# Fiber Optic Splice Closure


# GPJ09-5603


# Instruction Manual

# 1. Applications

GPJ09-5603 type of Fiber Optic Spice Closure is a kind of cable connective equipment with multiple purposes, which can connect and branch cables. The closure has 5 cable entrances, 4 entrances used for installation of cut cable; one oval entrance is used for uncut cable. It is suitable for aerial, wall-mounting, pole mounting and so on. We always aim to the R&D of communication equipment. Our fiber optic splice closures are best choice to ensure your transmission quality.

# 2. Specifications

| Size（mm）H×D | 450×Φ230 | Maximum Capacity(cores) | 96 single fibers |
|---|---|---|---|
| Weight（kg） | 3.80-4.20 | Airproof type | Mechanical |
| Entrances | 5 | Capacity of Tray | 12 |
| Suitable cable diameter（mm） | Φ8～Φ17.5 | | |
| Number of trays | 8 | | |

# 3. Structure and Components

3.1 Pictures of fiber closure and its components as Pic.1
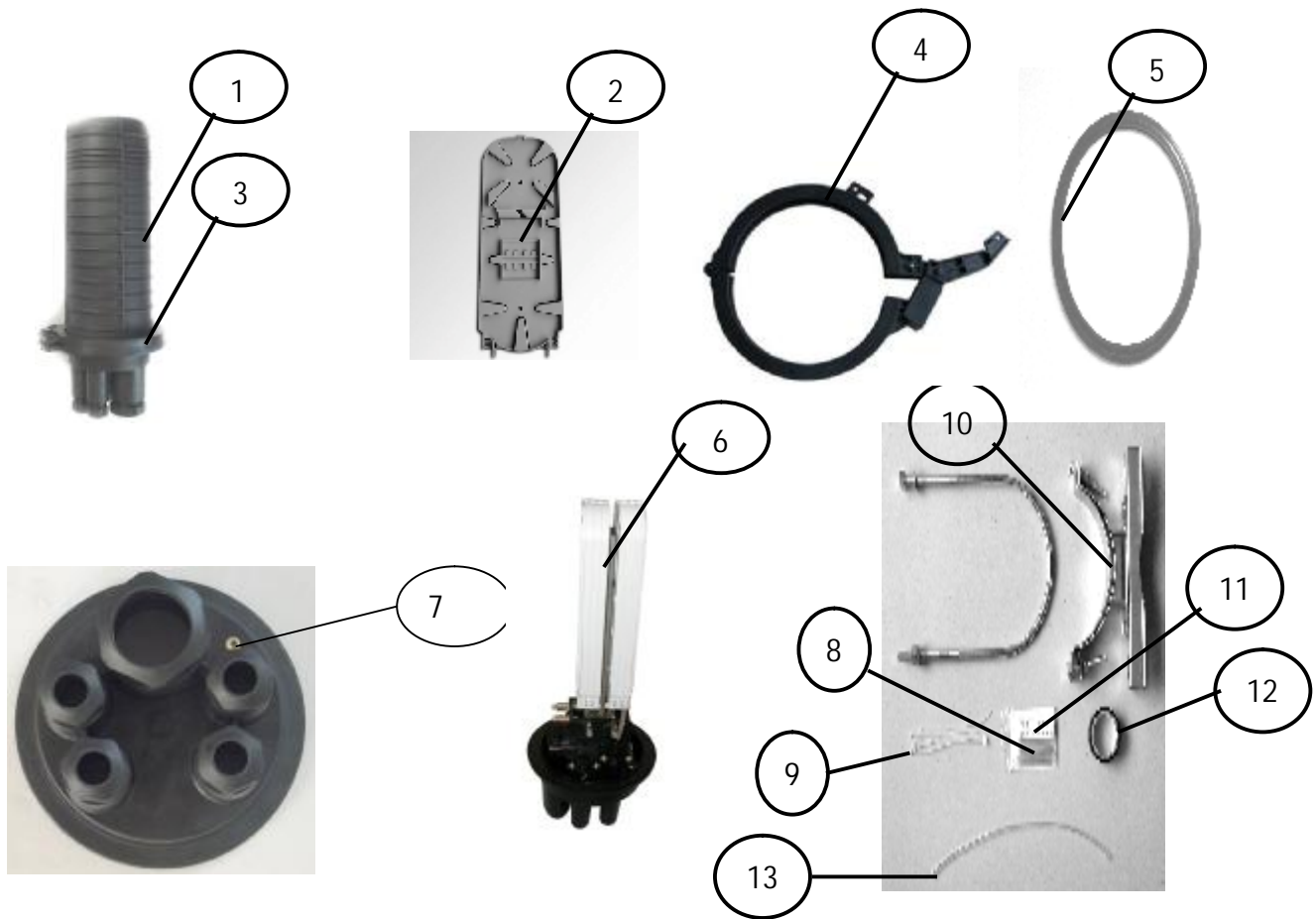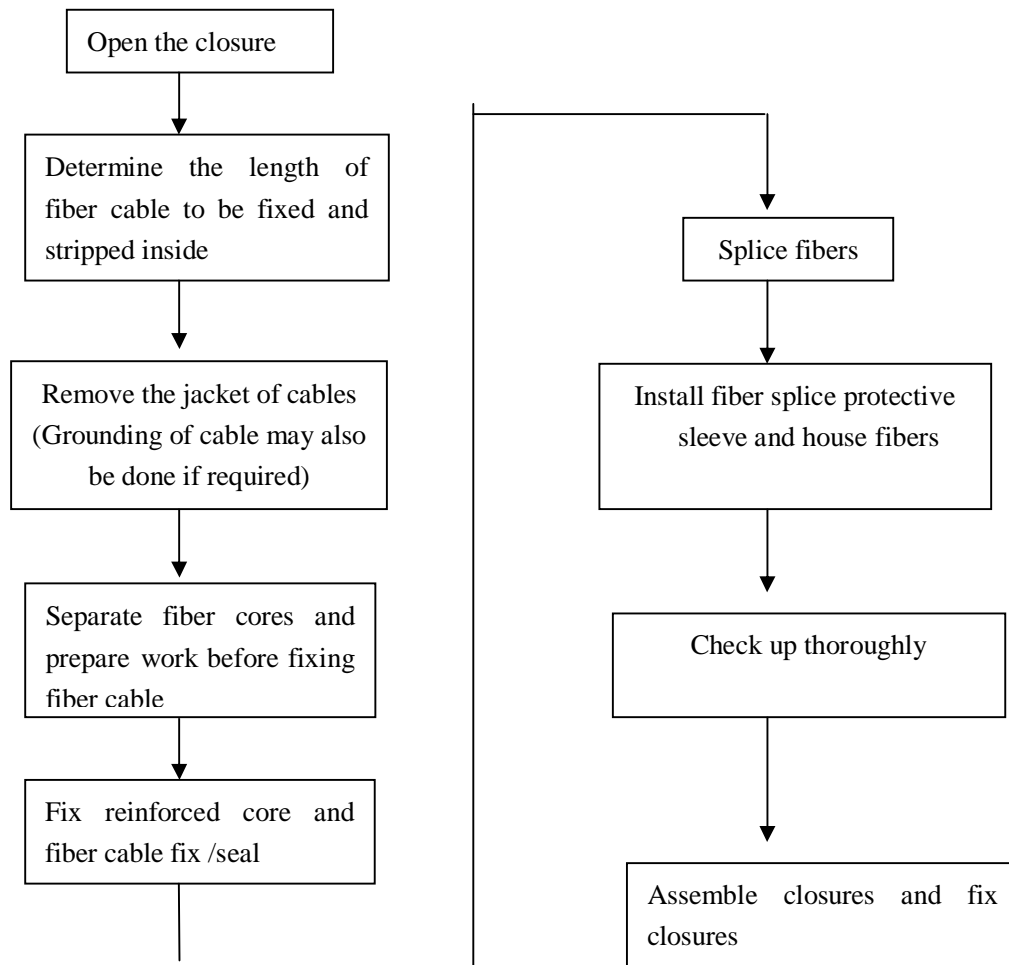


Pic.1

## 3.2 Accessories

### 3.2.1 Main components

| Number | Name | Quantity | Marks |
|---|---|---|---|
| 1 | Cover | 1 piece | Height × Diameter(mm)：350×Φ175 |
| 2 | Fiber splice tray | 1 set | Fiber splicing and storage |
| 3 | Base | 1 set | Fixing internal part and external part |
| 4 | Plastic hoop | 1 set | Fixing bottom and cover |
| 5 | Sealing gasket | 1 piece | Waterproof of bottom and cover |
| 6 | Fixing sheet for tray | 1 set | Fixing the splice tray and storing uncut cable |
| 7 | Grounding device | 1piece | Metal parts grounding |

### 3.2.2 Accessories and tools

| Number | Name | Quantity | Application |
|---|---|---|---|
| 8 | Splice Protective Tube (steel core Φ1.0) | Core no. + 10% | Fiber fusion and protection |
| 9 | Nylon tie | Tray no.×3 | Fixing fiber with protective coat |
| 10 | Pole hoop | 1 set | Fixing for closure on pole |
| 11 | Labeling paper | 1 piece | Fiber number mark |
| 12 | Insulating tape | 1 piece | The fixing part assistant |
| 13 | EVA transparent hose | 1 piece | Protect fiber |

# 4. Installation flow chart

```
┌─────────────────────┐
│   Open the closure  │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│ Determine the length of │
│ fiber cable to be fixed and │        ┌─────────────────────┐
│ stripped inside     │                │   Splice fibers     │
└─────────────────────┘                └─────────────────────┘
          │                                      │
          ▼                                      ▼
┌─────────────────────┐                ┌─────────────────────┐
│ Remove the jacket of cables │        │ Install fiber splice protective │
│ (Grounding of cable may also │       │ sleeve and house fibers │
│ be done if required) │                └─────────────────────┘
└─────────────────────┘                         │
          │                                      ▼
          ▼                              ┌─────────────────────┐
┌─────────────────────┐                 │  Check up thoroughly │
│ Separate fiber cores and │            └─────────────────────┘
│ prepare work before fixing │                  │
│ fiber cable         │                          ▼
└─────────────────────┘                 ┌─────────────────────┐
          │                             │ Assemble closures and fix │
          ▼                             │ closures            │
┌─────────────────────┐                 └─────────────────────┘
│ Fix reinforced core and │
│ fiber cable fix /seal │
└─────────────────────┘
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# 5. Installation Direction

## 5.1 Cable installation

5.1.1 Mark the cutting point on the cable, generally, the length of stripping is about 180cm. The stripped of uncut cable show as Pic.2.
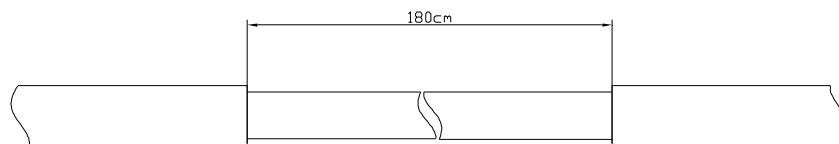


Pic.5-1

5.1.2 Remove the unnecessary cable sheath from the marked point with a sheath stripper

*Note1. Be sure not to damage the fiber.*

*Note2. Do not use any damaged cable.*

*Note3. While remove the cable sheath, please do not cut, twist or damage fiber coat. Cut the damaged fiber cable and strip the sheath again in case an accident happened.*

5.1.3 Cut off the extra steel core about 3-4cm from the removing point on the sheath. The length depends on the distance from fiber fixed press button to steel core fixing pole. Suggested size as Pic.5-2,Pic.5-3and Pic5-4:

Position1 needs to reserve steel core 3.5cm; Position2 needs to reserve steel core 4.5cm; Position3 needs to reserve steel core 3cm; Position4 needs to reserve steel core 4.5cm.(Position3 and position4 are uncut cable)
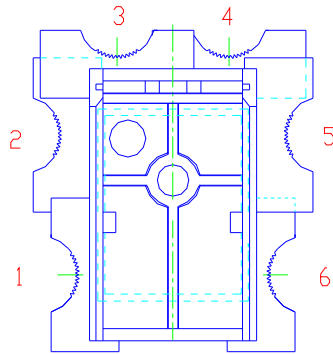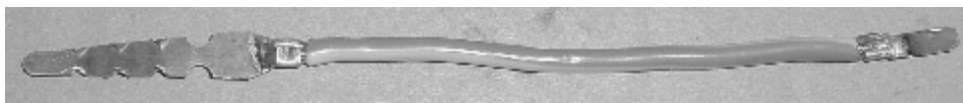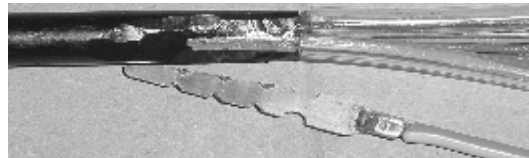


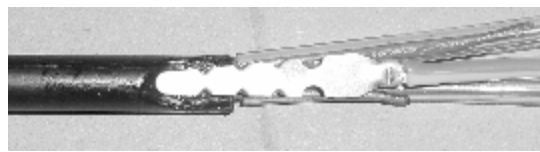| Pic.5-2 | Pic.5-3 | Pic.5-4 |

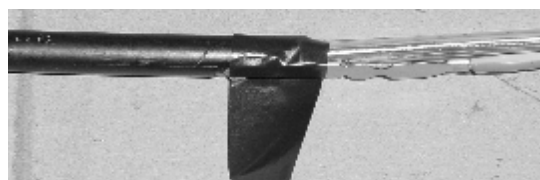## 5.1.4. Installation of grounding wire for armor cable



| 1. Press one end of the grounding wire of armor cable(tooth-like) tightly with the metal part of the cable; |  |
|---|---|
| 2. Wrap around the contact part (the grounding wire & the metal part of cable) with black insulation tape to fix the grounding wire firmly; |  |
| 3. Loose the nut at the top of the fixing bolt, put the connector at one end of the grounding wire & the strength member of cable through the hole of the fixing bolt (please refer to the picture on the right); |  |
| 4. Tighten the nut to ensure the strength member of cable and the grounding wire are fastened firmly to the closure. |  |
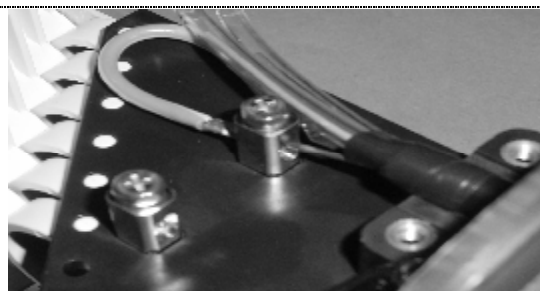
5.2. Installation of fiber closure

5.2.1. Check the specified type and all accessories of the closure

5.2.2. Fix the closure to the fixing bracket (Picture 5-5)
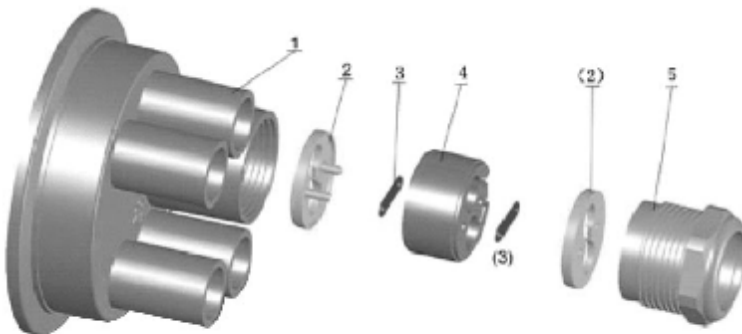


Picture 5-5

5.2.3. Open the fiber closure

Unlade the locked device on plastic hoop, open the plastic hoop to separate the cover and bottom, take out the seal gasket.
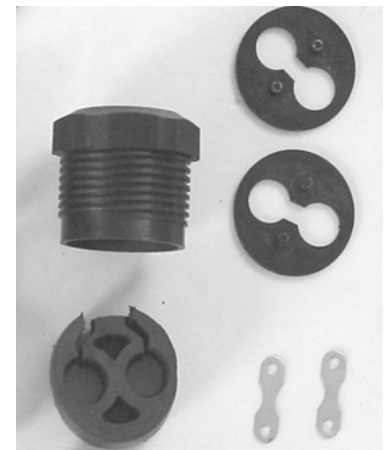
*Note. Please be careful when separating the cover and bottom so as not to damage the closure because of the excellent sealing performance (closure sealed too tight).*

5.2.4. The inlet of uncut cables

5.2.4.1. Pictures of components used for the big port



Picture 5-6



Picture 5-7

## 5.2.4.2. List of components for the big port

| Number | Part No. | Name | Qty | Material | Application |
|---|---|---|---|---|---|
| 1 | GPJ09L5-BJ-01 | Splice Closure Base | 1 set | PP | Fixing internal and external structures |
| 2 | GPJ09L5-BJ-01-4 | φ52 blocker | 2 Nos. | Stainless steel | Used for seal of uncut cable.(*Cable diameter >φ12)* |
| 3 | GPJ09L5-BJ-01-5 | Connective blocker | 2 Nos. | Stainless steel board | |
| 4 | GPJ09L5-BJ-01-6 | φ52 cable seal gasket | 1 No. | Silicon | |
| 5 | GPJ09L5-BJ-3 | M55 NUT Hexangular | 1 No. | PP | |

## 5.2.4.3. Installation Steps of the big port

i. Screw down the plastic bolt of the big port; thread the cables through the M55 NUT Hexangular, φ52 blocker, φ52 cable seal gasket, φ52 blocker subsequently. (Picture 5-8 as below)
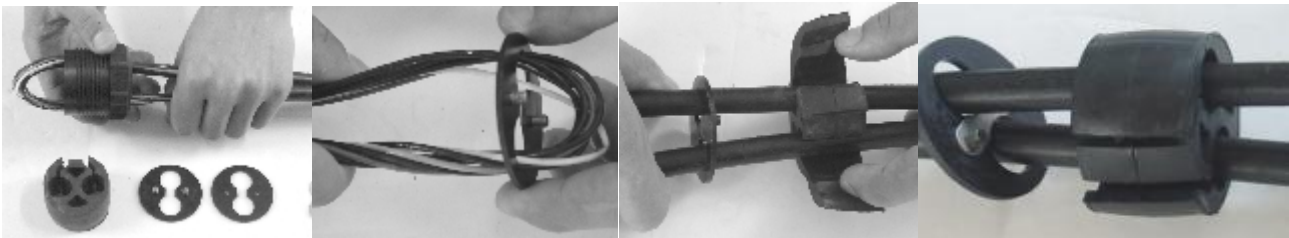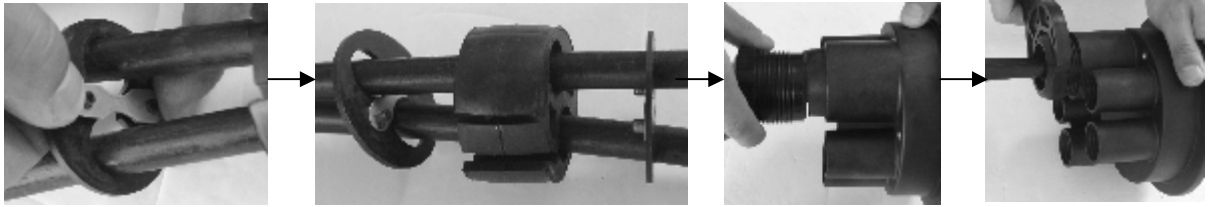


Picture 5-8

ii. Thread cable through the big port into the closure.

iii. Loosen the nut at the top of steel core fixing bolt and put the strength member through the retained hole of the fixing bolt.

iv. Take down two sets of cable pressed button and fix the cable on the bracket;

*Note: Pay attention to cables during operation.*

v. Cable sealing

Connect the two Connective blocker with the two φ52 blocker (thread the two protruded poles on the φ52 blocker through the two holes on the Connective blocker) and then press the φ52 blocker and the Φ52 cable seal gasket into the big round cable port, and tighten the M55 NUT Hexangular with a spanner *till it's fasten enough so that the seal gasket and the cables are sealed perfectly together.*
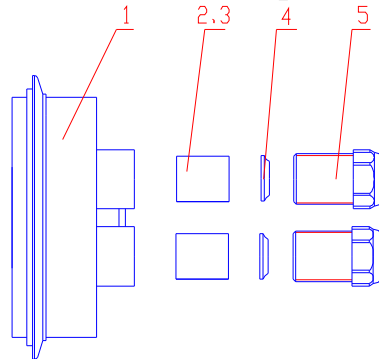
Picture 5-9

*Note: Make sure to tighten the hexangular bolts subsequently according to numbers in the following picture due to the limitation of space (picture 5-9)*
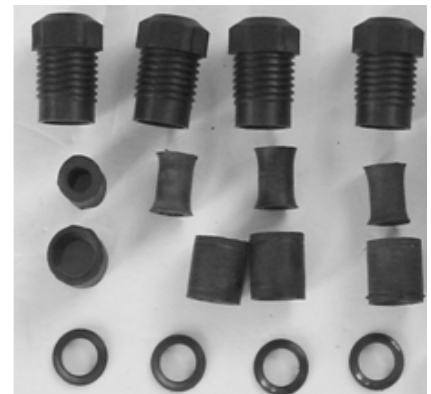
### 5.2.5. Inlets of 4 small cable ports

### 5.2.5.1. Pictures of components for small cable ports (Picture5-11 & Picture5-12)
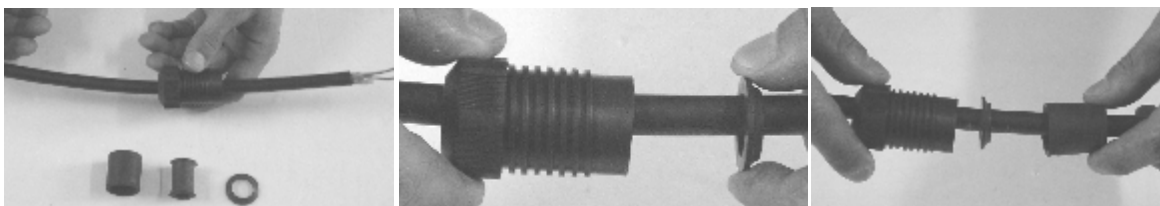


| Picture5-10 | Picture5-11 | Picture5-12 |

### 5.2.5.2. List of components for small cable ports

| Number | Part No. | Name | Quantity | Material | Application | |
|--------|----------|------|----------|----------|-------------|---|
| 1 | GPJ09L5-BJ-01 | Splice Closure Base | 1 set | PP | Fixing internal and external structures | |
| 2 | GPJ09L4-B-06-2 | 09L4 seal ring | 4 Nos. | Silicon | | Used for seal of cable |
| 3 | GPJ09L4-B-06-3 | 09L4 inner seal ring (dia 8-12mm) | 4 Nos. | Silicon | Using when cable diameter<φ12 | |
| 4 | GPJ09L4-B-06-4 | Plastic washer-I | 4 Nos. | ABS | | |
| 5 | GPJ09L4-B-06-5 | Plastic washer-II | 8 Nos. | ABS | Using when cable diameter<φ10 | |
| 6 | GPJ09L5-BJ-2 | M31 NUT Hexangular | 4 Nos. | PP | | |

### 5.2.5.3. Installation steps of small cable ports



Picture5-13

i. Thread the stripped cable through M31 NUT Hexangular, plastic washer and cable seal ring subsequently.
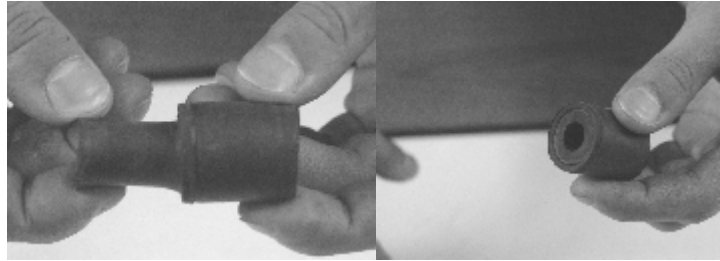


Picture 5-14

***Note. When the diameter of cable is smaller than φ12, please use small plastic washer and the small seal rubber layer as well so that seal performance could be guaranteed.(Picture 5-14)***

ii. Thread the fiber cable through the small cable ports into the closure.

iii. Loosen the nut at the top of the cable strength member fixing bolt and thread the strength member through the preset hole.
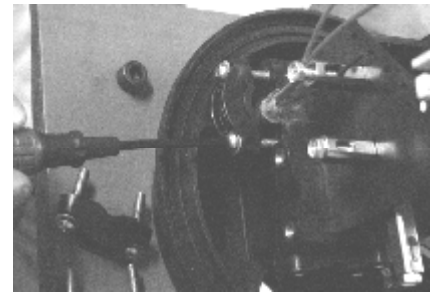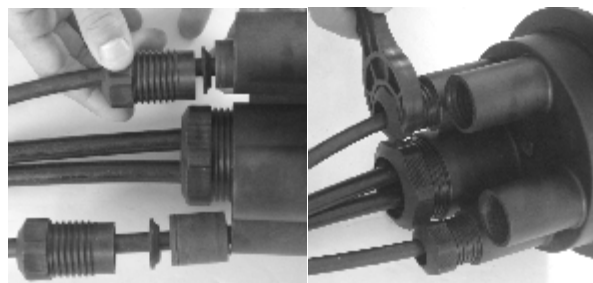


Picture 5-15

iv. Fix the cables to the bracket and tighten the nut on the strength member fixing bolt to fix the strength member of cables.

v. The cable armor may be grounded if required and extended to external ground.

***Note. Please pay attention to fibers during the operation.***

**vi. Sealing of cables**



Picture 5-16

Screw in the M31 NUT Hexangular so that the 09L4 seal ring layer (inner seal layer if necessary) and plastic washer could be pressed together into the cable ports with spanner ***till it's fasten enough so that the seal gasket and the cables could be sealed perfectly together.***(Picture 5-16)

5.2.6. Fiber distribution, protection and fixation:

Remove the loose tubes of cables (do not damage fibers), and protect fibers with transparent tube.
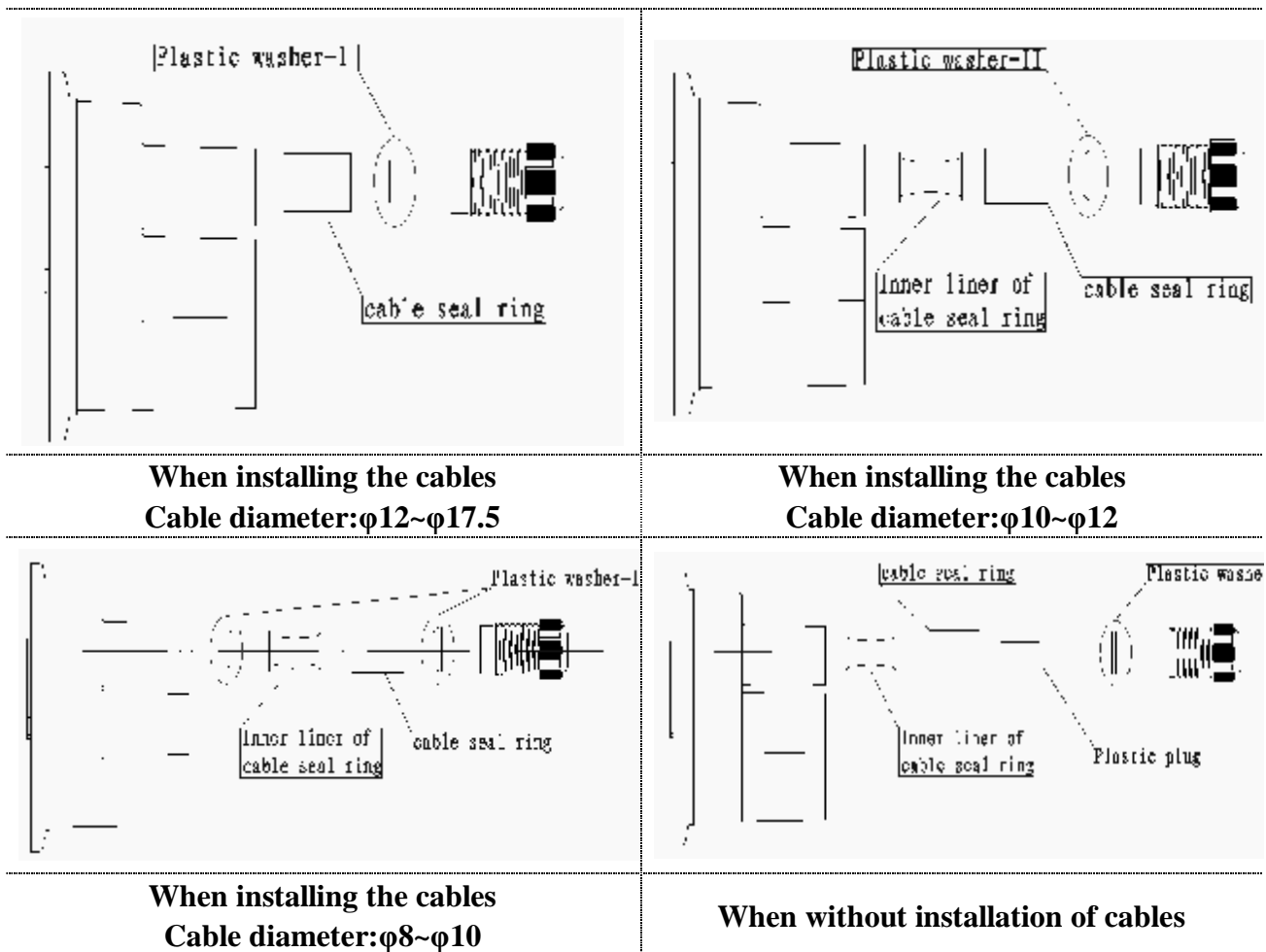
Fix the protected fibers at the entrance of fibers on the splice tray with nylon ties.

Clean the surface of fibers with alcohol to remove the grease on the fibers.

## Sealing of the cable entry ports

*Important :*

1. *Take care while sealing the cable entry ports.*
2. *Please note the direction of the liners when plugged into the cable port.*



| | |
|---|---|
| **When installing the cables**<br>**Cable diameter:φ12~φ17.5** | **When installing the cables**<br>**Cable diameter:φ10~φ12** |
| **When installing the cables**<br>**Cable diameter:φ8~φ10** | **When without installation of cables** |

## 5.3. Splices fibers and coil surplus fibers

Fusion and splice fibers and coil surplus fibers on bracket using an approved splicing method, then cover the splice tray cover after splice fibers. Look Pic.5-17, Pic.5-18, Pic.5-19.
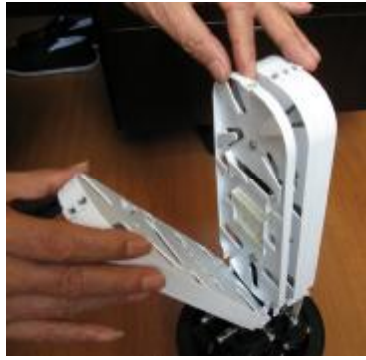
Pic.5-17                              Pic.5-18                              Pic.5-19

## 5.4. Installation of aerial mounting

(1) Fix two metal hoops on the fiber closure appropriately, then use M8×20 screw fixing the link and hoops together.

(2) Fix the aerial mounting hanger in the both side of link. Look at Pic.5-20



Pic.5-20

## 5.5. Installation of pole mounting

(1) Fix the pole mounting hoop on the concrete pole with the M10×560 screw, then tighten the nut.

(2) Fix the body of the fiber closure and tighten the nut. Look at Pic.5-21
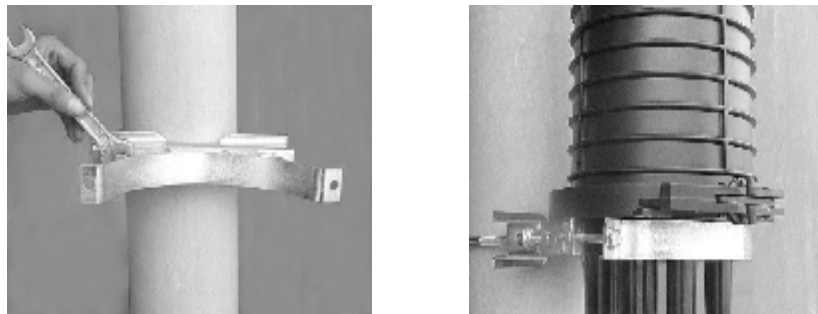


Pic.5-21

# 6. Main technical data

6.1 Environment temperature: -40℃～+55℃

6.2 Max. Capacity: 96 cores (using single core fiber)

6.3 Range of the suitable diameter of the cable: Φ8mm～Φ17.5mm（Max. diameter of uncut cable inlet port is 24mm）.

6.4 Airproof performance: Airing pressure inside box 100Kpa， pointer immovability after 24 hours or no air bell

within 15min when parked in the common temperature water

6.5 Re-encapsulation performance: no change in the index of air-proof performance after three times of repeat encapsulation

6.6 Insulation resistance: $\geq 2 \times 10^4 M\Omega$

6.7 Voltage-resistance strength：Under the effect of 15kvDC/1min, non-puncture, no arc-over

# 7. Notice

7.1 When using four small cable inlet ports, the diameter of the cable should not be more than φ17.5mm; the big oval port should be no more than Φ24mm.

7.2 Reinforced core of fusion protect tube is φ1.0 mm as the conventional configuration.

7.3 Heat it evenly when it is in heat shrink condition

# 8. Packing, transport and storage

The package of closure has moisture-proof and shock-proof measures. Put accessories and spare parts in plastic bag first and then pack them in carton, seal whole closure with plastic bag.

Prevent upending while transportation, please not roll while transit, handle with care and to prevent collisions.

Prevent from storm water before installation. The transport temperature should be between －35℃ and +55℃.

Do not stack too heavy goods on the carton during storage. Prevent the corrosive air from breaking the equipment in warehouse. The temperature of warehouse is between －5℃ and +45℃.The relative temperature should not keep high in long term, it should be lower than 75%.

# 9. Service Tip

Thank you for supporting our company's products! If there is any problem, please do not hesitate to contact us, we will provide you with the best service in time.