Installation Instructions
HUS00042A

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Introduction

This document provides a detailed explanation of the installation procedures for the Hexatronic 96 FDH within a FTTH application.

Technicians responsible for working with Hexatronic products are required to possess the necessary training and skill to guarantee the proper execution of tasks.

Tools and Materials

This section presents the recommended tools for handling Hexatronic Microduct Assemblies. All microduct management tools can be purchased at https://lightbrigade/tools-tool-kits. Additional tools can be purchased from your local hardware store. Additional materials are purchased from Hexatronic US Inc.

Name	Description	Picture
Multiduct Assembly Cutter by Jonard® PN: HT-MDC-64	Designed to cut all multiduct assemblies. 1-24 way.	
Microduct Cutter by Jonard® PN: HT-MDC-14	Cut single microducts cleanly at 90° angle with built in rounding tool.	
Sheathing Knife by Jonard® PN: HTKN-100INS	Tool for cutting through sheathing of multiduct assemblies.	
Duct Shaper PN: B-LDK19501/10	Used to round out opening of microduct to 3.5mm ID.	

Table 1 - Duct Management Tools

Name	Description	Picture
Power Drill	Used when mounting swing arm to vault.	
3/8-inch Masonry Drill Bit *Polymer Concrete Vault Only	Used to pre-drill holes for anchors.	
1/2-inch Socket	1/2-inch socket is required when driving in lag bolts.	
Rubber Mallet *Polymer Concrete Vault Only	Mallet to tap in anchors.	
Phillips Head Screwdriver	Used to attach FDH Bracket to the base of the FDH.	
Marker *Polymer Concrete Vault Only	Used to mark mounting location of swing arm.	

Table 2 - Additional Tools

Name	Description	Picture
Divisible Seals PN: NDK12103	Used as plugs for microducts to prevent moisture entering. The end cap also locks the fiber to prevent it from moving.	
Reduction Connectors PN: NPA10301/7	Used to reduce 7/3.5 mm microduct to 5/3.5 mm tails.	
Swing Arm & Accessories PN: HSBX-MOBRA-ARM	Used to secure the FDH to the side of a vault. Comes with mounting hardware.	
Mechanical Compression PN: FCLD-XHDCKIT-CCSO	Used in micro cable installations.	

Table 3 - Additional Materials

Documentation

It is recommended to read the following documents:

- ➢ Direct Buried Installation Rev1
- ➢ Thick-Walled Duct Solution Guidelines Rev1

Product Description

The Hexatronic Underground FDH is a compact dome closure specifically designed for installation in FTTH applications. It features 96-5/3.5mm microduct tails for rapid installation, along with a 96-LC/APC adapter panel that enables quick and efficient connections to multiple homes in a small area. The closure is equipped with a swing arm for easy access during maintenance and offers maximum splice capacity and functionality. Its compact design, intelligent fiber-routing, easy access tear-out ports, and mechanical compression seals all work together to streamline on-site operations and reduce overall installation time.
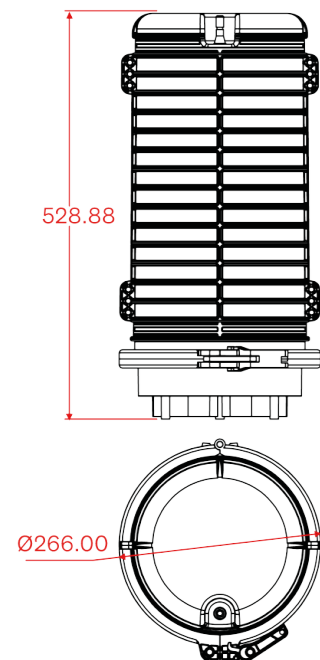
Design

The Hexatronic Dome Closures are IP68 rated, ensuring a watertight dome and integrated O-ring system that makes them perfect for use in harsh environments. They are designed with Hexatronic's key principles in mind, speed of deployment, ease of use, innovative thinking, and high quality.

The single-piece raceway construction is both strong and lightweight, making installation quick and easy. All closures have been designed with fiber routing in mind, to ensure they can be built to the highest standard.

In addition to providing a safe area for midspan storage, the Hexatronic Dome Closure family offers various toolless sealing modules to fit all types and sizes of cables. The closures also feature a management system for switching directions of entry fiber routes and to offer quick and easy installation of extra splice trays.

All closures are versatile and customizable, with various accessories for holding splitters, connector assemblies, and pigtails.

528.88

Ø266.00

Overview

Top mixer

Retention clips
for midspan

Splitter holders

Mixer

ABF Retainers

Pass through tunnel

96 LC/APC Adapter Ports

Connector Guard

Cable Management

Splice Trays

Dome Closure
Mounting Bracket
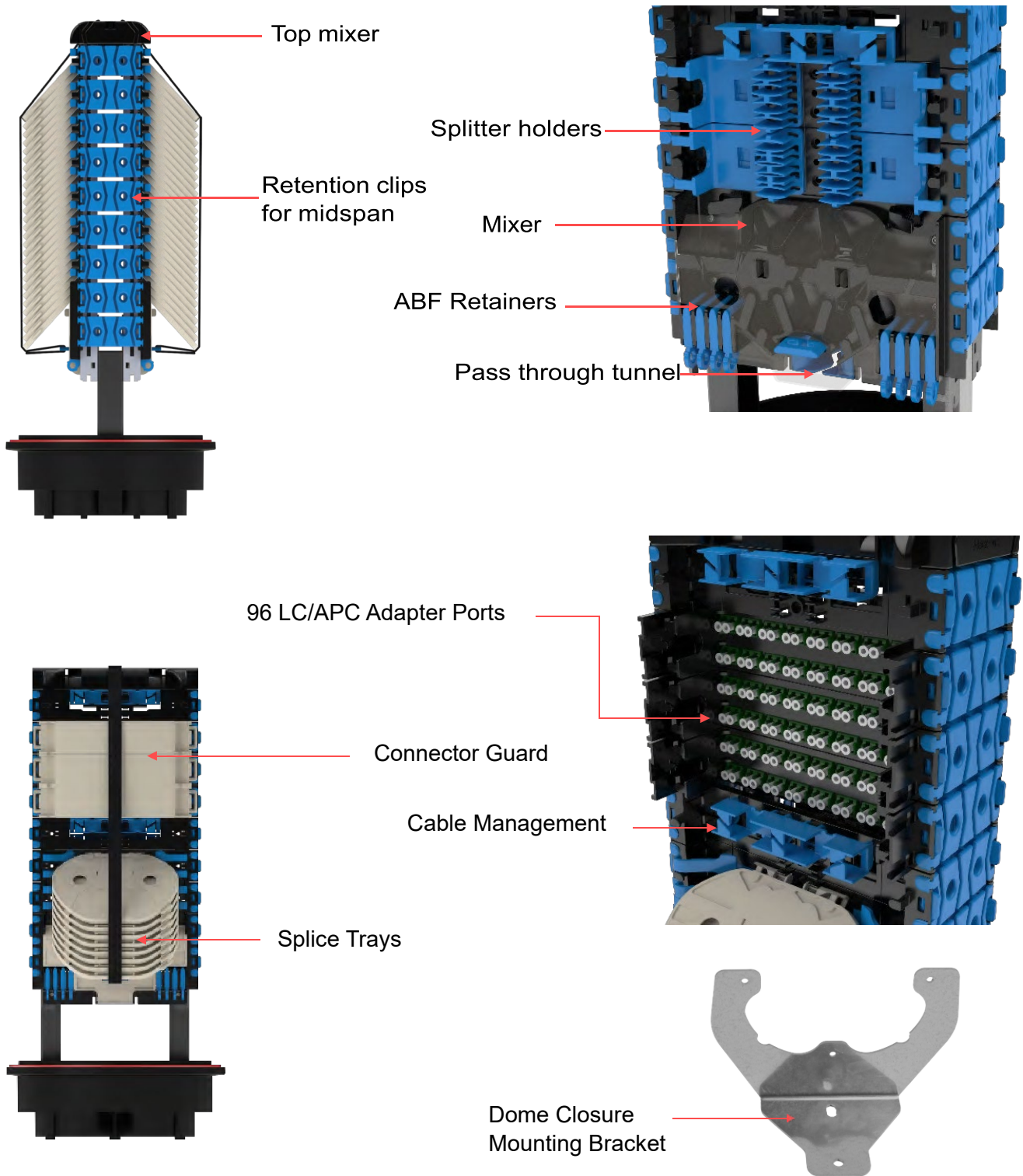
Underground FDH Installation Procedure

This section contains instructions on how to install the Hexatronic dome closure into an underground vault. This instruction covers the mounting and organization of the underground FDH servicing 96 customers.

Prerequisites

The following steps must be taken before installation.

- Vault placed and all multiduct routes enter from the base of the vault. There should be 10-feet of multiduct slack from the base of the vault.
  - Make sure the vault is not resting on the multiduct assemblies crushing the microducts.
- Unpack the FDH and Swing Arm. The FDH will come with a mounting bracket and 3 screws to attach the mounting bracket. Swing arm will come with 10-lag bolts, 10-anchors, 10-washers, and 2-spring washers with matching bolts.
- Be sure have all the necessary tools referenced in *Table 2.*

Polymer Concrete Vault:

1. Use the swing arm base or a template to mark drill locations on the side of the vault, longways. The top of the swing arm bracket should be 2-inches from the base of the vault lid. There will be 5 marks on each side of the swing arm. *Picture 1*
2. Drill the 10 marked locations using a 3/8-inch masonry drill bit. *Picture 2*
3. Tap in the 10 supplied anchors with a mallet. *Picture 3*
4. Using a 1/2-inch socket, secure the swing arm with the supplied lag bolts and washers. *Picture 4*
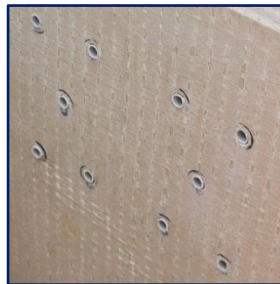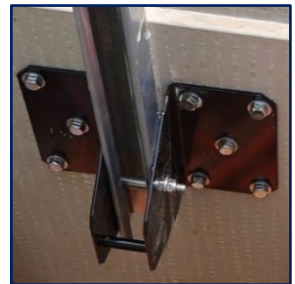

Picture 1   *Picture 2*   *Picture 3*   *Picture 4*

5. Slide the two spring washers down the channel of the swing arm at the desired height. *Picture 6*
   - Be sure that when the swing arm is in its horizontal position that the top of the FDH will clear the opposing side of the vault.
6. Line up the FDH bracket to the swing arm and secure in place using a 1/2-inch socket.

High-Density Polyethylene:

1. Hold the swing arm 2-inches from base of the vault lid. Using the 1/2-inch socket, drive two of the supplied lag bolts to hold the swing arm in place.
2. Drive in the remaining 8 lag bolts and washers. *Picture 5*
3. Slide the 2 spring washers down the channel of the swing arm at the desired height. Be sure that when the swing arm is in its horizontal position that the top of the FDH will clear the opposing side of the vault. *Picture 6*
4. Line up the FDH bracket to the swing arm and secure in place using a1/2-inch socket.
5. Now attach bracket to the base of the dome closure using the three supplied screws.
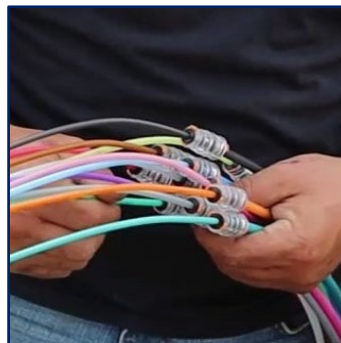

Picture 5

Picture 6
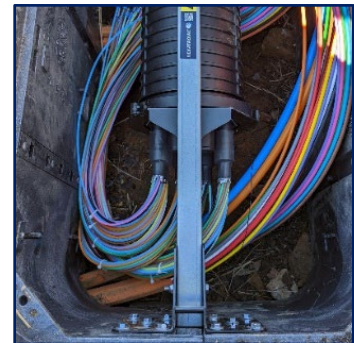
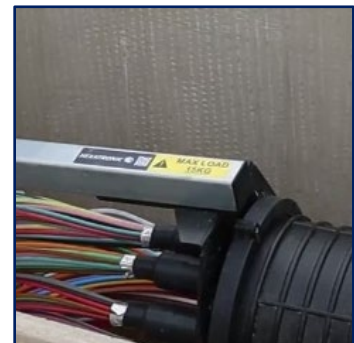*Picture 7*

Connecting Microduct Routes

1. Remove all sheathing from microduct assemblies using the embedded rip cord or de-sheathing knife. Use snips or duct cutters at base of sheathing to remove. *Picture 10*
2. Tape microducts in groups of 12 based on the TIA-598 color code.
3. Connect 5mm tails to incoming 7mm routes using a 5 to 7 mm reduction connector. FDH tails are in groups of 12. Keep corresponding microduct assemblies lined up with each grouping and color. *Picture 11*

Picture 10

Picture 11

Picture 12

➢ Make sure there is a clean 90° cut on all microduct ends. Use the duct shaper to round the inside of the microduct if necessary.

➢ Do not remove 5mm End Stops from FDH tails that are not being connected to incoming routes. These spare tails can be taped up and placed to the side of the vault.

Upon successfully completing these steps, your Underground FDH is mounted and ready for fiber installation.

Dome Closure Clamp Removal
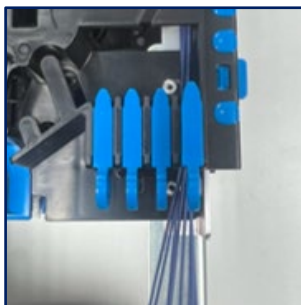

Picture 14

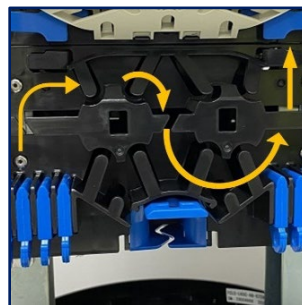
Picture 15

Picture 16

# Fiber Management

Stingray Fiber Units

1. After the fiber unit has been blown into the FDH, make sure there is enough slack to dress accordingly.
    ➢ Extra slack is not needed for ABF applications.
2. A Strain relief or divisible seal is installed securing the fiber unit in the microduct.
    ➢ This can also be installed in the reduction connector.
3. Route the fiber into the closet ABF retainer and into the mixer. *Picture 17 &18*
4. Dress the fiber unit into the channel and into the proper splice tray if splicing on pigtails. For mechanical connectors, route directly to the adapter panel for installation.
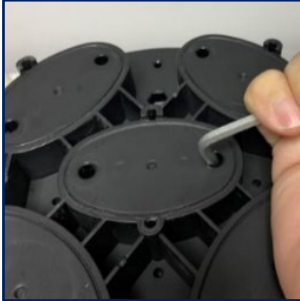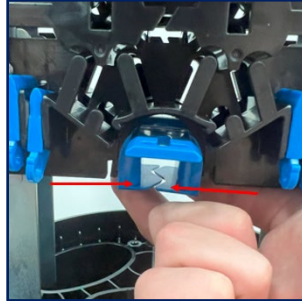

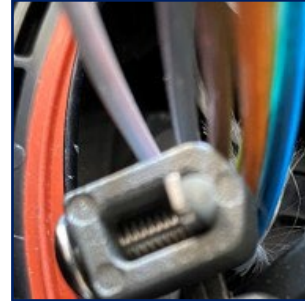*Picture 17*

Picture 18
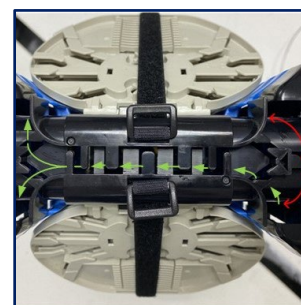
Picture 19

Micro Cable

1. Peel out the seal in the center of the base of the FDH. Use a hex key or screwdriver. *Picture 20*
2. Install Cable with mechanical compression accessory.
3. Remove center channel tunnel for midspan storage. *Picture 21*
4. Cut the FRP strength member and attach it to strain relief. *Picture 22*
5. Route designated fiber into splice tray mark the fiber units.

Picture 20

Picture 21

Picture 22

Verifying the Installation

Verification of the installed network is carried out either by the installation crew or the quality control department. It is advisable to blow a cleaning sponge into each connected pathway to guarantee the continuity and cleanliness of the microduct. Once verified, both ends are capped with an end stop at the serving side and a divisible seal at the FDH. Any observations made during the verification process are recorded and communicated to the person responsible for the installation.

Performing Concluding Routines

A final physical inspection to be conducted on the installation to confirm the organization of all microducts with sweeping turns, proper sealing of unused tails, and ensuring there are no kinked microducts. This will greatly assist in future fiber installations.

Additionally, verify all fiber is arranged into the ABF Retainers and slack is appropriately managed. Seat the lid over the top and line up the valve steam to the swing arm. Install locking ring and lower FDH into its horizontal position.

Be sure that all waste materials and tools used during the installation process are removed from the jobsite.

Update any documentation to accurately reflect modifications made during the installation. This will help maintain precise and up-to-date information for future services.

These procedures will ensure the successful installation of the Underground FDH and ensure a well-organized and secure fiber network.

Glossary

PON

Passive Optical Network

P2P

Point to Point

ABF

Air Blown Fiber

FTTH

Fiber to the Home

FDH

Fiber Distribution Hub

CTB

Customer Termination Box

NID

Network Interface Device

FRP

Fiberglass-Reinforced Plastic

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