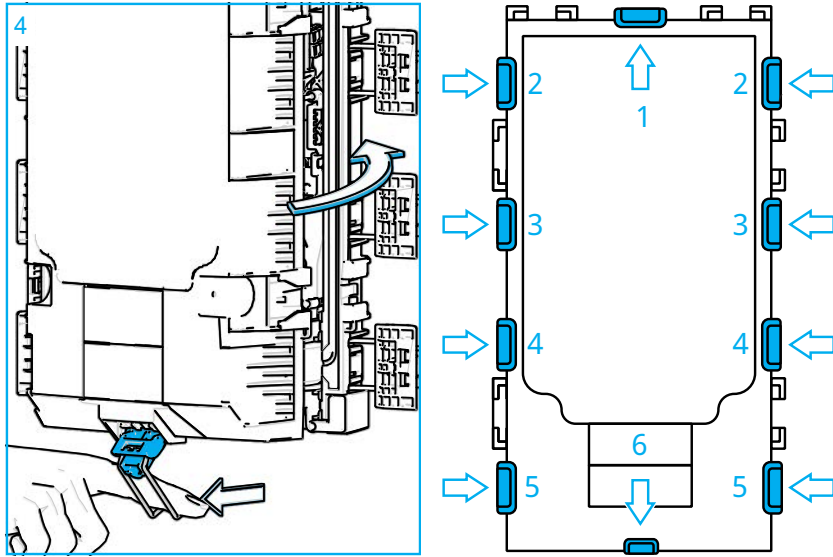


- 1 Slide the organizer upwards under the two snap hooks at the top side of the base.
- 2 Rotate the organizer into the base.
- 3 Push to click the 4 tabs in place as indicated. A clicking sound is observed when properly seated.

9 Close the closure



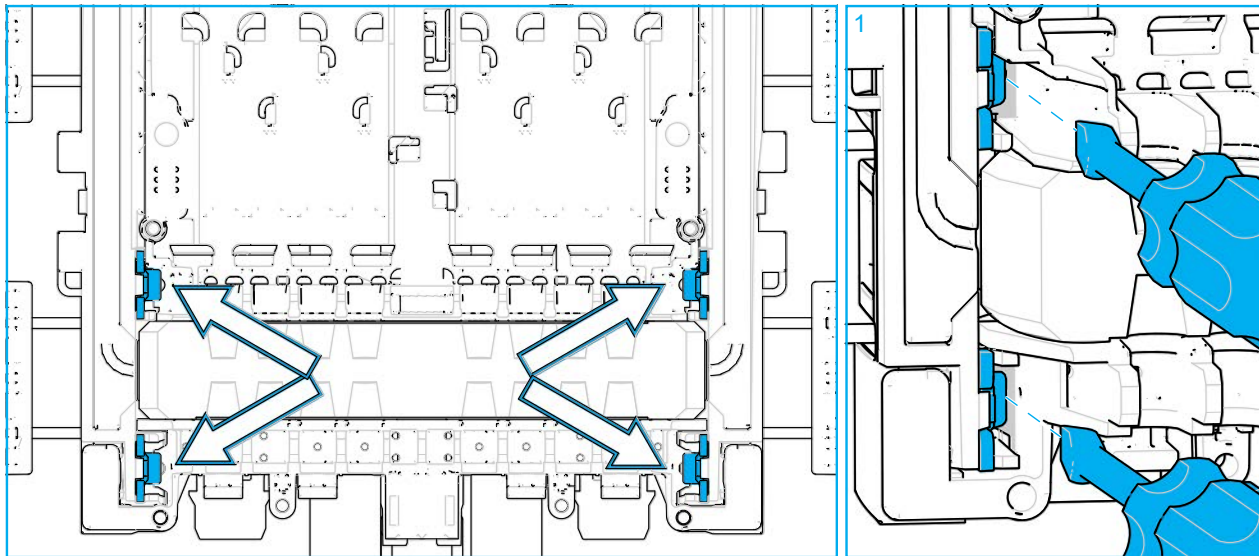
- 1 Inspect the long seal. The seal should be clean and dust free. Verify the long seal is correctly seated within the closure cavity.
 - 2 Position the cover back onto the base. Figure 2 shows the cover installed with the hinges on the left side.
- Note:** First lift the cover slightly up to release the cover from its lock position, then rotate it towards the base.
- 3 Lift over the spring of the front latch over its center position. There is a little notch to block the spring so it stays in safe position.



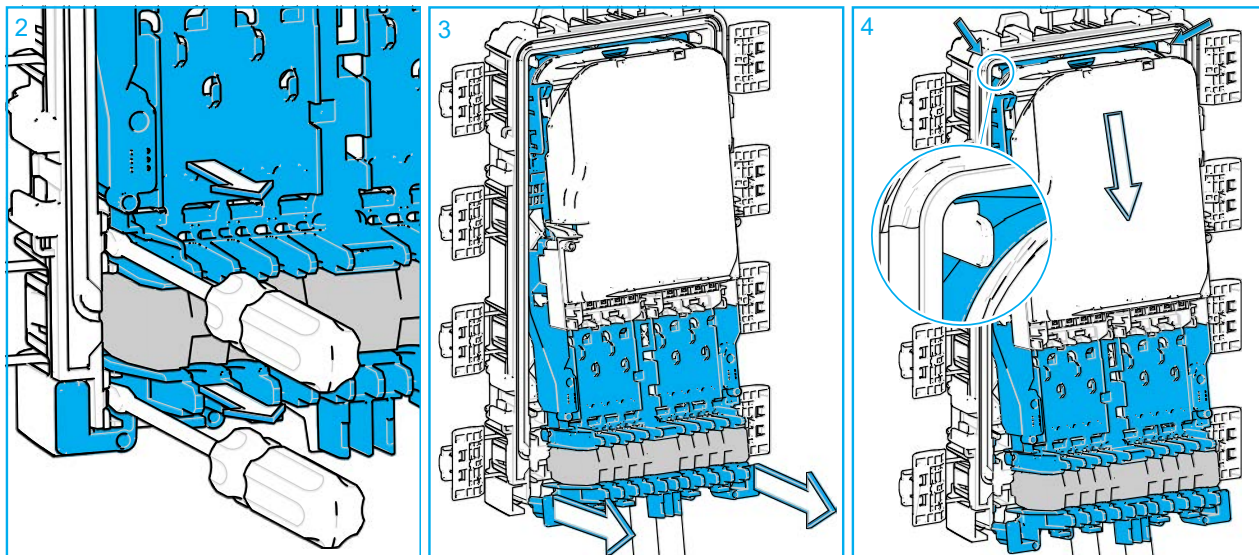
- 4 When closing the cover, make sure the metal part of the latch stays at the outside.
- 5 Close the latches. Start with the rear latch (1).

10 Re-entry

Open the latches, rotate the cover.



1 The 4 snap hooks at the bottom position can be released with a small screw driver.

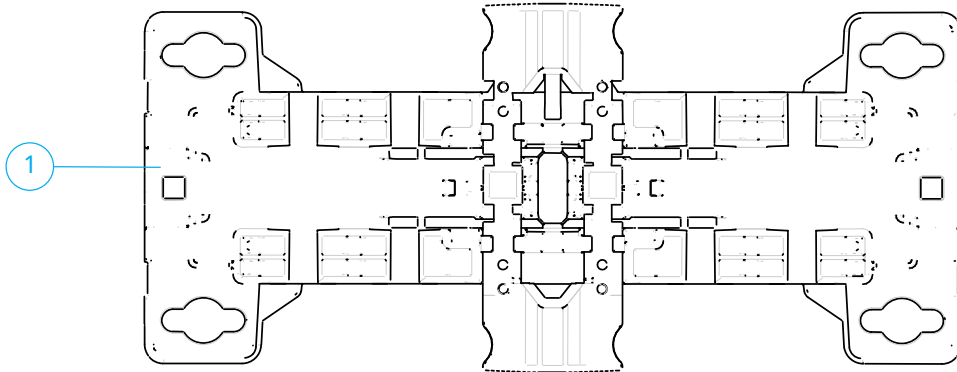


- 2 Press the snap hooks to the side to release the organizer.
- 3 Once the bottom part is released, swing the bottom of the organizer frontwards.
- 4 Now the organizer can slide downwards to release it from the top snap hooks.

11 Mount the closure

11.1 Using the Universal Mounting Bracket Medium (UMB M)

11.1.1 Kit Contents UMB M

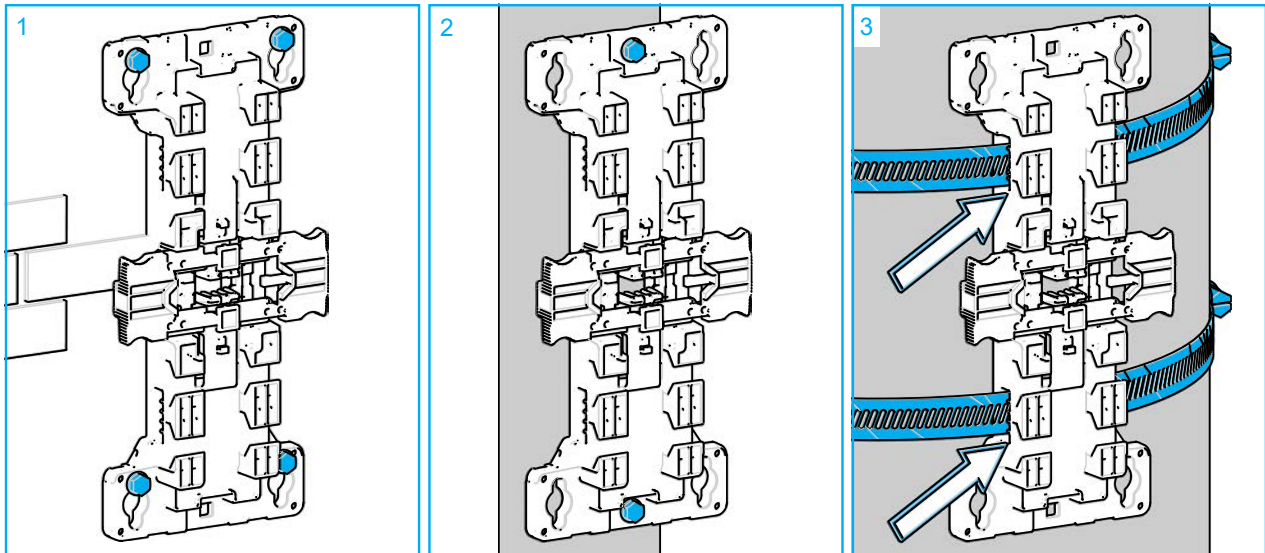


N°	Description	Qty
1	Universal Mounting Bracket Medium (UMB M)	1

Note: Mounting hardware (such as screws, plugs, washers) should be selected according to intended mounting surface (not included in the kit).

11.1.2 Mount the UMB M

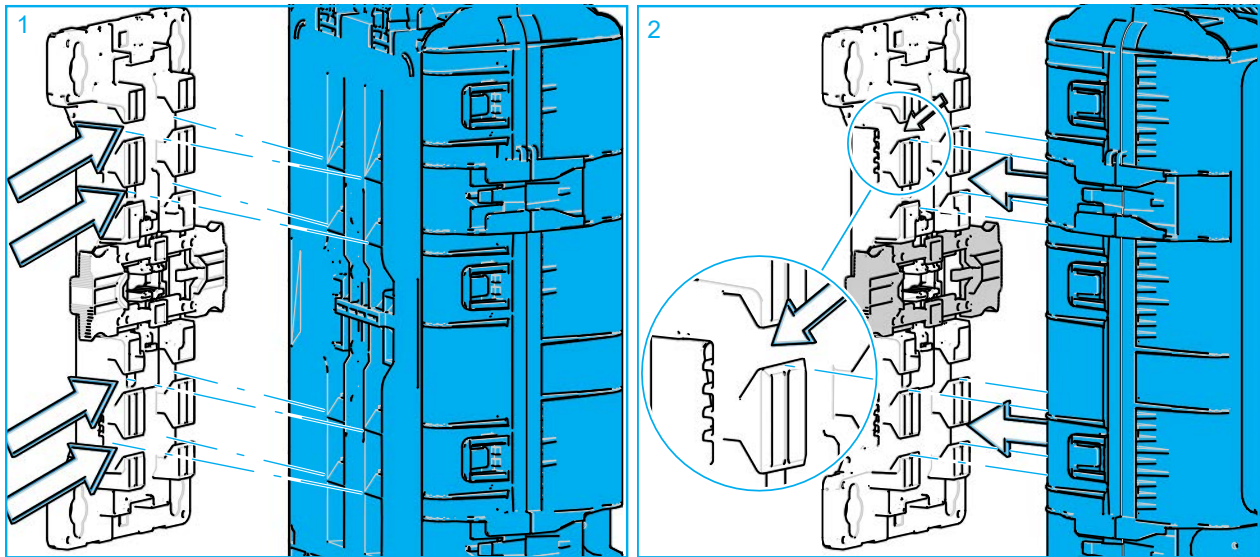
Depending on the use, there are several options for mounting the UMB.



- 1 Mount the UMB on a flat surface with 4 screws.
- 2 Mount the UMB on a flat surface or onto a pole with 2 screws.
- 3 Mount the UMB onto a pole with 2 straps

Note: Mounting hardware is not a part of the kit.

11.1.3 Install the closure onto the UMB M

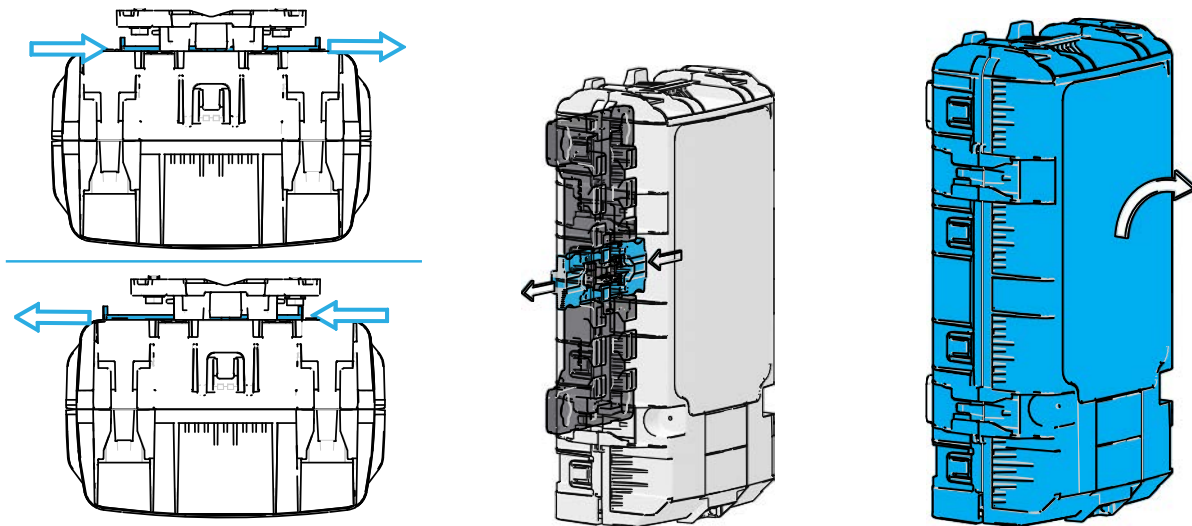


1 Secure the closure onto the UMB M with the features highlighted.

Note: Make sure the handle is positioned centered in the bracket before installing the closure onto the UMB.

2 Move the closure to the mounting bracket. Then slide the closure downwards. When a click sound is noticed, the closure is properly locked.

11.1.4 Detach the closure from the UMB M



1 The handle can be pushed left or right to unlock the closure.

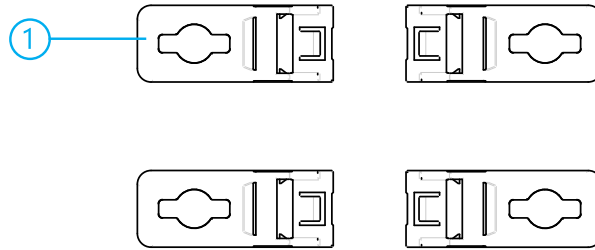
2 Push the handle to one side.

3 Lift and remove the closure.


Note: Verify that the handle is centered again.

11.2 Using the mounting clips

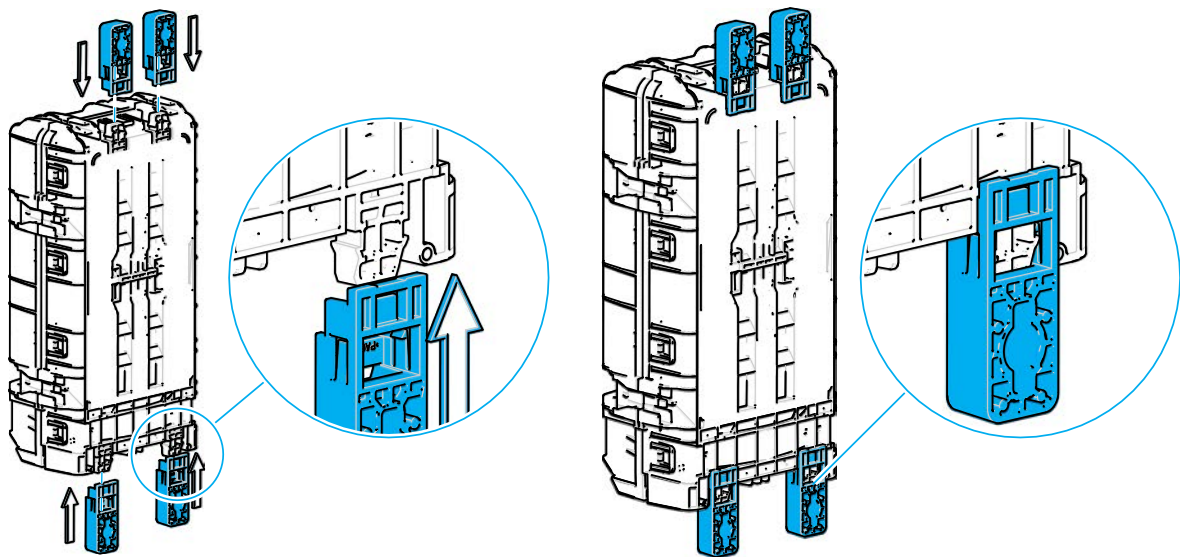
11.2.1 Kit contents



N°	Description	Qty
1	Mounting clips	4

 **Note:** Mounting hardware (such as screws, plugs, washers) should be selected according to intended mounting surface (not included in the kit).

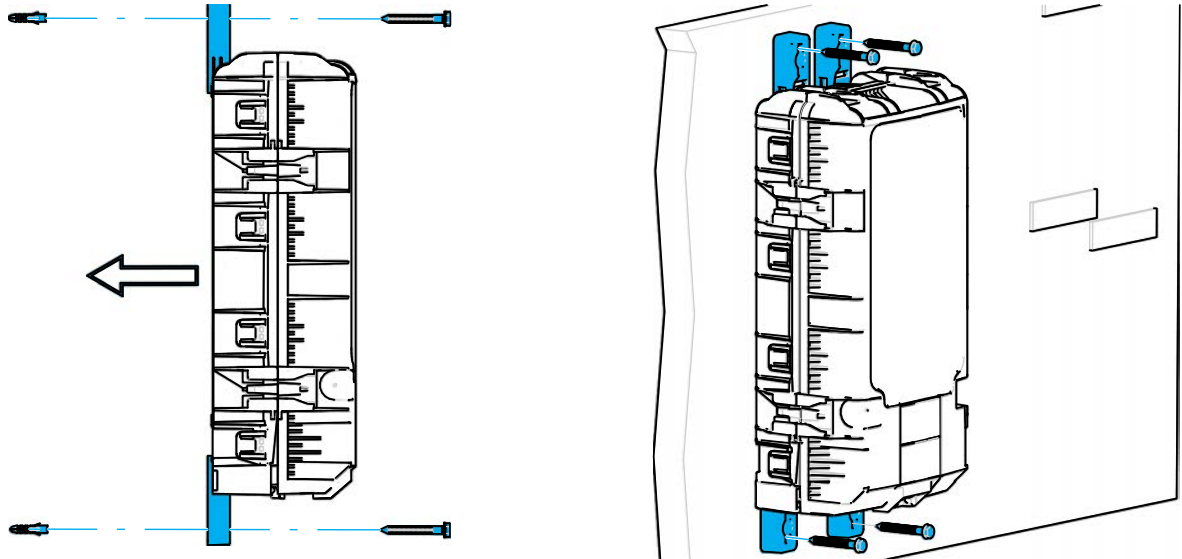
11.2.2 Mounting clips installation



1 Mount the clips on the base on the 4 positions as shown.

11.2.3

Wall mounting



- 1 Using the mounting clips as a template, mark the mounting screw locations.
- 2 Install the wall plugs first, then position the closure with the mounting clips against the surface. Continue with the washers and the screws to secure the closure onto the surface.

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