DOME ENCLOSURE - OC-DO08

INSTRUCTIONS MANUAL FOR INSTALLATION

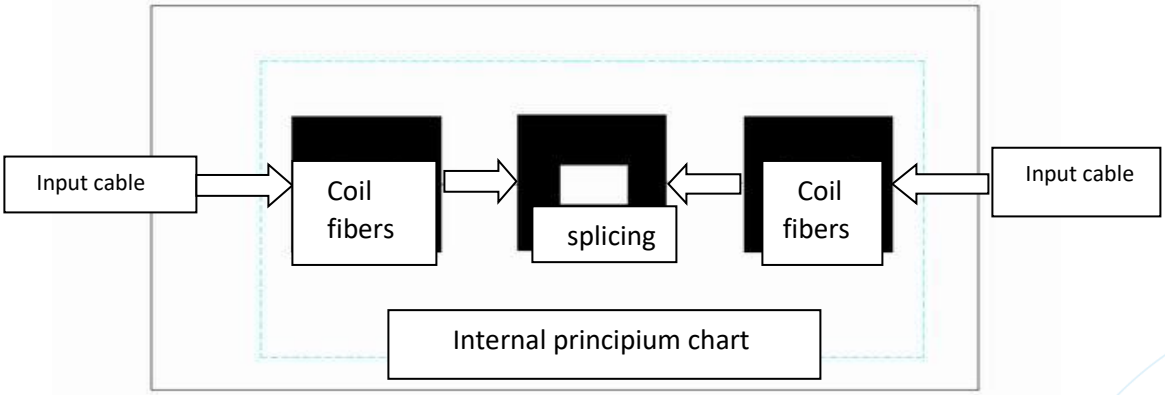
Table of Contents

1. SUMMARY

1.1 General Introduction

NEXCONEC OC-DO08 high fiber count splice closure is a dome type with large capacity, with vulcanized rubber as sealing component, helical and extrusion mechanical sealing. It is suitable for different methods of branch cable connection including the branch of uncut cable. Multi-application purpose with for aerial, pole-mounted, wall-mounted and buried application. The closure has very goods sealing performance, convenient to operate and wide range of applications.

1.2 Principium Chart



Picture 1

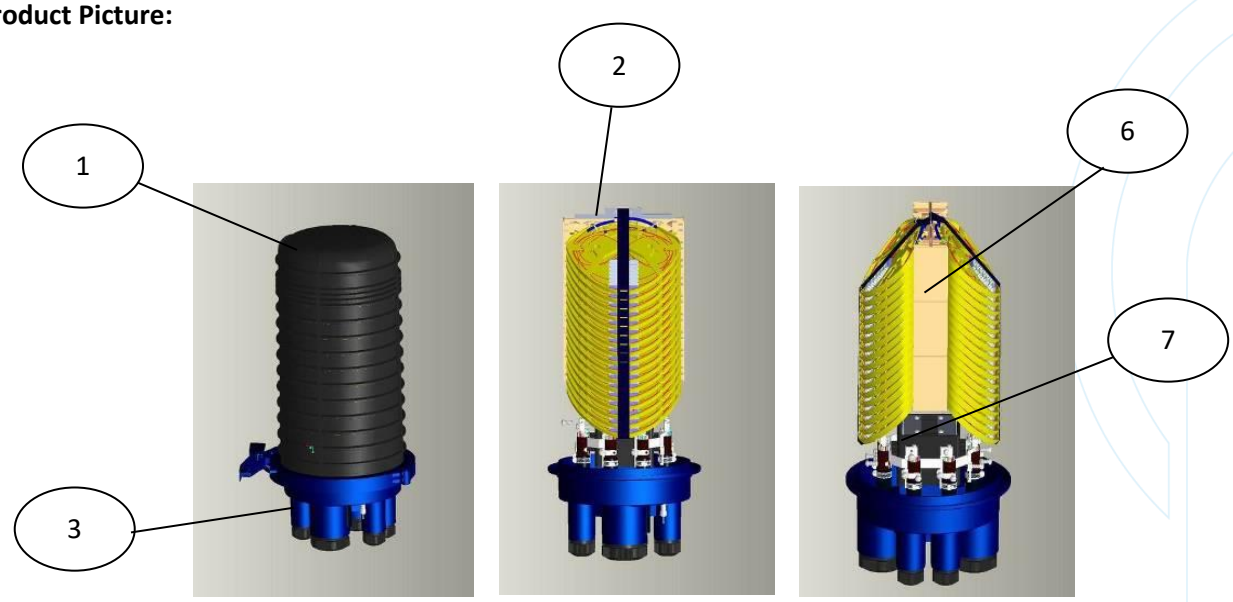
1.3 Specification

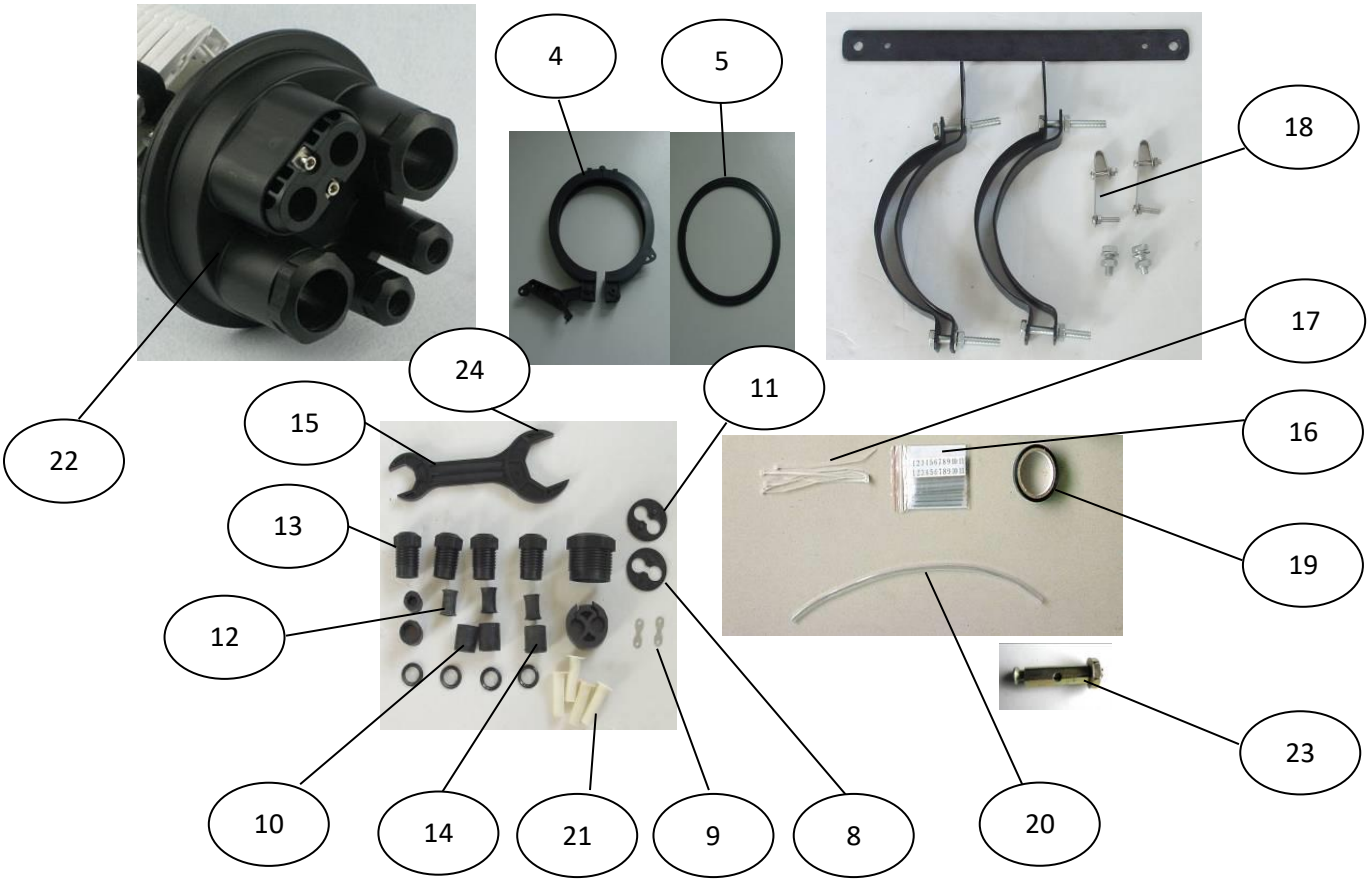
Parameters	Value
Dimensions (HxD)	480 x Φ250 mm
Weight (Kg)	5.5 - 6.5 Kg
Splice Tray Capacity	12 fibers
Max Number of Splice Tray	34 pcs
Max Capacity (Single Core)	408
Max. Capacity (Fibers)	408 fibers

Suitable Fiber Cable OD	Φ8 ~ Φ20
Insulation Resistance	≥2×10^{4}MΩ
Voltage Resistance Strength	15K VDC/1min. no puncture, arc-over
Sealing Structure	Mechanical
Sealing Rating	IP68
Operating Temperature	-40℃ ~ +55℃
Impact Strength	16 N.m / IK09
Sealing Performance	After the closure was sealed, the atmospheric pressure in it is 100kPa±5kPa, immersed it into the water and observing it for 15min, there is no air bubble. And there is no change of barometer after observing it for 24 hours.
Encapsulation	After three times of encapsulation according to the general instruction, it can still be up to the sealing performance standard.

1.4 Structure and Components

1.4.1 Product Picture:





Picture 2

1.4.2 Component list

1.4.2.1 Main components

No.	Name	Quantity	Remarks
1	Cover	1	H=350mm D=175mm
2	D type splice tray	34 pcs (Full capacity)	Fiber splice & storage. The quantity of the trays shall be supplied as per the order
3	Base	1	Fixing internal and external structures
4	Box hoop	1	Fixing cover and base
5	Seal ring	1	Waterproof and sealing
6	D type splice tray bracket	6	Fixing splice tray and fiber storage.
7	Earthing device	1	This includes GW-2 inner ground wire (listed in BOM) and the extension of ground outside the closure
8	ϕ52 metal washer	4	Used for 2 big ports sealing

9	Connective blocker	4	
10	ϕ52 cable seal gasket	2	
11	M55 Hexangular nut	2	
12	Sealing ring	4	Used for 4 small ports sealing
13	Inner sealing ring (ϕ 8-12mm)	4	
14	Plastic washer I&II	4	
15	M31 Hexangular nut	4	

1.4.2.2 Accessories

No.	Name	Quantity	Application
16	Splice Protective Sleeve	capacity+10%	Fiber splice protection
17	Nylon cable tie	Splice tray no.x2	Fixing fibers
18	Aerial mounting hoop	1 set	Aerial mounting
19	Insulation tape (black)	1 roll	Fixing fibers
20	EVA Transport tubes	6m	For protection of loose tube if required
21	Plastic Dummy Plug	6 pieces	For ports when not used
22	Air Pressure Valve	1 set	Testing after closure sealed
23	Expansion bolt (M8×60)	2 pieces	Selection when wall-mounted application.
24	Spanner	1 piece	For tightening the nuts of cable ports

2. INSTALLATION INSTRUCTION

2.1 Preparation

2.1.1 Please check the structure and type of the cable before installation. Different types of fiber can't be spliced together.

2.1.2 Seal the splicing part perfectly to minimize damages to the cable caused by moisture. Don't apply any impact to the splicing part.

2.1.3 Keep the working place free from moisture and dust.

2.1.4 Don't give any impact on the cables and don't bend or entwine cables.

2.1.5 Use appropriate tools according to the approved standard of fiber optic splicing in your region when remove the jacket of cables and assemble the closure.

2.1.6 Tools

2.1.6.1 Auxiliary material (self-supply)

Material Name	Application
Adhesive tape paper	Marking, fixing temporarily
Alcohol	Cleaning
Gauze	Cleaning

2.1.6.2 Operation tools (self-supply)

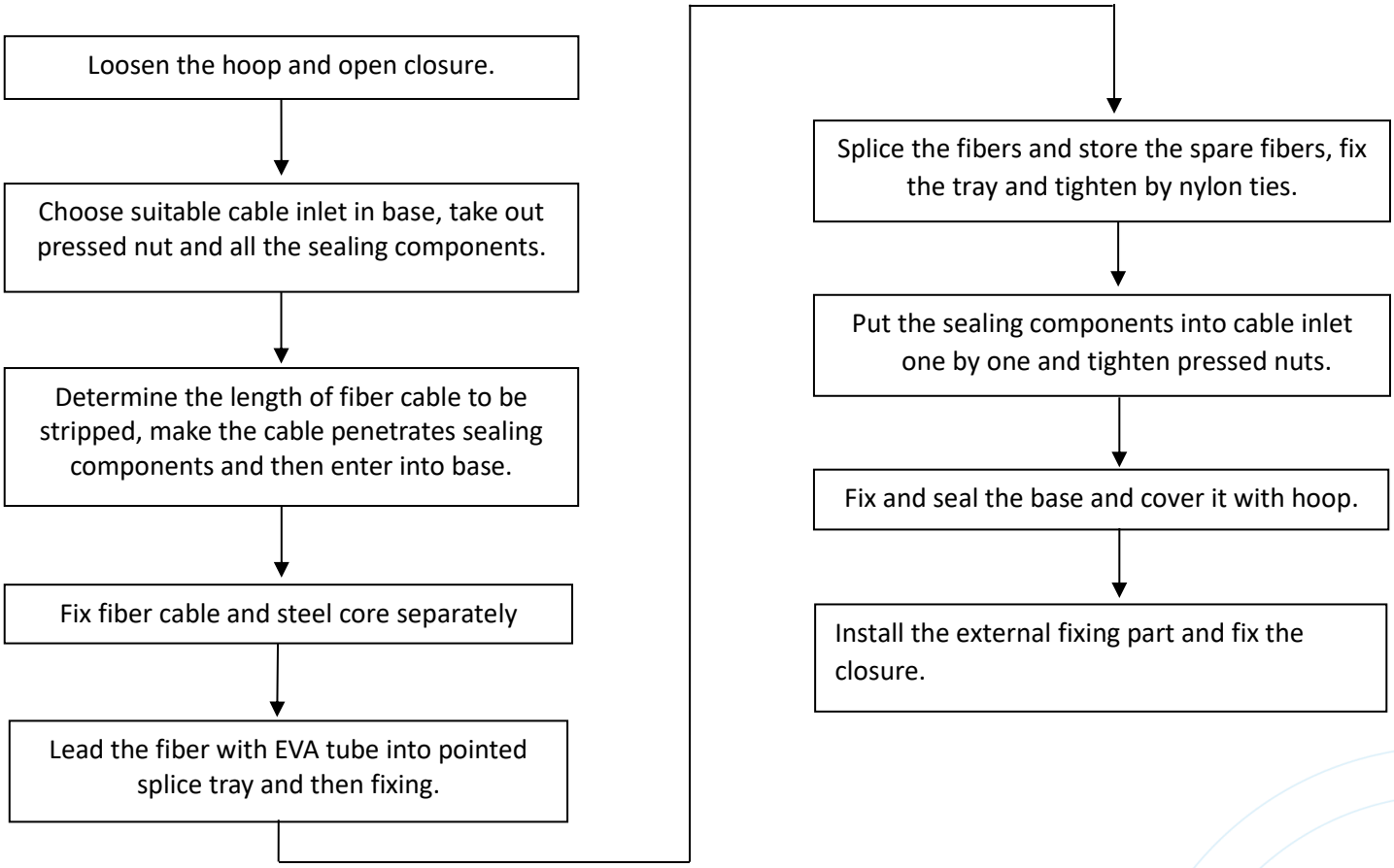
Name of tools	Application
Fiber cable radial detacher	Circum-cut the sheath of cable
Fiber cable vertical detacher (heterophylly)	Vertical strip the cover of straight cable
Bunch tube peeling knife	Strip the housing of bunch tubes
Naked fiber plier	Peel off coating
Tape measure	Measure the length
Tube lance	Strip the bunch tubes
Electrical knife	
Wire plier	Cut the steel core
Cross screwdriver	Tighten screw
Scissors	
Fusion operating platform	Set the products, tools

2.1.6.3 Connective and testing instruments (self-supply)

Name of instruments	Application
Fusion machine	Connecting fibers
Optical time domain reflectometer (OTDR)	Connection testing

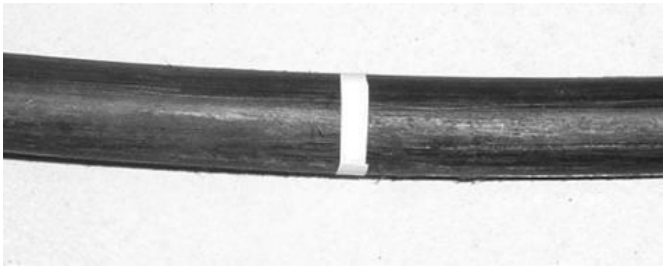
2.2 Installation and Construction Process

2.2.1 Installation flow chart



2.2.2 Cable Installation

2.2.2.1 Mark the cutting point on the cable, generally, the length of stripping is about 180cm. (See picture 3)



Picture 3

2.2.2.1 Needed tools when stripping cable (See Picture 4, Picture 5, Picture 6)

Cable Sheath Lateral Cutter

Picture 4

Vertical Cutter-for the Cover of Cable

Picture 5

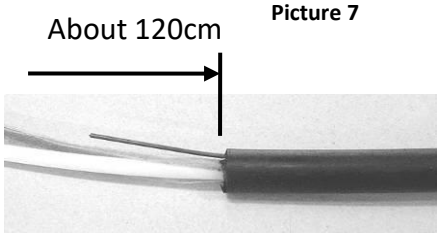
Steel Core Plier

Picture 6

2.2.2.2 Remove the unnecessary cable sheath from the marked point with a sheath stripper.

2.2.2.3 Introduce the cable (2 fibers) and other branch cables, strip the sheath at the length of 120cm from the end of cable, keep internal cable of 8 figure integrality.

Picture 7



Note：

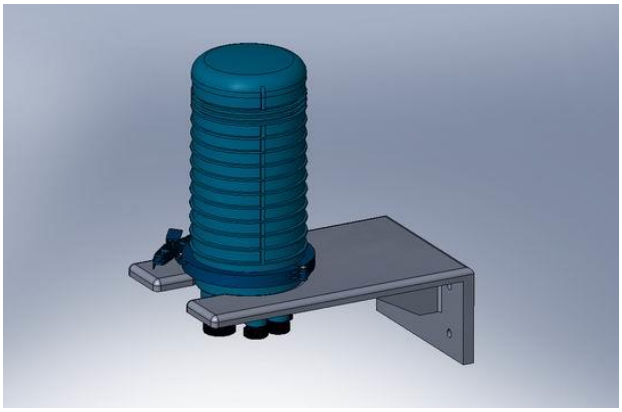
- ***Be sure not to damage the fiber.***
- ***Do not use any damaged cable.***
- ***While remove the cable sheath, please do not cut, twist, or damage fiber coat. Cut the damaged fiber cable and strip the sheath again in case an accident happened.***

2.2.2.4 Cut off the extra reinforced core about 5cm from the removing point on the sheath.

2.2.3 Installation of fiber closure

2.2.3.1 Check the specified type and all the accessories of the fiber closure

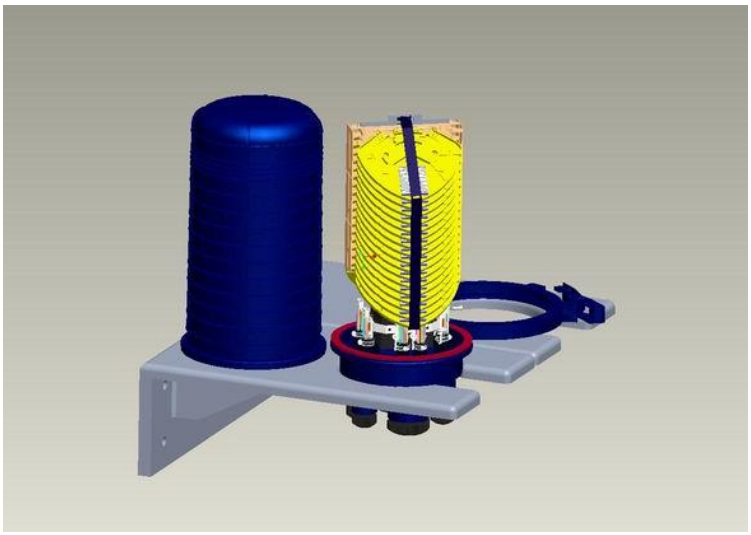
2.2.3.2 Put the closure in the operation platform. (See picture 8)

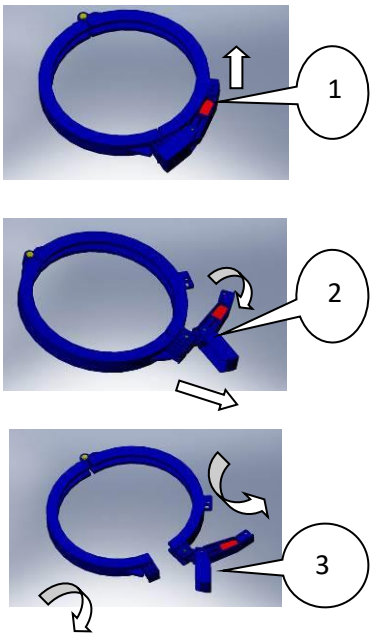


Picture 8

2.2.3.3 Open the fiber closure

Unlade the locked device on plastic hoop, open plastic hoop in order to separate the cover and bottom. (See picture 9)





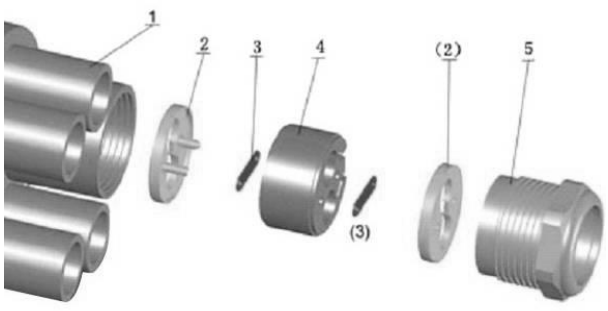
① Pull out the handle ② Withstand the lock block with lock plate ③ Open the hoop

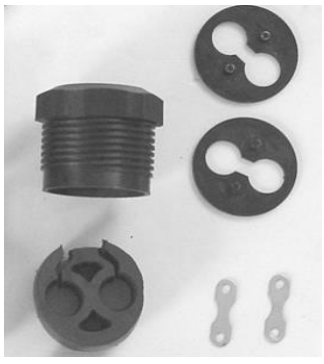
Note. Because the sealing performance is predominant, please be careful when separating the cover and bottom so as not to damage the case.

2.2.3.4 Introduce 2 pieces of cable for big ports into box.

Make the stripped cable enter into the components according to following chart, and then come into the box.

2.2.3.4.1 Components picture for straight cable





Picture 10

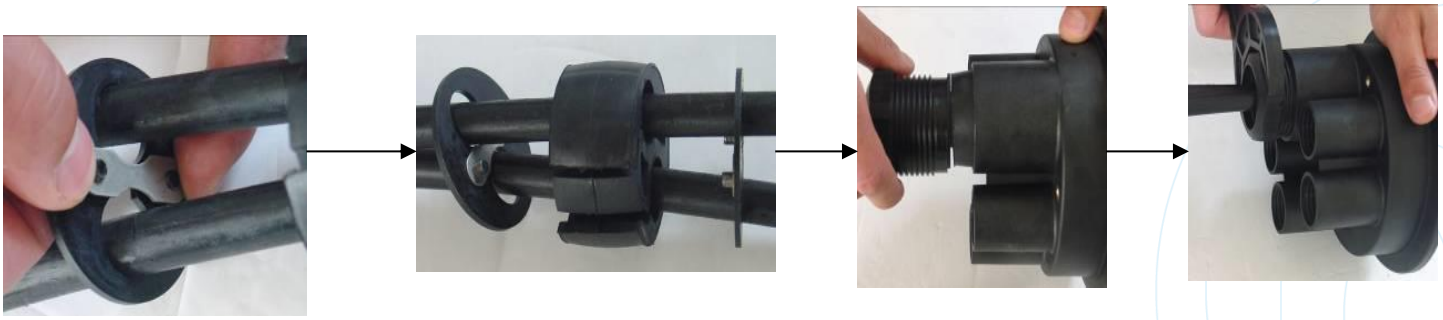
2.2.3.4.2 Components list for big straight cable port

No.	Name	Quantity	Material	Application
1	Base	1 set	MPP	Fixing internal and external structures
2	ϕ52 metal washer	4 pieces	Stainless steel	Used for seal of uncut cable ***(diameter of cable >ϕ12)***
3	Connective blocker	4 pieces	Stainless steel	
4	ϕ52 rubber seal gasket	2 pieces	Rubber	
5	M55 pressed button	2 pieces	MPP	

2.2.3.4.3 Installation process for straight cable port

Make 2 pieces of metal connective blockers connect with 2 pieces of ϕ52 metal washers (make salient column in ϕ52 metal washers insert into round holes in 2 pieces of connective blockers), press ϕ52 metal washer and ϕ52 rubber seal gasket into the big port one by one, to tighten M55 pressed button enough by spanner, in order to achieve the effect of fully seal.

Note: Because of limited space, make sure to tighten cable port according to the following sequence.

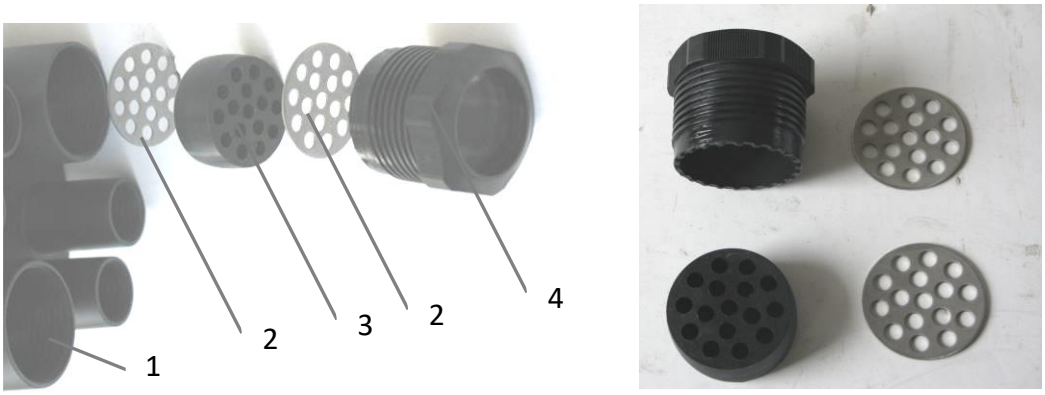


Picture 11

2.2.3.4.4 Introduce the cable (2 fibers) into closure

Break the needed cable port by the sheath of stripped cable with 2 fibers, and then make 16 pieces of stripped cable or required quantity cable insert into components one by one, then enter the base.

2.2.3.4.5 Components picture for introduction of cable ports

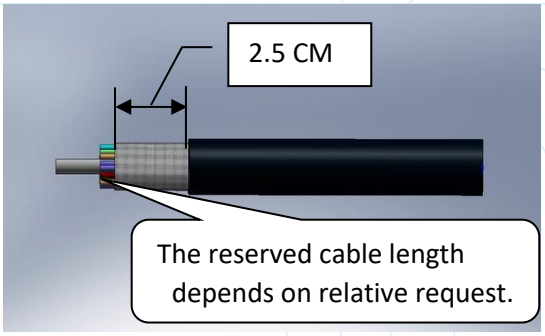
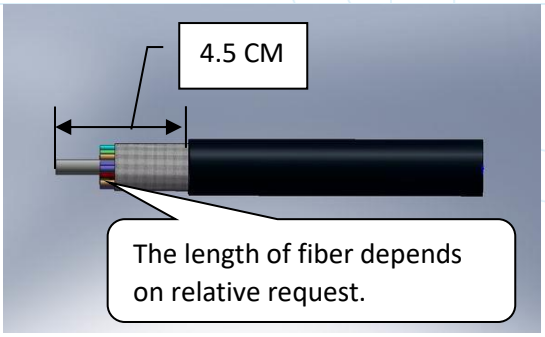


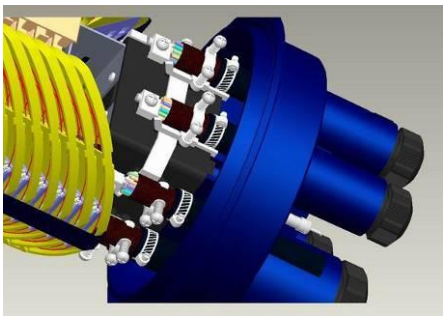
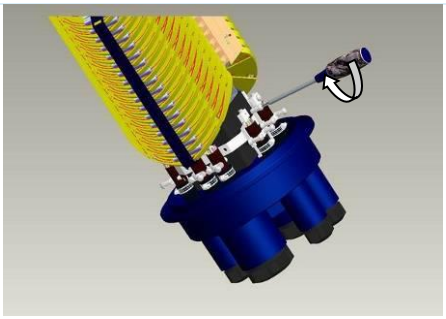
Picture 12

2.2.3.4.6 Components list for introduction of cable ports (2 fibers cable)

No.	Name	Quantity	Material	Application
1	Base	1 set	MPP	Fixing internal and external structures
2	16 holes washer	2 pieces	Stainless steel	Used for 16 pieces of 2 fibers cable seal ***(diameter of cable ϕ6.8mm)***
3	22# seal gasket (16 holes)	1 piece	Rubber	
4	M55 pressed button	1 piece	MPP	

2.2.3.4.7 Construction of Dome Enclosure OC-DO08

1. Strip the cable, set aside the length of 2.5cm on the external armored layer, remove spare armored layer. (See right picture)	
2. Strip the cable and remove the spare steel core, the length is 4.5cm from the stripping point. (See right picture)	

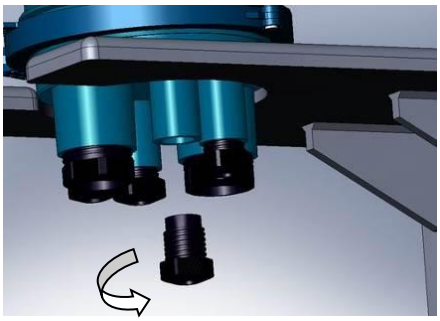
3. Screw the bolt of pressed block in cable fixing bracket, put the armored layer after stripping on fixed position (see following picture), use two pieces of connective bolts to fix it on cable fixing bracket. (See right picture)	
4. Put the steel core of cable on cable fixing bracket, to fix it by one piece of connective bolt, and then tighten the bolt, make sure the metal strength core of cable cannot move. (See right picture)	

2.2.3.6 Open the fiber closure

Note. Because the sealing performance is predominant, please be careful when separating the cover and bottom so as not to damage the case.

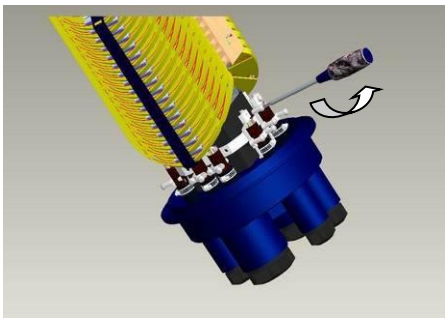
2.2.3.7 Insert cable into fiber closure.

Loosen the nut and take off seal components



Picture 13

Take off bolt and the fixing parts



Picture 14

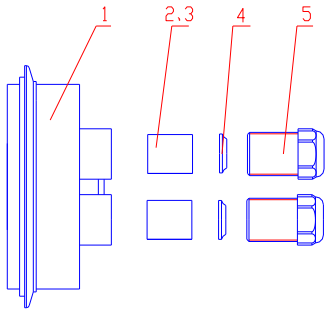
All parts

Picture 15

2.2.3.8 Installation of cutting cable

2.2.3.8.1 Components picture for cable inlets

Picture 16

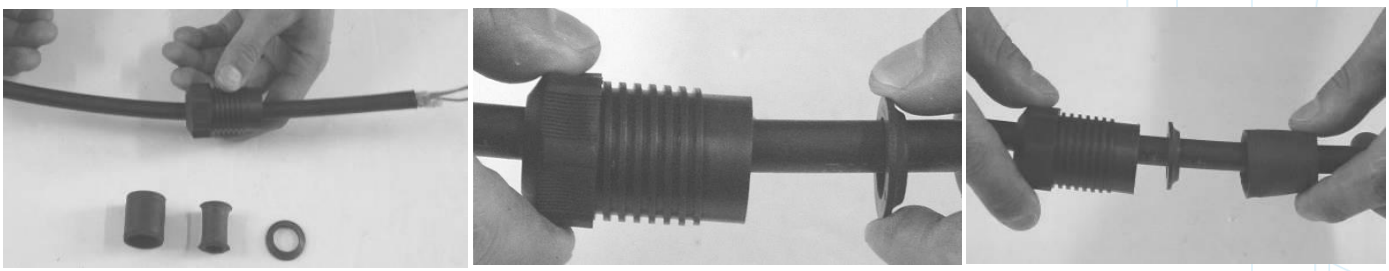


Picture 17

Picture 18

No.	Name	Quantity	Material	Application	
1	Base	1 set	MPP	Fixing internal and external structures	
2	09L4 cable seal ring	4 pieces	rubber		Used for cable seal
3	09L4 Inner lining of cable seal ring (dia 8-12mm)	4 pieces	rubber	Using when cable diameter <ϕ12	
4	Plastic gasket - I	4 pieces	ABS		
	Plastic gasket - II	8 pieces	ABS	Using when cable diameter <ϕ10	
5	M31 nut	4 pieces	MPP		

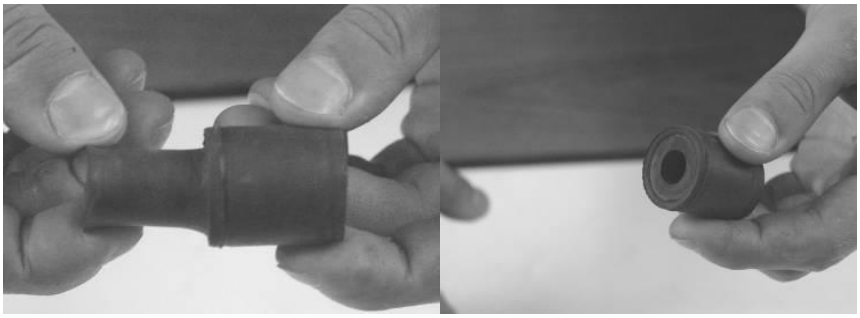
2.2.3.8.2 Introduction process of 4 small cable inlets



Picture 19

① Loosen the nut, take out seal components, and take out cable pressed button by cross screwdriver.

② Thread the stripped cable through M31 pressed bolt (plastic), plastic washer and cable seal ring subsequently.



Picture 20

Note. When the cable's diameter <φ12, please choose small plastic washer and also need use cable seal ring inner lining. (See picture 20)

③ Make cable enter into closure through small port. (See picture 21)

④ Loosen the bolts in steel core fixed bracket, make the steel core insert into the hole of fixed pole, and then tighten the bolts; (see picture 22)

⑤ Fix the cable to the bracket by pressed button.

⑥ It can operate at the same time when earthing device needed.

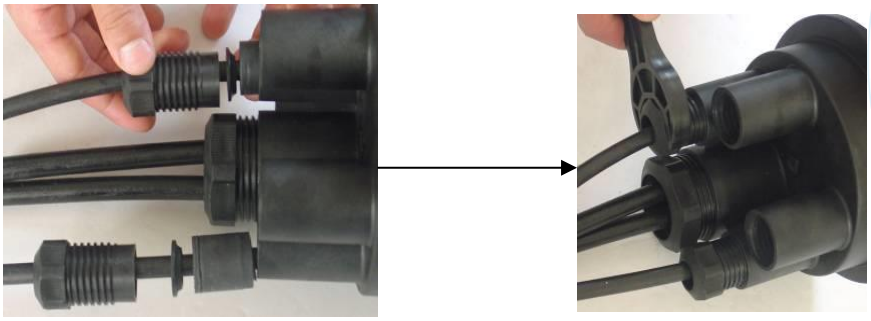
⑦ Cable seal

Press the cable seal ring (Inner lining of cable seal ring, if necessary), plastic gasket into corresponding small cable inlet in sequence, Screw the M31 nut with spanner tightly for perfect seal.

⑧ Lead the branch cable into splice tray

Measure the distance from cable fixed place to the entrance of second or third splice tray for branch cable splicing, strip fiber bunch tube, and then fixed them at the entrances on the tray by nylon tie.

Picture 21



Picture 22

2.2.3.8.3 Fiber distribution, protection, and fixation

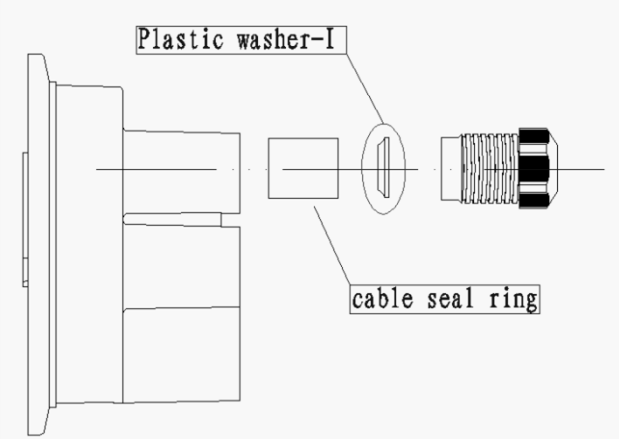
Distribute the fibers according to requirement, thread the fibers through the PVC transparent tube and fixed them at the entrances on the tray by nylon tie. Clean the surface of fiber, remove the grease by alcohol.

Note：① If the port is not used, make the plastic plug insert into cable sealing gasket, and then stuff it in cable inlet, set the plastic gasket, screw the pressed nut tightly to make it seal.

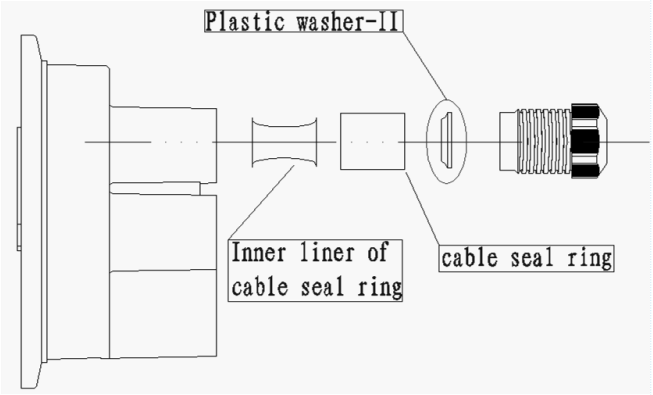
② Our company will connect the device for fixing steel core, if earthing device is required in your order.

Important:

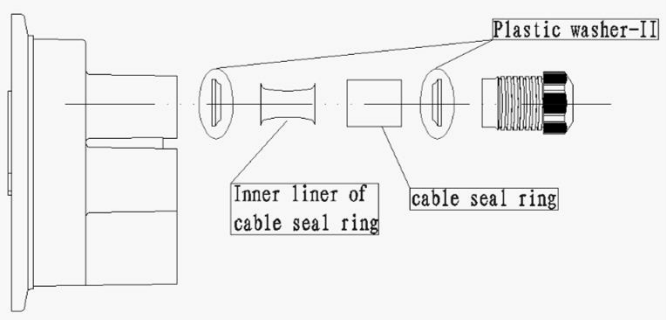
1. ***Take care while sealing the cable entry ports.***
2. ***Please note the direction of the liners when plugged into the cable port. (see picture 22)***



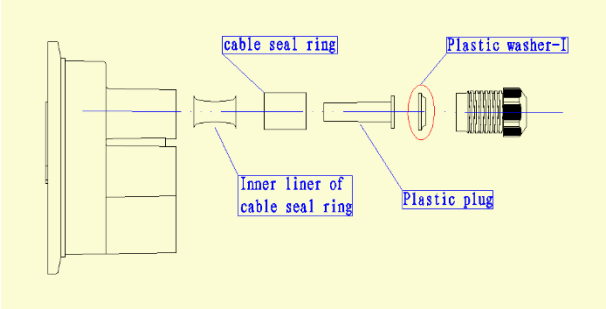
Cable diameter: Φ12~Φ17.5



Cable diameter: Φ10~Φ12



Cable diameter: Φ8~Φ10



Use plugs to seal if without installation of cable

Picture 23

2.2.4 Fiber splice and mark

2.2.4.1 Fiber splice and mark

2.2.4.1.1 Remove that sheath of cable by stripper and clean it with gauze and alcohol. Then cut the fiber by cutter (Length according to the coiling), see picture 23~25

Fiber Cutter

Picture 24

Tube Stripper

Picture 25

Naked Fiber Stripper

Picture 26

2.2.4.1.2 General fiber splice, recording the parameter after the spliced and making the cable marking, in order to the upper maintenance and management. See pictures 27~28

Fiber Splice Machine

Picture 27

OTDR

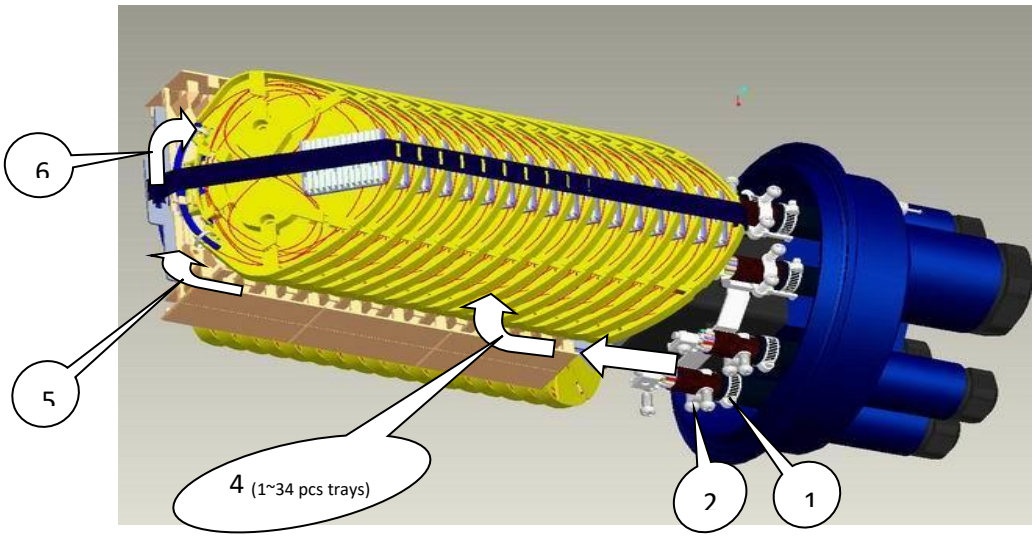
Picture 28

2.2.4.2 Install the stripped fibers on the entrance of tray.

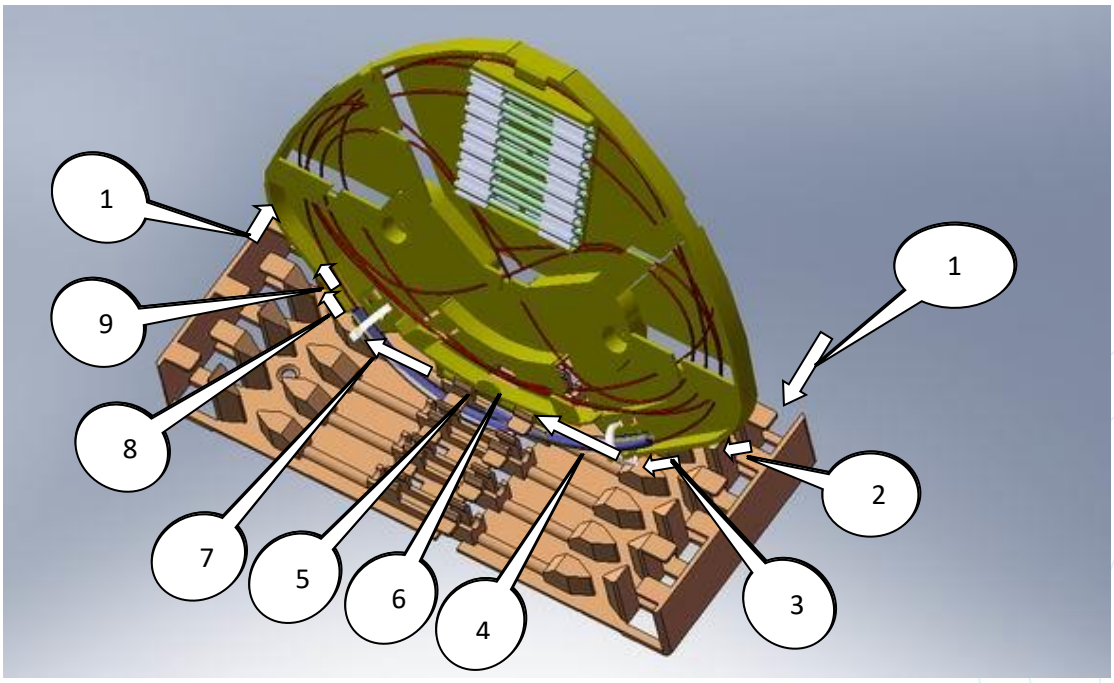
2.2.4.3 Cable fixing: After stripping the cable, lead the end of cable into metal hoop, and then tighten and connect it by screws, in order to make it safe and reliable. Fixing position-picture 29, No.1.

2.2.4.4 Armored layer fixing: reserve 20mm of armored layer from the end of inlet cable from place No.1, fix it with metal pressed slice, and then tighten and connect it by screws, in order to make it safe and reliable. See picture 29, No.2.

2.2.4.5 Steel core fixing: reserve 45mm of steel core from the end of inlet cable from place No.1, fix it with metal pressed slice, and then tighten and connect it by screws, in order to make it safe and reliable. See picture 29, No.3.



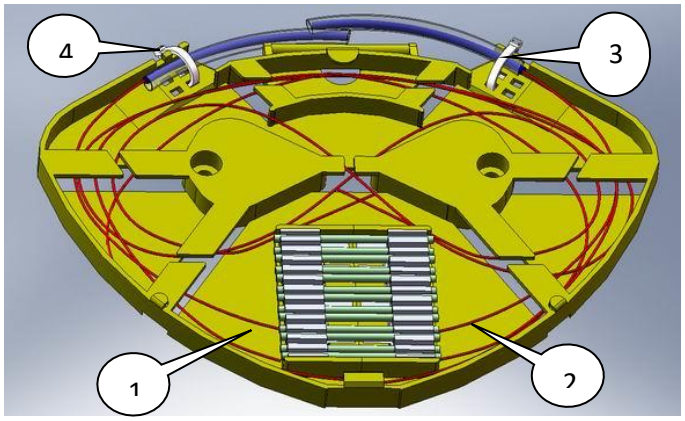
Picture 29



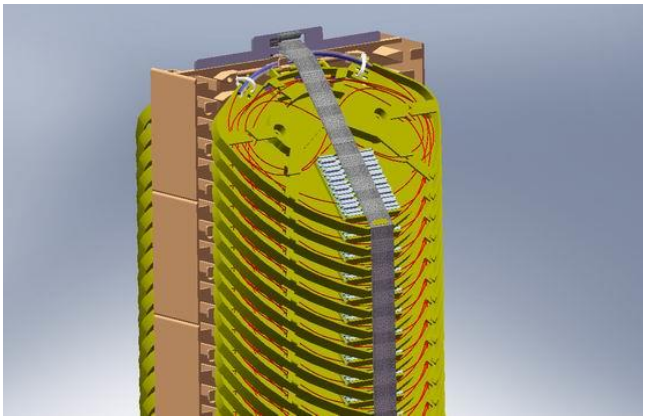
Picture 30

2.2.4.6 Fiber installation and fixing: The fiber installation route from entrance of splice tray installation fixed board to the entrance of splice tray, see picture 30, line 1, 2, 3, 4, 5. The fiber installation route from exit of splice tray to exit of splice tray installation fixed board, see picture 30, line 6, 7, 8, 9, 10. Similarly, the contrary route can also be installed.

2.2.4.7 Splice and store fibers



Picture 31



Picture 32

i. Keep enough length of stripped fibers for splicing and storage (proposed length is 180cm), make the stripped fiber go through EVA soft tube (a certain length), All 12 pieces are spliced with fibers from the place marked 1 and 2, use splice protective sleeves to protect the spliced fibers. (See picture 31).

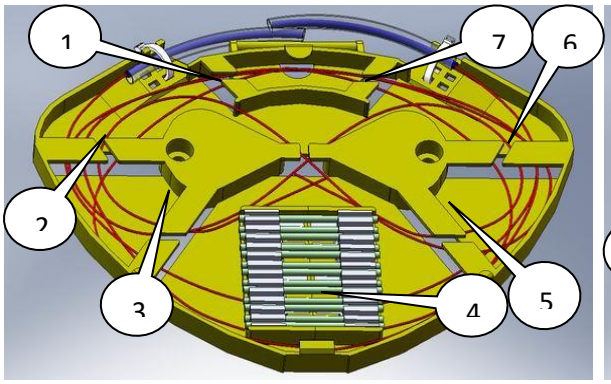
ii. When the spliced fibers enter into splice tray, use nylon tie to fix them in the fiber entrance of splice tray (see picture 30, mark 3, 4). Take splice protective sleeve by one hand, coil the first fiber in the splice tray by clockwise direction from mark 1, keep spare fiber until about one circle, and stop coiling, repeat the above steps for spliced fibers, and hold these spare fibers.

iii. Hold the 12 pieces fibers in place of mark 2, coil fibers according to step ii; take the splice protective sleeves by one hand or change another hand to take them (because the operator used one hand to hold sleeves in step ii), coil all the fibers by counterclockwise direction, keep the length of spare fiber about one circle.

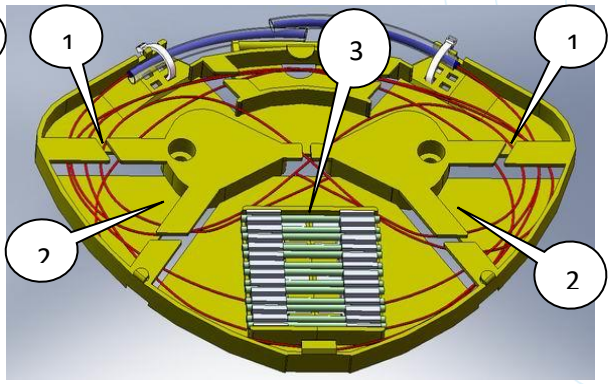
iv. Operator has took the splice protective sleeves by one hand already, take one piece, fix it in splice holder, and then operate the second one, put all 12 pieces into splice holder. (See picture 32).

2.2.4.8 Spare fiber coiling

i. Coil the fiber with big circle, as the mark 1.2.3.4.5.6.7, the length of big circle is about 370mm



Picture 33



Picture 34

This is the main route for fiber coiling: the route is 1-2-3-4-5-6-7. (See picture 33)

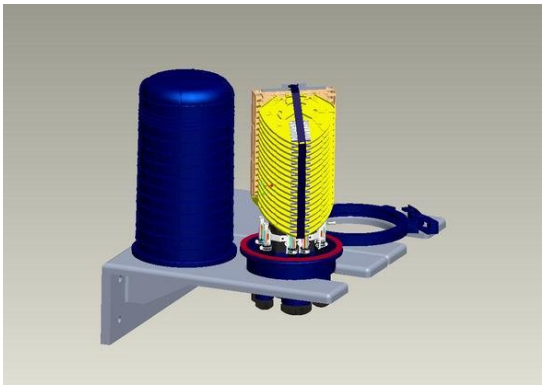
ii. Keep a certain length of fiber when the fiber coiling is finished. Fix the splice protective sleeves into splice holder; if the length of spare fiber is not enough for a big circle, make the spare fiber in small circle. The mark of small circle is 1.2.3, circle layout with 8-shape route, the length of small circle is 270cm; the route is 1-2-3 (See picture 34).

Repeat the above steps until installation finished. The capacity for each splice tray is 12 fibers.

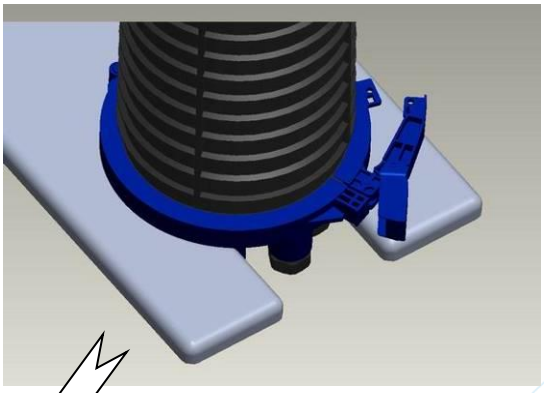
2.2.5 Box re-capsulation

After finishing fiber installation, put the seal gasket in box, and then cover the dome, use plastic hoop to seal tightly.

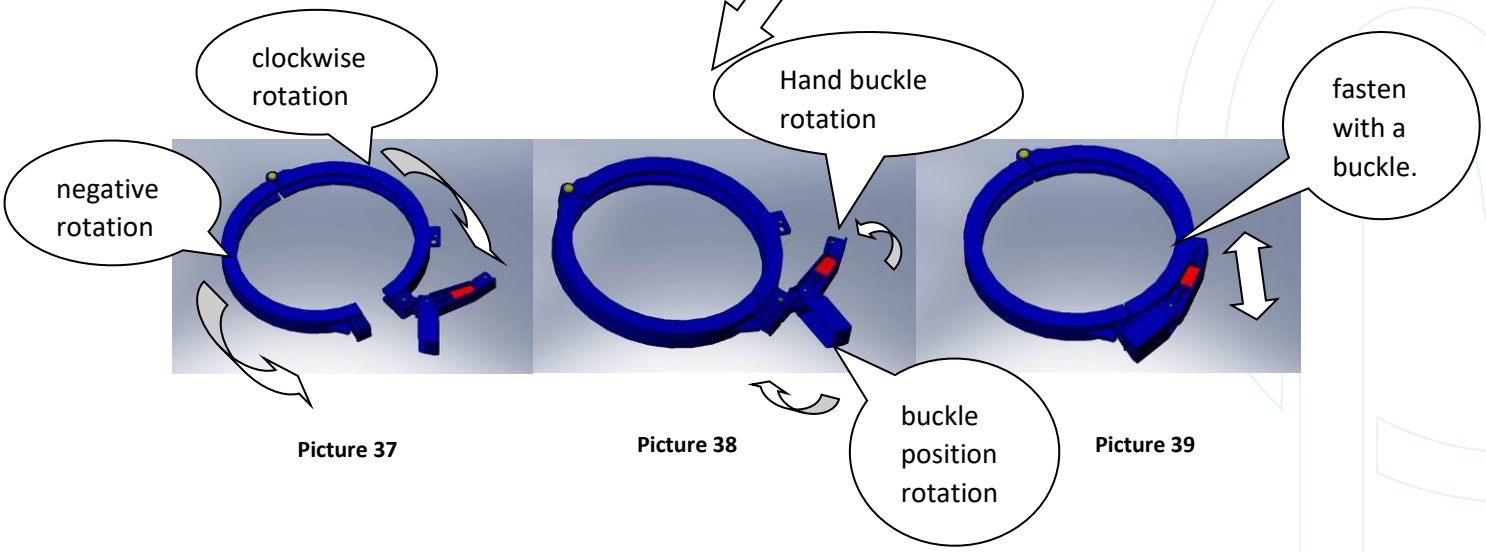
(See picture 35~39)



Picture 35



Picture 36



Picture 37 **Picture 38** **Picture 39**

2.3 Fiber Test and Sealing Performance Test

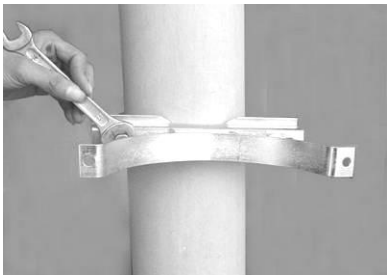
We suggest to full in box with inactive gas (decide by users) after installation, external earthing wire must ensure the security. (Valve and earthing device are optional accessories depend on user's request.)

2.4 Installation Methods

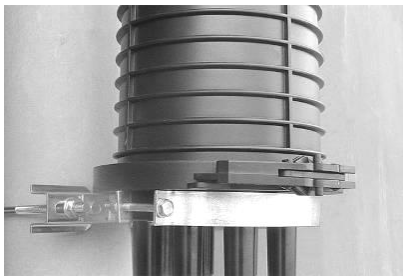
2.4.1 Install on the pole

a. Fix the hanger on the concrete pole with the M10×560 screw, then tighten the nut.

b. Fix the body of the fiber closure and tighten the nut. (See picture 40,41)



Picture 40



Picture 41

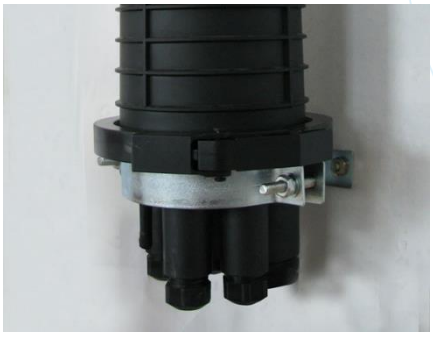
2.4.2. Install on the wall

a. To set installation place on the wall, it depends on the size of closure (110mm, see picture 41), ruling and drilling, and then fix expansion bolt of Φ10×50 mm.

b. Connect and fix the wall-mounted hoop with expansion bolt and tighten by nut.

c. Fix the body of the fiber closure and tighten the nut. (See picture 42,43)

Picture 42



Picture 43

2.4.3. Install in the pipe

a. To set installation place on the wall of pipe, it depends on the size of closure (110mm, see picture 31), ruling and drilling, and then fix expansion bolt of Φ10×50 mm.
b. Connect and fix the wall-mounted hoop with expansion bolt and tighten by nut.
c. Fix the body of the fiber closure and tighten the nut. (See picture 44)

Picture 44

3. RE-OPEN AND MAINTENANCE

3.1 Re-open

Please open the box according the 2.2.3.3 of the manual instruction.

Note: Please release the air of the closure if the protective air or other air is filled before.

3.2 Maintain and Fiber Expansion

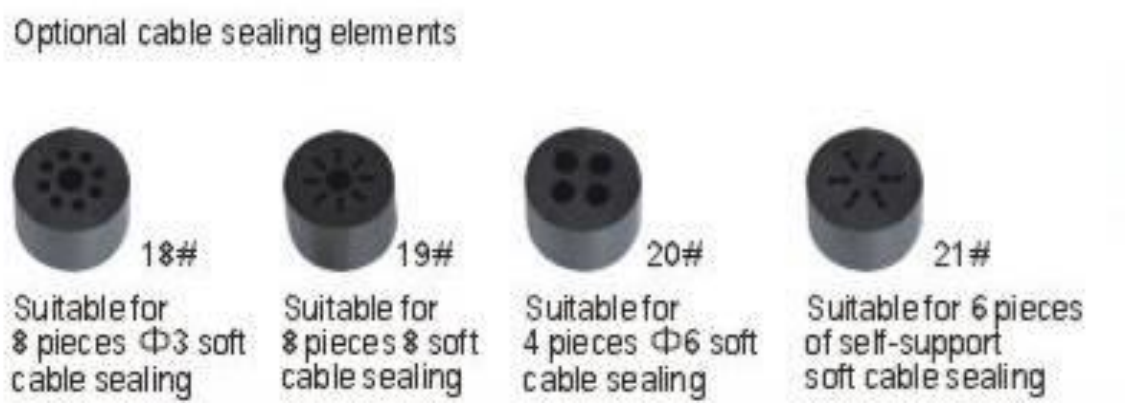
3.2.1 Open the tray as 2.2.4.2, choose and find optical fiber which need maintain, then maintain it.

3.2.2 When need fiber expansion, choose the spare uncut cable entrance, loose the nut using the spanner, take out the sealing plug and the sealing elements. If the nut is tight to take it out, could pull the nut using the screwdriver.

3.2.3 Introduce the need fibers to expand fibers refer to the Chapter Two.

3.2.4 If it needs capacity expansion and then optic fiber distribution, please confirm the type and diameter of fiber cable. The cable diameter for small port of our product is Φ8~Φ17.5mm, if other types of fiber cables are used, please

contact our company, and prepare relative components in advance before capacity expansion. The other types for small ports we can supply is as follows.



3.3 Box Re-encapsulation

After maintaining and fiber expansion, check every element whether they are in good condition. Then re-encapsulation according to 2.2.

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