

Installation instruction

FIST-GCO2-FC

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Version: 1.0

Status: Final

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1 General information

1.1 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.

Installation conditions: the enclosure should be installed at temperature between -5°C and 45°C .

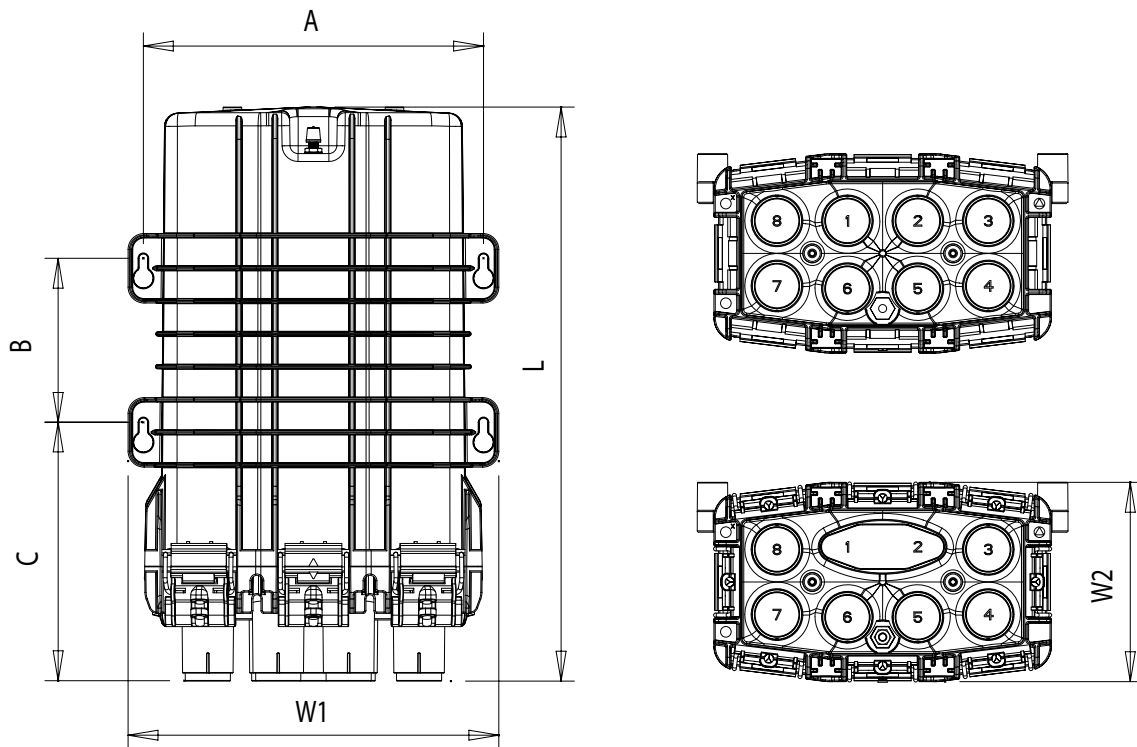
1.2 General product information

To clean FIST components, isopropyl alcohol is recommended. The Universal Mounting System provides the foundation for mounting SOSAs and SASAs. The recommended trays are of SLE type. Uncut loose buffer tube storage is available behind the UMS-profiles.

1.3 List of acronyms and abbreviations

FIST	Fiber Infrastructure System Technology
GCO2	Generic Closure Organiser II
OSKG	Oval Seal Kit Gel
RSKG	Round Seal Kit Gel
FAS	Fiber Arrangement System
UMS	Universal Mounting System
SLE	Slim Single Element tray
SOSA	Splice Only Sub Assembly
SASA	Splitter Array Sub Assembly

1.4 Product dimensions



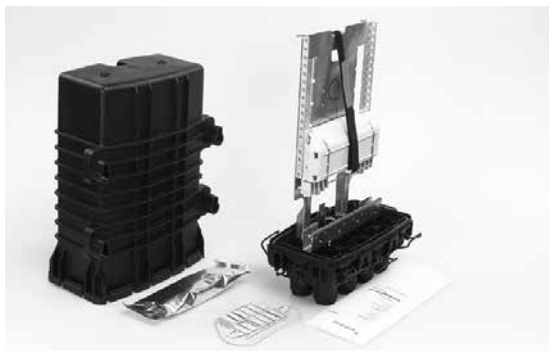
Product Size	L (nom)	W1 (nom)	W2 (nom)	A (nom)	B (nom)	C (nom)
FIST-GCO2-FC	384	279	150	256	123	195

1.5 Kit contents

1.5.1 Items delivered with the FLAT FIST

N°	Description
1	1 pc FIST-GCO2-FC6-NN
2	1 pc FIST-SOSA2-8SLE-S
3	1 pc FIST-OSKG
4	3 pc FIST-RSKG-16
5	1 pc FIST-GCO2-FX6-EXT/CF
6	1 pc FIST-FAS-TUBE-EXT

1.5.2 Kit content of the FIST-GCO2-FC



- > Dome
- > Base including UMS, routing block and cover
- > O-ring
- > Silicagel
- > 1 tray cover, fiber guiding pin, tube holder retainers
- > 1 tray wedge
- > Installation Instruction

1.6 Optional

- > FIST-RSKG-16 Round port Seal Kit made of Gel to seal 16 additional drop cables with a diameter between 0 and 2.4 mm (up to 3 depending on the kit contents)
- > FIST-RSKG-1 Round port Seal Kit made of Gel to seal 1 additional cable with a diameter between 11 and 14 mm
- > FIST-SOSA2-8SLE-S Set of 8 SLE trays for up to 12 splices/SMOUV-1120-02 (45 mm) each
- > FIST-FAS-TUBE-EXT element to ensure smooth transition of the fibers when ports 4, 5, 6 or 7 are used. Each of these ports needs such an element. Only one transition is delivered with the FLAT FIST.

2 Tools

Microfocus Tri Hole Fiber
Optic stripper



ITL103013

Microfocus Kevlar Schar



ITL103014

Microfocus CableSaber™



ITL103024

Microfocus Cable Cutter



ITL103028

Microfocus Mid-Span
& Ring slitter



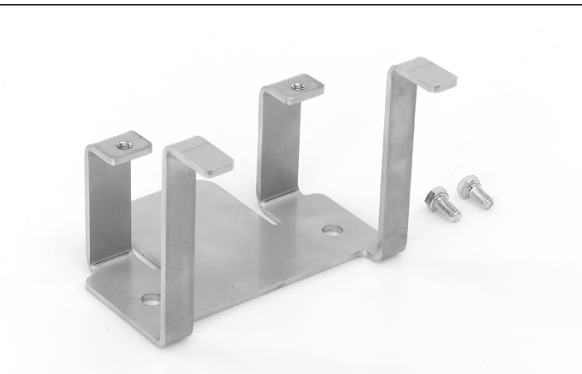
ITL103034

Isopropanol Alcohol



ITL103020

2.1 Optional FIST-WORKSTAND-FX



The FIST-GC02-FC is mounted on a work stand. The work stand has a wrap-around design permitting to remove the enclosure with cables installed.

3 Cable preparation

3.1 Cable diameter range

The cable diameter range in the 6 port base is as follows:

FIST-OSKG	5-18 mm
FIST-RSKG-16	0-2.4 mm (up to 3 depending on kit contents)
FIST-RSKG-1	11-14 mm



3.2 Feeder cable preparation and installation

3.2.1 Remove jacket

Remove the jacket of the cable over the distance indicated in the table below:

Cable type	Enclosure type	Looped cable (window cut)	Drop cable
Loose Tube	FC	3.0 m (2x1.5 m)	1.5 m



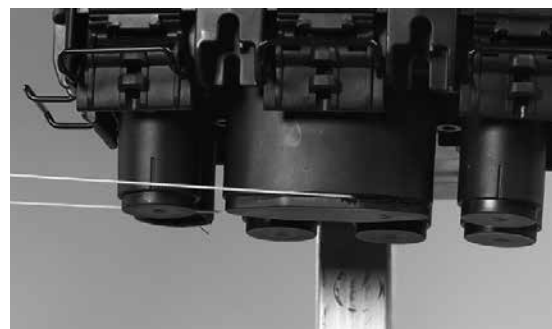
Important: make sure that the twist position of loose tube is identical on the left and right. This must be done correctly for ease of installation.

3.2.1.1 Reversed oscillating cable

Mark the cable in the middle of the loop and remove the cable jacket left and right of the mark over a total distance of 110cm (little more as the distance between two reversal points). Locate the buffer tube reversal point on the cable and mark the cable 1.5 meters left and right from this point. Remove further the remaining cable jacket starting from this point.



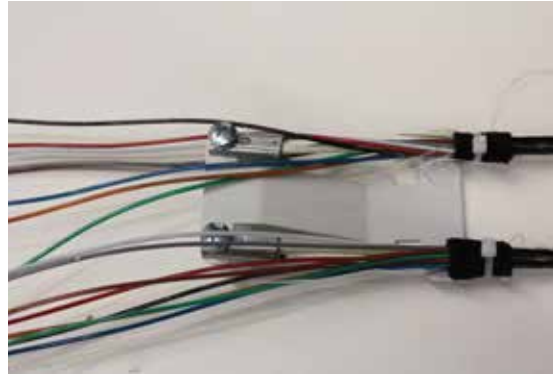
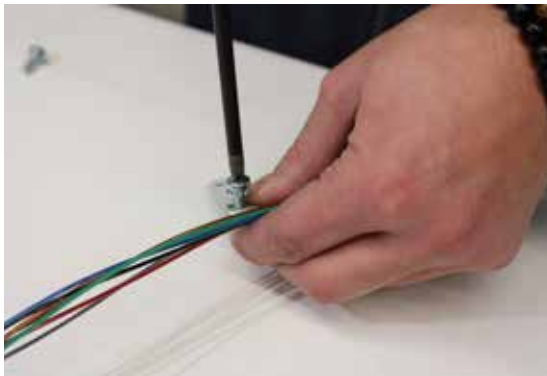
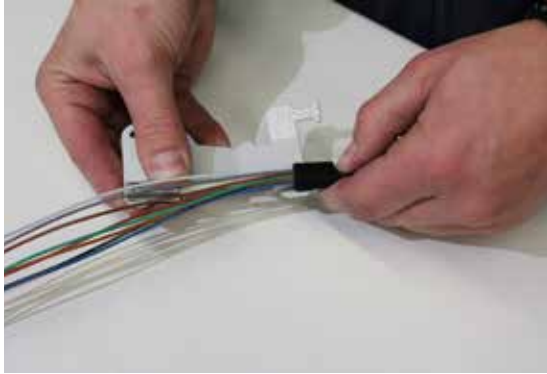
3.2.2 Loop installation using the FIST-OSKG kit



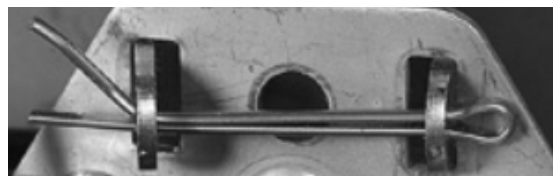
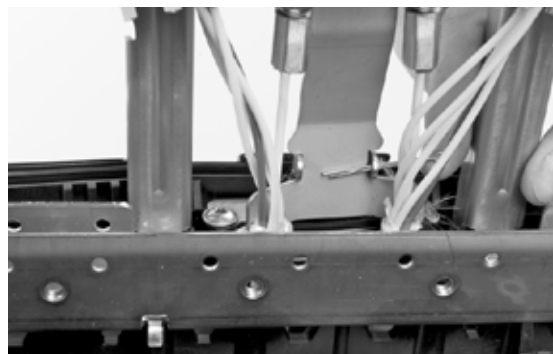
Open the port; the cutting wire can be used. Make sure edges are free of burrs

3.2.3 Loop insertion and cable fixation

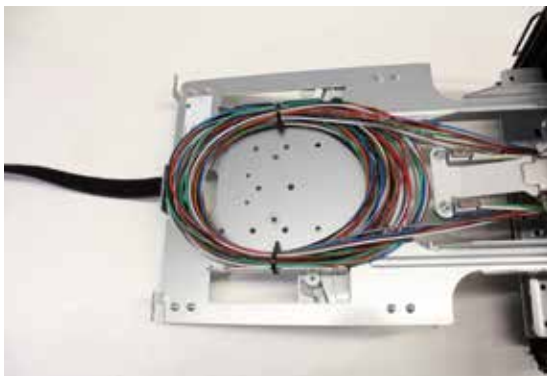
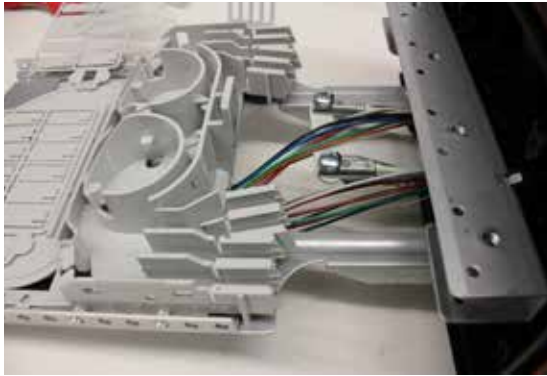
Install the metal bracket as shown, hose clamps at the end of the cable jacket. Knobs between the cables. Apply some tape over the hose clamps. Strength members to be cut at 60 mm from the cable jacket.



*Remark: Do not use the plastic sleeve



Insert the loop securely through the oval port.
 Make sure to not kink any tube while inserting
 Secure with the split pin as shown.



Secure the loop with tie-wraps into the back plate. Do not tighten the tie-wraps to much. Avoid to kink the tubes!

3.2.3 Install the 2 gel parts



Take the first gel-part (with trigger) and put the 2 cables in place, if needed lubricate the cables. Take 2nd part and insert the pins in the corresponding holes at top and bottom.



Securing hooks of part 2 must grip in part 1 (2 at top and 2 at bottom).



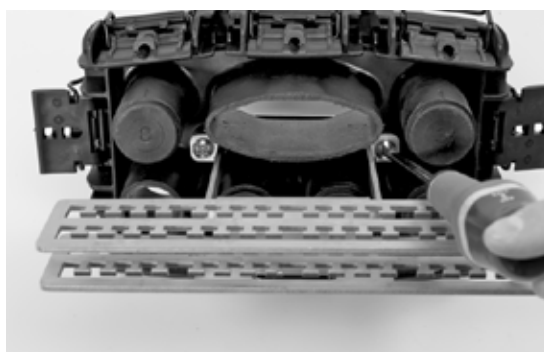
When needed apply some lubricant to the gel for ease of inserting.

Tighten the 3 screws, make sure they grip in the port.



Tighten the trigger till it butts up with the flange.

3.3 Cable securing plate FIST-GC02-FX-EXT/CF



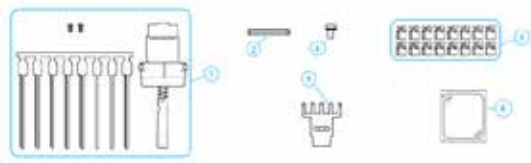
The cable securing frame can be mounted on to the bottom of the closure with two delivered screws.



Apply some foam to the cable(s) and secure with tie-wrap(s) to the frame.

3.4 Drop Cable Installation using the FIST-RSKG-16

3.4.1 Kit contents



N°	Description	Qty FX
1	FIST GCO2 RSKG-16 with securing screws and blind plugs	1
2	O-ring	1
3	Cable term GCO2-FX brkt 16 OUT	1
4	Bolt with star washer	1
5	Mini termination units	16
6	Lubrication oi	1

Cable diameter range: 0-2.4 mm (up to 3 mm depending on the kit contents).

3.4.2 Install gel seal



Before installing the gel seal in the port, install the 2 securing screws.

Before installing the gel seal in the port, install all blind plugs.

The first cable must be installed in the port position number 1. The next cable must follow the numbering.

Note: The lubrication oil in the kit makes it easier to install gel seal in the closure ports.



Open the port. The cutting wire can be used. Make sure that the edges are free of burrs. Install the seal in the port, mark line always facing forward. The mark line on the gel seal should match with the mark line on the FIST-GCO2 drop

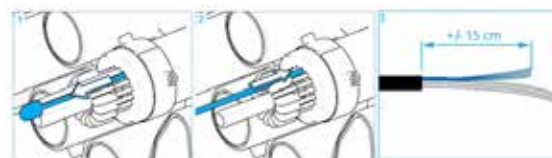
port. (The mark at the FIST-GCO2- FC should be hidden when the seal is installed).

Tighten the 2 screws and make sure they grip in the port.

Make sure the seal is decompressed before installing a cable.



3.4.3 Prepare the cable



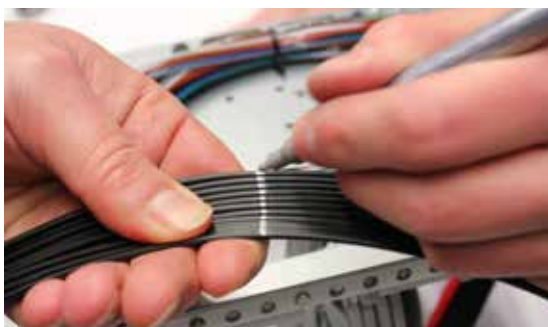
Remove the blind plug.

Feed the cable through the port. Cutting the cable edge under 45° will help to feed the cables through the RSKG seal. Prepare as per standard practice. Mark the cable at 150 cm.

Note: The lubrication oil in the kit makes it easier to guide cables through ports in the gel seal.

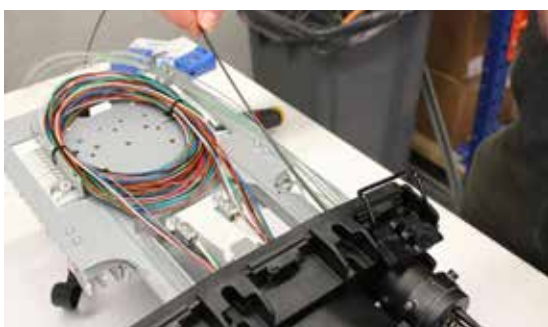
Leave around 15 cm of aramid yarn.

Mark the cables at 150 cm.



Note: In order to have a good cable management, make sure all cables have the same length!

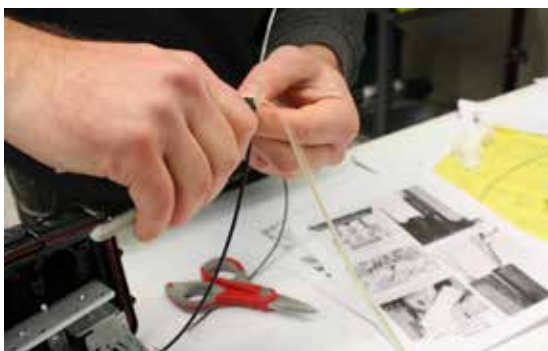
Slide the different cables through the cable ports.



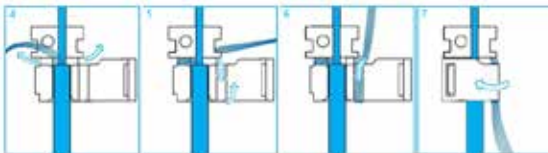
Remove the outer jacket up to the mark with the correct tooling. Do not damage the loose tube containing the fibers, Remove just the outer jacket. Select the adequate hole of the tool.



Cut the outer jacket carefully without cutting the aramid yarns.



Note: Maximum cable diameter to be used in mini termination unit is 2.4 mm depending on the cable.

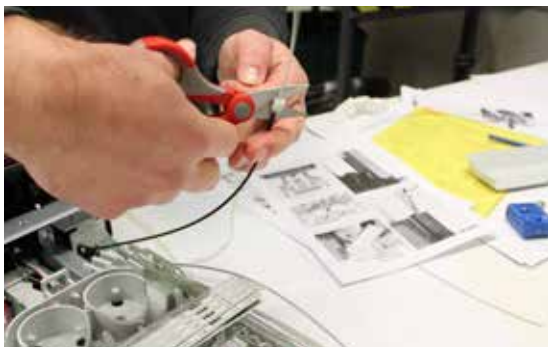


Place the cable in the groove of the mini termination unit and route the aramid yarn through the left groove.

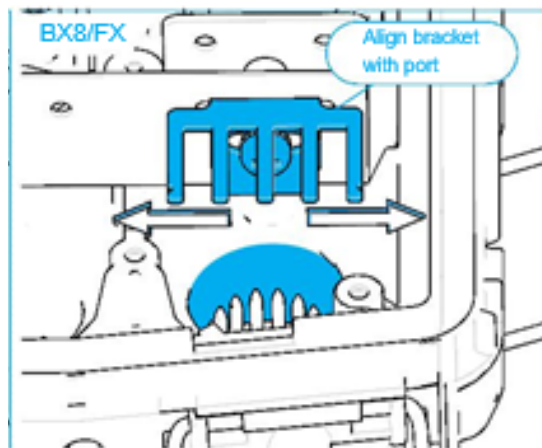
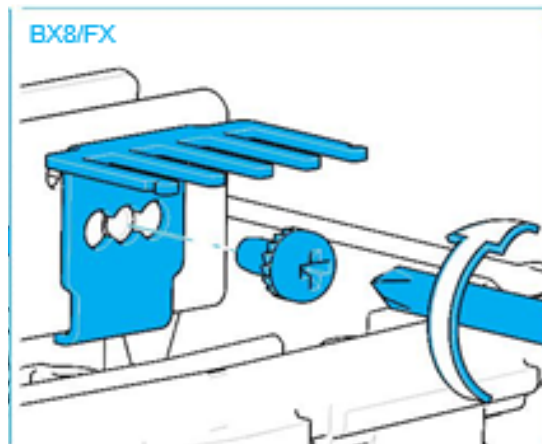
Then lead the aramid yarn behind the back over the hinging part to the front.

Wrap 1 x over the hinging part and bring back to the front.

Keep the aramid yarn under tension and close the hinging part. Make sure not to pull at the cable! Cut away the remaining strands.



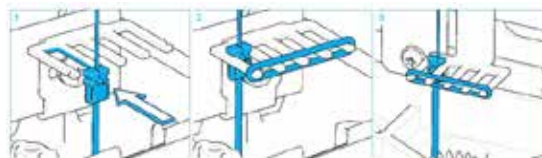
3.4.4 Install bracket



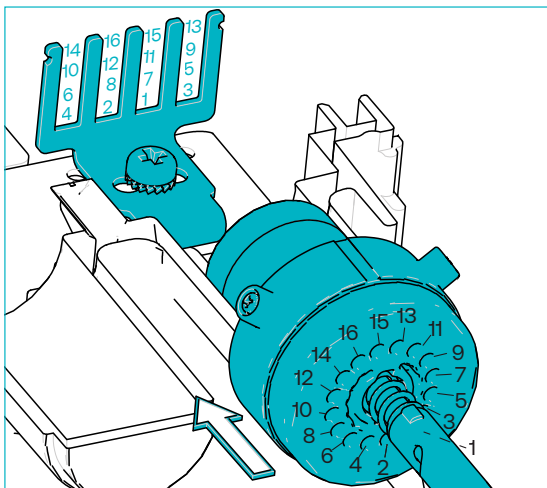
Secure the metal bracket to the frame. Make sure it is positioned at the center of the port.



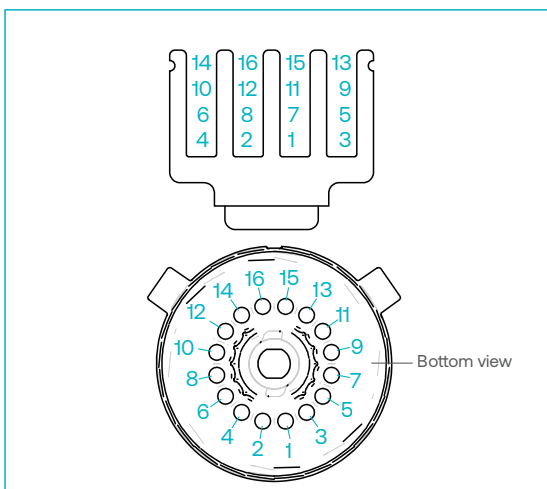
3.4.5 Install cable



1. Pull back the cable and slide the mini termination unit in the holder.



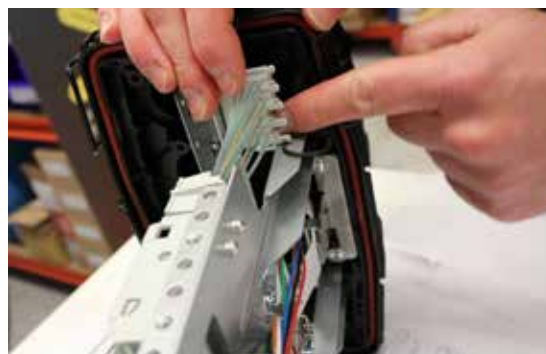
Note: when ports 4, 5, 6 and 7 are used, an additional kit (FIST-FAS-TUBE-EXT-(10)) has to be used to ensure a smooth transition to the FAS plate



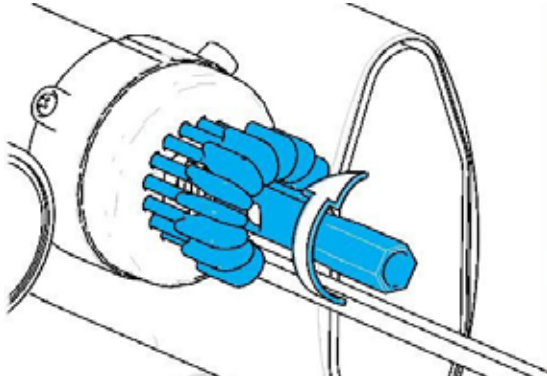
3. Install all mini termination units in the holder for future cable installations. Secure with the O-ring

2. Install terminated mini termination units in the holder as per above drawing. Make sure the indicated sequence is respected

Note: Start with closure ports 3 and 8.



3.4.6 Activate mechanism



Engage the seal mechanism by tightening the 'nut' of the central bolt assembly until the spring is no longer visible and the 'nut' is flush with the gland body.

To add a cable: release the trigger, remove the blind plug, prepare a new cable and continue with one of the previous sections above depending on the closure type.

Note: Depending on outside conditions, some oil bleed-out may occur. This will not affect in any way the sealing performance.

3.4.7 Secure the cables to the outside bracket



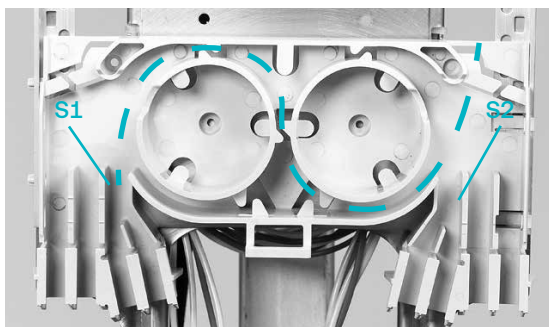
See 3.3

4 Fiber routing

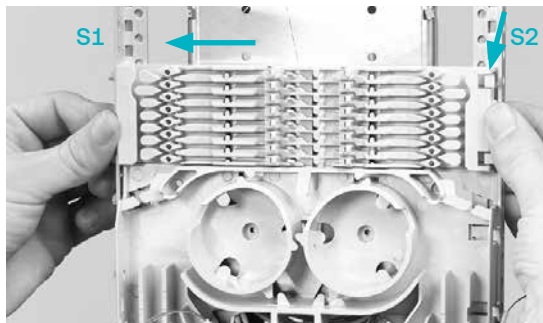
4.1 FAS block routing

4.1.1 Fas block all cables - no restriction

Remove the strap and the routing block cap. To remove the routing block cap, lift the two snaps on one side of the routing block cap.



Fibers can be routed between S1, S2, over the drums as shown. Select the cable termination such that a minimum of fibers or tubes will cross.



To remove the groove plate, push the two snapfits at the S2 UMS-profile and slide the wraparound plate towards the S1 UMS-profile.



4.2 Prepare organizer



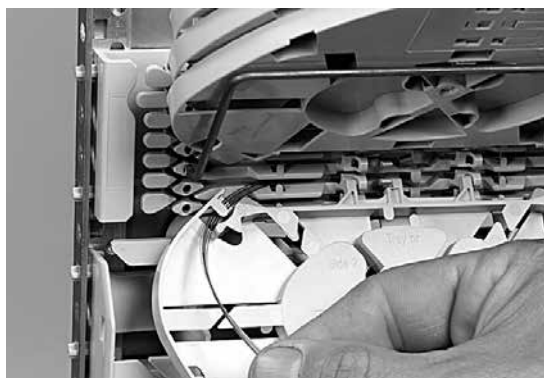
Secure the wraparound groove plate on the UMS by putting the plate with the long protrusions in the S1 UMS-profile and sliding the plate in the S2 UMS-profile until it snaps. (Do not leave gaps between groove plates.)

Place a tray in the wraparound groove plate; do this by pushing the lip on the groove plate (lowest possible position) slightly down with the tray. Move the tray lateral into the hinge-cavities of the groove plate.



To snap the SLE tray in the W/a single fiber groove plate leave one hinge facility open between FAS block or previous tray and the SLE-tray (this tray is thicker than the SC tray and uses 2 units (hinge positions) on the groove plate instead of 1).

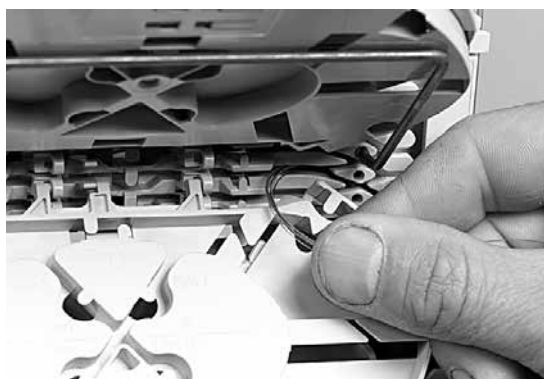
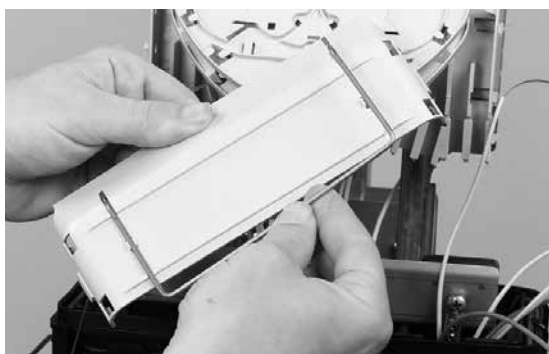
To remove the tray: put the fiber guiding pin between lip on wraparound groove plate and tray, and move lateral towards S1.



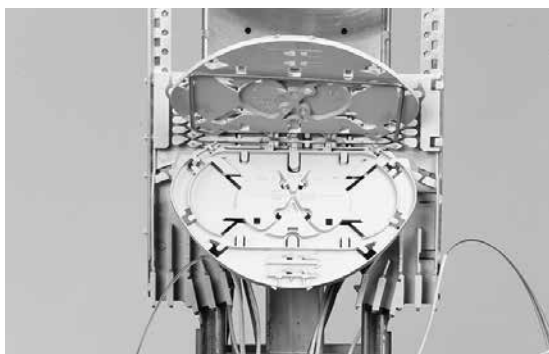
Route the fiber in the grooves of the wraparound groove plates to the entrance of the identified tray.

Note: Fiber must be routed in the groove underneath the hinge of the tray!

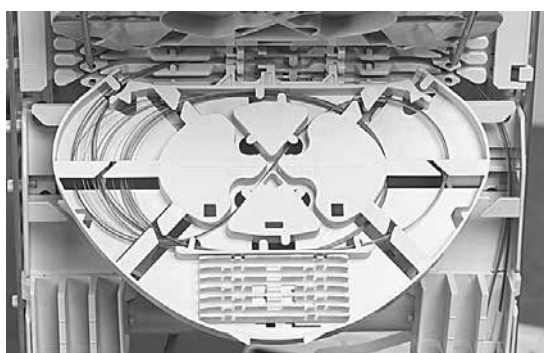
4.3 Fiber routing on the tray (SLE)



Pull gently on the fibers in the tray and make sure that the fibers are well contained in the routing block and wraparound groove plate.



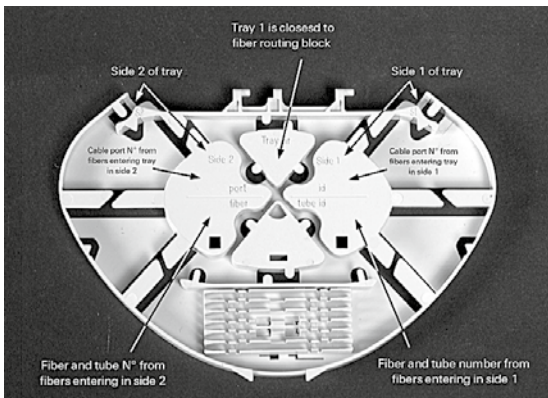
Identify the tray to be worked on and make it accessible. If the routing block and trays are in vertical position, you will have to support the trays above the selected one using the tray wedge which fits in the holes of the wraparound groove plate. Position the wedge carefully such that the groove is still accessible for the fibers and be careful not to push the wedge against fibers. (To remove the wedge, take care it is removed out of the two holes simultaneous.)



Store the fibers temporarily on a tray (picture shows an example of a loopback).

Storing dark fibers can be done in different ways:

1. Organize dark fibers into the different trays.
2. Organize dark fibers together into the first available tray (i.e. with a max. of 24 cut or 12 looped primary coated fibers in one SE-tray).



Routing on the tray is the same for the four types (SC, SE, SLE, Ribbon). Fiber and tube numbering can be done with a permanent marker in the areas as indicated on the image above

Splice per standard practice and store the splice protector centered in the splice holder

4.4 Splice protector

Different splice protectors are available for the different trays, sections below show the different possibilities:

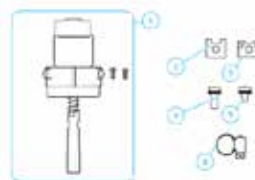


SMOUV in tray

4.5 Optional 1 drop cable 11-14 mm diameter using a FIST-RSKG-1 kit

4.5.1 Kit contents

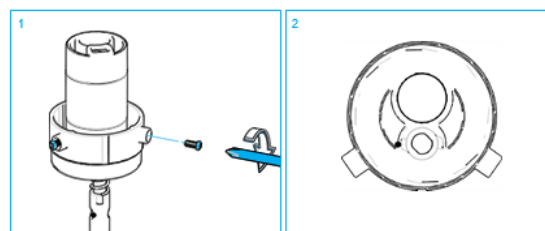
Cable diameter range: 11-14 mm



N° Part description

1	FIST GCO2 RSKG-1 with securing screws
2	Strmbr fixation cap double
3	Strmbr fixation base plate
4	Bolt with star washer M5x14
5	Bolt with star washer M5x10
6	Hose clamp

4.5.2 Install gel seal



Before installing the gel seal in the port, install the 2 securing screws.

Bottom view RSKG 1 OUT.

Note: The lubrication oil in the kit makes it easier to install gel seal in the closure ports



Open the port. The cutting wire can be used. Make sure that the edges are free of burrs. Install the seal in the port, mark line always facing forward. The mark line on the gel seal should match with the mark line on the FIST-GCO2 drop port. (The mark at the FIST-GCO2- FX/EDSA2 should be hidden when the seal is installed).

Tighten the 2 screws and make sure they grip in the port.

Make sure the seal is decompressed before installing a cable.



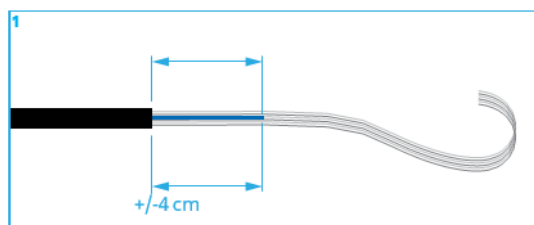
4.5.3 Mark the cable at 150 cm



4.5.4 Slide the cable through the cable port



4.5.5 Prepare cable

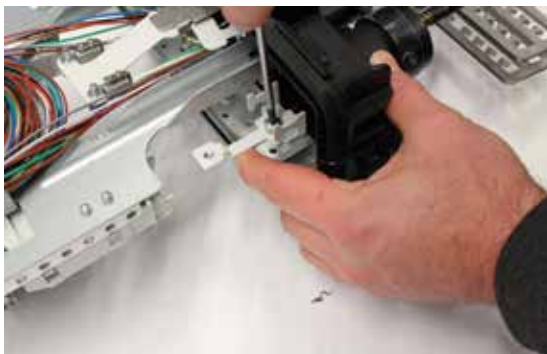


Prepare as per standard practice: remove the outer jacket up to the mark with the correct tooling. Do not damage the loose tube, just remove the outer jacket.



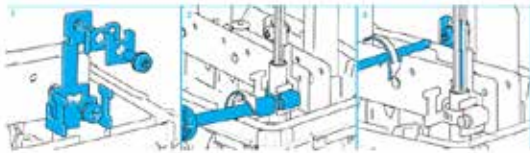


4.5.6 Install the bracket



4.5.7 Install cable in FC

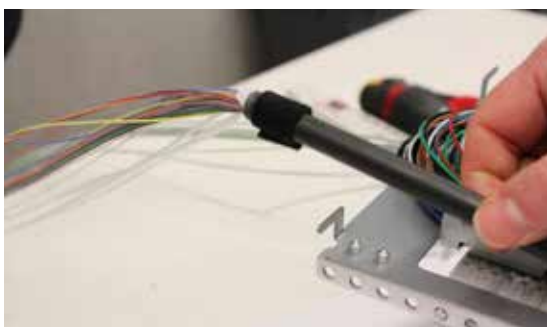
Start with ports 3 and 8

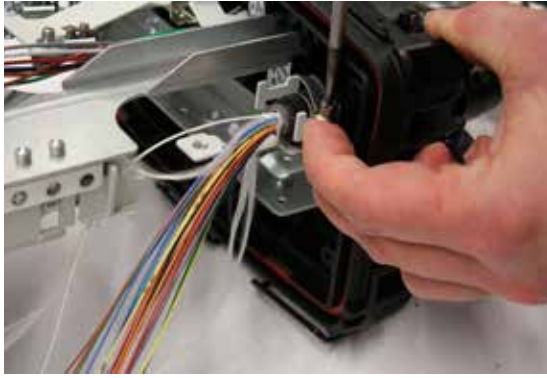


Secure the metal bracket to the frame (use the bottom hole in the frame and select the middle hole in the bracket) with the shortest screw (M5x10).

Secure the cable jacket with the hose clamps at the T shape. Depending on the cable construction felt tape can be applied to protect the cable jacket, make sure the cable jacket is clean and oil free.

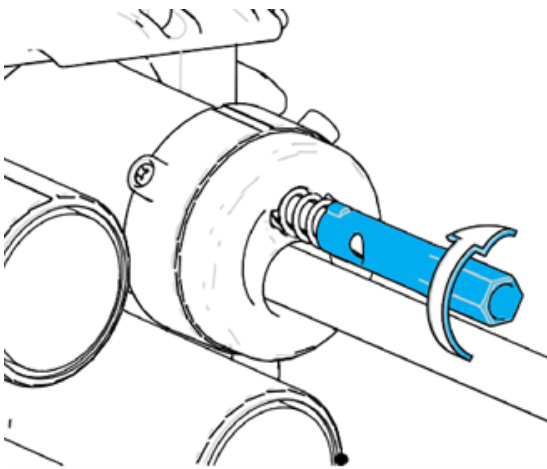
Secure the strength member between the 2 metal plates and tighten the screw. Route the loose tubes as per standard practice.





See 4 fiber routing

4.5.8 Activate mechanism



Engage the seal mechanism by tightening the 'nut' of the central bolt assembly until the spring is no longer visible and the 'nut' is flush with the gland body.

Note: Depending on outside conditions, some oil bleed-out may occur. This will not affect in any way the sealing performance.

4.5.9 Secure cable to the outside bracket



See 3.4.7

5 Closing the enclosure



Closing the latches with a screwdriver.



Remove the outer bag and place the silicagel in the closure. Check that all latches are in an open position. Place the O-ring back on a clean base and place the dome on top of it. Check whether the triangles of dome/base match.

6 Trade-marks

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Contact information

Amadys Belgium	+32 3 202 1650
Sint-Pietersvliet 7	info@amadys.com
2000 Antwerpen	www.amadys.com