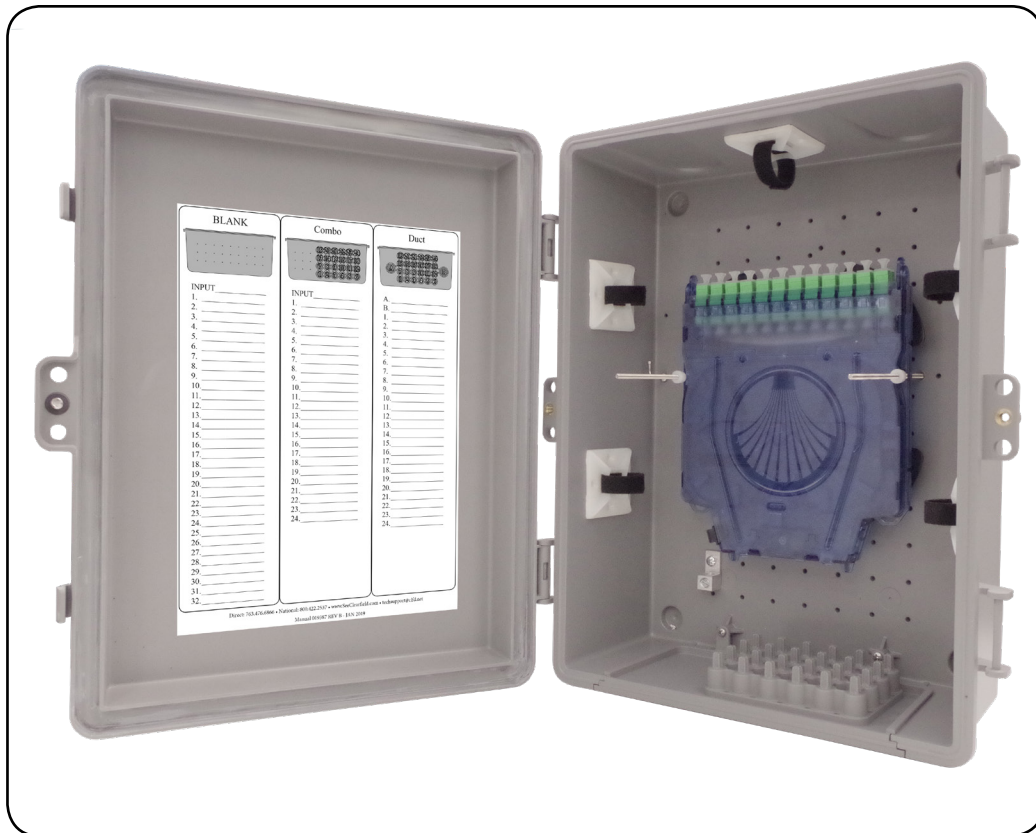


YOURx Flex Box

Installation Manual



YOURx Flex Box

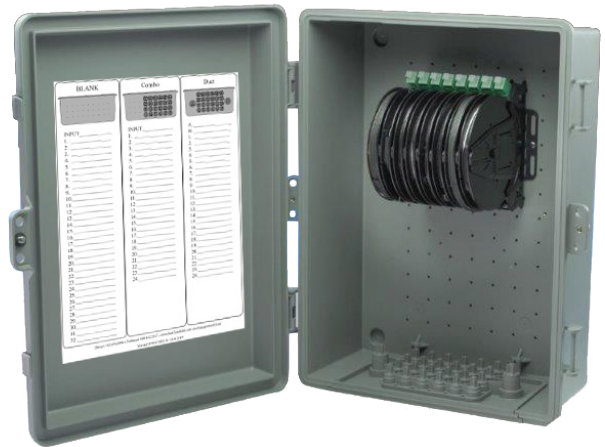
Installation Manual



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Application

Carriers are faced with many challenges when cabling MDUs in both existing (brownfield) and new construction (greenfield). One such challenge is how to manage incoming duct, while supporting varying number of subscribers in different configurations with slack management while also reducing installation time. Clearfield's patent-pending YOURx Flex Box addresses these challenges with a flexible and scalable solution all within a single wall box.



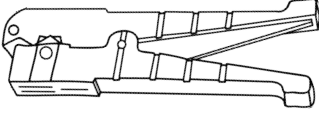
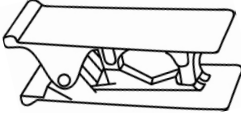
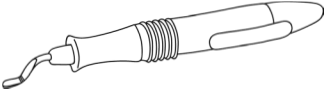
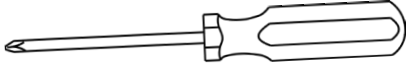
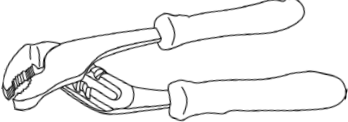
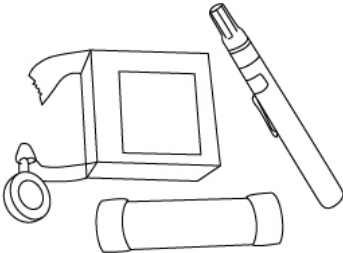
Description

The YOURx Flex Box is a secure, modular wall box with slide-in aggregator plate that supports multiple cable entries like, individual fiber cables, conduit and microduct in an organized matter. Installers simply push the microduct into the aggregator plate and they are ready to pull fiber. Slack storage is provided for both incoming and outgoing fiber in separate areas to reduce service interruptions when turning up additional subscribers. The drop wheel feature accommodates up to 16 individual drop wheel assemblies with each drop wheel supporting up to 200ft of FieldShield StrongFiber storage. The SmartRoute Plate can also be mounted in the Flex Box, providing spool technology and MPO connectorization. Using the Clearview Cassette, Drop Wheel assembly or SmartRoute Plate allows for a plug-and-play concept which reduces installation time.

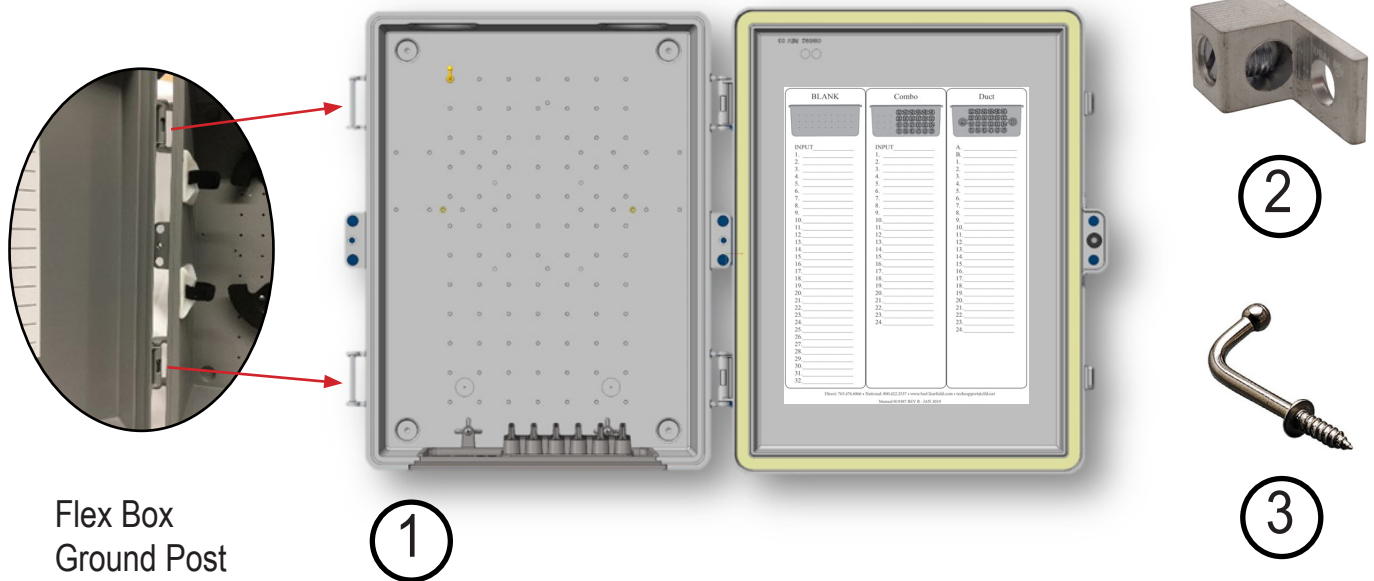
Technical Specification

YOURx Flex Box	
Dimensions	16.00" H x 12.00" W x 5.38" D
Material	UV rated, flame retardant
Port Density	Two cassettes (24 ports), up to 16 in drop wheel, SmartRoute 24 port
Connectivity Types	Clearview Blue, Clearview xPAK, Drop Wheel, SmartRoute Plate
Aggregator Plate	Duct Plate supports (24) 10/6 mm and (2) 14/10 mm Microduct Combo Plate supports (24) 10/6 mm Microduct
Drop Wheel	Fiber type - FieldShield StrongFiber
Drop Wheel Connector	Pullable SC/APC to Standard SC/APC
Drop Cable Length	200 feet FieldShield StrongFiber
Drop Wheel Material	Black Thermoplastic

Recommended Tools

Find No.	Tool	Image
001	Rotary Cutter	
002	Flat Cutter	
003	Deburring Tool	
004	Phillips Screwdriver	
005	Pliers	
006	Optical End Face Cleaning kit	

Parts List



1. Flex Box
2. Ground Post
3. Screw Hook

Dimensions: 16"H X 12"W X 5.38"D

Port Density: Two Cassettes (24 ports) or up to 16 drop wheels

Notes:

- Mounting hardware NOT included
- Bond/ground per local practices

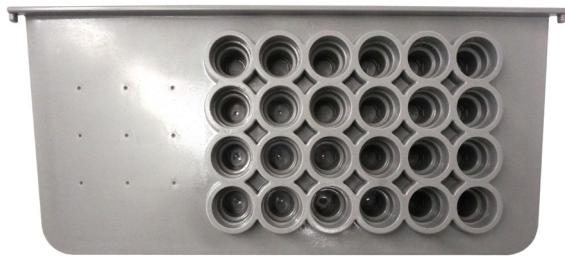
YOURx Flex Box	
Dimensions	16.00" H x 12.00" W x 5.38" D
Material	UV rated, flame retardant
Port Density	Two cassettes (24 ports), up to 16 in drop wheel, SmartRoute 24 port
Connectivity Types	Clearview Blue, Drop Wheel, SmartRoute Plate
Aggregator Plate	Duct Plate: (24) 10/6mm and (2) 14/10mm Microduct, Combo Plate: (24) 10/6mm and Conduit
Drop Wheel	Fiber type - FieldShield StrongFiber
Drop Wheel Connector	Pullable SC/APC to Standard SC/APC
Drop Wheel Cable Length	200 feet
Drop Wheel Material	Black Thermoplastic

Components: Aggregator Plates

Slide-in aggregator plates support multiple cable entries (individual fiber cables, conduit and microduct) in an organized manner.

Technicians can simply snap off a tab to a FlexPort, debur, and push in microduct. Then they are ready to pull fiber.

When extra ports are needed, additional FlexPorts can easily be installed in the field.



4



5



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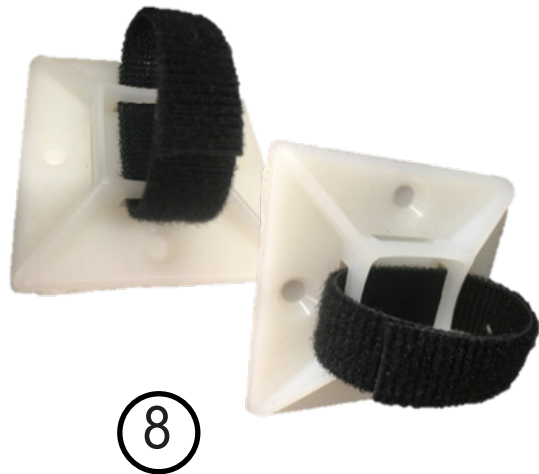


7

Dependant upon use, 4 style plates are available:

4. **COMBO Plate:** Supports up to (24) 10/6mm microducts. Also, with the 9 matchpoints on the plate, technicians can create additional fittings on the plate...ie: additional FlexPorts or the addition of sealcons or conduit fittings.
5. **DUCT Plate:** Supports up to (2) 14/10mm and (24) 10/6mm microducts.
6. **PON Plate:** Supports 1/2 sealcon and (32) 10/6mm microducts.
7. **BLANK Plate:** Can support up to a 2 inch conduit fitting. Drill points added for easy drilling.

Ship along Items



8. Qty (5) Adhesive backed Fiber Management blocks w/Velcro
9. Qty (4) Fiber management radius limiters with mounting screws
10. Qty (2) Threaded rod with nylon nuts

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The YOURx Flex Box is modular in design which can be configured in the following ways:

1. With the use of up to 2 Cassettes (24-ports) (**Figure 1**)

OR

2. The drop wheel feature, which accommodates up to 16 individual drop wheel assemblies with each drop wheel supporting up to 200ft of FieldShield StrongFiber storage. Available in 4 wheel increments (mounting screws included):

4 count

8 count (**Figure 2**)

12 count

16 count

Either choice allows for plug-and-play connectivity.

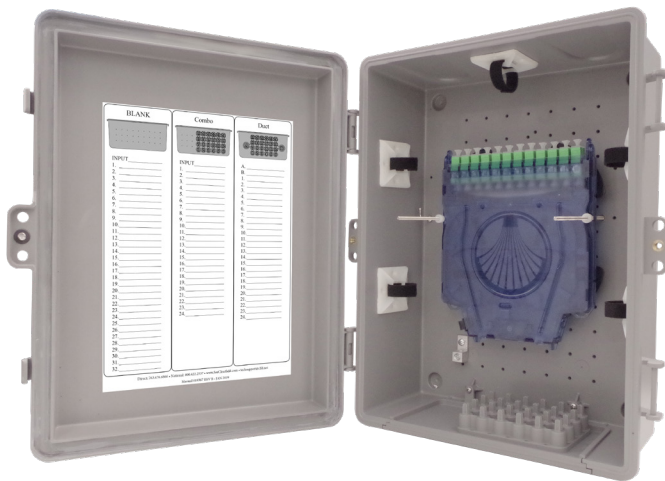


Figure 1

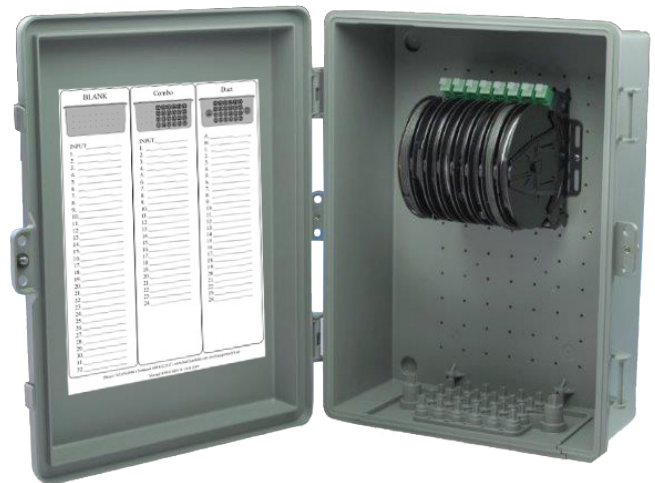
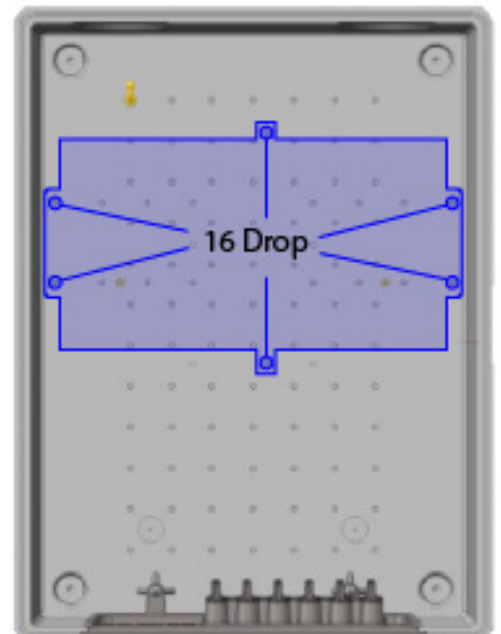
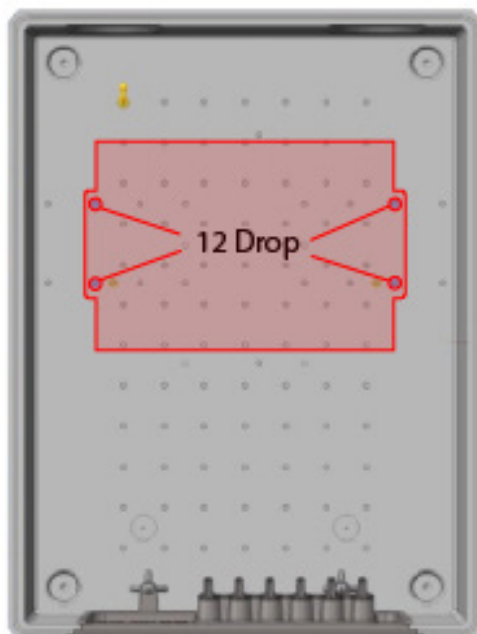
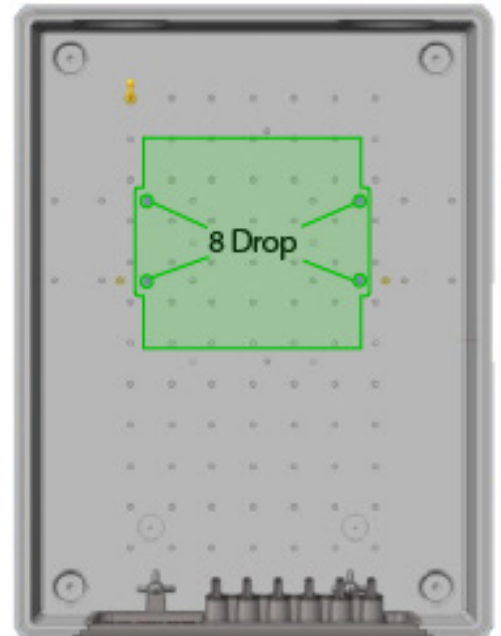
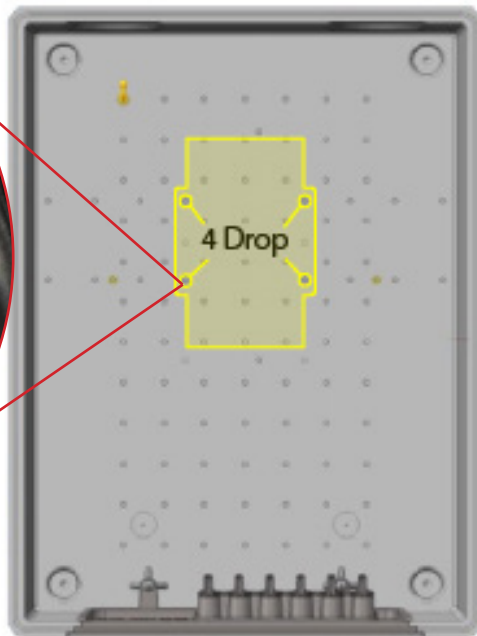
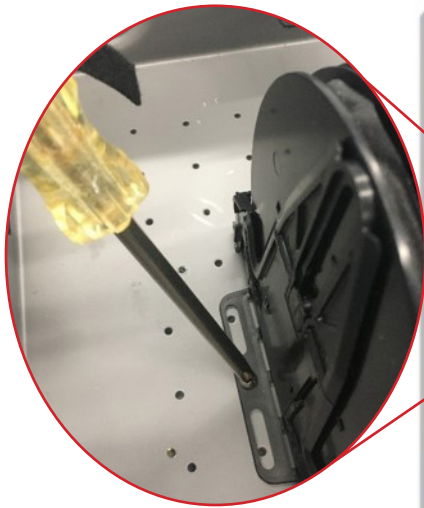


Figure 2

Using the Flex Box with Drop Wheels (Max 16)

Secure the drop wheel cradles with the provided screws following the provided hole diagram.

NOTE: In earthquake regions, the drop wheel cradle requires three screws per side.



YOURx Flex Box

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Drop wheels easily deploy by extending the wheel from the mounting cradle, pulling the fiber through the microduct, and then assembling the pulled connector.

Characteristic	Specification
Material	Black Thermoplastic
Fiber	200 Feet of FieldShield StrongFiber
Connectors	Pullable SC/APC to Standard SC/APC

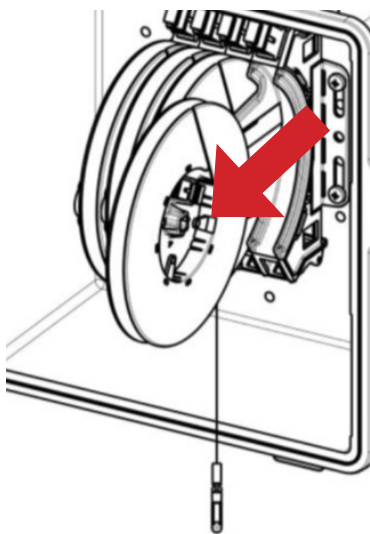
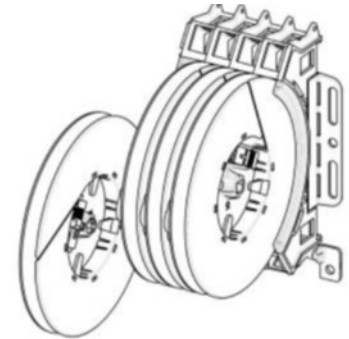


Figure 1

1. Mount Drop Wheel cradle into appropriate mounting holes (previous page), mounting the block of Drop Wheels with the fiber termination ports oriented at the top of the Drop Wheel cradle as shown in **(Figure 1)**.
Note: Fiber peels off to the back of the wheel.
2. Pull/extend desired wheel forward **(Figure 1)**, carefully remove tape holding the fiber in place **(Figure 2)**.
3. Loop a half hitch knot around the connector at the first notch in the crimp tube, tie the microduct pull string to the connector pulling eye **(Figure 3)**.
4. Feed the connector into the microduct, and with the drop wheel extended, carefully pull the fiber through the microduct **(Figure 4)**.

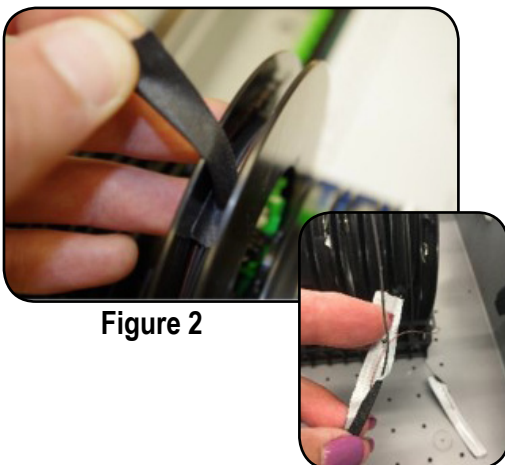


Figure 2

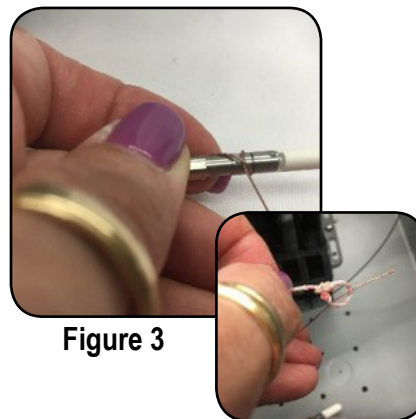


Figure 3



Figure 4

5. Assemble the connector, following instructions on the package or the steps below:

Housing Assembly

Step 1: Remove the white protective dust cap from the unassembled connector (**Figure 1**).



Figure 1

Note: The SC Pushable Connector has a keyed locking feature that holds the inner housing to the connector and aligns the ferrule when the two are correctly mated.

To properly mate the connector, the key on the inner housing must bypass the ferrule alignment notch to properly lock into place.

Step 2: Align the black mark on the inner housing with the black line on the connector, then rotate the inner housing 45 degrees to offset the lock (**Figure 2**) and slide the inner housing half way over the connector.

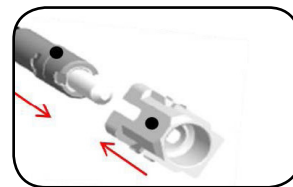


Figure 2

Step 3: Rotate counter-clockwise 45 degrees to realign the inner housing and connector and push the inner housing onto the connector until it snaps into place (**Figure 3**).



Figure 3

Step 4: Align the key on the outer housing with the black line on the connector, then slide the outer housing over the entire assembly until it snaps into place (**Figure 4**).

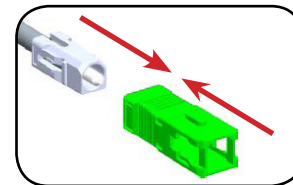


Figure 4

Step 5: Re-install the white protective dust cap (**Figure 5**).



Figure 5



Figure 7

6. At the Drop Wheel, route the standard connector from the center of the Drop Wheel through the access slot on the side of the Drop Wheel to the appropriate port on Drop Wheel (Figure 7).

Note: Additional slack can be stored in the connector access slot in the middle of the drop wheel

7. Reinsert the drop wheel into the mounting bracket. Make sure that the slide is properly aligned when reinserting the drop wheel (Figure 8).

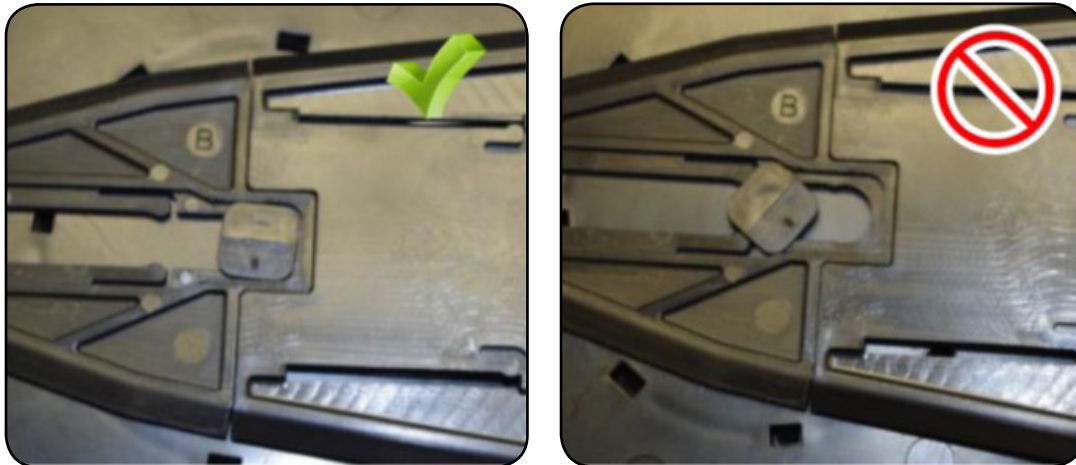


Figure 8

Note: Incorrect Position

Using the Flex Box Clearview Blue Cassette (Up to 24 ports)

Fiber management is provided for both incoming and outgoing fiber in separate areas to reduce service interruptions when turning up additional subscribers.

1. Place all 4 of the fiber management radius limiters onto the Flex Box, in the designated holes as shown in **(Figure 1)**.
2. Place the 5 fiber management blocks as shown in **(Figure 2)**.

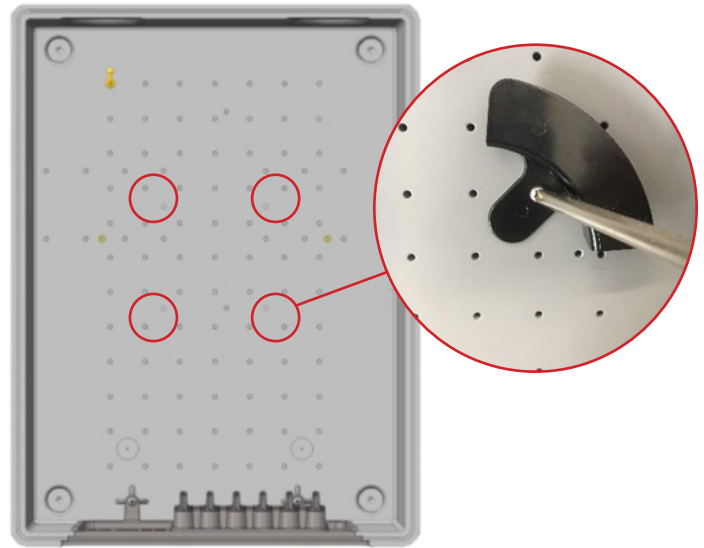


Figure 1

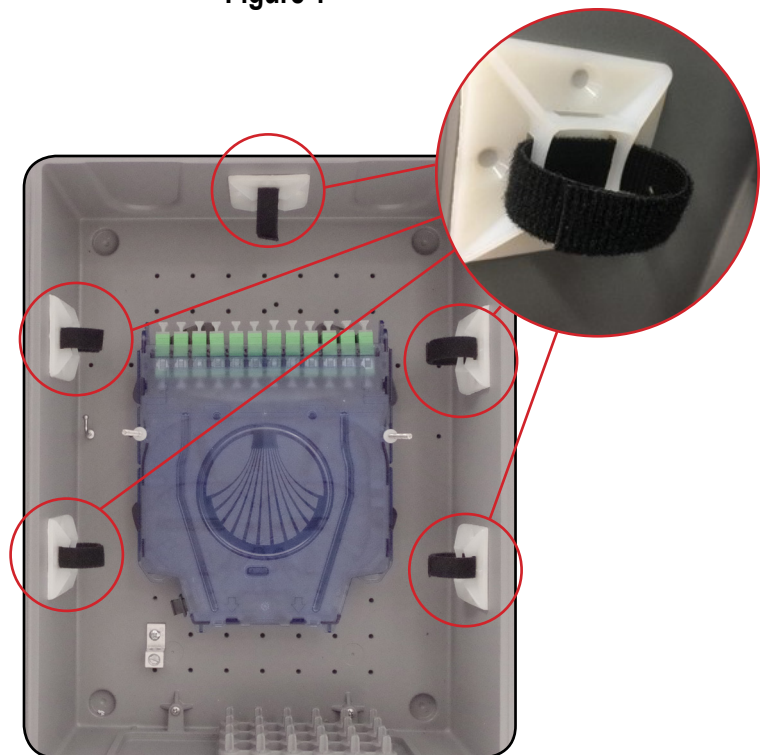


Figure 2

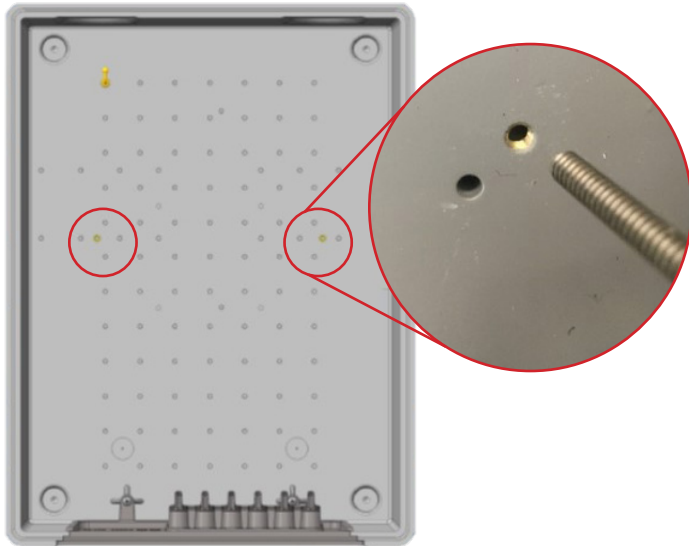


Figure 3

3. Place the two threaded rods (screw in) into pems, located in base of wall box. (Figure 3)

4. Slide cassettes onto threaded rods, utilizing the holes in side rail of cassettes and place nylon nuts to secure. (Figure 4)

Note: If configuration includes “In-Cassette” Splicing, follow procedures outlined in Clearview Blue Cassette Manual for preparing and splicing, then complete STEP 4 above.

5. If needed, up to 40 feet of 3mm jacket incoming fiber can be stored within the fiber management radius limiters, as shown in (Figure 5), then slide cassettes onto rods to secure into Flex Box.



Figure 4

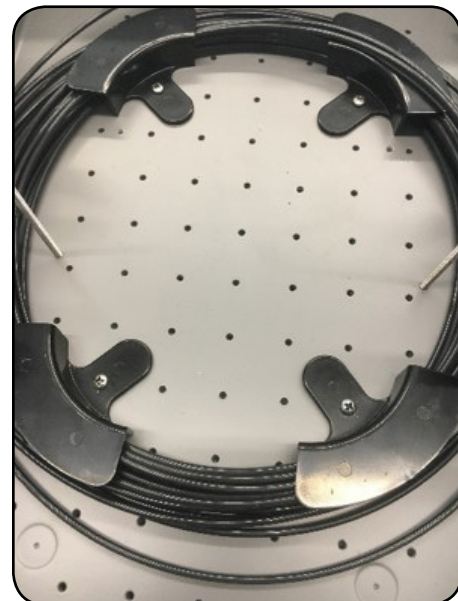


Figure 5

1. Place screw hook into a convenient location (hole) for tying off pullstring when waiting to pull fiber (**Figure 6**).
2. Flex Box is now ready to accept fiber (**Figure 7**).

Note: *Cassette can be mounted in either direction.*

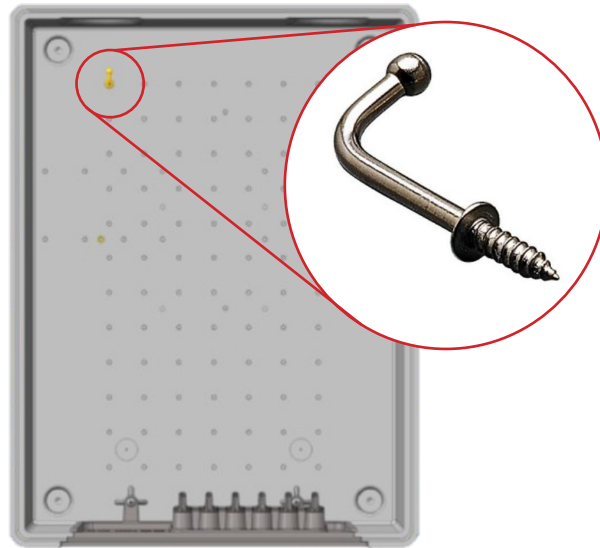


Figure 6

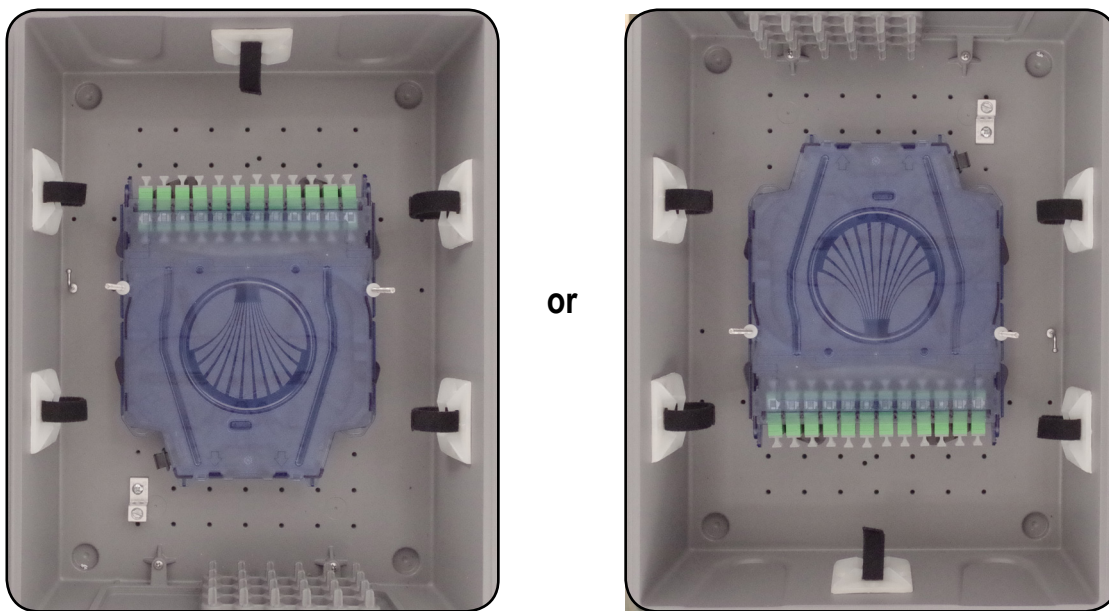


Figure 7

Using the Aggregator Plates

Depending on the configuration, the Flex Box is available with 2 different style slide-in aggregator plates, supporting multiple cable entries.

1. Slide plate into base of Flex Box, aligning into the groove as shown (**Figure 1**).
2. Using provided screws, secure plate to box as shown (**Figure 2**).
3. For **OUTDOOR APPLICATIONS**, apply silicon bead onto aggregator plate before sliding into groove.

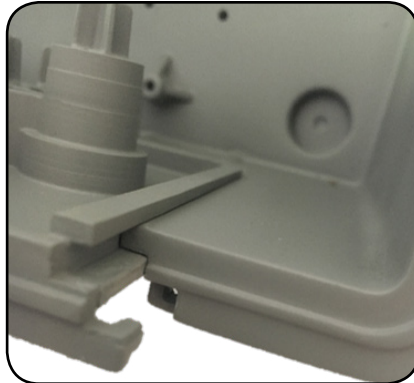


Figure 1



Figure 2

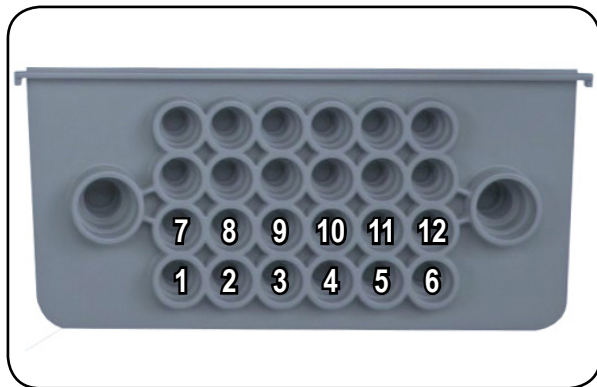


Figure 3

The Duct Plate (**Figure 3**) with (2) 14/10mm and (24) 10/6mm ports arrives from the factory with (1) 14/10mm FlexPort and the appropriate number of 10/6mm FlexPorts matching port count.

These FlexPorts will be marked on the opposite side, “tabs” with a black “X”, indicating that the port has a FlexPort installed to accept microduct.

Clearfield recommends the following port assignment.

Working from back (bottom in **Figure 3**):

1-6, then moving up to next row 7-12...etc.

Note: DO NOT place microduct into port **WITHOUT** a FlexPort installed or this box will not be water tight.

Using the COMBO Aggregator Plates

COMBO Plate (**Figure 1**) with (24) 10/6mm ports.

Also has the ability to have field installed FlexPort, sealcons or conduit fittings.

Note: Max hole size is 2 3/8" (to keep integrity of the plate intact).

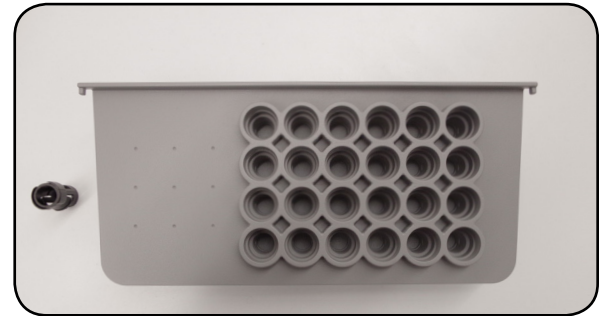


Figure 1

Place conduit fitting (**Figure 2**) or Sealcon (**Figure 3**).

Additional FlexPorts can be added in the field utilizing the 9 match points (**Figure 4**).

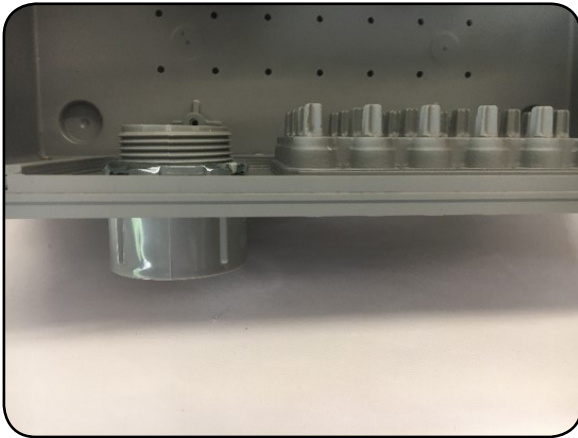


Figure 2

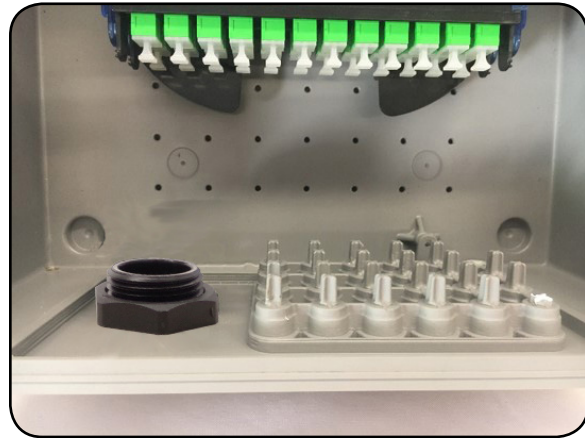


Figure 3

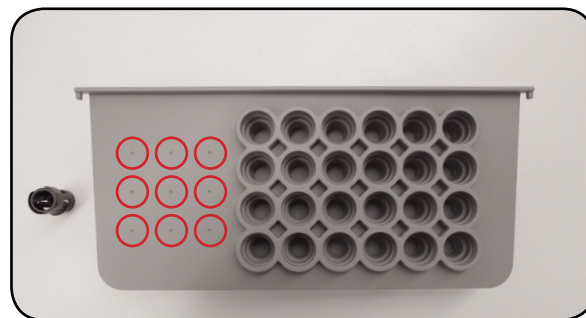


Figure 4

Installing Microduct into Aggregator Plate



Figure 1

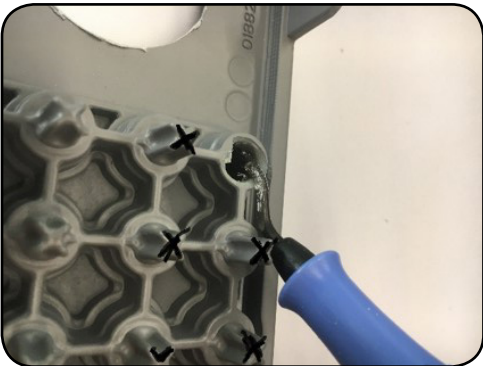


Figure 2



Figure 3

1. Using a pair of pliers, snap off tab of desired FlexPort (marked with black "X"). (**Figure 1**)
2. De-burr port, using the de-burring tool as shown, or snips/knife, to remove any sharp edges. (**Figure 2**)
3. Push pull string through port, tie off to the screw hook (previously placed). (**Figure 3**)
4. Properly prepare microduct, (flush cut and de-burr, then insert duct into FlexPort until snug). (**Figure 4**)



Figure 4

Installing Additional FlexPorts

FlexPorts are factory installed into aggregator plates that come from the factory based on the port count specified at time of order.

When needed, FlexPorts can be added in the field to allow the terminal to accept additional microduct.

1. Locate and, using pliers, remove tab associated to the 10mm or 14mm port that you will use. (Figure 1)
2. De-burr (using a de-burring tool/snips/knife) the port hole for a smooth transition without damaging the fiber as it enters the port. (Figure 2)

Note: MUST BE FULLY DE-BURRED FOR MPO

3. Following the diagram, place parts as shown. (Figure 3)

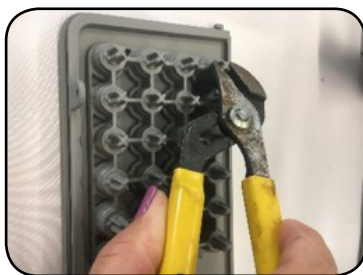


Figure 1



Figure 2

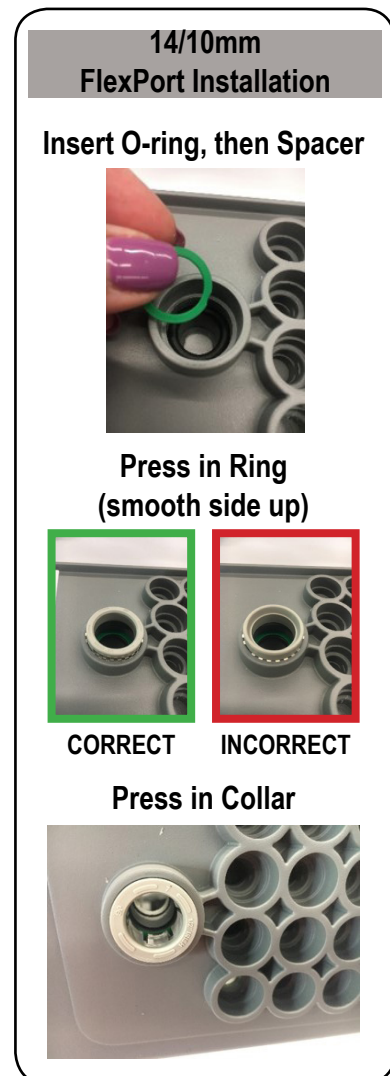
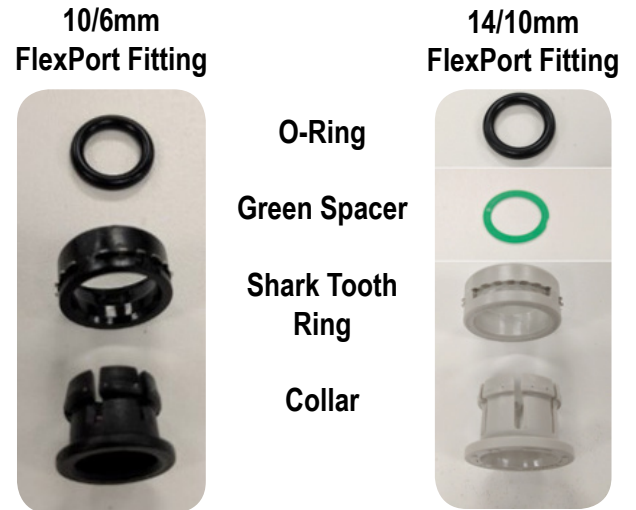







Figure 3

DROP CABLE OPTIONS

Product Name	Cable Jacket	UV	Temperature	FieldShield Connector	Jacket Color	Can be stapled	Best Application
 <p>FieldShield FLATdrop</p>	Outdoor	Yes	-40° to 176°F	No	Black	Yes	For use when fast installation and low up-front cost is most desired feature.
 <p>FieldShield D-ROP</p>	Outdoor	Yes	-40° to 176°F	Yes	Black/ Orange	Yes	For use when a single pass and restorable solution at a competitive price is ideal.
 <p>FieldShield FLEXdrop</p>	Indoor (Plenum Rated)/ Outdoor	Yes	-40° to 176°F	Yes	Black/ White	Yes	For use when a premium product that has maximum workability, flexibility and restorability is desired.
 <p>FieldShield (Classic)</p>	Outdoor in Duct	Yes in Duct	-40° to 176°F	Yes	Black	Yes	For use when the distance from the access point to the SFU/MDU is longer than normal and a more rigid solution is required to maintain restorability for drops longer than 300 feet.
 <p>FieldShield StrongFiber</p>	Indoor/ Outdoor in Duct	Yes in Duct	-40° to 176°F	Yes	Black	Yes in Duct	For use when a reusable pathway is needed and maximum slack storage is desirable.

Connector Cleaning Procedure

Whether factory terminated or field spliced, clean connectors are essential for proper system operation. Even the smallest dust particle can cause transmission problems, so for optimal network performance, inspect and if necessary, clean all connectors and adapters prior to mating.

I.T.C...Inspect Then Connect!

ALWAYS inspect the connector first thing with a clean fiber scope inspect the pair. Three types of contamination require different cleaning techniques. The use of Chemtronics end face and bulkhead cleaning products and techniques ensures a clean end face, no matter the type of contamination.

These are Clearfield recommended products/application. Use the product you feel will complete your cleaning procedures. Create a “best practice” for your company and follow those procedures.

****Note: It is NOT recommended to use IPA to clean the end-face.**

Cleaning the end-face...but not just the end-face

- Place one wiping paper on QbE-2 FiberSafe™ Cleaning Platen. **Figure 1**
- Apply small amount of precision cleaner (about 1” in diameter) with Electro-Wash MX pen on to one end of the wipe. **Figure 2**
- Hold end face 90 degree. Adjust for APC connection by slightly tilting the container or end face. Angle is correct when no drag is left on the end face. **Figure 3**
- Draw end face from wet to dry part of the wipe 3 times. Use just enough pressure to ensure complete contact between end face and the wipe.

DO NOT retrace previous step.



Figure 1



Figure 2



Figure 3

- **CLEAN THE FERRULE...** Lightly moisten the fiber optic swab (2.5mm/38542F or 1.25mm/38040) by spotting a small amount (about 1") of Electro-Wash PX or Electro-Wash MX pen onto the QBE-2. Hold the swab, 1 side down to the wetted area and hold for a count of 1-2-3-4-5.

Figure 4

- Insert swab into side of ferrule, wet side to the ceramic ferrule and circle around 2-3 times and remove. Turn swab to dry side and repeat.

Figure 5

Cleaning the mate through a bulkhead adapter AND the adapter itself!

- Lightly moisten the fiber optic swab (2.5mm/38542F or 1.25mm/38040) by spotting a small amount (about 1") of Electro-Wash PX or Electro-Wash MX pen onto the QBE-2. Hold the tip of the swab onto the wetted area and hold for a count of 1-2-3-4-5.

- Insert the swab into the adapter to the connector, press lightly against the connector, twist 2-3 times, remove and discard.

- Dry with a second dry swab.

- Inspect (re-clean if necessary) and test for signal strength.

- Use additional swabs to clean inside the actual adapter. Moisten swab, like above, insert through hole and remove while twisting. **Figure 6**

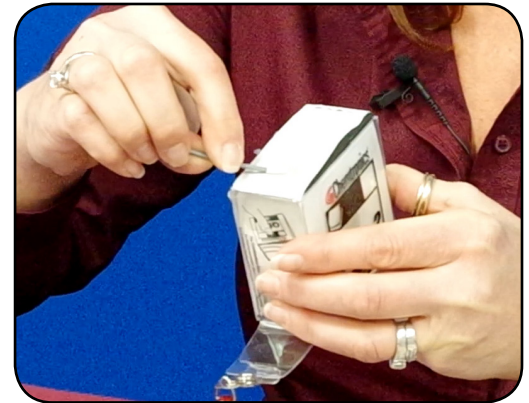


Figure 4



Figure 5

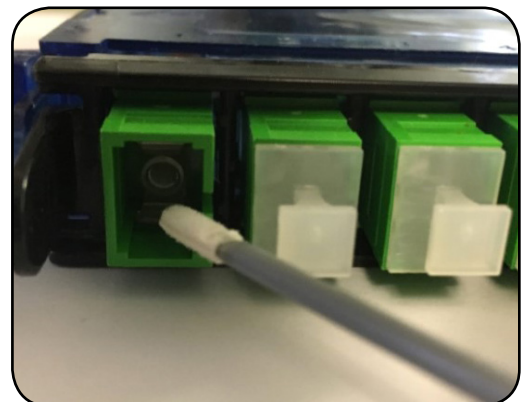


Figure 6

Cleaning an MPO/MTP Connector

Female Connector

- Place one wiping paper on QbE-2 FiberSafe™ Cleaning Platen and apply small amount of precision cleaner (about 1" in diameter) with Electro-Wash MX pen on to one end of the wipe. **Figure 1**
- Hold end face 90 degree. Adjust for APC connection by slightly tilting the container or end face. Angle is correct when no drag is left on the end face. **Figure 2**



Figure 1

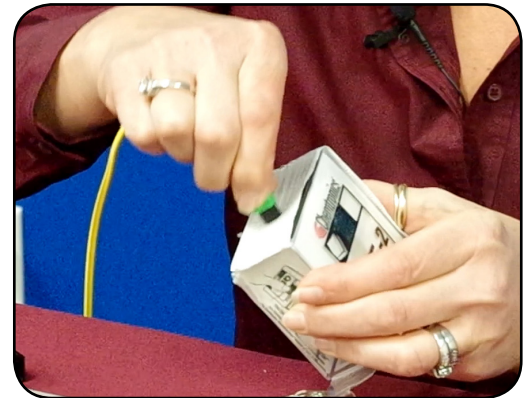


Figure 2

Male Connector

- Lightly moisten the fiber optic swab (CC505F) like above, moistening 1 side.
- Place swab, wet side down at one end of connector end-face and draw across in a diagonal sweep (ie: from fiber 1 up and across to fiber 12). Turn swab over to dry and draw back from fiber 12 to fiber 1. **Figure 3**



Figure 3

BEFORE cleaning any connector...be sure you know what type of contaminate you are cleaning...dry? Fluidic?...All the available products are good, it's the process that you need to be aware of. Using a dry cleaning method to clean "dirt" can lead to scratching of the end-face. Learn the process of cleaning properly!

Standard Warranty

Clearfield warrants to the original purchaser of the Product sold hereunder is free from defects in material and workmanship under normal use and service, subject to exceptions stated herein. Product purchased is warranted as follows: Clearfield designed and branded Products are warranted for three (3) years; Products manufactured by Clearfield to customer prints and/or specifications are warranted for one (1) year; and any Product Clearfield acquires from or through a third-party manufacturer or distributor and resells to Customer as the original customer will carry the manufacturer's pass-through warranty, if any. In all cases, the warranty period commences on the date of shipment to the original purchaser.

Warranty Claim Procedure

If any Product purchased from Clearfield is found defective under the above warranty, the following basic procedure must be followed:

1. Customer must contact Clearfield and obtain a Return Materials Authorization.
2. Following authorization, the Customer ships the product-freight collect-to Clearfield's manufacturing facility.
3. Clearfield shall repair or replace the defective Product at its sole option and discretion, and return the repaired or replacement Product to Customer's site, freight prepaid.

Note: If the Product is not found to be defective by Clearfield, the product will be returned to the Customer and the customer billed for freight in both directions.

View our warranty policy here: <https://www.seeclearfield.com/warranty.html>

Limitations of Warranty

Correction of defects by repair or replacement, at the option of Clearfield Inc, shall constitute the exclusive sole remedy for a breach of this limited warranty. Clearfield shall not be liable under any circumstances for any special, consequential, incidental, punitive, or exemplary damages arising out of or in any way connected with the product or with agreement to sell product to buyer, including, but not limited to damages for lost profits, loss of use, or for any damages or sums paid by buyer to third parties. The foregoing limitation of liability shall apply whether the claim is based upon principles of contract, warranty, negligence or other tort, breach of statutory duty, principles of indemnity or contribution, the failure of any limited or exclusive remedy to achieve its essential purpose, or otherwise.

Clearfield will not be responsible for any labor or materials costs associated with installation or incorporation of Clearfield products at customer sites, including any costs of alteration, replacement or defective product, or any field repairs.

Other Limitations

Clearfield assumes no warranty liability regarding defects caused by:

1. Customer's modification of Product, excepting installation activities described in Clearfield documentation.
2. Customer re-packaging of Product for shipment to third parties or destinations other than those originally shipped to by Clearfield, or any defects suffered during shipping where the Product has been re-packaged.
3. Customer's installation or maintenance, excepting activities described in and performed in accordance with Clearfield documentation
4. Customer's improper or negligent use or application of Product.
5. Other causes external to the Product, including but not limited to accidents, catastrophe, acts of God, government action, war, riot, strikes, civil commotion, sovereign conduct, or the acts or conduct of any person or persons not party to or associated with Clearfield.
6. Environmental factors and weathering resulting in aging and damage not necessary or applicable to the function of the product.



Proprietary Notice

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However, no guarantee is given or implied that the document is error free or that it is accurate with regard to any specification.

Technical Support

Clearfield, Inc. can be contacted for any issues that arise with the supplied product.

If you need to return the supplied product, you must contact the Clearfield, Inc. Customer Service Department to request a Returned Materials Authorization (RMA) number.

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