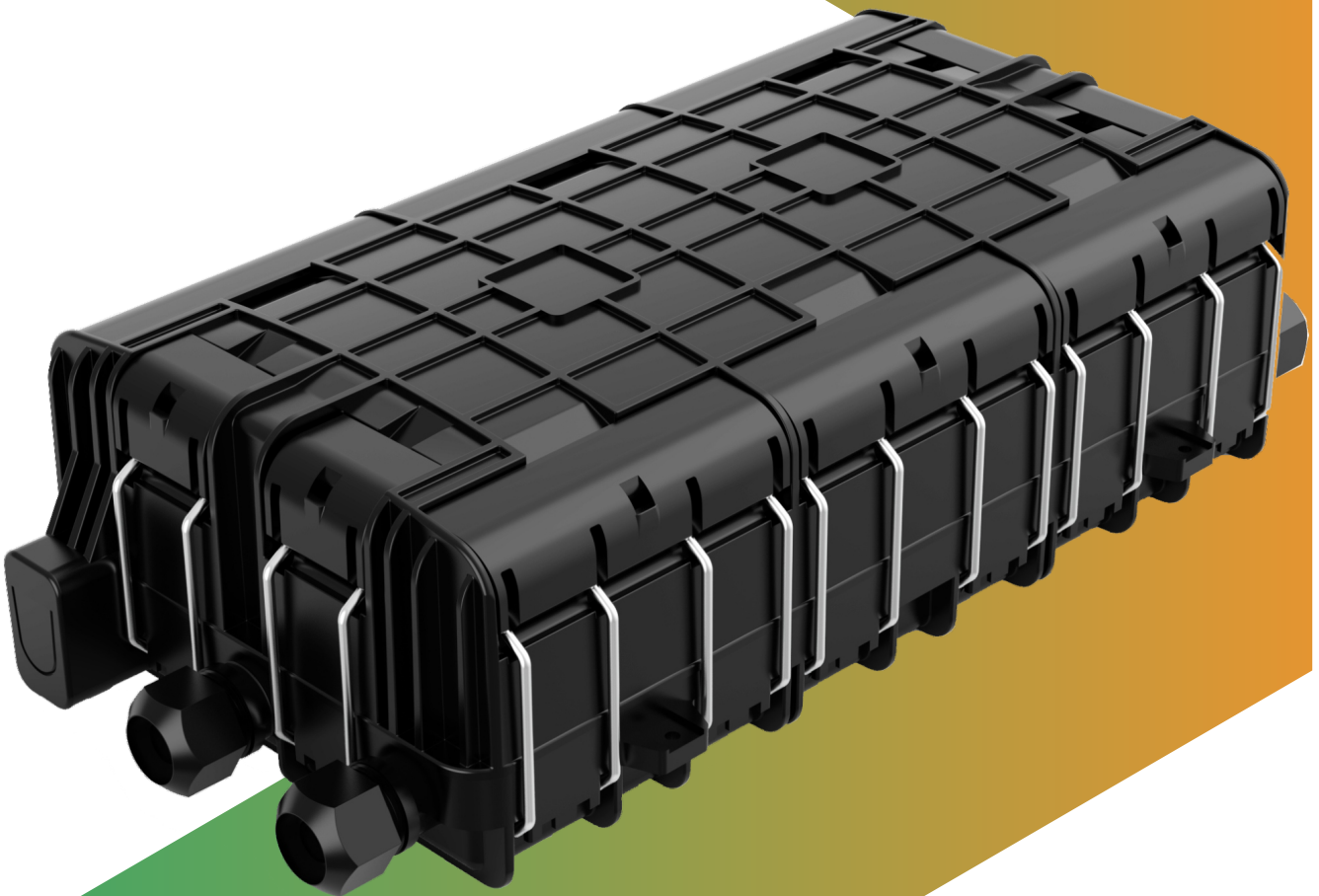


GJS-IV-9012 Fiber Optical Splice Closure Installation Manual

Version:1.0



1. Scope of Application

This Installation Manual applies to the standard product produced by our company- GJS-IV-9012 Type Hafu Type Fiber Optic Splice Closure (Hereafter abbreviated as FOSC), which is made for the correct installation.

The scope of application is: wall mounted, overhead, buried, pipeline manhole and pole installation. The ambient temperature ranges from -40°C to +65°C.

2. Basic Structure and Configuration

2.1 Dimension and Capacity

Outside dimension (L×W×H)	548mm×280mm×150mm
Weight (excluding outside box)	4400g—5050g
Number of Optical Cables In and Out	6
Diameter of fiber cable	Φ 8mm~ Φ 20 mm
Capacity of FOSC	Bundled: 12-144 (Cores)

2.2 Main Components

No.	Name of component	Quantity	Usage	Remarks
1	FOSC cover	1 pc	Protecting fiber cable splices	Inner size: 424 mm×216 mm×89 mm
2	FOSC bottom	1 pc	Fixing the cable, reinforced core and FOST	Inner size: 424 mm×216mm×45mm
3	Fiber optic splice tray (FOST)	Max. 6 pcs (bundled)	Fixing heat shrinkable protective sleeve and holding fibers	Suitable for: Bundled:12-core, 12-24-core tray
4	Plastic gasket	1 set	Protecting elastic seals and preventing bending of fiber optic cables	4pcs inner diameter Ø16.5mm and another 4pcs Φ22mm.
5	Seal fitting	1 set	Sealing between boxes (housings) Sealing of fiber optic cable inlet/outlet ports	1 set of small sealing ring with inner diameter of Φ 12.5mm and Φ 21mm, 1 shell sealing ring
6	Ground deriving device	1 set	Deriving metal components of fiber cable in FOSC for earthing connection	Configuration as per customers' requirement

2.3 Main Accessories and Specialized Tools

No.	Name of accessories	Quantity	Usage	Remarks
1	Heat shrinkable protective sleeve		Protecting fiber splices	Configuration as per capacity
2	Nylon tie		Fixing fiber with protective coat	Configuration as per capacity
3	Hanging hook	1 set	For aerial application using	To actual choice
4	Wall-mounting bracket	1 set	For wall-mounting application using	To actual choice
5	Specialized wrench	3 pieces	For nuts (plastic) for mounting inlet and outlet tubes, etc.	
6	Ground wire	1 piece	Connectivity between grounding devices	Connect when needed
7	Labeling paper	1 piece	Labeling fiber	
8	Desiccant	1 bag	Being put into FOSC before sealing for desiccating air.	
9	Fiber Optic Protection Plastic Tube	Customized length	Fixed with fiber optic splice tray to provide cushioning	Configuration as per requirement

3. Necessary Tools for Installation

3.1 Auxiliary Material (to be provided by operator)

Name of materials	Usage
Scotch tape	Labeling, temporarily fixing
Ethyl alcohol	Cleaning
Gauze	Cleaning

3.2 Specialized Tools (to be provided by operator)

Name of tools	Usage
Fiber cutter	Cutting off fibers
Fiber stripper	Strip off protective coat of fiber cable
Assembly Tools	Assembling FOSC

3.3 General Utility Tools (to be provided by operator)

Name of tools	Usage and specification
Tape measure	Measuring fiber cable
Pipe cutter	Radial cutting of optical cable

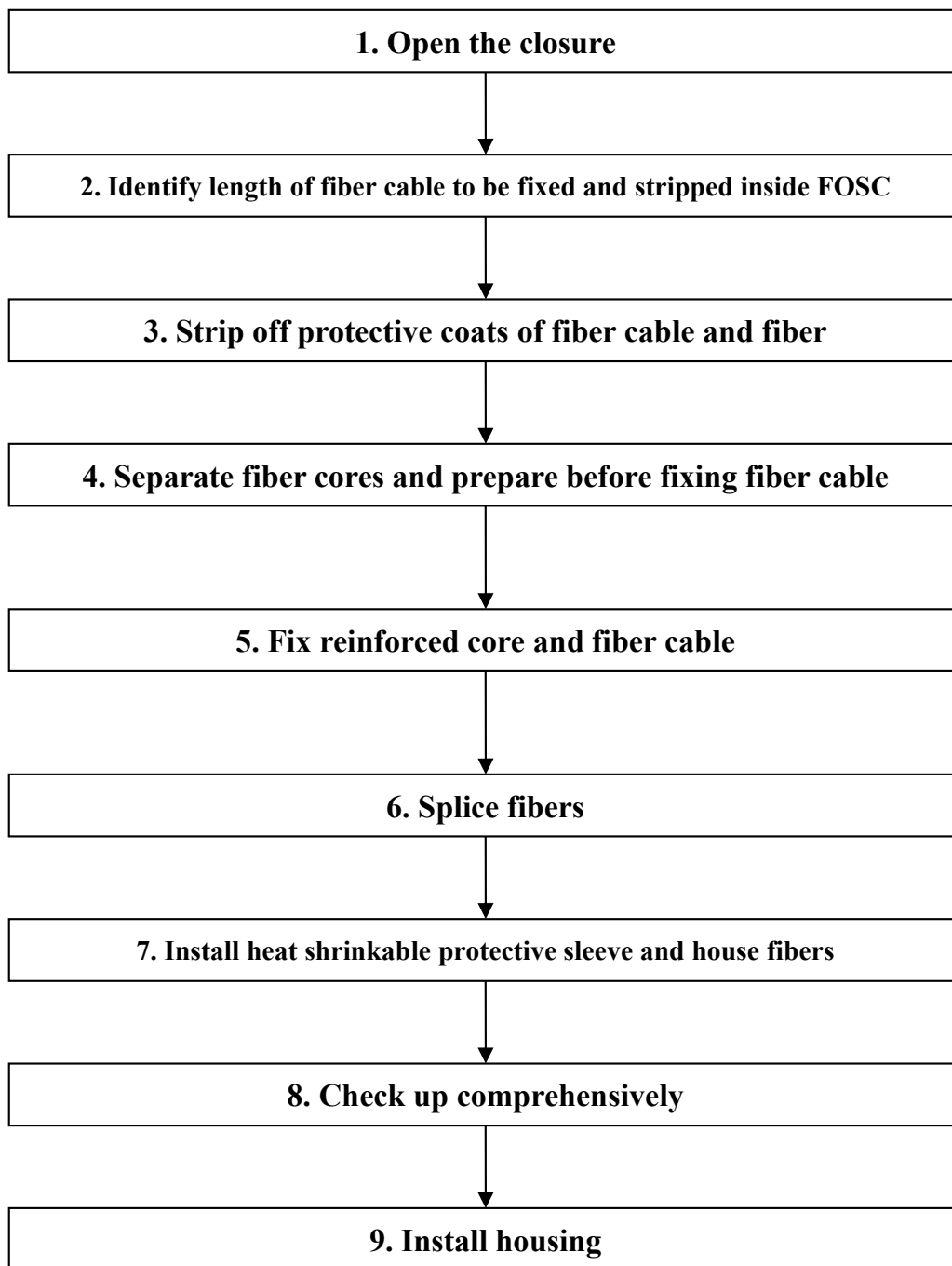
Electrical cutter	Peeling off protective coat of fiber cable
Combination pliers	Cutting off reinforced core
Screwdriver	Crossing/Slot type screwdriver
Scissor	
Waterproof cover/Tarpaulin	Waterproof, dustproof
Metal wrench	Tightening nut of reinforced core

3.4 Splicing and Testing Instruments/Meters (to be provided by operator)

Name of instruments	Usage and specification
Fusion Splicing Machine	Fiber splicing
OTDR	Splicing testing
Provisional splicing tools	Provisional testing

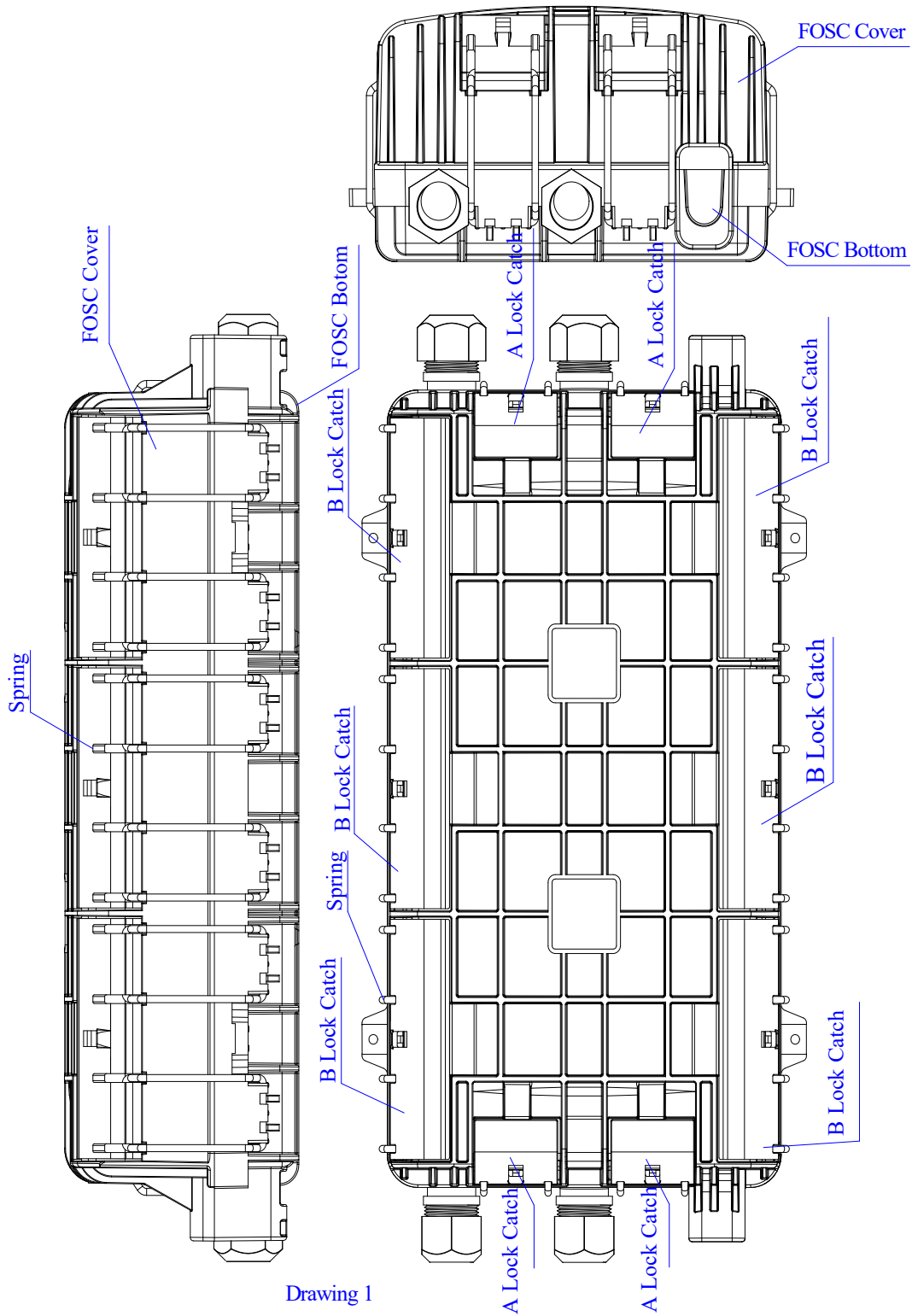
Notice: The above installation, splicing, and testing instruments/meters are provided by the construction agent.

4. Installation flow chart



5. The process of installing FOSC

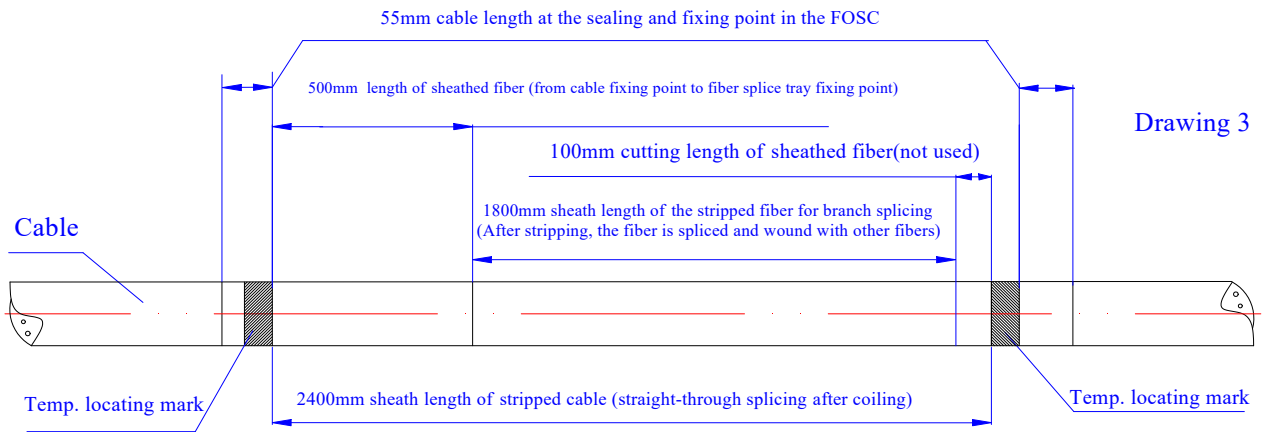
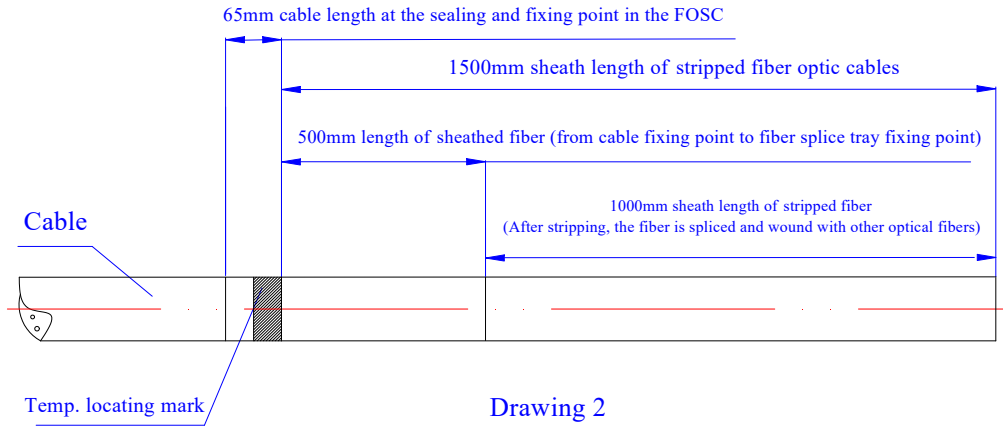
Assembly Process	Work Content	Note
5.1 Opening the closure	<p>1. Clean up the field, determine the installation location of the closure and arrange the cables to be installed.</p> <p>2. Check the accessories in the package.</p> <p>3. Opening the closure housing: Use one-line shape wrench to open the 10 fixed lock catches on the housing, and without removing the latch assembly, you can open it.</p> <p style="text-align: center;">See drawing 1</p>	<p>In case of bad weather conditions, tents should be erected to form waterproof and dustproof environment for the closure.</p>



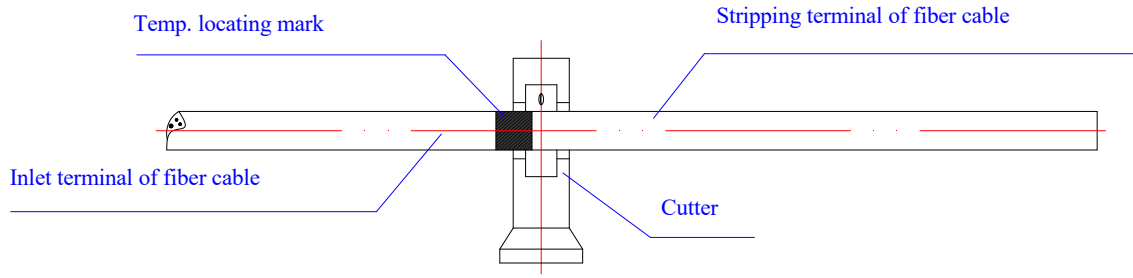
Drawing 1

Assembly Process	Work Content	Note
5.2 Identifying length of fiber cable	①. All optical fibers in the splice closure are used for branch splicing. See Drawing 2 for the stripping length of optical cable. ②. Some optical fibers in the splice closure are used for	1.Sufficient length of cable to be spliced shall be reserved. 2.Carefully determine the

to be fixed and stripped inside FOSC	straight-through splicing, and some of them are needed to be cut off and then used for branch splicing. See Drawing 3 for the stripping length of optical fiber cable.	stripping length. 3.Stripping length also could be decided by customers according to installation requirement.
--------------------------------------	---	---

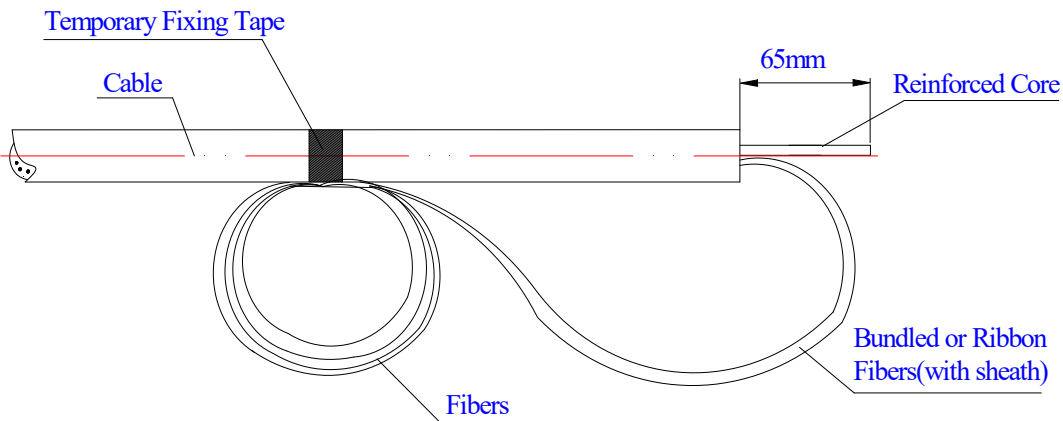


Assembly Process	Work Content	Note
5.3 Stripping optical cables, optical fiber sheaths	Strip according to the temporary locating mark, and strip the outer sheath of the cable by pipe cutter and longitudinal stripper. Stripping length is shown in drawing 2 and 3. The length can also be determined by the actual situation. See drawing 4.	Stripping should be done without breaking the fiber, and can be done in sections if there are difficulties.



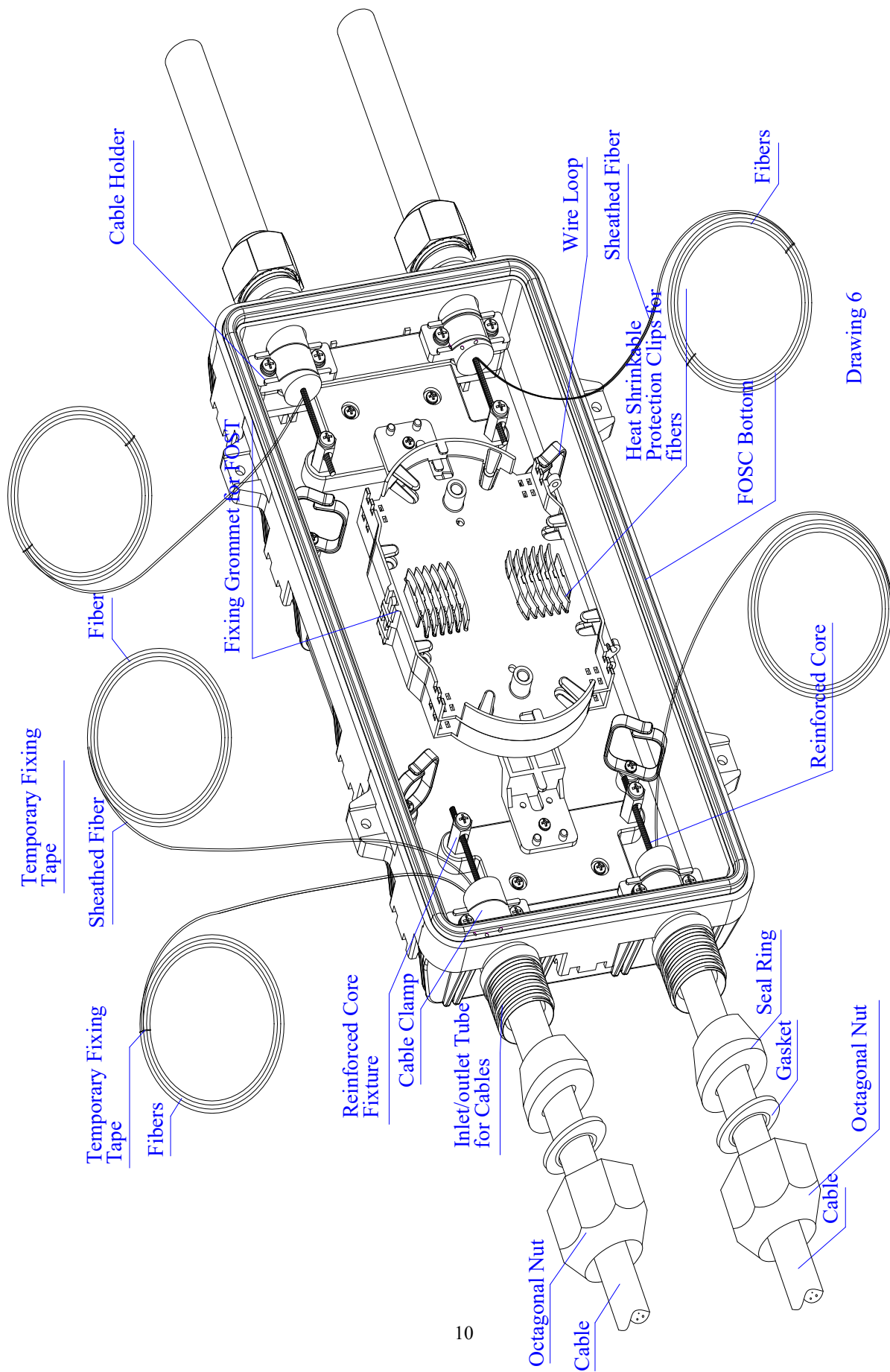
Drawing 4

Assembly Process	Work Content	Note
5.4 Separating the cable core and preparing well before fixing the optical cable	<p>1. Wrap two layers of transparent tape on the sheath of the cable core for protection; remove the filler in the optical fiber unit at the same time to separate the cable core, then wipe it clean; wind the optical fiber into a fiber ring with a diameter of about 100mm, and temporarily fix it on the optical cable with tape.</p> <p>2. The standard configuration of this closure is 6 optical cable inlet/outlet fixtures, each of which can inlet and outlet optical cables with a maximum diameter of Φ 20mm.</p> <p>3. Leave a 65mm reinforced core and cut off the excess.</p> <p style="text-align: center;">See drawing 5</p>	Cut the reinforced core with specialized wire cutters to prevent damage to other pliers.



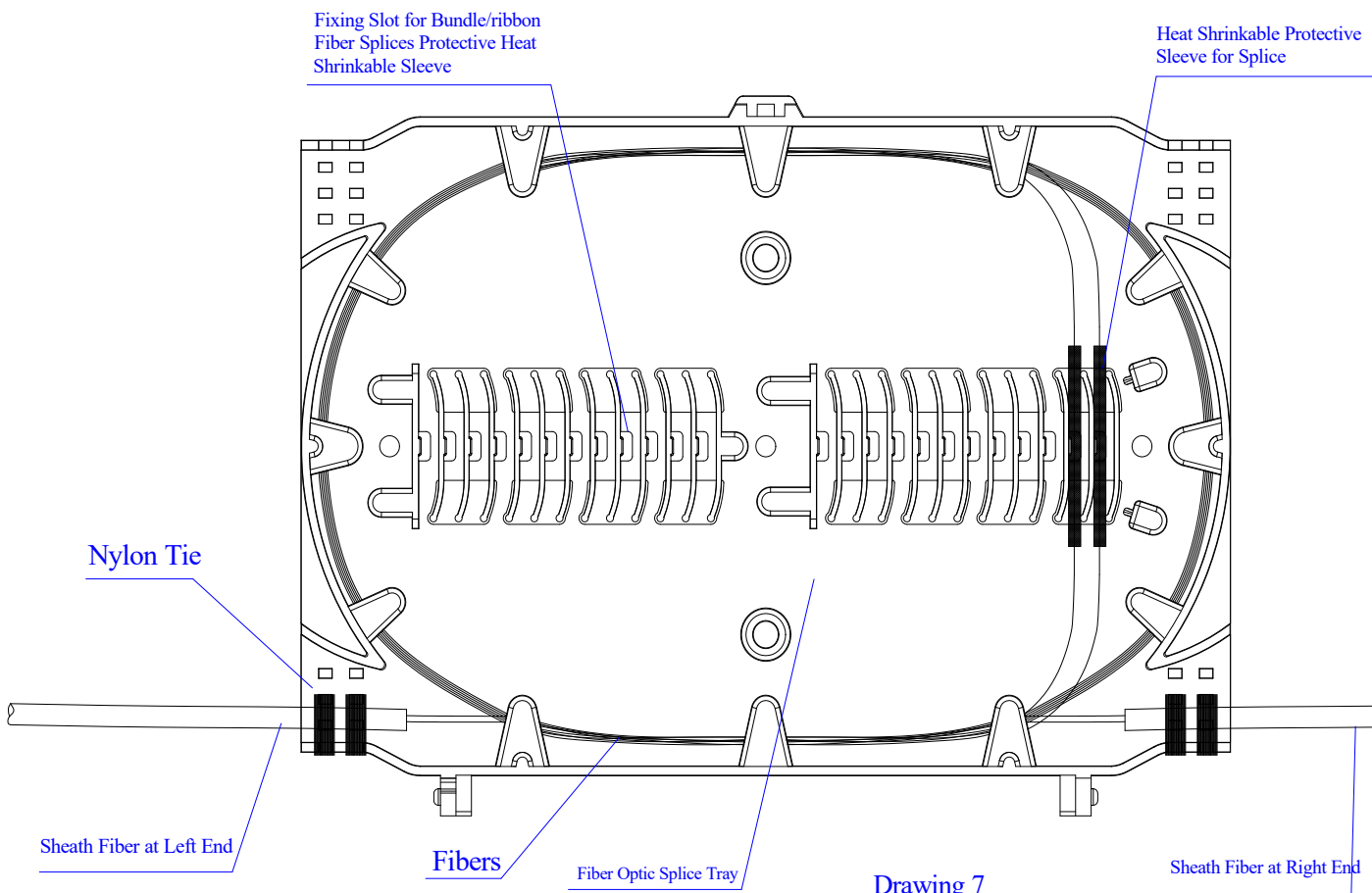
Drawing 5

Assembly Process	Work Content	Note
5.5 Fixing reinforced core and fiber cables	<p>1. After identifying the number of optical cables in and out, the user should remove the nuts, plastic gaskets and sealing rings on the corresponding optical cable inlet/outlet pipes according to the diameter of the actual installed optical cables. Thread the optical cables having been through them(nuts, plastic gaskets and sealing rings) into the inlet/outlet pipes and tighten them with hexagonal nuts.</p> <p>2. Fix the optical cable in the cable fixing device (increase the outer diameter of the cable with insulation tape appropriately when the diameter of the cable is small), and then fix the reinforced core in the reinforced core fixing device.</p> <p style="text-align: center;">See drawing 6.</p>	<p>Areas where the diameter of the fiber optic cable is increased with insulation tape should be polished with an abrasive cloth and then washed with alcohol to remove the dust.</p>



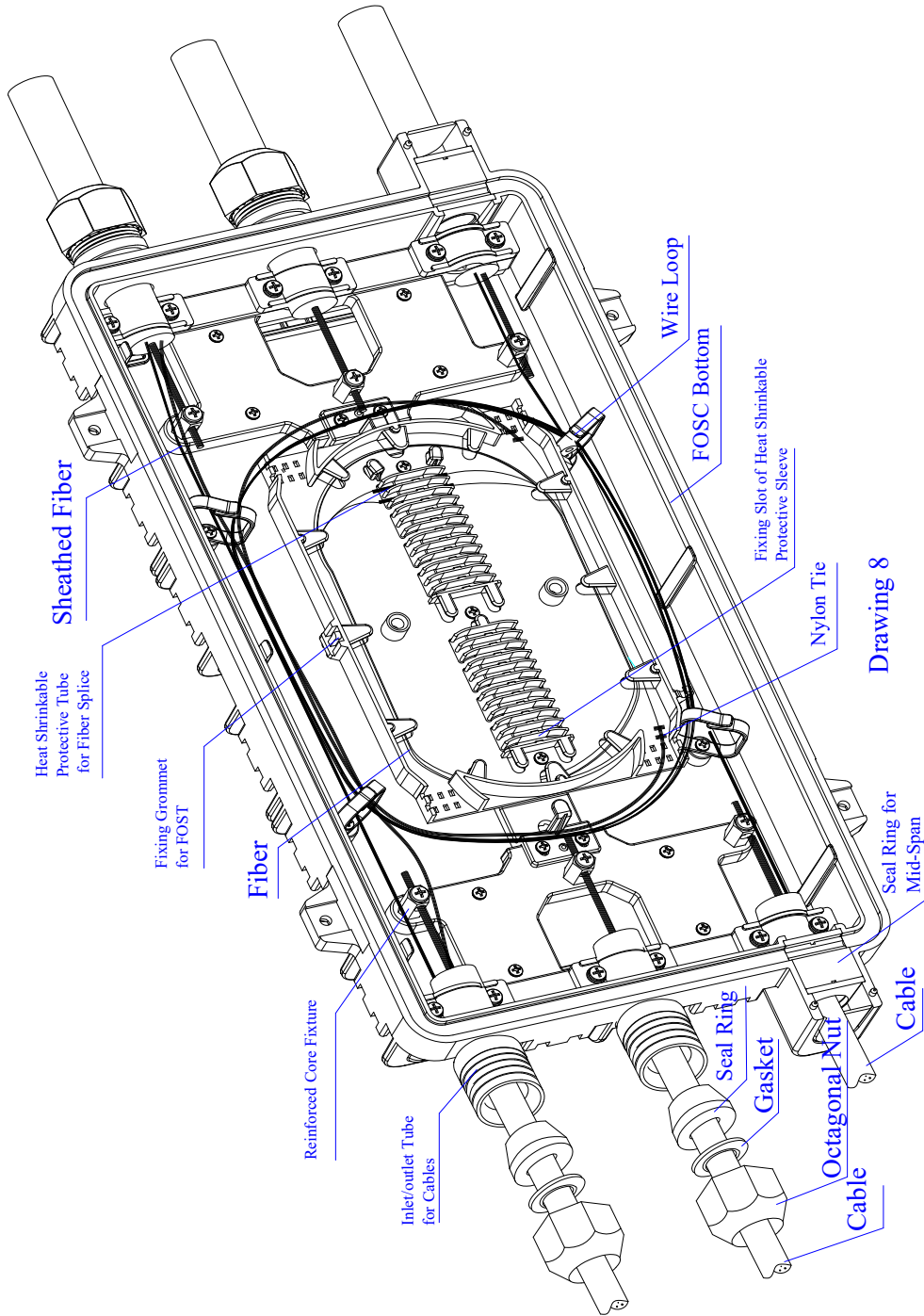
Drawing 6

Assembly Process	Work Content	Note
5.6 Splicing fibers	Refer to instructions for fusion splicer.	Before splicing, the direction of the fiber should be straightened out, and pay attention to local bending and twisting.
5.7 Installing heat shrinkable protective sleeve and housing fibers	<p>After completing splicing the fibers, when housing fibers, the first fiber ring should be housed on the outermost side of FOST, and the remaining fiber should be winded, forming a ring with diameter not less than 80mm. Then put the ring into FOST (Fiber Optic Splice Tray) together with protective heat shrinkable sleeve for splice. (Firstly fix heat shrinkable protective sleeve into the slot, then expand the diameter of the fiber ring that has been put in place to the appropriate position.)</p> <p style="text-align: center;">See drawing 7.</p>	Pay attention to local bending and twisting.

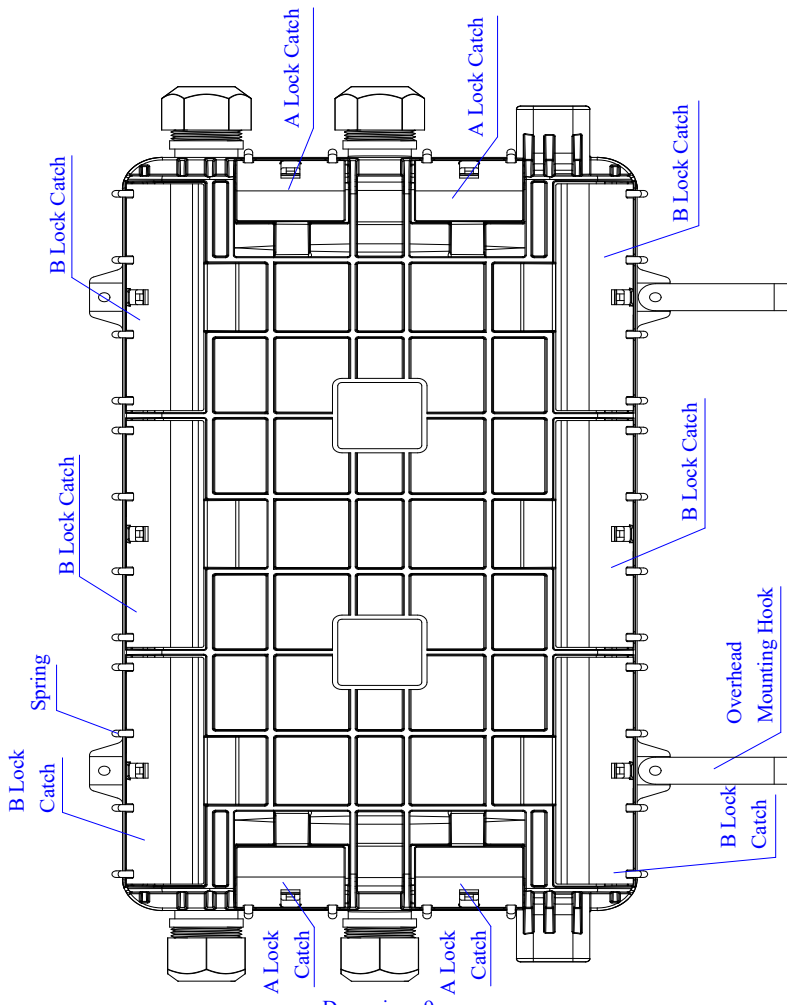


Drawing 7

Assembly Process	Work Content	Note
5.8 Checking up comprehensively	<ol style="list-style-type: none"> 1. Sheathed fibers should be secured with a cable tie at the entrance to the Fiber Optic Splice Tray. 2. The tray grommets inside the fiber optic splice tray should be pressed tight in order from the inside to the outside. 3. Check the internal fasteners for tightness and tighten the reinforced core screws one more time. 4. The integrated sealing components should be placed flat, and if there is unevenness, it should be adjusted and flattened in time. <p style="text-align: center;">See drawing 9</p>	



Assembly Process	Work Content	Note
5.9 Assembling FOSC housing	<p>1.Put the cover on the bottom of the closure first, and then fasten the plastic lock catch one by one according to the following drawing to seal the closure box body.</p> <p>2.Octagonal nuts for cable inlet/outlet ports should also be tightened.</p> <p>3.Users can choose wall-mounted or overhead installation according to the actual situation:</p> <p>①If you need to install it on the wall, you should first fix the wall mounting kit on the corresponding mounting hole at the bottom of the closure with screws, and then fix the closure on the wall or inner wall with expansion screws.</p> <p>②If you need to install it overhead, you should first fix the overhead hook on the corresponding mounting hole at the bottom of the closure with screws, and then fix the closure on the steel strand.</p> <p style="text-align: center;">See drawing 9</p>	Clean the outer shell and tighten the springs in order when installing them.



Drawing 9

Accessories List for GJS-IV-9012 Fiber Optic Splice Closure

NO.	Names	Unit	Quantity	Usage	Requirements
1	Closure Lid	pc	1	Integral protection of fiber optic splices	
2	Closure Bottom	pc	1	Fixing cables, reinforced cores, and splice trays	
3	Bracket	pc	1	Fixing the splice tray	
4	Cable Fixture	pc	According to actual requirements	Fixing cables	Same number of incoming and outgoing cables
5	Reinforced Core Fixture	pc	According to actual requirements	Fixing reinforced core	Same number of incoming and outgoing cables
6	Desiccant	bag	2	Being put in the closure before sealing to purify the air and dehumidify.	
7	Splice Tray	pc	According to actual requirements	Fixing protective heat shrinkable tubes for fiber optic splice and storing fibers	
8	Tray Cover	pc	1	Covering on the top splice tray	
9	Transparent Cover for Trays	pc	According to actual requirements	Preventing fiber optic ejection	One less than the number of splice trays
10	Elastic Sealing Ring	pc	According to actual requirements	Sealing cable inlet/outlet ports	
11	Plug	pc	According to actual requirements	Sealing cable inlet/outlet ports	
12	Washer	pc	According to actual requirements	Sealing cable inlet/outlet ports	
13	Heat Shrinkable Sleeve	pc	According to actual requirements	Protecting fiber optic splice points	L=60mm per 12 heat shrinkable sleeves configured in 13 pieces
14	Tie for bundle tube	pc	According to actual requirements	Fixing sheathed optical fiber	4 per splice tray
15	Sponge gaskets	pc	According to actual requirements	Cover above the clamp slot of the heat shrinkable sleeve to prevent the heat shrinkable sleeve from falling out	2 pieces per splice tray

16	Velcro tie	pc	2	Lashing splice tray to avoid damage caused by bumps during transportation	
17	Lap Joint Wire and Ground Cable	pc	1	Internal metal components connectivity and grounding of metal parts in optical cables	1 piece each
18	Specialized Label Paper	sheet	According to actual requirements	Labeling fibers	1 sheet per splice tray
19	Fiber Carrying Tube for Single-core Fiber	meter	6	Protecting optical fiber and acting as a buffer	
20	Insulation Tape	roll	1	Increasing the diameter of the cable to better secure the cable jacket	When the diameter of the fiber optic cable is slightly smaller than the range of the holder
21	Sealing Tape	roll	1	Increasing the diameter of the optical cable to fit the inner diameter of the sealing ring to ensure the sealing effect of the optical cable and closure	When the diameter of the cable is slightly smaller than the range of the sealing ring
22	Housing Sealing Tape	pc	1	Sealing FOSC cover and bottom	