Sapphire™ Dome Splice Closures

Cold Seal Installation Instruction

A BELDEN BRAND

Overview

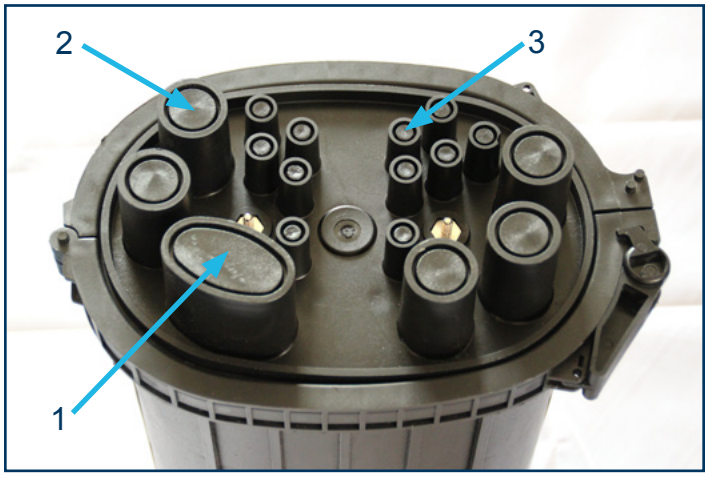
PPC's Sapphire™ Dome Splice Closure is designed to splice up to a maximum of 144 optical fiber cores. It consists of two main parts: the end plate where the fiber optic cables enter and exit for splicing, and the cover, which provides waterproof protection for the internal components of the splice closure.

Dome Splice Closure End Plate

The end plate contains several input and output ports for routing cables.

1 - Express ports for the main fiber optic cable input
2 - Feeder port for routing fiber optic output cables of various diameters
3 - Drop ports for routing smaller fiber optic output cables

All grommets are made of silicone and are used to seal the input and output holes. The silicone provides long-lasting flexibility around the sealed cables and prevents moisture from entering the closure.



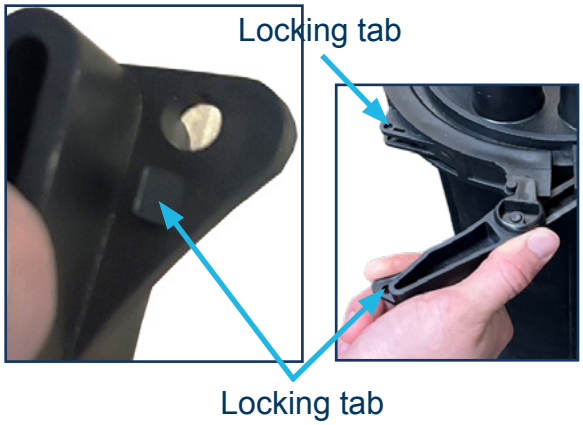
Opening the Dome

The latch tab has a retaining feature on it to prevent accidental opening. Depending on the orientation of the circuit cap, the latch tab will need to be pushed up or down and swung out to open.

Note: When opening the closure clamp,

DO NOT FORCE IT!

There is a locking tab to keep the clamp from swinging open too easily.
You must push the release lever to one side to release the locking tab.
Failure to release this tab can result in the tab snapping off.



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Break open the circuit cap

Engage the hook features on the latch tab to the cylindrical boss feature on the circuit cap. Pull the latch tab to break open the two halves of the circuit cap. DO NOT PULL BEYOND THIS POINT. The latch tab is meant only to break the two halves of the cap apart. Exceeding this break-apart point will result in the failure of the latch tab hooks.

Sperate the circuit caps

Move the latch tab out of the way. Using your hands, fully separate the circuit cap and remove it.

Remove the end plate from the lid

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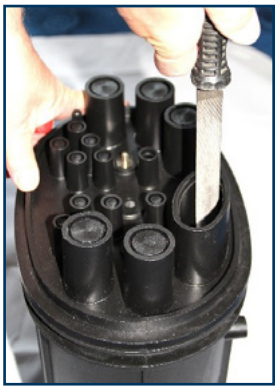
Adjustment of Input and Output Openings

Before installing fiber optic cables, release the input cap and the required number of output caps in the base. To do this, use a punch tool of the appropriate diameter, or you can also use a screw and hammer. Take extra care to avoid damaging the edge of the passage or causing injury.

Open holes should be inspected to ensure no burrs or dirt remain after the parts are punched. If there are any internal burrs, use a file of the appropriate diameter to clean up the burrs.



Use the provided silicone oil wipe to clean and lubricate the open ports before inserting the silicone grommets and cable.

Applying the silicone to the inside of the open port and onto the grommet must be done quickly to avoid the silicone from drying prior to installation.

Silicone grommets must always be inserted from the inside of the end plate because the holes in the end plate are slightly conical. First, pull the cable through the lid, adjust it in position, then install the silicone grommets.

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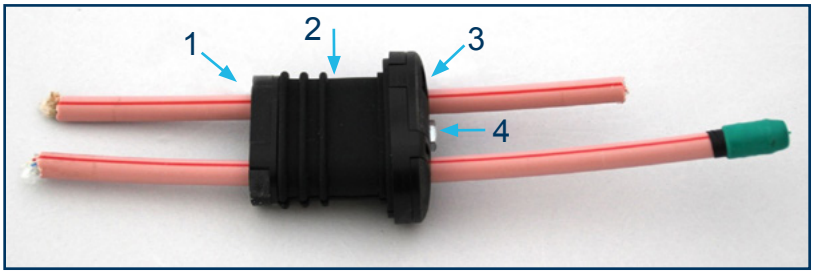
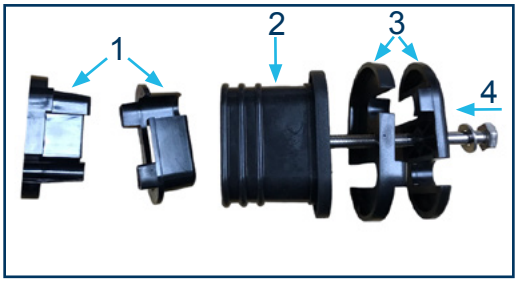
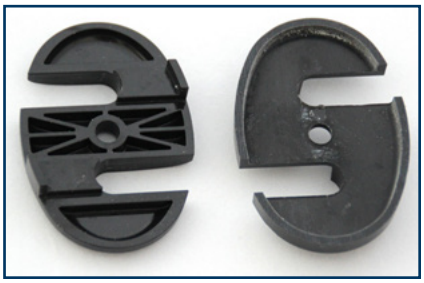
Installation of Sealing Grommets – Express Input Port

PPC uses an oval, multi-part sealing system to seal the entry port for the 144 fiber cable.



Input Seal Grommet
Consists of four main parts:
1 - Bottom Cap
2 - Silicone Seal Body
3 - Upper Cap
4 - Tightening Screw





Install the input sealing system according to the following procedure. See the images above for a visual of the individual parts.

Arrange the fiber optic cables through the entry holes of the bottom cap so the outlets from the bottom cap point downward. Then maneuver the two parts of the plastic bottom cap around the cables. Install the silicone seal and arrange the plastic upper cap parts around the cables to finish the installation.

Thread on the supplied screw to the upper cap and tighten lightly by hand to prevent deformation of the silicone seal.

Feeder Grommet

Table of Grommets

Type of Sealing	Type of Cable	Color
Cold Sealing	1x 5-7 mm (.2 - .3 in) diameter	Yellow
Cold Sealing	4x 5-7 mm (.2 - .3 in) diameter	Yellow
Cold Sealing	2x 8-11 mm (.3 - .4 in) diameter	Red
Cold Sealing	2x 11-14 mm (.43 - .55 in) diameter	Green
Cold Sealing	1x 14-16 mm (.55 - .6 in) diameter	Blue
Cold Sealing	1x 18-20 mm (.7 - .8 in) diameter	White

Feeder Grommet:
PPC offers various silicone grommets to seal the exit ports on the cabinet base. Grommet sizes are available for single cable or multiple cable outputs with various diameters, including flat cable.

If a silicone grommet is not used in an outlet port, a removable plug must be used and can be replaced with another cable, if necessary. Grommets, plugs and a lubricating wipe with silicone oil are all included in the grommet kit.

Installation of Cable into Feeder Grommets

Prep the cable sheath or cable plug by wiping it with the provided silicone wipe. Immediately push the cable or plug into the grommet to avoid the silicone from drying prior to installation.

If you are using a double silicone grommet for a cable with a diameter of 6mm (96 fibers), use one hole for the cable and fill the second hole with a plastic plug, which is included in the grommet kit.

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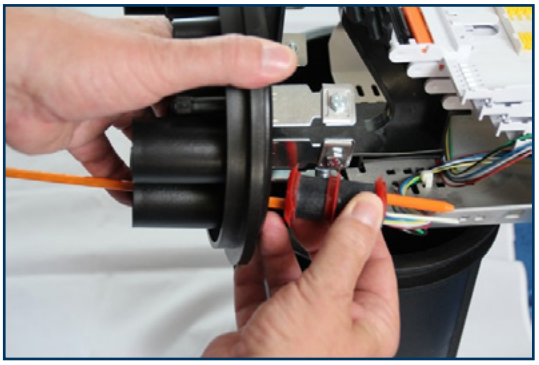
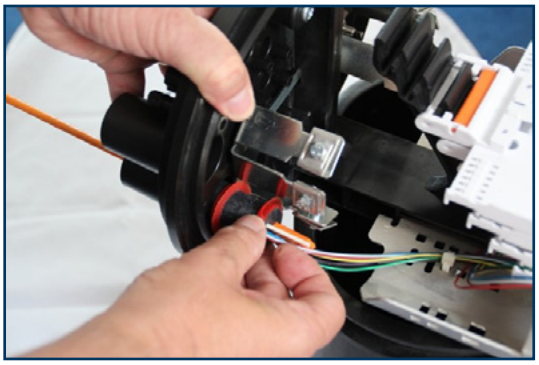
Installation of Sealing Grommets - Feeder Output Ports

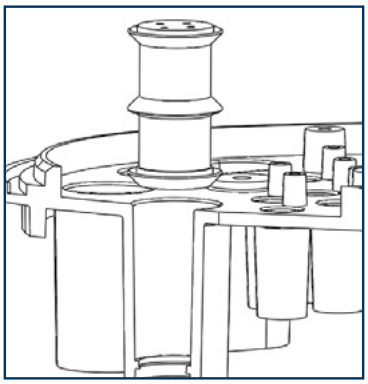


Wipe the grommet and inner surface of the port with the provided silicone wipe for easy fitting. Follow the next steps immediately to avoid the silicone from drying prior to installation.

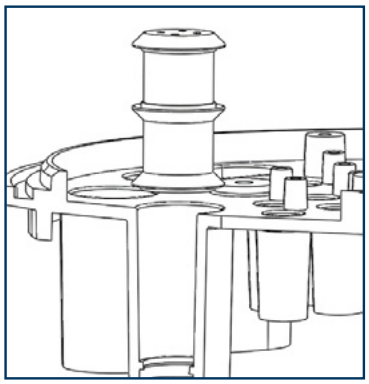


Insert the grommet into the port. The orientation and position of the grommet is critical. See the below images for more details on correct orientation during installation.

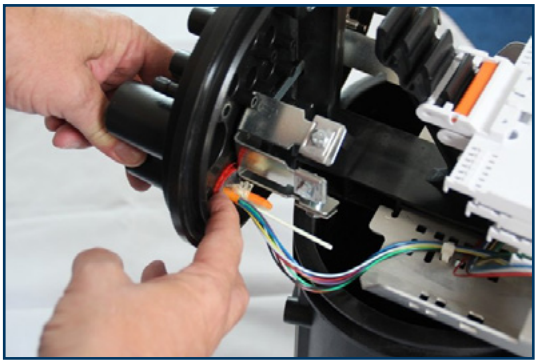
The orientation of the grommet being inserted into the end plate is critical. See the images to the right and note the orientation of the radial flanges upon insertion.



CORRECT

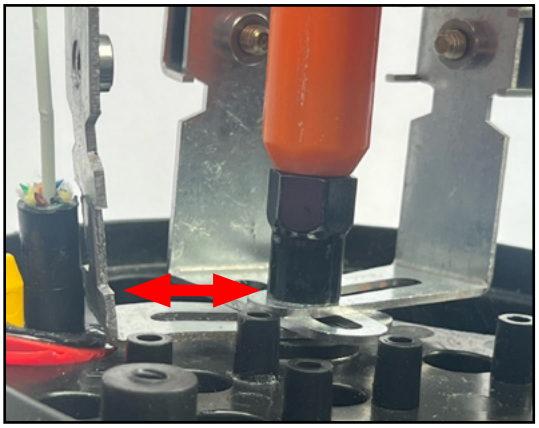


INCORRECT



Install the grommet into the port and ensure the end of the grommet is flush with the end plate.

Fill all empty holes in the grommet with a plastic plug.



Slide the L shaped strength member bracket to the required position so that it can secure the cable being installed. Fully tighten the nut when bracket is in position.

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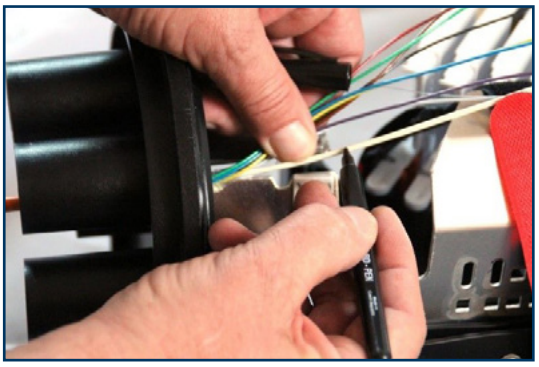
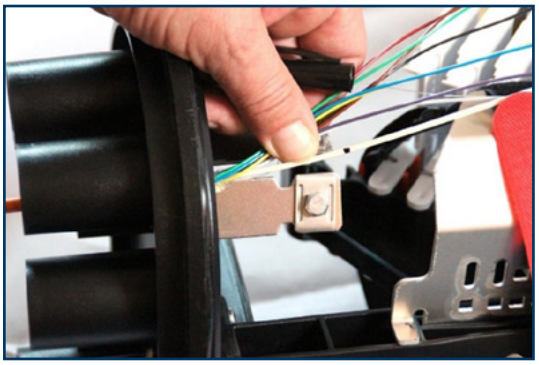
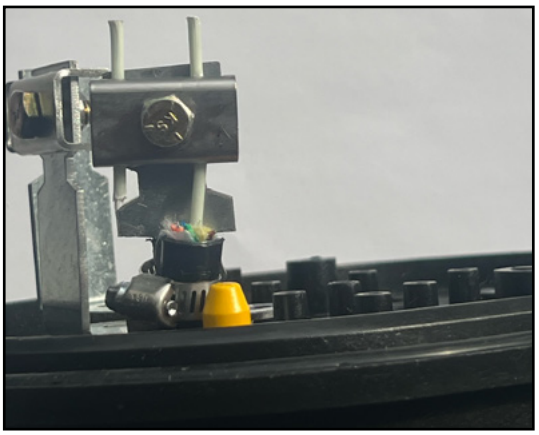


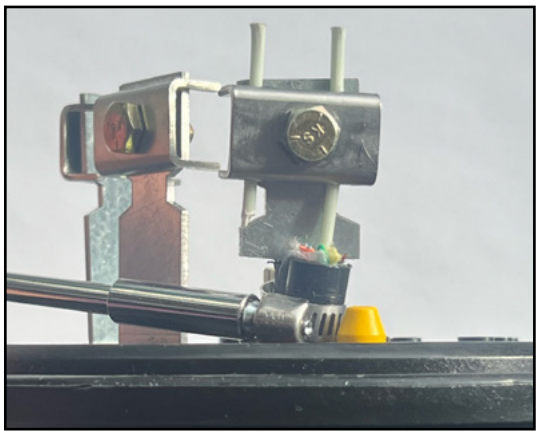
Mark the cable support element where it needs to be trimmed for mounting in the holder.



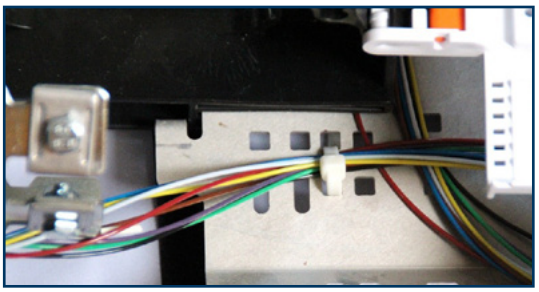
Trim the cable support element at the mark.



Align the cable support element to the v-groove in the bracket cap and tighten the bracket screw. Use part of the trimmed piece of strength member to balance the other side of the cap.



Secure the cable to the bracket with the included hose clamp.

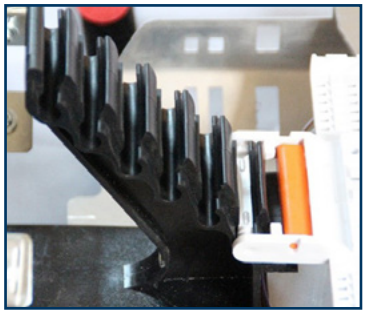


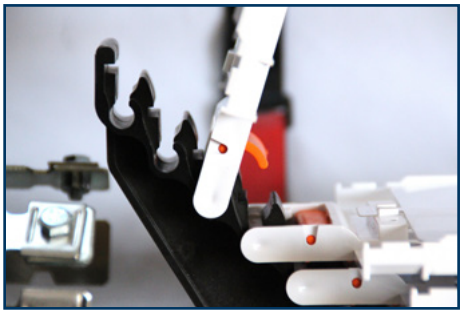
Secure the transportation tubes to the tray with tie wraps.

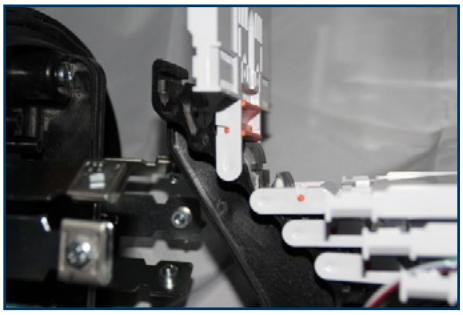
Position the Trays and Transportation Tubes/Fibers

To add a splice tray, angle the orange tray support latch downward and insert the tray hinge into the next unoccupied slot on the tray holder bracket.

To lock or unlock a tray in the upright position, adjust the orange support latch in a downward (locked) or upward (unlocked) position.

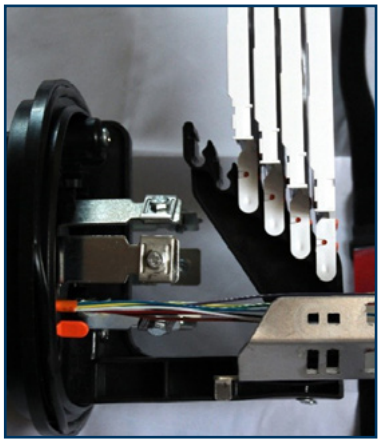


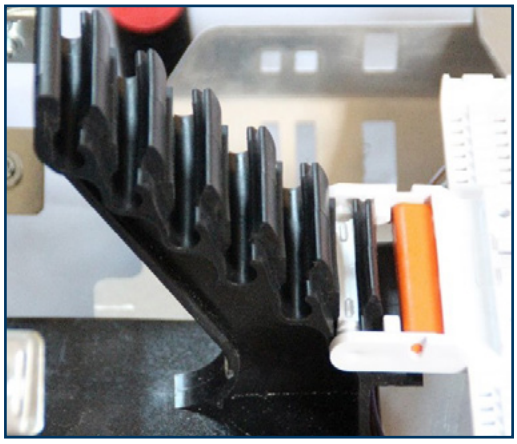




Lift the tray(s) to expose the slack basket. Use the tray support latch to lock the trays in the upright position.

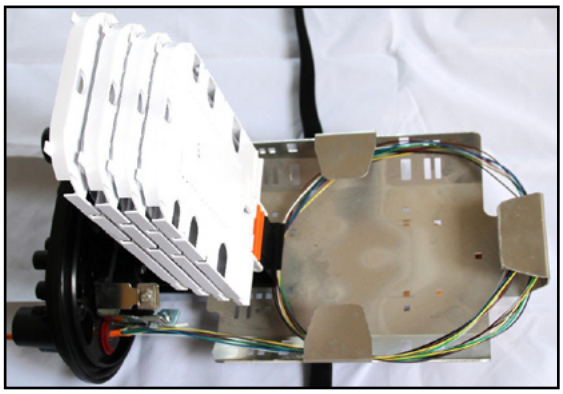
Trays can be removed and re-installed as needed to install individual tubes or for splicing.



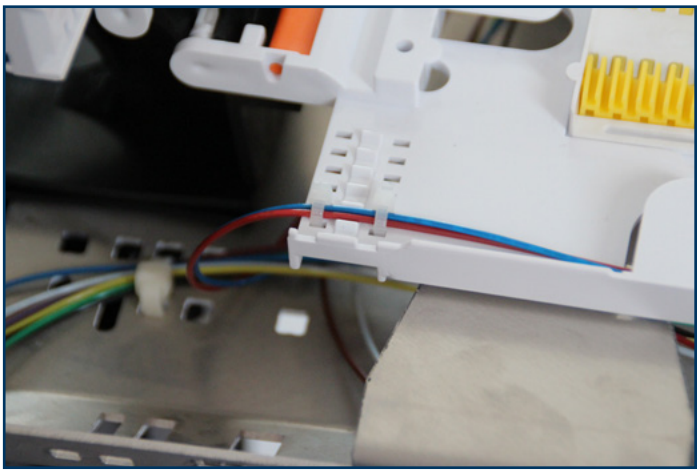


Route the distribution tubes around the slack basket using the holding brackets to ensure the tubes are secure. Avoid small radius bends.

Lower the trays into position over the slack basket and remove the tray cover. Align the transportation tubes along the outer sides of the tray.

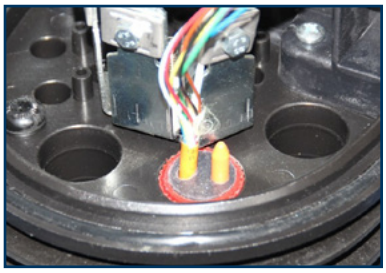


Secure the corresponding color transportation tubes to the tray with tie wraps.



Assemble Dome Splice Closure

There is a silicone o-ring on the outer perimeter of the end plate. Ensure the o-ring is in position and the seal areas are clean.



Place the end plate onto the closure lid.

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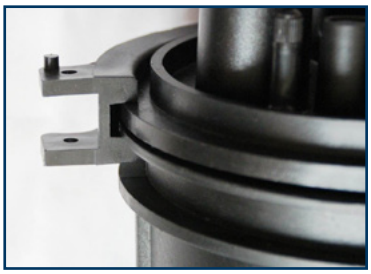
Place the circuit cap around the closure where the end plate and cover meet. Ensure the pole mount position is on the side with the Input Express Port.

Ensure the groove of the circuit cap fits around the entire perimeter with the o-ring properly sealing the closure.

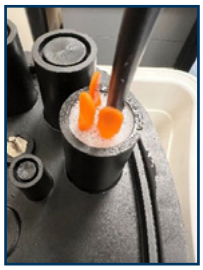


Close the circuit cap around the closure and lock the clamp.

Flash Sealing Test

With the dome fully closed and filled with grommets, use the valve stem to pressurize the dome to no more than 10psi.

Spray soapy water around the sealed areas, including the grommet-filled ports and the circuit cap.



Inspect the sprayed areas for bubbles that grow, like the ones shown in the images to the right.

If bubbles are found, here are some suggestions for resolving the leak.

Circuit Cap Leak:
1. Ensure gasket is seated properly around the end plate
2. Ensure circuit cap is installed properly and is fully closed

Grommet Seal Leaks:
1. Ensure all holes are filled with a cable or a plug
2. Ensure grommets are fully seated in the ports. See “Installation of Sealing Grommets” section for correct assembly
3. Ensure correct cable size is being used with grommets

Grounding Post Leak:
1. Ensure the nut of the grounding post is tight on inside of the end plate

Depressurize the dome.

The Dome Splice Closure is now ready for use.

Ordering Information

Number	Part Number	Description	Contents
Domes			
1	**DSCG-M00**	DSC Medium, unloaded	Fiber Optic Dome Splice Closure Series M, for gel or heat shrink sealing, splice cassettes and sealing ports not included.
2	**DSCG-L00**	DSC Large, unloaded	Fiber Optic Dome Splice Closure Series L, for gel or heat shrink sealing, splice cassettes and sealing ports not included.
Splice Trays			
3	**DSCG-MST48HS**	DSC Splice tray M-48S	Splice tray for M splice closure up to 48 heat shrink splice protectors, stranded fiber
4	**DSCG-MST24RB**	DSC Splice tray M-24R	Splice tray for M splice closure up to 24 heat shrink splice protectors, ribbon fiber
5	**DSCG-LST72HS**	DSC Splice tray L-72S	Splice tray for L splice closure up to 48 heat shrink splice protectors, stranded fiber
6	**DSCG-LST36RB**	DSC Splice tray L-36R	Splice tray for L splice closure up to 36 heat shrink splice protectors, ribbon fiber
Cable sealing sets			
7	**DSCG-SOGL**	DSC Oval port seal kit Gel	Cable sealing set for oval port – Gel type
8	**DSCG-SRGL407**	DSC Gel seal 4x5-7mm	Cable sealing set for round port – Gel type four cables 5-7mm
9	**DSCG-SDGL107**	DSC Gel seal 5-7mm	Cold seal for single drop port – Gel type for cable 5-7mm
10	**DSCG-SRGL211**	DSC Gel seal 2x8-11mm	Cable sealing set for round port – Gel type two cables 8-11mm
11	**DSCG-SRGL114**	DSC Gel seal 12-14mm	Cable sealing set for round port – Gel type one cables 12-14mm
12	**DSCG-SRGL116**	DSC Gel seal 14-16mm	Cable sealing set for round port – Gel type one cable 14-16mm
13	**DSCG-SRGL120**	DSC Gel seal 18-20mm	Cable sealing set for round port – Gel type one cable 18-20mm
Pole Mounting Bracket Kits			
14	**DSCG-PML**	DSC Pole mount brack. - M/L	Pole mount bracket for Medium / Large dome closure