## FiberGuide® Fibre Management Systems

2nd Edition





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## FiberGuide® Fibre Management Systems

### Introduction

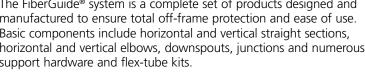
### The Industry's Most Comprehensive Optical Raceway System

ADC KRONE's FiberGuide® fibre management systems offer the greatest breadth of optical raceway products in the industry. In response to customer requirements, ADC KRONE continues to innovate and improve FiberGuide® systems, adding greater flexibility and driving down installation time to ensure a smooth deployment.

FiberGuide® is a raceway system designed to protect and route fibre optic patch cords, multi-fibre cable assemblies and intrafacility fibre cable (IFC) to and from fibre splice enclosures, fibre distribution frames and fibre optic terminal devices. FiberGuide® ensures a two-inch minimum bend radius is maintained

throughout the system. Tool-less, Snap-Fit™ junctions, cover options and Plenum Express Exit™ drops significantly reduce the amount of time required for installation.

The FiberGuide® system is a complete set of products designed and manufactured to ensure total off-frame protection and ease of use. Basic components include horizontal and vertical straight sections, horizontal and vertical elbows, downspouts, junctions and numerous support hardware and flex-tube kits.



Available in a variety of sizes:

2x2 – Ideal for smaller installations or for vertical routing of a maximum of four hundred 2 mm fibre optic patch cords. All 2x2 FiberGuide® products are shipped with covers.



2x6 – Designed for height restricted environments, this robust system provides the same support and system flexibility of the traditional 4-inch-high system while saving 2 inches of overhead space. It features a maximum capacity of 1,200, 2 mm patch cords.



**4x4** – Features the maximum capacity to support 1,600, 2 mm patch cords. It has been engineered to allow straight sections to be self-supporting over a span of up to 1.83 m (6 feet).



4x6 – Features the same benefits of the 4-inch system and a maximum trough capacity of 2,400, 2 mm patch cords.

**4x12** – The 12-inch-wide trough has a maximum capacity to support nearly 5,000, 2 mm patch cords. Perfect for runs over fibre frame lineups and perimeter routes.



**4x24** – The 4x24-inch system is the ultimate raceway solution to securely route and protect patch cords over high-density optical distribution frames including ADC KRONE's Next Generation Frame (NGF) and Next Generation 3 Frame (NG3®). Designed for maximum capacity, this robust system provides the same support and flexibility as







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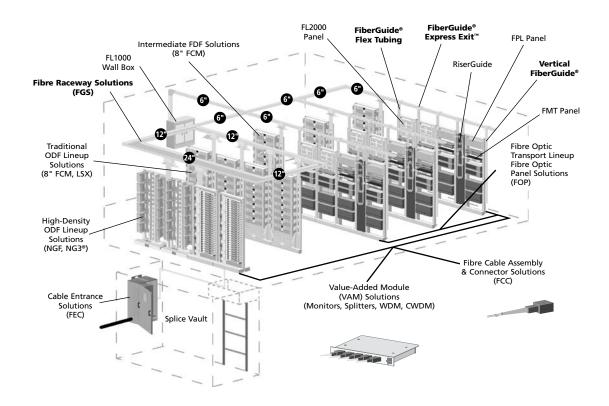
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## FiberGuide® Fibre Management Systems

A Variety of Solutions

Examples of FiberGuide® Integration





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## FiberGuide® Fibre Management Systems

### Innovative Products

ADC KRONE continues to add innovative products to FiberGuide® fibre management systems to ensure they remain the most comprehensive solutions for all optical raceway requirements and applications. These products increase functionality and flexibility and are compatible with existing raceway components.

### Snap-Fit™ and Hinged Cover Options

To drive down valuable installation time, ADC KRONE provides tool-less Snap-Fit™ and hinged cover options. Featuring simple, durable molded hardware, these covers install in minutes and require no tools. The hinged cover option provides easy access, enabling installers and technicians to deploy the product quickly and easily. In addition, the covers do not need to be fully opened for maintenance.



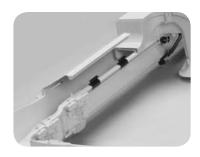
ADC KRONE's Snap-Fit Junction is the industry's first and only completely tool-less junction. No additional tools are needed for installation or removal. Quick and easy to install, the FiberGuide® Snap-Fit Junction saves valuable time and money.

### **Express Exits™**

ADC KRONE features a number of innovative Express Exit™ options: Low profile, 2-inch and 4-inch options round out this innovative product line, designed to meet your most demanding network requirements. Plenum Express Exit™ systems are also available. By simply securing an Express Exit™ to the sidewall of a FiberGuide® straight section, jumpers can be permanently or temporarily routed to the fibre optic terminal (FOT) equipment or fibre frames. No cutting is required. Positioning a drop with a member of the Express Exit™ family greatly simplifies installation, protects the integrity of existing fibres and increases the overall flexibility of the raceway system.

### **Raceway Reconfiguration Solutions**

ADC KRONE offers two products to facilitate easy on-site raceway reconfigurations. Available for the 4x4, 4x6, 4x12 and 4x24\* systems, the cut-in "T" and the expandable straight section offer the required flexibility to optimize raceway systems in retrofit applications without jeopardizing the integrity of existing cables.



**Hinged Cover System** 



**Express Exit™ Family** 



Cut-in T

<sup>\*</sup>Expandable straight section not available for 4x24 system.



## FiberGuide® Fibre Management Systems

System Description

### FiberGuide® Materials Product Statement

The FiberGuide® fibre management system is a UL-listed (E151158) general purpose fibre optic raceway system. All FiberGuide® products are manufactured from flame-retardant materials. No FiberGuide® system parts contain PVC. The table summarizes the fire-resistant properties of FiberGuide® straight sections, molded parts and flex tube.

	Raw Material Meets UL Requirement	Finished Product Meets UL Requirement
FiberGuide® Straight Sections (All FiberGuide® Systems)	Flame rated: UL94V-0	UL94V-0 and UL2024
FiberGuide® Molded Fittings (All FiberGuide® Systems)	Flame rated: UL94V-0	UL94V-0 and UL2024
FiberGuide® Flex Tube (2")	Flame rated: UL94V-0	UL2024
FiberGuide® Flex Tube (1")	Flame rated: UL94V-0	UL2024
FiberGuide® Flex Tube (7/8")	Flame rated: UL94V-2	UL2024

Note: FiberGuide® flex tube complies with the National Electrical Code (NEC) Article 770-51 and Underwriters Laboratory UL2024 requirements for General Purpose Fibre Optic Raceways.

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## FiberGuide® Fibre Management Systems

Features and Benefits













### **Features and Benefits**

### **Speed of Installation**

FiberGuide® systems feature a variety of products that allow for quick and easy installation. Express Exit™ drops as well as tool-less products including Snap-Fit™ junctions, snap-on covers and new hinged cover options save valuable time for installers.

### **Speed of Deployment**

The Express Exit™ system enables new drops to be added or removed quickly and easily. A drop can be added into a fully loaded raceway in seconds—without cutting.

### Raceway Flexibility

FiberGuide® features 38 support structures, over 75 fittings, multiple drop options and several other components to suit any application you create.

### **Fibre Protection**

ADC KRONE's broadband expertise translates into maximum protection for your network. Two-inch minimum bend radius is maintained throughout the system regardless of the raceway size.

### **Strength and Durability**

100% raceway reliability—stands up to any challenge.



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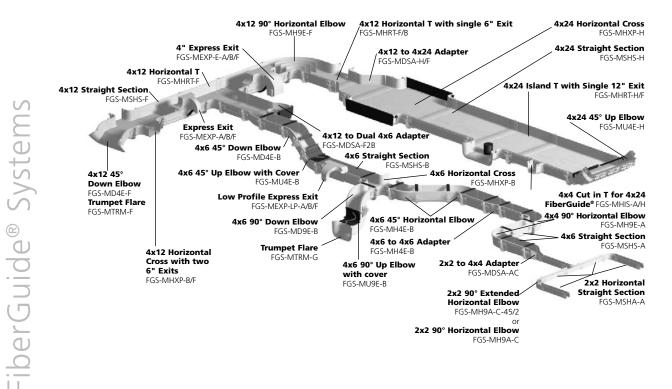
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## **Applications**

### Combining System Parts

A combination of components from the various sized raceway systems typically comprise overhead FiberGuide® systems. Adapters are used to make the transition between sizes. An example of an overhead system that combines many of ADC KRONE's FiberGuide® systems can be seen below.





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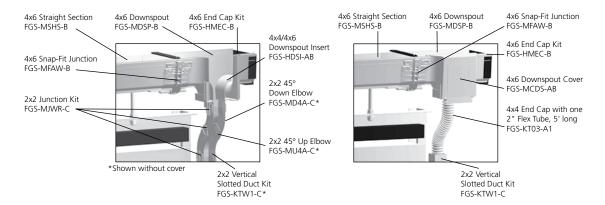
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## **Applications**

## Downspout Drop Options

A downspout drop is recommended over optical distribution frame lineups. The rigid 2-inch drop option and 2-inch flex tube option are two methods for directing fibres out of overhead FiberGuide® downspouts and into optical equipment bays. The rigid system is recommended because it offers excellent bend radius control and ensures a quality fibre backbone installation.





2x2 Rigid Drop Option



2" Flex Tube Drop Option





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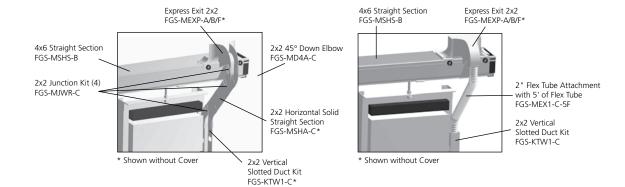
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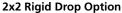
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# **Applications**Express Exit™ Drop Options

An Express Exit™ is recommended over active equipment racks or cabinets. The rigid 2-inch drop option and 2-inch flex tube option are two methods for directing fibres out of overhead FiberGuide® downspouts and into optical equipment bays. The rigid system is recommended because it offers excellent bend radius control and ensures a quality fibre backbone installation.









2" Flex Tube Drop Option



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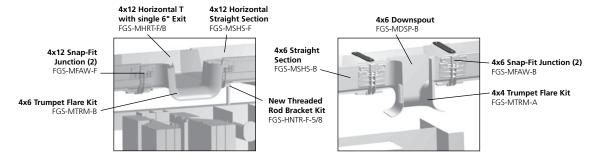
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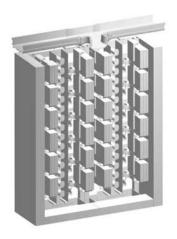
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## **Applications**

## Trumpet Flare Options

The trumpet flare is recommended at the bottom of a downspout when directing fibres into a fibre distribution bay. Trumpet flares provide bend radius protection and allow for a large number of fibre patch cords to transition into a fibre bay. A 4x4 trumpet flare is used for the 4x4 and 4x6 downspouts and a 4x6 trumpet flare is used for the 4x12 downspout.



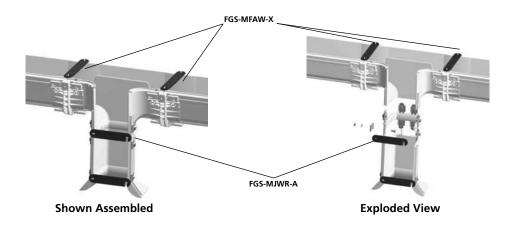






**Downspout with Trumpet Flare** 

When attaching a straight section or fitting to the exit of a 4x4 or 4x6 downspout, the FGS-MJWR-A junction must be used. This junction is only required to connect the vertical part, the FGS-MFAW-X junction can be used to connect the horizontal parts.



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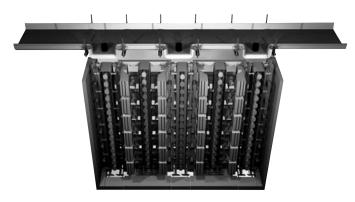
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# **Applications** 4x24-Inch Island T

The 4x24 Island T with 12-inch exit is designed to be used over the NGF, NG3® or any high-density fibre frame. The 4x24 Island T, a horizontal T with spool and factory-installed trumpet flare, channels fibre directly into the vertical cableways below.



4x24 Island T (Shown with support brackets over an NGF frame.)

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## **Applications**

## Raceway Reconfigurations

### **Cut-in T, Fitting and Fixture**

ADC KRONE's innovative cut-in T fitting and fixture enable on-site raceway modifications without jeopardizing the integrity of installed fibres. Available in 4-, 6-, and 12-inch widths, the cut-in T fitting can be retrofitted to any installed 4-, 6-, 12-, and 24-inch straight section using the cut-in T fixture and the hardware supplied with the fitting. No special tools are required.



Fixture attached to sidewall of raceway



Fixture protects cables during cutting of sidewall



Fitting fills gap left by removed sidewall



Supplied hardware secures fitting to raceway and completes installation



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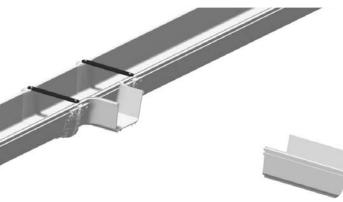
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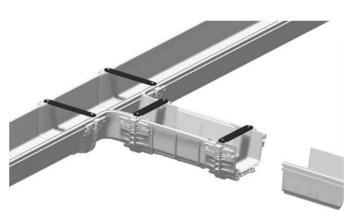
# **Applications**Raceway Reconfigurations

### **Expandable Straight Sections**

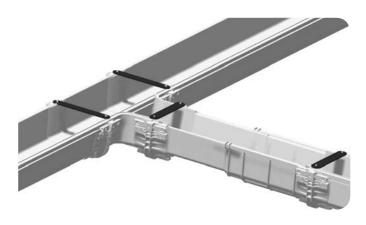
ADC KRONE's expandable straight section simplifies installation and enhances the overall flexibility of the raceway system. The innovative straight section also provides an access point for future reconfigurations. Available in 4-, 6-, and 12-inch widths, the expandable straight section reduces the installation time necessary to connect opposing runs and provides continuous support for patch cords.



Raceway system with gap between opposing runs



Expandable straight section extends to connect runs



**Completed installation** 



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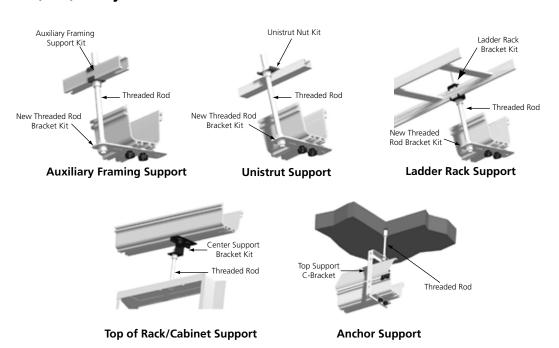
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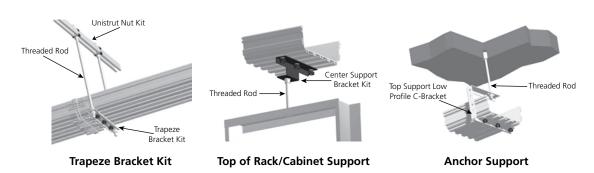
# **Applications**Supporting Overhead Systems

A variety of support kits are available for each FiberGuide® system. Whenever possible, FiberGuide® support kits should be attached to existing hardware (cable racks, digital cableways, existing threaded rods or equipment racks).

### 2x6, 4x4, 4x6 Systems



### 4x12 System





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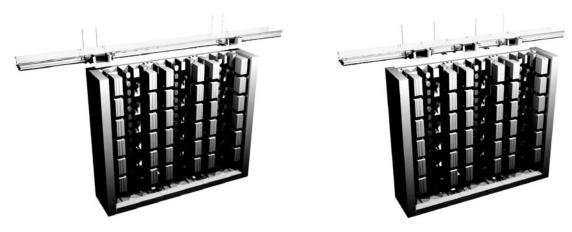
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## **Applications**

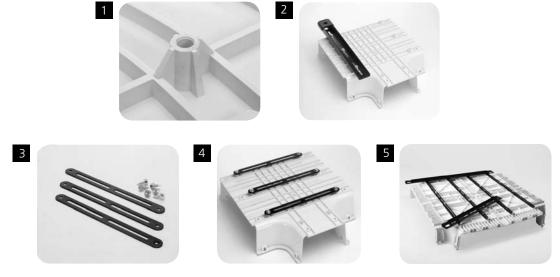
## Supporting Overhead Systems

### 4x12 and 4x24 Systems

The straight sections on the 4x12 and 4x24 FiberGuide® system are exceptionally strong, making frequent placement of supports beneath them unnecessary. Whenever possible the supports should be placed under the fittings using the mounting bosses as shown (photos 1 and 2). This placement provides the strongest system and requires the least amount of support hardware to be used. Occasionally it is not possible to attach the support bracket to the mounting bosses on the fittings; in those instances the variable fitting support locator can be installed on the bottom of the fitting, allowing the support to be attached anywhere along the fitting bottom (photos 3, 4 and 5). When combining several straight sections, it is recommended that support brackets are installed on both sides of each junction.



Typical 4x12 system installation over a Next Generation Frame Line-up



**Variable Fitting Support Locator** 

Note: See pages 46 and 54 for 4x12 and 4x24 system fittings.



## **Patch Cord Densities**



Recommended and Maximum Patch Cord Densities	16
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## FiberGuide® Fibre Management Systems

Recommended and Maximum Patch Cord Densities

Recommended capacity takes into consideration random jumper placement into the FiberGuide® system. Maximum density refers to the maximum number of fibre jumpers in a given cross-section of a FiberGuide® installation. The TracerLight® Connector Identification System is ADC KRONE's newest patch cord solution. It features slightly different dimensions than standard patch cords.

### Recommended/Maximum Density

1.7 mm	2.0 mm	3.0 mm
Patch Cords (per in²)	Patch Cords (per in²)	Patch Cords (per in²)
120/142	<b>90/</b> 102	40/44

### Trough Pileup Recommended/Maximum Density

### 2-Inch 3-Inch 4-Inch 4x24 System 5760/6816 8640/10224 **11520/**13632 1.7 mm 4320/4869 6480/7344 8640/9792 2.0 mm 3.0 mm 1920/2112 2880/3168 3840/4224 4x12 System 2880/3408 4320/5112 5760/6816 1.7 mm 2160/2448 2.0 mm 3240/3672 4320/4896 3.0 mm 960/960 1440/1584 1920/2112 4x6 System 1.7 mm 1440/1704 2160/2556 2880/3408 1080/1224 2.0 mm 1620/1836 2160/2448 480/528 960/1056 3.0 mm **720/**792 4x4 System 1.7 mm 960/1136 1440/1704 1920/2272 720/816 1080/1224 1440/1632 2.0 mm 3.0 mm 320/352 480/528 640/704 2x6 System 1.7 mm 1440/1740 1080/1224 2.0 mm 3.0 mm 480/528 2x2 System 1.7 mm 480/568 360/408 2.0 mm 160/176 3.0 mm

## TracerLight® Patch Cords—65 Patch Cords per in<sup>2</sup>

			1
	2-inch	3-inch	4-inch
4x24 System	3120	4680	6420
4x12 System	1560	2340	3120
4x6 System	780	1170	1560
4x4 System	520	780	1040
2x6 System	780	_	_
2x2 System	260	_	_



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## FiberGuide® Fibre Management System

Things to Consider When Ordering

For a more complete guide to engineering and planning a FiberGuide® installation, see ADCP-90-166, 4th Edition, Issue 3, March 1996, Section 4, Engineering and Installation Section. For additional technical information see ADCP95-005.

For main aisle runs and/or installations above high density fibre frame equipment, consider the 12" and 24" FiberGuide® product found on page 46 and 54 respectively.

For tributary runs and/or installations above fibre optic terminals (FOTs), consider the 4" and 6" FiberGuide® product found on page 30 and 38 respectively.

For height restricted environments, consider the 2x6" FiberGuide® system found on pages 24-27.

Consider the use of variable support locators for the 4x12" and 4x24" FiberGuide® systems found on page 69 and 70 respectively. The variable support locators provide additional mounting options for support brackets underneath larger fittings such as horizontal T's or elbows.

Consider the use of Express Exits™ rather than the traditional downspouts for bringing fibre out of a straight section run and into a fibre optic terminal (FOT) bay. The Express Exit™ installs without tools and does not require any cutting for installation.

Calculate the maximum potential amount of fibre in a given line-up to determine the proper sized FiberGuide® over that line-up. Considerations should be given to pile-up densities (see page 16 for recommended pile-up densities) and redundant routing paths which will have an effect on proper FiberGuide® sizing.

See pages 58-59 for ordering information on Express Exits<sup>™</sup> and pages 62-63 vertical slotted duct systems.

See pages 72-74 for ordering information on system and support kit accessories. Consider the use of the retrofit fin kit for potentially high traffic areas on the 4x4" or 4x6" FiberGuide® systems (fins come molded into certain fittings on the 2x6", 4x12" and 4x24" systems). The fin helps to spread the pile-up of jumpers efficiently across the width of a given FiberGuide® system especially at horizontal turns and intersections.

	Product Number	Quantity
1) Select the Desired FiberGuide® Horizontal Components		
Horizontal Straight Sections (6-feet each)		
2x2 " System – Page 22		
2x6" System – Page 26		
4x4" System – Page 34		
4x6" System – Page 42		
4x12 " System – Page 50		
4x24" System – Page 56		
45°, 90° Horizontal Elbows, Straight Adapters and End Caps		
2x2 " System – Page 20		
2x6" System – Page 24		
4x4" System – Page 30		
4x6" System – Page 38		
4x12 " System – Page 46		
4x24" System – Page 54		

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# FiberGuide® Fibre Management System Things to Consider When Ordering

	Product Number	Quantity
2) Select the Desired FiberGuide® Vertical Componen	ts	
45°, and 90° Up and Down Elbows		
2x2" System – Page 20		
2x6" System – Page 24-25		
4x4" System – Page 30-31		<u> </u>
4x6" System – Page 38-39		<u> </u>
4x12		
4x24" System – Page 54		_
Downspouts, Trumpet Flares and Attachments		
2x2" System – Page 21		
2x6" System – Page 24-25		
4x4" System – Page 32-33		
4x6" System – Page 40-41		
4x12" System – Page 48-49		
4x24" System – Page 55		
Express Exits and Vertical Slotted Duct Systems		
Express Exit™ Family – Page 57		
Vertical Slotted Duct Systems – Page 61		_
3) Select the Desired FiberGuide® Support Kits and A	ccessories	
FiberGuide® Support Kits		
2x2 " System – Page 66		
2x6", 4x4" and 4x6" System – Page 68		_
4x12 " System – Page 69		_
4x24 " System – Page 70		<u>_</u>

For accessories including attachment hardware and threaded rod, see pages 72-74.



## 2x2 System



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# **2x2 System**Fittings – 2" H x 2" W



**Horizontal T** (FGS-MHTA-C)



**Horizontal Cross** (FGS-MHXP-C)



45° Horizontal Elbow (FGS-MH4A-C)



90° Horizontal **Elbow** (FGS-MH9A-C)



90° Extended **Horizontal Elbow** (FGS-MH9A-C-45/2)



45° Up Elbow (FGS-MU4A-C)



45° Down Elbow (FGS-MD4A-C)



2x2 to 4x4 **Straight Adapter** (FGS-MDSA-AC)



**End Cap** (FGS-HMEC-C)

	Number of Junctions	Product Number	
Description		Yellow System	Orange System
2x2 fittings			
Horizontal T; cover included	3	FGS-MHTA-C	FGSO-MHTA-C
Horizontal cross; cover and two 2x2 junctions included; two additional 2x2 junctions required (see p. 22)	2+2	FGS-MHXP-C	FGSO-MHXP-C
45° horizontal elbow; cover included	2	FGS-MH4A-C	FGSO-MH4A-C
90° horizontal elbow; cover included	2	FGS-MH9A-C	FGSO-MH9A-C
90° extended horizontal elbow; cover included; similar to two 45° horizontal elbows joined	2	FGS-MH9A-C-45/2	FGSO-MH9A-C-45/2
45° up elbow; cover included	2	FGS-MU4A-C	FGSO-MU4A-C
90° up elbow; cover included	2	FGS-MU9A-C	FGSO-MU9A-C
45° down elbow; cover included	2	FGS-MD4A-C	FGSO-MD4A-C
90° down elbow; cover included	2	FGS-MD9A-C	FGSO-MD9A-C
2x2 conversions			
2x2 to 4x4 straight adapter; cover included	(1) 2x2, (1) 4x4	FGS-MDSA-AC	FGSO-MDSA-AC
2x2 end cap			
End cap; junction included	_	FGS-HMEC-C	FGSO-HMEC-C



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## 2x2 System

## Downspouts and Attachments – 2" H x 2" W



**2x2 Standard Downspout** (FGS-MSDS-C)



**2x2 Extended Downspout** (FGS-MDSP-C)



**Extended Downspout** (FGS-KDH2-C shown attached to 2x2 FiberGuide® system)



**Dual 7/8" Flex Tube Attachment** (FGS-KT03-C)



**Dual 7/8" Flex Tube Attachment** (FGS-KT03-C shown attached to downspout)



**2x2 Trumpet Flare** (FGS-MTRM-C)

### **Ordering Information**

	Number of Junctions	Product Number			
Description		Yellow System	Orange System		
2x2 downspouts					
Standard downspout; cover included	2	FGS-MSDS-C	FGSO-MSDS-C		
Extended downspout; cover included	1	FGS-MDSP-C	FGSO-MDSP-C		
Extended downspout; cover and 2" flex tube, 2' long, included	1	FGS-KDH2-C	FGSO-KDH2-C		
Trumpet flare; 2x2 junction included	-	FGS-MTRM-C	FGSO-MTRM-C		
2x2 attachments					
2x2 flex tube attachment – 2" flex tube and a .	2x2 junction includ	led			
5' length	_	FGS-MEX1-C-5F	FGSO-MEX1-C-5F		
10' length	-	FGS-MEX1-C-10F	FGSO-MEX1-C-10F		
15' length	-	FGS-MEX1-C-15F	FGSO-MEX1-C-15F		
Dual 7/8" flex tube attachment – two lengths of 7/8" flex tube and a 2x2 junction included					
(2) 5' length	_	FGS-KT03-C	FGSO-KT03-C		
(2) 10' length	-	FGS-KT03-C-10F	FGSO-KT03-C-10F		
(2) 15' length	-	FGS-KT03-C-15F	FGSO-KT03-C-15F		
Flex tube clamp kit of 10; attaches 7/8" flex tube to rack	_	FGS-HSHC-10	FGS-HSHC-10		

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## 2x2 System

Straight Section and Junction – 2" H x 2" W

### Straight Section

The 2x2 straight section is a U-shaped trough that provides a protective raceway for optical fibres. Available in 6-foot lengths, the straight section carries fibres horizontally throughout the system. It can also be installed vertically when routing around obstructions. A warning label indicating caution around fibre optic cable is included with each junction kit.



Horizontal Straight Section (FGS-MSHA-C)

### **Ordering Information**

	Product Number	
Description	Yellow System	Orange System
2x2 straight section; horizontal straight section; 6' long, cover included	FGS-MSHA-C	FGSO-MSHA-C

### Junction

The 2x2 junction is used for mechanically joining FiberGuide® sections. No tools are required for assembly.



**Junction** (FGS-MJWR-C)

## Ordering Information

	Product Number		
Description	Yellow System	Orange System	
2x2 junction	FGS-MJWR-C	FGSO-MJWR-C	



## 2x6 System



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## 2x6 System

Fittings, Downspouts and Attachments – 2" H x 6" W

## Ordering Information

	Number of	Yellow System
Description	Junctions	Product Number
2x6 fittings		
Horizontal T	3	FGS-MHRT-G
Horizontal cross	4	FGS-MHXP-G
90° horizontal elbow	2	FGS-MH9E-G
90° down elbow	2	FGS-MD9E-G
45° horizontal elbow	2	FGS-MH4E-G
45° up elbow, metal cover included	2	FGS-MU4E-G
45° down elbow	2	FGS-MD4E-G
2x6 conversions		
2x6 to 4x4 adapter	(1) 2x6, (1) 4x4	FGS-MDSA-GA
2x6 to 4x6 adapter	(1) 2x6, (1) 4x6	FGS-MDSA-GB
Trumpet flare	_	FGS-MTRM-G
2x6 downspouts		
2x6 to 2x2 downspout	2	FGS-MDSP-G
2x6 attachments		
Dual 2" flex tube attachment	_	FGS-KT03-G-5F
2x6 end cap	-	FGS-HMEC-G

## Low-Profile Express Exit™

Designed for low-ceiling or height restricted environments, the Express Exit™ for the 2x6 FiberGuide® system extends only two inches above the straight section sidewall. The Express Exit™ accommodates up to 150 (3 mm) patch cords, includes removable rear cable guides for additional cable management, and features a 2x2 exit opening. It is designed specifically for the 2x6 FiberGuide® system and should not be used on any other FiberGuide® system.



**Express Exit** (FGS-MEXP-LP-G)

### Ordering Information

Description	Yellow System Product Number
Low-Profile Express Exit™ (designed exclusively for the 2x6 system) Base, cover, mounting hardware, and support bracket included	FGS-MEXP-LP-G



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## 2x6 System

## Fittings, Downspouts and Attachments – 2" H x 6" W



**2x6 to 2x2 Downspout** (FGS-MDSP-G)



**Horizontal T** (FGS-MHRT-G)



Horizontal Cross (FGS-MHXP-G)



**90° Horizontal Elbow** (FGS-MH9E-G)



**90° Down Elbow** (FGS-MD9E-G)



**45° Horizontal Elbow** (FGS-MH4E-G)



**45° Up Elbow** (FGS-MU4E-G) (Metal Cover Included)



**45° Down Elbow** (FGS-MD4E-G)



**2x6 to 4x4 Adapter** (FGS-MDSA-GA)



**2x6 to 4x6 Adapter** (FGS-MDSA-GB)



**Trumpet Flare** (FGS-MTRM-G)

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**2x6 System**Straight Section – 2" H x 6" W

The unique four-channel design of the 2x6 FiberGuide® straight section allows the standard system to be attached to the support structure without the need to cut or drill any holes within the trough. This ensures that the patch cords will not come in contact with any screw heads or bolts.



**Straight Section** (FGS-MSHS-G)

ordering information	
Description	Yellow System Product Number
<b>2x6 straight section;</b> horizontal straight section; 6' <i>long, cover sold seperately</i>	FGS-MSHS-G
2x6 accessories	
2x6 hinged cover kit for horizontal straight section; three mounting hinges and three clips included	FGS-MSNC-B/G
6-inch snap-on cover kit for horizontal straight section; six capture clips with mounting clasps included	FGS-MSSC-B/G
Kit-10 black capture clips*	FGS-DHCP





6-inch Snap-on Cover (FGS-MSSC-B/G)

<sup>\*</sup>See drawings on page 79 for more detail on how capture clips and hinges are used.



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# **2x6 System**Junction – 2" H x 6" W

The one-piece junction employs factory-installed set screws to assure strength and durability. No cutting or drilling of the components is required for assembly. A warning label indicating caution around fibre optic cable is included with each junction kit.

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2x6 Junction (FGS-JUNC-G)

Ordering Information	
Description	Yellow System Product Number
2x6 junction	FGS-JUNC-G



## 4x4 System



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# **4x4 System**Fittings – 4" H x 4" W

### **Ordering Information**

ordering	111101	mation				
		Product Number				
Description	Number of Junctions	Yellow System	Yellow System Snap-on Cover	Orange System	Orange System Snap-on Cover	Fixed Metal Cover
4x4 fittings						
Horizontal T	3	FGS-MHRT-A	FGS-SHRT-A	FGSO-MHRT-A	FGSO-SHRT-A	FGS-CHRT-A
Horizontal cross	4	FGS-MHXP-A	FGS-SHXP-A	FGSO-MHXP-A	FGSO-SHXP-A	FGS-CHXP-A
90° horizontal elbow	2	FGS-MH9E-A	FGS-SH9E-A	FGSO-MH9E-A	FGSO-SH9E-A	FGS-CH9E-A
90° up elbow metal cover included	2	FGS-MU9E-A	FGS-SU9E-A	FGSO-MU9E-A	FGSO-SU9E-A	FGS-CU9E-A
90° down elbow	2	FGS-MD9E-A	FGS-SD9E-A	FGSO-MD9E-A	FGSO-SD9E-A	FGS-CD9E-A
45° horizontal elbow	2	FGS-MH4E-A	FGS-SH4E-A	FGSO-MH4E-A	FGSO-SH4E-A	FGS-CH4E-A
45° up elbow metal cover included	2	FGS-MU4E-A	FGS-SU4E-A	FGSO-MU4E-A	FGSO-SU4E-A	FGS-CU4E-A
45° down elbow	2	FGS-MD4E-A	FGS-SD4E-A	FGSO-MD4E-A	FGSO-SD4E-A	FGS-CD4E-A
4x4 conversions						
4x4 to 4x6 straight adapter	(1) 4x4, (1) 4x6	FGS-MDSA-AB	FGS-SDSA-AB	FGSO-MDSA-AB	FGSO-SDSA-AB	FGS-CDSA-AB
4x4 expandable straight section	2	FGS-MVAR-A	_	FGSO-MVAR-A	_	_
4"Cut-in T assembly hard- ware included	_	FGS-MHIS-A	_	FGSO-MHIS-A	-	
6"Cut-in T assembly hard- ware included	_	FGS-MHIS-B	_	FGSO-MHIS-B	_	_
12"Cut-in T assembly hard- ware included	-	FGS-MHIS-F	_	FGSO-MHIS-F	-	-
Cut-in T fixture	-	FGS-MHIS-JIG-A/B/F	-	FGS-MHIS-JIG-A/B/F	_	_
4x4 end cap	_	FGS-HMEC-A	_	FGS-HMEC-A	_	_

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# **4x4 System**Fittings – 4" H x 4" W



**Horizontal T** (FGS-MHRT-A)



**Horizontal Cross** (FGS-MHXP-A)



90° Horizontal Elbow (FGS-MH9E-A)



90° Up Elbow Metal Cover Included (FGS-MU9E-A)



90° Down Elbow (FGS-MD9E-A)



45° Horizontal Elbow (FGS-MH4E-A)



45° Up Elbow Metal Cover Included (FGS-MU4E-A)



45° Down Elbow (FGS-MD4E-A)



4x4 to 4x6 Straight Adapter (FGS-MDSA-AB)



**Expandable Straight Section** (FGS-MVAR-A)



Cut-in T (FGS-MHIS-A)



**Cut-in T Fixture** shown on straight section (FGS-MHIS-JIG-A/B/F)



**End Cap** (FGS-HMEC-A)



**Snap-on Plastic Cover** (FGS-SH4E-A shown attached to 45° horizontal elbow with junctions)



## 4x4 System

## Downspouts and Attachments – 4" H x 4" W

An array of 4x4 downspout options are available to feed fibre from overhead straight sections into fibre optic equipment below.

escription	Number of Junctions	Yellow System Product Number	Orange System Product Number
x4 downspouts			
Downspout	2*	FGS-MDSP-A	FGSO-MDSP-A
Cover for 4x4 downspout	_	FGS-MCDS-AB	FGSO-MCDS-AB
Extended downspout	_	FGS-MDSP-EX-A	FGSO-MDSP-EX-A
Cover for 4x4 extended downspout	_	FGS-MCDS-EX-AB	FGSO-MCDS-EX-AB
Insertable downspout	_	FGS-MDSP-A/I	FGSO-MDSP-A/I
Trumpet flare used on both 4x4 and 4x6 downspouts; no 4" junction kit required	-	FGS-MTRM-A	FGSO-MTRM-A
Downspout exit junction kit	_	FGS-MJWR-A	FGSO-MJWR-A
4x4/4x6 downspout; insert converts bottom of downspout to 2x2" without using 2" to 4" adapter, saving vertical space	-	FGS-HDSI-AB	FGS-HDSI-AB
x4 attachments			
Square to 2" round adapter with flex tube; one 4x4 junction kit (FGS-MJWR-A) required	d to attach to a d	ownspout drop	
5' length	1	FGS-ASRI-5F	FGSO-ASRI-5F
10' length	1	FGS-ASRI-10F	FGSO-ASRI-10F
15' length	1	FGS-ASRI-15F	FGSO-ASRI-15F
Dual 2" flex tube attachment; no 4x4 junct	ion kit required		
(2) 5' length	_	FGS-KT03-A	FGSO-KT03-A
(2) 10' length	_	FGS-KT03-A10F	FGSO-KT03-A10F
(2) 15' length	_	FGS-KT03-A15F	FGSO-KT03-A15F
Single 2" flex tube attachment; no 4x4 june	tion kit required	_	
5' length	_	FGS-KT03-A1	FGSO-KT03-A1
10' length	_	FGS-KT03-A1-10F	FGSO-KT03-A1-10F
15' length	_	FGS-KT03-A1-15F	FGSO-KT03-A1-15F
Quad 2" flex tube attachment; no 4x4 junc	tion kit required		
(4) 5' length	_	FGS-KT03-A4-5F	FGSO-KT03-A4-5F
(4) 10' length	_	FGS-KT03-A4-10F	FGSO-KT03-A4-10F
(4) 15' length	_	FGS-KT03-A4-15F	FGSO-KT03-A4-15F
4x4 quad 7/8" flex tube attachment; no 4x4	4 junction kit requ	uired	
(4) 5' length	_	FGS-KT07-A4-5F	FGSO-KT07-A4-5F
(4) 10' length	-	FGS-KT07-A4-10F	FGSO-KT07-A4-10F
(4) 15' length		FGS-KT07-A4-15F	FGSO-KT07-A4-15F

<sup>\*</sup>A third junction is needed if drop is to a fitting or straight section. This drop junction must be a junction type FGS-MJWR-A.

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## **4x4 System**

## Downspouts and Attachments – 4" H x 4" W



**Downspout** (FGS-MDSP-A)



Cover for 4x4 Downspout (FGS-MCDS-AB)



**Extended Downspout** (FGS-MDSP-EX-A shown with and without cover)



Insertable Downspout (FGS-MDSP-A/I)



**Trumpet Flare** (FGS-MTRM-A)



**Downspout Exit Junction Kit** (FGS-MJWR-A)



**4x4/4x6 Downspout Insert** (FGS-HDSI-AB)



**4" Square to 2" Round Adapter with Flex Tube**(FGS-ASRI
requires FGS-MJWR-A
Junction Kit)



Dual 2" Flex Tube Attachment (FGS-KT03-A)



Single 2" Flex Tube Attachment (FGS-KT03-A1)



**2" Quad Flex Tube Attachment** (FGS-KT03-A4)



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## 4x4 System

Straight Section – 4" H x 4" W

The unique four-channel design of the 4x4 FiberGuide® straight section allows the standard system to be attached to the support structure without the need to cut or drill any holes within the trough. This ensures that the patch cords will not come in contact with any screw heads or bolts, an important consideration in 4x4 systems where higher cable counts apply increased pressure on patch cords at the bottom of the trough.



Horizontal Straight Section (FGS-MSHS-A)



Expandable Straight Section (FGS-MVAR-A)



Hinged Cover for Horizontal Straight Section (FGS-MSNC-A)



Snap-On Cover for Horizontal Straight Section (FGS-MSSC-A)

	Product Number		
Description	Yellow System	Orange System	
4x4 straight section	·		
Horizontal straight section; 6' long, cover sold seperately	FGS-MSHS-A	FGSO-MSHS-A	
Expandable straight section	FGS-MVAR-A	FGSO-MVAR-A	
4x4 accessories			
Hinged cover kit for horizontal straight section; includes three mounting hinges and three clips	FGS-MSNC-A	FGSO-MSNC-A	
Snap-on cover kit for horizontal straight section; includes six capture clips with mounting clasps	FGS-MSSC-A	FGSO-MSSC-A	
Kit - 10 black capture clips*	FGS-DHCP	FGS-DHCP	
Kit - 10 black capture clips and 10 hinges*	FGS-DHHC (Yellow Hinge)	FGSO-DHHC (Orange Hinge)	

<sup>\*</sup>See drawings on page 82 for more detail on how capture clips and hinges are used.



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**4x4 System**Snap-Fit<sup>™</sup> Junction – 4" H x 4" W

The Snap-Fit™ junction assembly is available for the 4-inch FiberGuide® system. The Snap-Fit junction is a completely tool-less junction. No additional tools are required for installation or removal. The junction exhibits superior holding force and accommodates support brackets. A warning label indicating caution around fibre optic cable is included with each junction kit.



**Snap-Fit Junction** (FGS-MFAW-A)

Ordering Information				
Product Number				
Description	Yellow System	Orange System		
4x4 Snap-Fit™ junction	FGS-MFAW-A	FGSO-MFAW-A		



## 4x6 System



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Straight Section	42
Snan-Fit™ Junction	/13

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# **4x6 System**Fittings – 4" H x 6" W

		Product Number				
Description	Number of Junctions	Yellow System	Yellow System Snap-on Cover	Orange System	Orange System Snap-on Cover	Fixed Metal Cover
4x6 fittings			•			
Horizontal T	3	FGS-MHRT-B	FGS-SHRT-B	FGSO-MHRT-B	FGSO-SHRT-B	FGS-CHRT-B
Horizontal cross	4	FGS-MHXP-B	FGS-SHXP-B	FGSO-MHXP-B	FGSO-SHXP-B	FGS-CHXP-B
90° horizontal elbow	2	FGS-MH9E-B	FGS-SH9E-B	FGSO-MH9E-B	FGSO-SH9E-B	FGS-CH9E-B
90° up elbow metal cover included	2	FGS-MU9E-B	FGS-SU9E-B	FGSO-MU9E-B	FGSO-SU9E-B	FGS-CU9E-B
90° down elbow	2	FGS-MD9E-B	FGS-SD9E-B	FGSO-MD9E-B	FGSO-SD9E-B	FGS-CD9E-B
45° horizontal elbow	2	FGS-MH4E-B	FGS-SH4E-B	FGSO-MH4E-B	FGSO-SH4E-B	FGS-CH4E-B
45° up elbow metal cover included	2	FGS-MU4E-B	FGS-SU4E-B	FGSO-MU4E-B	FGSO-SU4E-B	FGS-CU4E-B
45° down elbow	2	FGS-MD4E-B	FGS-SD4E-B	FGSO-MD4E-B	FGSO-SD4E-B	FGS-CD4E-B
4x6 conversions				•		
4x4 to 4x6 straight adapter	(1) 4x4, (1) 4x6	FGS-MDSA-AB	FGS-SDSA-AB	FGSO-MDSA-AB	FGSO-SDSA-AB	FGS-CDSA-AB
4x12 to single 4x6 adapter	-	FGS-MDSA-FB	FGS-SDSA-FB	FGSO-MDSA-FB	FGSO-SDSA-FB	_
4x6 expandable straight section	2	FGS-MVAR-B	-	FGSO-MVAR-B	_	_
4" Cut-in T; assembly hard- ware included	_	FGS-MHIS-A	_	FGSO-MHIS-A	_	_
6" Cut-in T; assembly hard- ware included	_	FGS-MHIS-B	_	FGSO-MHIS-B	_	_
12" Cut-in T; assembly hard- ware included	_	FGS-MHIS-F	_	FGSO-MHIS-F	_	_
Cut-in T fixture	_	FGS-MHIS-JIG-A/B/F	-	FGS-MHIS-JIG-A/B/F	-	-
4x6 end cap	-	FGS-HMEC-B	_	FGS-HMEC-B	_	_



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# **4x6 System** Fittings – 4" H x 6" W



**Horizontal T** (FGS-MHRT-B)



**Horizontal Cross** (FGS-MHXP-B)



90° Horizontal Elbow (FGS-MH9E-B)



90° Up Elbow Cover Included (FGS-MU9E-B)



90° Down Elbow (FGS-MD9E-B)



45° Horizontal Elbow (FGS-MH4E-B)



45° Up Elbow Cover Included (FGS-MU4E-B)



45° Down Elbow (FGS-MD4E-B)



4x4 to 4x6 Straight Adapter (FGS-MDSA-AB)



Expandable **Straight Section** (FGS-MVAR-B)



6" Cut-in T (FGS-MHIS-B)



**Cut-in T Fixture** (FGS-MHIS-JIG-A/B/F shown on a straight section)



4x12 to Single 4x6 Adapter (FGS-MDSA-FB) (Cover: FGS-SDSA-FB)



**End Cap** (FGS-HMEC-B)



**Snap-on Plastic Cover** (FGS-SH4E-B shown attached to 45° horizontal elbow with junctions)



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## 4x6 System

## Downspouts and Attachments – 4" H x 6" W

4x6 downspouts and attachments feed fibre from overhead straight sections into fibre optic equipment below. All 4x6 downspouts feature 4-inch exits and attach to the 4-inch x 4-inch attachments listed below.

|--|

	Number of	Product Number		
Description	Junctions	Yellow System	Orange System	
4x6 downspouts				
Downspout Note: If a trumpet flare is required use a 4x4 flare (FGS-MTRM-A or FGSO-MTRM-A)	2*	FGS-MDSP-B	FGSO-MDSP-B	
Cover for 4x6 downspout and dual downspout	-	FGS-MCDS-AB**	FGSO-MCDS-AB**	
Extended downspout	2	FGS-MDSP-EX-B	FGSO-MDSP-EX-B	
Cover for 4x6 extended downspout	_	FGS-MCDS-EX-AB	FGSO-MCDS-EX-AB	
Insertable downspout	_	FGS-MDSP-B/I	FGSO-MDSP-B/I	
Dual drop downspout	2*	FGS-MDSP-2B	FGSO-MDSP-2B	
Trumpet flare for dual drop downspout (kit of 2)	_	FGS-MTRM-2B	FGSO-MTRM-2B	
Dual drop downspout with divider	2	FGS-MDSP-2B-IMP	FGSO-MDSP-2B-IMP	
Trumpet flare for dual drop downspout with divider	(kit of 2)	FGS-MTRM-2B-IMP	FGSO-MTRM-2B-IMP	
Downspout with exit junction		FGS-MJWR-A	FGSO-MJWR-A	
4x4/4x6 downspout insert; converts bottom of dow 2x2 without using 2" to 4" adapter, saving vertical s		FGS-HDSI-AB	FGS-HDSI-AB	
Trumpet flare; used on both 4x4 and 4x6 downspot no 4" junction kit required	ıts —	FGS-MTRM-A	FGSO-MTRM-A	
4x6 attachments				
4x4 square to 2" round adapter with flex tube; one 4x4 junction kit (FGS-MJWR-A) required to atta	ch to a downs	pout drop		
5' length	1	FGS-ASRI-5F	FGSO-ASRI-5F	
10' length	1	FGS-ASRI-10F	FGSO-ASRI-10F	
15' length	1	FGS-ASRI-15F	FGSO-ASRI-15F	
4x4 dual 2" flex tube attachment; no 4x4 junction I	kit required			
(2) 5' length	_	FGS-KT03-A	FGSO-KT03-A	
(2) 10' length	_	FGS-KT03-A10F	FGSO-KT03-A10F	
(2) 15' length	-	FGS-KT03-A15F	FGSO-KT03-A15F	
4x4 single 2" flex tube attachment; no 4x4 junction	kit required			
5' length	_	FGS-KT03-A1	FGSO-KT03-A1	
10' length	-	FGS-KT03-A1-10F	FGSO-KT03-A1-10F	
15' length	-	FGS-KT03-A1-15F	FGSO-KT03-A1-15F	
4x4 quad 2" flex tube attachment; no 4x4 junction	kit required			
(4) 5' length	_	FGS-KT03-A4-5F	FGSO-KT03-A4-5F	
(4) 10' length	_	FGS-KT03-A4-10F	FGSO-KT03-A4-10F	
(4) 15' length	_	FGS-KT03-A4-15F	FGSO-KT03-A4-15F	
4x4 quad 7/8" flex tube attachment; no 4x4 junction	n kit required			
(4) 5' length	-	FGS-KT07-A4-5F	FGSO-KT07-A4-5F	
(4) 10' length	_	FGS-KT07-A4-10F	FGSO-KT07-A4-10F	
(4) 15' length	-	FGS-KT07-A4-15F	FGSO-KT07-A4-15F	

<sup>\*</sup>A 4x4 junction is needed to drop to a fitting or a straight section. This drop junction must be a junction type FGS-MJWR-A.

<sup>\*\*</sup>Dual downspout requires two covers.



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## 4x6 System

## Downspouts and Attachments – 4" H x 6" W



**Downspout** (FGS-MDSP-B)



Cover for 4x6 Downspout (FGS-MCDS-AB)



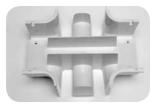
**Extended Downspout** (FGS-MDSP-EX-B shown with and without cover)



Insertable Downspout (FGS-MDSP-B/I)



**Dual Downspout** (FGS-MDSP-2B)



**Dual Downspout with Divider** (FGS-MDSP-2B-IMP)



Trumpet Flare Kit for 4x6 Dual Downspout (FGS-MTRM-2B)



Trumpet Flare Kit for Dual Downspout with Divider (FGS-MTRM-2B-IMP)



Single 2" Flex Tube Attachment (FGS-KT03-A1)



**Trumpet Flare Kit** (FGS-MTRM-A)



**4x4/4x6 Downspout Insert** (FGS-HDSI-AB)



**Downspout Exit Junction Kit** (FGS-MJWR-A)



**4" Square to 2" Round Adapter with Flex Tube**(FGS-ASRI requires
FGS-MJWR-A junction kit)



Dual 2" Flex Tube Attachment (FGS-KT03-A)



2" Quad Flex Flex Tube Attachment (FGS-KT03-A4)



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# **4x6 System**Straight Section – 4" H x 6" W

The unique four-channel design of the 4x6 FiberGuide® straight section allows the standard system to be attached to the support structure without the need to cut or drill any holes within the trough. This ensures that the patch cords will not come in contact with any screw heads or bolts, an important consideration in 4x6 systems where higher cable counts apply increased pressure on patch cords at the bottom of the trough.



Horizontal **Straight Section** (FGS-MSHS-B)



**Expandable Straight Section** (FGS-MVAR-B)



**Hinged Cover Kit** for Horizontal **Straight Section** (FGS-MSNC-B/G)



6" Snap-on Cover for Horizontal **Straight Section** (FGS-MSSC-B/G)

	Product Number		
Description	Yellow System	Orange System	
4x6 straight sections			
Horizontal straight section; 6' long, cover sold seperately	FGS-MSHS-B	FGSO-MSHS-B	
Expandable straight section	FGS-MVAR-B	FGSO-MVAR-B	
Slack storage straight section	FGS-MSHS-STOR-B	FGSO-MSHS-STOR-B	
4x6 accessories			
Hinged cover kit for horizontal straight section; includes three mounting hinges and three clips	FGS-MSNC-B/G	FGSO-MSNC-B/G	
6" snap-on cover kit for horizontal straight section; includes six capture clips with mounting clasps	FGS-MSSC-B/G	FGSO-MSSC-B/G	
Kit - 10 black capture clips*	FGS-DHCP	FGS-DHCP	
Kit - 10 black capture clips and 10 hinges*	FGS-DHHC (Yellow Hinge)	FGSO-DHHC (Orange Hinge)	

<sup>\*</sup>See drawings on page 82 for more detail on how capture clips and hinges are used.



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**4x6 System**Snap-Fit<sup>™</sup> Junction – 4" H x 6" W

The Snap-Fit™ junction assembly is available for the 6-inch FiberGuide® system. The new junction is a completely tool-less junction. No additional tools are required for installation or removal. The Snap-Fit Junction exhibits superior holding force and accommodates support brackets. A warning label indicating caution around fibre optic cable is included with each junction kit.



**Snap-Fit Junction** (FGS-MFAW-B)

Ordering Information				
Product Number				
Description	Yellow System	Orange System		
4x6 Snap-fit junction	FGS-MFAW-B	FGSO-MFAW-B		



## 4x12 System



Fittings	46
Downspouts and Attachments	48
Straight Section	50
Snap-Fit™ Junction	51



# **4x12 System**Fittings – 4" H x 12" W

Ordering Information						
	Number		t Number			
Description	of Junctions	Yellow System	Yellow System Snap-on Cover	Orange System	Orange System Snap-on Cover	
4x12 fittings	•					
Horizontal T	3	FGS-MHRT-F	FGS-SHRT-F	FGSO-MHRT-F	FGSO-SHRT-F	
Horizontal cross	4	FGS-MHXP-F	FGS-SHXP-F	FGSO-MHXP-F	FGSO-SHXP-F	
90° horizontal elbow	2	FGS-MH9E-F	FGS-SH9E-F	FGSO-MH9E-F	FGSO-SH9E-F	
90° down elbow	2	FGS-MD9E-F	FGS-SD9E-F	FGSO-MD9E-F	FGSO-SD9E-F	
45° horizontal elbow	2	FGS-MH4E-F	FGS-SH4E-F	FGSO-MH4E-F	FGSO-SH4E-F	
45° up elbow	2	FGS-MU4E-F	FGS-SU4E-F	FGSO-MU4E-F	FGSO-SU4E-F	
45° down elbow	2	FGS-MD4E-F	FGS-SD4E-F	FGSO-MD4E-F	FGSO-SD4E-F	
Horizontal T with single 6" exit	(2) 4x12, (1) 4x6	FGS-MHRT-F/B	FGS-SHRT-F/B	FGSO-MHRT-F/B	FGSO-SHRT-F/B	
Horizontal cross with two 6" exits	(2) 4x12, (2) 4x6	FGS-MHXP-B/F	FGS-SHXP-B/F	FGSO-MHXP-B/F	FGSO-SHXP-B/F	
4x12 conversions						
4x12 to dual 4x6 adapter	(1) 4x12, (2) 4x6	FGS-MDSA-F2B	FGS-SDSA-F2B	FGSO-MDSA-F2B	FGSO-SDSA-F2B	
4x12 to single 4x6 adapter	(1) 4x12, (1) 4x6	FGS-MDSA-FB	FGS-SDSA-FB	FGSO-MDSA-FB	FGSO-SDSA-FB	
4x12 to 4x6 right adapter; includes fastening hardware		FGS-MDSA-FB-R		FGSO-MDSA-FB-R		
Fixed metal cover for right adapter		FGS-VDSA-FB-R		FGS-VDSA-FB-R		
4x12 to 4x6 left adapter; includes fastening hardware		FGS-MDSA-FB-L		FGS-MDSA-FB-L		
Fixed metal cover for left adapter		FGS-MDSA-FB-L		FGS-MDSA-FB-L		
Expandable straight section	2	FGS-MVAR-B	-	FGSO-MVAR-B	_	
4" Cut-in T; assembly hardware included	_	FGS-MHIS-A	-	FGSO-MHIS-A	-	
6" Cut-in T; assembly hardware included	-	FGS-MHIS-B	-	FGSO-MHIS-B	-	
12" Cut-in T; assembly hardware included	-	FGS-MHIS-F	-	FGSO-MHIS-F	_	
Cut-in T fixture	-	FGS-MHIS-JIG-A/B/F	-	FGS-MHIS-JIG-A/B/F	_	
4x12 end cap		FGS-HMEC-F		FGS-HMEC-F		
4x12 variable support locator k	kit contains all nec	essary mounting	hardware. Fitting :	sold separately.		
FGS-MDSP-F (downspout)	,	FGS-MDSP-F-VS		FGS-MDSP-F-VS		
FGS-MHRT-F (horizontal T)		FGS-MHRT-F-VS		FGS-MHRT-F-VS		
FGS-MHXP-F (horizontal cro	ss)	FGS-MHXP-F-VS		FGS-MHXP-F-VS		
FGS-MH9E-F (90° horizontal	elbow)	FGS-MH9E-F-VS		FGS-MH9E-F-VS		
FGS-MHRT-F/B (horizontal T	- 6"/12")	FGS-MHRT-F/B-VS		FGS-MHRT-F/B-VS		
FGS-MHXP-B/F (horizontal cro	oss- 6"/12")	FGS-MHXP-B/F-VS		FGS-MHXP-B/F-VS		
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# **4x12 System** Fittings – 4" H x 12" W



**Horizontal T** (FGS-MHRT-F)



**Horizontal Cross** (FGS-MHXP-F)



90° Horizontal Elbow (FGS-MH9E-F)



90° Down Elbow (FGS-MD9E-F)



45° Horizontal Elbow (FGS-MH4E-F)



45° Up Elbow (FGS-MU4E-F)



45° Down Elbow (FGS-MD4E-F)



**Horizontal T** with Single 6" Exit (FGS-MHRT-F/B)



**Horizontal Cross** with Two 6" Exits (FGS-MHXP-B/F)



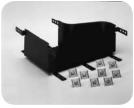
4x12 to Dual 4x6 **Adapter** (FGS-MDSA-F2B)



4x12 to Single 4x6 Adapter (FGS-MDSA-FB)



4x12 to 4x6 Adapter - Right (FGS-MDSA-FB-R)



4x12 to 4x6 Adapter - Left (FGS-MDSA-FB-L)



**End Cap** (FGS-HMEC-F)



Expandable **Straight Section** (FGS-MVAR-F)



12" Cut-in T (FGS-MHIS-F)



**Cut-in T Fixture** (FGS-MHIS-JIG-A/B/F shown on a straight section)



**Snap-on Cover** (FGS-SH4E-F shown separate)



**Snap-on Cover** Installation



**Snap-on Cover** (FGS-SH4E-F shown installed)

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# **4x12 System**Downspouts and Attachments – 4" H x 12" W

An array of 4x12 downspouts and attachments are available to feed fibre from overhead straight sections into fibre optic equipment below. The 4x12 downspout features a 4x6 exit and accepts the 4x6 exit attachments listed below.

Description	Number of Junctions	Yellow System Product Number	Orange System Product Number
4x12 downspouts			
Downspout	2*	FGS-MDSP-F	FGSO-MDSP-F
Cover for 4x12 downspout	_	FGS-SDSP-F	FGSO-SDSP-F
Insertable downspout	_	FGS-MDSP-F/I	FGSO-MDSP-F/I
Trumpet flare	-	FGS-MTRM-F	FGSO-MTRM-F
Downspout with rear T	-	FGS-MDRT-F	FGSO-MDRT-F
Island T with spool and factory installed trumpet flare; designed for use over ADC KRONE Next Generation Frame Storage Bay	-	FGS-ISLAND-F	FGSO-ISLAND-F
Island T with trumpet and dividing spool; designed for use over ADC KRONE 600 mm wide Next Generation Frame – Variable Support Locator Kit included		FGS-ISLAND-F-513	FGSO-ISLAND-F-513
Island T with recessed dividing spool		FGS-ISLAND3-F	FGSO-ISLAND3-F
4x12 attachments			
4x6 dual 2" flex tube attachment			
5' length	_	FGS-KT03-B	FGSO-KT03-B
10' length	_	FGS-KT03-B-10F	FGSO-KT03-B-10F
15' length	-	FGS-KT03-B-15F	FGSO-KT03-B-15F
4x6 trumpet flare kit; used on 4x12 downspouts		FGS-MTRM-B	FGSO-MTRM-B
4x12 to 4x4 downspout converter; converts downspout opening to accept 4x4 slotted duct	-	FGS-HDSI-F/D	FGS-HDSI-F/D
4x12 to 2x2 downspout converter	-	FGS-HDSI-F/C	FGS-HDSI-F/C

<sup>\*</sup>An additional junction is needed if drop is to fitting or straight section. This 4x6 junction must be a junction type FGS-MFAW-B.

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## 4x12 System

## Downspouts and Attachments – 4" H x 12" W



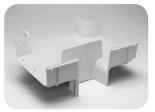
**Downspout** (FGS-MDSP-F)



Cover for 4x12 Downspout (FGS-SDSP-F)



**Trumpet Flare** (FGS-MTRM-F)



**Downspout with Rear T** (FGS-MDRT-F)



Island T (FGS-ISLAND-F)



Island T with Recessed
Dividing Spool
(FGS-ISLAND3-F shown with
12" Junction, 90° Down Elbow
and Trumpet Flare)



4x6 Dual 2" Flex Tube Attachment (FGS-KT03-B)

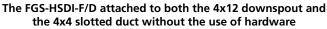


**4x6 Trumpet Flare Kit** (FGS-MTRM-B shown alone and attached to 4x12 Downspout)



**4x12 to 4x4 Downspout Converter**(FGS-HDSI-F/D)









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## 4x12 System

## Straight Section – 4" H x 12" W

The unique nine-channel design of the 4x12 FiberGuide® straight section provides unmatched strength and allows the attachment of support structure without the need to cut or drill holes within the raceway. This ensures that the patch cords will not come in contact with any screw heads or bolts, an important consideration in 4x4, 4x6, and 4x12 systems where higher cable counts apply increased pressure on the patch cords at the bottom of the raceway.

The 4x12 system covers feature a snap-on design. This allows the cover to be used in environments with limited headroom. Two 3-foot cover sections come with each order, making it easy for one person to remove the covers. Each cover kit includes a tether kit. The straight section covers are designed to be placed over the 4x12 downspouts, speeding installation time by reducing the number of measurements and cuts that need to be made.



Horizontal Straight Section (FGS-MSHS-F)



Horizontal Straight Section Cover (FGS-MSSC-F includes two 3' Lengths and Tethering Hardware)



**Expandable Straight Section** (FGS-MVAR-F)



12" Hinged Cover for Horizontal Straight Section (FGS-MSNC-F)



Straight Section Cover in Tethered Position



Straight Section Cover Attached to Straight Section

	Product Number		
Description	Yellow System	Orange System	
4x12 straight section			
Horizontal straight section; 6' long, cover sold seperately	FGS-MSHS-F	FGSO-MSHS-F	
Expandable straight section	FGS-MVAR-F	FGSO-MVAR-F	
Slack storage straight section	FGS-MSHS-STOR-F	FGSO-MSHS-STOR-F	
4x12 accessories			
Hinged cover kit for horizontal straight section; includes five mounting hinges and three clips	FGS-MSNC-F	FGSO-MSNC-F	
Snap-on cover kit* for horizontal straight section; includes 3' covers, optional tethering kit	FGS-MSSC-F	FGSO-MSSC-F	
Kit - 10 black capture clips*	FGS-DHCP	FGS-DHCP	
Kit - 10 black capture clips and 10 hinges	FGS-DHHC	FGSO-DHHC	

<sup>\*</sup>See drawings on page 87 for more detail on how capture clips and hinges are used.

**4x12 System** Snap-Fit<sup>™</sup> Junction – 4" H x 12" W

The new Snap-Fit™ junction is available for the 12-inch FiberGuide® system. The Snap-Fit junction is a completely tool-less junction. No additional tools are required for installation or removal. The Snap-Fit junction exhibits superior holding force and accommodates support brackets.



4x12 Snap-Fit Junction (FGS-MFAW-F)

Ordering Information		
	Produc	t Number
Description	Yellow System	Orange System
4x12 Snap-Fit™ junction	FGS-MFAW-F	FGSO-MFAW-F

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FiberGuide® Systems



## 4x24 System



Fittings	54
Downspouts	55
Straight Section and Snap-Fit™ Junction	56



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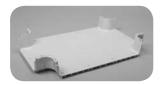
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# **4x24 System** Fittings – 4" H x 24" W



**End Cap** (FGS-HMEC-H)



**Horizontal Cross with** Dual 12" Exits (FGS-MHXP-F/H)



**Horizontal Cross** (FGS-MHXP-H)



45° Horizontal Elbow (FGS-MH4E-H)



**Horizontal T** with Single 12" Exit (FGS-MHRT-H/F)



12" Cut-in T (FGS-MHIS-F/H)

	Product Number		
Description	Yellow System	Orange System	
4x24 fittings			
45° horizontal ebow	FGS-MH4E-H	FGSO-MH4E-H	
Horizontal T with single 12" exit	FGS-MHRT-H/F	FGSO-MHRT-H/F	
Horizontal T with three 24" exits	FGS-MHRT-H	FGSO-MHRT-H	
Horizontal cross	FGS-MHXP-H	FGSO-MHXP-H	
Horizontal cross with dual 12" exits	FGS-MHXP-F/H	FGSO-MHXP-F/H	
45° up elbow	FGS-MU4E-H	FGSO-MU4E-H	
45° down elbow	FGS-MD4E-H	FGSO-MD4E-H	
4x24 conversions			
12" cut-in T for 4x24*	FGS-MHIS-F/H	FGSO-MHIS-F/H	
6" cut-in T for 4x24*	FGS-MHIS-B/H	FGSO-MHIS-B/H	
4" cut-in T for 4x24*	FGS-MHIS-A/H	FGSO-MHIS-A/H	
4x24 to 4x12 adapter	FGS-MDSA-HF	FGSO-MDSA-HF	
4x24 end cap	FGS-HMEC-H	FGSO-HMEC-H	

<sup>\*</sup>Designed exclusively for the 4x24" system.



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**4x24 System**Downspouts – 4" H x 24" W

4x24 downspouts and attachments feed fibre from overhead straight sections into fibre optic equipment below.



Island T with Single 12" Exit (FGS-ISLAND-H/F)



**Trumpet Flare** (FGS-MTRM-H)

	Product Number	
Description	Yellow System	Orange System
Island T with single 12" exit	FGS-ISLAND-H/F	FGSO-ISLAND-H/F
Trumpet flare	FGS-MTRM-H	FGS-MTRM-H



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## 4x24 System

Straight Section and Snap-Fit™ Junction – 4" H x 24" W

## Straight Section

The unique double wall channel design of the 4x24 straight section provides exceptional strength and durability for high fibre count applications and allows the standard system to be attached to the support structure without the need to cut or drill any holes within the trough. The six channel design ensures that the patch cords will not come in contact with any screw heads or bolts, an important consideration in 4x24 systems where higher cable counts apply increased pressure on patch cords at the bottom of the trough.



Straight Section (FGS-MSHS-H)

Ordering Information		
	Produc	t Number
Description	Yellow System	Orange System
<b>4x24 straight section;</b> horizontal straight section, 6' long	FGS-MSHS-H	FGSO-MSHS-H

## **Snap-fit Junction**

The Snap-Fit™ Junction assembly is available for the 24-inch FiberGuide® System. The Snap-Fit junction is a completely toolless junction. No additional tools are required for installation or removal. The junction exhibits superior holding force and accommodates support brackets. A warning label is included with each junction kit.



Snap-Fit junction (FGS-MFAW-H)

Ordering Information	(FGS-IVIFAVV-H)	
	Product Number	
Description	Yellow System	Orange System
4x24 Snap-Fit™ junction	FGS-MFAW-H	FGSO-MFAW-H



## **Express Exit™ Family**



1-Inch Express Exit	58
2-Inch Express Exit	59
ow-Profile Express Exit	59
Attachments	60



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## **Express Exit™ Family**

For 4x4, 4x6, 4x12, and 4x24 Systems

ADC KRONE's patented\* Express Exit™ family accommodates various raceway environments and applications. By simply securing an Express Exit™ to the sidewall of any 4x4, 4x6, 4x12, or 4x24 FiberGuide® straight section, jumpers can be permanently or temporarily routed to fibre optic terminal (FOT) equipment below. No cutting of the FiberGuide® system is required. Positioning a drop with a member of the Express Exit™ family greatly simplifies installation, protects the integrity of fibres already present in the raceway, and increases overall flexibility of the raceway system. All Express Exit™ guarantee 2-inch bend radius protection.



**Express Exit<sup>™</sup> Family** 

Express Exit™ Style	Height Above Sidewall	Exit Opening	3 mm Patch Cord Capacity	2 mm Patch Cord Capacity	Hinged Rear Cover	Exit Fin Inserts
2-Inch Express Exit <sup>™</sup>	4"	2" x 2" <sup>1</sup>	150	350	No	No
Low-Profile Express Exit™	2"	2" x 2"1	150	350	No	No
4-Inch Express Exit™	4"	4" x 4" <sup>2</sup>	300	700	Yes	Yes

<sup>&</sup>lt;sup>1</sup>Accepts all standard 2x2" attachments.

## 4-Inch Express Exit™

The 4-Inch Express Exit™ is designed to distribute and manage medium cable counts to FOT or ODF equipment. It features a 4-inch by 4-inch exit opening to accept all standard 4x4 downspout attachments and includes insertable exit fins and removable rear cable guides for additional cable management.

See page 90 for 4-Inch Express Exit<sup>™</sup> downspout attachments.



4-Inch Express Exit™

	Product Number		
Description	Yellow System	Orange System	
4-inch Express Exit™			
Express Exit <sup>™</sup> ; base, base cover, mounting hardware, support bracket, and exit inserts included	FGS-MEXP-E-A/B/F	FGSO-MEXP-E-A/B/F	
4-inch accessories			
Express Exit <sup>™</sup> rear hinged cover kit; one 4x4, 4x6, 4x12 rear hinged cover	FGS-MEXC-E-A/B/F	FGSO-MEXC-E-A/B/F	
Express Exit <sup>™</sup> rear hinged cover for 4x4 raceway	FGS-MEXC-E-A	FGSO-MEXC-E-A	
Express Exit <sup>™</sup> rear hinged cover for 4x6 raceway	FGS-MEXC-E-B	FGSO-MEXC-E-B	
Express Exit <sup>™</sup> rear hinged cover for 4x12 raceway	FGS-MEXC-E-F	FGSO-MEXC-E-F	

<sup>\*</sup>Other patents pending.

<sup>&</sup>lt;sup>2</sup>Accepts all standard 4x4" attachments.



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## **Express Exit™ Family**

For 4x4, 4x6, 4x12, and 4x24 Systems

## 2-Inch Express Exit™

The 2-Inch Express Exit<sup>™</sup>, ADC KRONE's initial offering in the Express Exit<sup>™</sup> product family, accommodates up to 350, 2 mm patch cords. The patch cords are routed from a 4x4, 4x6, 4x12 or 4x24 straight section to FOT equipment below the raceway.



Ordering Information	2-Inch Express Exit
----------------------	---------------------

	Product Number	
Description	Yellow System	Orange System
<b>2-Inch Express Exit™;</b> base, base cover, mounting hardware and support bracket included	FGS-MEXP-A/B/F	FGSO-MEXP-A/B/F

## Low-Profile Express Exit™

Designed for low-ceiling or height-restricted environments, the Low-Profile Express Exit™ features a front-removable cover and extends only 2 inches above the FiberGuide® straight section sidewall. It also includes removable rear cable guides for additional cable management.



**Low-Profile Express Exit** 

# Ordering Information Product Number Description Yellow System Orange System Low-Profile Express Exit™; base, base cover, mounting hardware and support bracket included FGS-MEXP-LP-A/B/F FGSO-MEXP-LP-A/B/F

## Attachments for 2-Inch Express Exit™ and Low-Profile Express Exit™

### **Ordering Information Product Number** Description **Yellow System Orange System** 2x2 trumpet flare; junction included FGS-MTRM-C FGSO-MTRM-C Single 2" flex tube attachment; 2" flex tube and a 2x2 junction to attach to Express Exit unit included FGS-MEX1-C-5F FGSO-MEX1-C-5F 5' length 10' lenath FGS-MEX1-C-10F FGSO-MEX1-C-10F FGS-MEX1-C-15F 15' length FGSO-MEX1-C-15F Dual 7/8" flex tube attachment; two lengths of 7/8" flex tube and a 2" junction to attach to Express Exit unit included FGS-KT03-C FGSO-KT03-C (2) 5' lengths (2) 10' lengths FGS-KT03-C-10F FGSO-KT03-C-10F (3) 15' lengths FGS-KT03-C-15F FGSO-KT03-C-15F



## **Vertical Slotted Duct Systems**



2x2 and 2x1 Vertical Slotted Duct Kits and Components.... 62 4x4 and 2x4 Vertical Slotted Duct Kits and Components.... 63



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# Vertical Slotted Duct Systems 2"x 2" and 2"x 1"



2"x 2" Vertical Slotted Duct Kit 4" Slot Spacing (FGS-KTW1-C)



2"x 2" Vertical Slotted Duct Kit 1.5" Slot Spacing (FGS-KTW1-CA)



2"x 2" Vertical Solid Duct Kit (FGS-KTW4-C)



2"x 1" Vertical Slotted **Duct Kit** (FGS-KTW1-E)



2"x 2" to 2"x 1" **Conversion Piece** (FGS-ACC063)



2"x 2" Vertical Duct Universal **Mounting Brackets** (FGS-HWMB-C)

	Product Number		
Description	Yellow System	Orange System	
Vertical slotted duct kits; 6' long – duct, cover, hose end clamp and five universal mounting brackets included			
2x2 (4" slot spacing)	FGS-KTW1-C	FGSO-KTW1-C	
2x2 (1.5" slot spacing)	FGS-KTW1-CA	FGSO-KTW1-CA	
2x2 solid duct kit	FGS-KTW4-C	FGSO-KTW4-C	
2x1 (4" slot spacing)	FGS-KTW1-E	FGSO-KTW1-E	
2x1 solid duct kit	FGS-KTW4-E	FGSO-KTW4-E	
Components		•	
2x2 to 2x1 conversion piece; order when converting from 2x2 to 2x1 system	FGS-ACC063	FGSO-ACC063	
2x2 vertical slotted (4" slot spacing) duct; 6' long	FGS-MSHS-C	FGSO-MSHS-C	
2x2 vertical slotted (1.5" slot spacing) duct; 6' long	FGS-MSHS-CA	FGSO-MSHS-CA	
Cover for 2x2 duct; 6' long	FGS-MSHC-C	FGSO-MSHC-C	
2x2 vertical slotted duct cover clip	FGS-CLIP-C	FGS-CLIP-C	
2x2 vertical slotted duct universal mounting bracket; kit of 5 – typically five brackets used for every 6' section of 2x2 vertical duct	FGS-HWMB-C	FGS-HWMB-C	



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# Vertical Slotted Duct Systems 4"x 4" and 2"x 4"



4"x 4" Vertical **Slotted Duct Kit** (FGS-KTW2-D)



2"x 4" Vertical **Slotted Duct Kit** (FGS-KTW2-E)



4"x 4" Vertical Slotted **Adapter Junction Kit** (FGS-MJWR-D)



4"x 4" Vertical Duct **Mounting Bracket** (FGS-HWMB-D)

	Product Number		
Description	Yellow System	Orange System	
Vertical slotted duct kits			
4x4 (4 slot spacing) duct kit; 6' long; duct, cover and three mounting brackets included	FGS-KTW2-D	FGSO-KTW2-D	
2x4 (1.5 slot spacing) duct kit; 6' long; duct, cover and three mounting brackets included	FGS-KTW2-E	FGSO-KTW2-E	
4x 4 adapter junction kit; used to join 4x4 vertical duct to standard 4x4 FiberGuide® profile	FGS-MJWR-D	FGSO-MJWR-D	
Components			
4x4 vertical slotted duct; 6' long	FGS-MSHS-D	FGSO-MSHS-D	
Cover for 2x4 and 4x4 vertical slotted duct; 6' long	FGS-MSHC-D	FGSO-MSHC-D	
4x4 vertical slotted duct mounting bracket; typically three brackets used for every 6' section of 4x4 vertical duct	FGS-HWMB-D	FGS-HWMB-D	
2x4 vertical slotted duct mounting bracket; kit of 10	FGS-HKW2-E	FGS-HKWZ-E	
2x4 vertical slotted duct cap	FGS-HMEC-E	FGS-HMEC-E	
2x4 vertical slotted duct cover clip	FGS-CLIP-E	FGS-CLIP-E	
4x4 vertical slotted duct cover clip	FGS-CLIP-D	FGS-CLIP-D	
2x4 vertical slotted trumpet flare	FGS-MTRM-E	FGSO-MTRM-E	



## **Support Kits**



2x2 System	66
2x6, 4x4, 4x6 Systems	68
4x12 System	69
4x24 System	70



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## 2x2 System Support Kits

For Yellow and Orange Systems

## **Direct Support Kits**



Ladder Rack Support Kit (FGS-HLR2-C shown alone and attached to ladder rack)



Bay Top Support Short L Bracket Kit (FGS-BTBS-C)



Bay Top Support Long L Bracket Kit (FGS-BTBL-C)



**Digital Cableway Support Kit** (FGS-HDCB-C)



Under Floor Support Kit (FGS-HUFB-C shown alone and attached to .62" round pipe)

## **Ordering Information**

Description	Product Number
2x2 direct support kits	
Ladder rack support kit; for use with 3.5" (maximum) ladder rack	FGS-HLR2-C
Bay top support short L bracket kit	FGS-BTBS-C
Bay top support long L bracket kit	FGS-BTBL-C
Digital cableway support kit	FGS-HDCB-C
Under floor support kit; can be secured to .62" to 1.2" round or square post	FGS-HUFB-C

Note: Recommended spacing of direct support kits is every 2' to 3'.

Custom brackets are available, please contact ADC KRONE.

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# **2x2 System Support Kits**For Yellow and Orange Systems

## Aluminum Track Support Kit



**Aluminum Track Support Kit** (FGS-HASK-C)



**New Threaded Rod Bracket Kit** (FGS-HTR2-XX shown alone and attached to aluminum track support)



**Existing Threaded Rod Bracket Kit** (FGS-HTR2-2-5/8)

Description	Product Number
<b>2x2 aluminum track support kit;</b> 6' long, track connecting bar kit included – aluminum track is self-supporting for spans up to 6'	FGS-HASK-C
2x2 bracket kits; used to support aluminum track kits	
New threaded rod bracket kit; 5/8"	FGS-HTR2-5/8
New threaded rod bracket kit; 1/2"	FGS-HTR2-1/2
Existing threaded rod bracket kit; 5/8" for up to two 2x2 FiberGuide® Systems	FGS-HTR2-2-5/8
Track connecting bar kit; used to join two aluminum track kits; order only if extras are needed	FGS-HAEJ-C



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## 2x6, 4x4, 4x6 System Support Kits

For Yellow and Orange Systems



**Ladder Rack Cantilever Support Bracket Kit** (FGS-HDLB-4)



L Bay Support Bracket Kit (FGS-HLBK shown alone and attached to 4x4 FiberGuide®)



**New Threaded Rod Bracket kit** (FGS-HNTR-XX shown alone and attached to threaded rod)



**Existing Threaded Rod Bracket Kit** (FGS-HETR-XX shown alone and attached to threaded rod)



**Modified New Threaded Rod Bracket Kit** (FGS-HNTR-5/8-A shown alone and attached to threaded rod)



**Top Support Low Profile** C-bracket Kit (FGS-HNTS-XX-LP)



Top Support C-Bracket Kit (FGS-HNTS-XX)



Modified Existing Threaded Rod Bracket Kit Center Support Bracket Kit (FGS-HETR-5/8-A shown alone and attached to threaded rod)



(FGS-HTUB-XX)

### **Ordering Information**

Description	Product Number
2x6, 4x4, 4x6 system support kits	
Ladder rack cantilever support bracket kit	FGS-HDLB-3
L bay support bracket kit	FGS-HLBK
New threaded rod bracket kit; (XX = size: 1/2", 5/8", 12 mm, 14 mm, 16 mm, 18 mm)	FGS-HNTR-XX
Existing threaded rod bracket kit; (XX = size: 1/2", 5/8", 12 mm, 14 mm, 16 mm)	FGS-HETR-XX
Modified new threaded rod bracket kit; 5/8"	FGS-HNTR-5/8-A
Top support low-profile C-bracket kit; (XX = size: 1/2", 5/8", 12 mm, 14 mm, 16 mm)	FGS-HNTS-XX-LP
Top support C-bracket kit; (XX = size: 1/2", 5/8", 12 mm, 14 mm, 16 mm)	FGS-HNTS-XX
Modified existing threaded rod bracket kit; 5/8"	FGS-HETR-5/8-A
Center support bracket kit; (XX = size: 1/2", 5/8", 12 mm, 14 mm, 16 mm, 20 mm)	FGS-HTUB-XX
Digital cableway bracket kit; 305 mm (12")	FGS-HCBL-12
Digital cableway bracket kit; 381 mm (15")	FGS-HCBL-15
Ladder rack center support bracket kit	FGS-HNLR-AB
OMX frame center support bracket kit; 16 mm (.63")	FGS-HOMX-16MM
Under floor support bracket kit	FGS-HUFB-A

Custom brackets are available, please contact ADC KRONE.

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# **4x12 System Support Kits**

For Yellow and Orange System



Existing Ladder Rack Center Support Bracket Kit (FGS-HETP-F-XX)



Trapeze Bracket Kit (FGS-HNTP-F-XX)



Center Support Threaded Rod Bracket Kit (FGS-HTUB-F-XX shown alone and attached to threaded rod)



Top Support Low-Profile Threaded Rod Bracket Kit (FGS-HNTS-F-XX-LP shown alone and attached to threaded rod)



Top Support Threaded Rod Bracket Kit (FGS-HNTS-F-XX)



New Threaded Rod Bracket Kit (FGS-HNTR-F-XX)



Existing Threaded Rod Bracket Kit (FGS-HETR-F-XX)

### Ordering Information

Description	Product Number			
4x12 system support kits				
New ladder rack center support bracket kit	FGS-HNLR-F			
Existing ladder rack center support bracket kit; (XX = size: 1/2", 5/8", 12 mm, 14 mm, 16 mm)	FGS-HETP-F-XX			
Trapeze bracket kit; (XX = size: 1/2", 5/8", 12 mm, 14 mm, 16 mm)	FGS-HNTP-F-XX			
Center support threaded rod bracket kit; (XX = size: 1/2", 5/8", 12 mm, 14 mm, 16 mm, 20 mm)	FGS-HTUB-F-XX			
Top support low-profile threaded rod C-bracket kit; (XX = size: 1/2", 5/8", 12 mm, 14 mm, 16 mm)	FGS-HNTS-F-XX-LP			
Top support threaded rod C-bracket kit; (XX = size: 1/2", 5/8", 12 mm, 14 mm, 16 mm)	FGS-HNTS-F-XX			
New threaded rod bracket kit; (XX = size: 5/8", 14 mm, 16 mm, 18 mm)	FGS-HNTR-F-XX			
Existing threaded rod bracket kit; (XX = size: 5/8", 14 mm, 16 mm)	FGS-HETR-F-XX			



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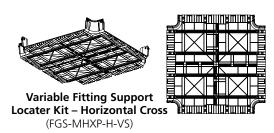
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# **4x24 System Support Kits**

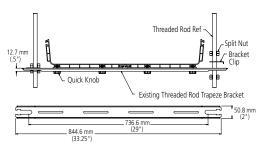
For Yellow and Orange System



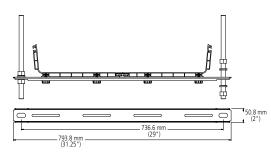








Existing 5/8" Threaded Rod Trapeze Bracket Kit (FGS- HETP-H-5/8)



New 5/8" Threaded Rod Trapeze Bracket Kit (FGS-HNTP-H-5/8)

# Ordering Information

Description	Product Number	
4x24 System Support Kits		
Variable fitting support locater kit for;		
Horizontal elbow	FGS-MH4E-H-VS	
Horizontal T with single 12" exit	FGS-MHRT-H/F-VS	
Horizontal cross	FGS-MHXP-H-VS	
Horizontal cross with dual 12" exits	FGS-MHXP-F/H-VS	
Threaded rod trapeze bracket kit for;		
Existing; 5/8" FGS-HETP-H-5/8		
New; 5/8"	FGS-HNTP-H-5/8	



# **Accessories**



System Accessories	72
Support Kit Accessories	74



# **System Accessories**

	Produc	t Number
Description	Yellow System	Orange System
Trough cover clip kit	FGS-KT09	FGS-KT09
Slotted and solid flex tubes	•	
2" outer diameter slotted flex tube; (X = length: 5, 10, 15, 20, 25, 50, 75, 100, 125, 150, 200, 250)	FGS-MIDY-XF	FGSO-MIDY-XF
1" outer diameter slotted flex tube; (X = length: 5, 10, 15, 20, 25, 50, 75, 100, 125, 150, 200, 250)	FGS-MLDY-XF	FGSO-MLDY-XF
7/8" outer diameter slotted flex tube; (X = length: 5, 10, 15, 20, 25, 50, 75, 100, 125, 150, 200, 250)	FGS-MFTY-XF	FGSO-MFTY-XF
2" outer diameter solid flex tube; (X = length: 5, 10, 15, 20, 25, 50, 75, 100, 125, 150, 200, 250)	FGS-MISY-XF	FGSO-MISY-XF
Hinges; single hinges for 4x4 and 4x6 covers	FGS-HHGK	FGS-HHGK
Retainer rings; kit of 10 – used to retain fibres in 2" flex tube	FGS-HFRR-10	FGS-HFRR-10
Flex tube clamp; kit of 10 – used to secure 2" flex tube to 2" vertical ducts	FGS-HHEC-10	FGS-HHEC-10
Storage spools for dark fibre jumpers; kit of 2	FGS-MSTOR-A/B/F	FGS-MSTOR-A/B/F
Mitre box with saw	•	
Used to cut 2x2, 4x4, 4x6, and 4x12 FiberGuide® straight sections to size	FGS-MKIT-ABF	FGS-MKIT-ABF
Used to cut 2x2, 4x4, and 4x6 FiberGuide® straight sections to size	FGS-MKIT	FGS-MKIT
IFC tie down for;		
4x4 system	FGS-HIFC-A	FGS-HIFC-A
4x6 system	FGS-HIFC-B	FGS-HIFC-B
4x12 system	FGS-HIFC-F	FGS-HIFC-F
Quick knobs with T-bolt; kit of 10	FGS-KQKB	FGS-KQKB
Reverse junction adapter kit for 4x4, 4x6, and 4x12 systems; used to connect two parts rotated 180°	FGS-HRJA-A/B/F	FGS-HRJA-A/B/F
Retrofit fin; kit of 10	FGS-MFIN-10	FGS-MFIN-10

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FiberGuide® Systems

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# **System Accessories**



2" Outer Diameter Slotted Flex Tube (FGS-MIDY)



**7/8" Outer Diameter Slotted Flex Tube** (FGS-MFTY)



Single Hinges for 4" and 6" Covers (FGS-HHGK)



Retainer Rings (FGS-HFRR-10)



Flex Tube Clamp (FGS-HHEC-10)



**Storage Spools** (FGS-MSTOR-A/B/F)



**Shown Installed** (FGS-MSTOR-A/B/F)



Mitre Box and Saw (FGS-MKIT-ABF)



Retrofit Fin – Kit of 10 (FGS-MFIN-10)



Quick Knobs - Kit of 10 (FGS-KQKB)



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# **Support Kit Accessories**For Yellow and Orange Systems



**Threaded Rod** (FGS-HTHR)



**Auxiliary Framing Kit** (FGS-HFCK)



**Adjustable Angle Support Brackets** (FGS-HASB)



**Ladder Rack Bracket Kit** FGS-HLDR shown alone and attached to ladder rack



**Unistrut Nut Kit** (FGS-HDGR)

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Description Product Number			
	Floudet Number		
Threaded rod			
5/8" - 11 x 12"	FGS-HTHR-5/8-12		
5/8" - 11 x 30"	FGS-HTHR-5/8-30		
5/8" - 11 x 72"	FGS-HTHR-5/8-72		
1/2" - 13 x 12"	FGS-HTHR-1/2-12		
1/2" - 13 x 30"	FGS-HTHR-1/2-30		
1/2" - 13 x 72"	FGS-HTHR-1/2-72		
<b>Threaded rod;</b> (XX = size: 12 mm, 14 mm, 16 mm) (NN = length: 30 cm, 75 cm, 180 cm)	FGS-HTHR-XX-NN		
Auxiliary framing kit			
2x 9/16" x 3/16" for 5/8" rod	FGS-HFCK-5/8		
2x 9/16" x 3/16" for 1/2" rod	FGS-HFCK-1/2		
Adjustable angle support brackets with 5/8" threaded rod			
11 x 36" rod	FGS-HASB-5/8-36		
11 x 48" rod	FGS-HASB-5/8-48		
Adjustable angle support brackets with 1/2" threaded rod			
13 x 36" rod	FGS-HASB-1/2-36		
13 x 48" rod	FGS-HASB-1/2-48		
Ladder rack bracket kit for radiused ladder racking	FGS-HLDR-A		
<b>Ladder rack bracket kit;</b> (XX = size: 1/2", 5/8", 12 mm, 14 mm, 16 mm)	FGS-HLDR-XX		
Unistrut nut kit; 5/8"	FGS-HDGR		
<b>Frame mounting hardware kit;</b> (XX = size: 1/2", 5/8", 12 mm, 14 mm, 16 mm)	FGS-HKFM-XX		





2x2 System Part Drawings	76
2x6 System Part Drawings	78
4x4 System Part Drawings	80
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Express Exit™ Part Drawings	90
2x2 System Support Kit Drawings	91
2x6, 4x4 and 4x6 System Support Kit Drawings	92
4x12 System Support Kit Drawings	94
4x24 System Support Kit Drawings	95



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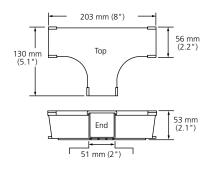
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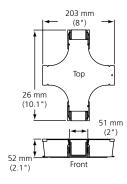
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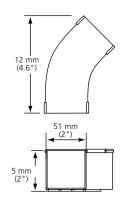
# **2x2 System**Part Drawings



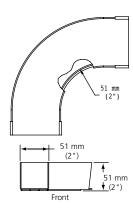
**Horizontal T** (FGS-MHTA-C)



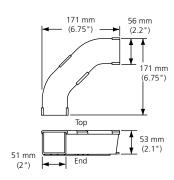
**Horizontal Cross** (FGS-MHXP-C)



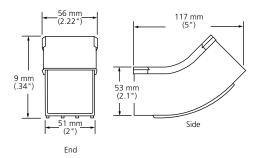
45° Horizontal Elbow (FGS-MH4A-C)



90° Horizontal Elbow (FGS-MH9A-C)



90° Extended Horizontal Elbow (FGS-MH9A-C-45/2)



45° Up Elbow (FGS-MU4A-C)



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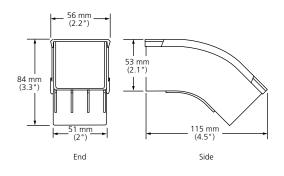
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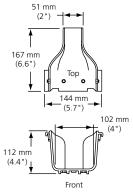
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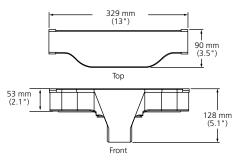
# 2x2 System



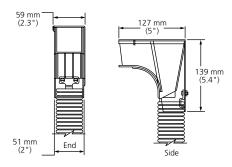
**45° Down Elbow** (FGS-MD4A-C)



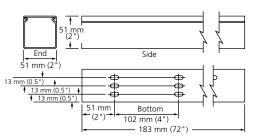
**2x2 to 4x4 Straight Adapter** (FGS-MDSA-AC)



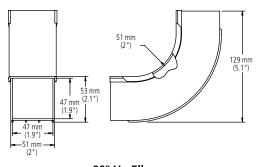
**Standard Downspout** (FGS-MSDS-C)



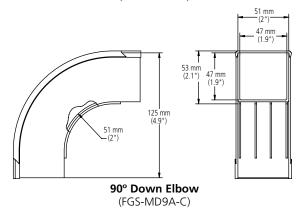
**Extended Downspout** (FGS-KDH2-C)



Horizontal Straight Section (FGS-MSHA-C)



**90° Up Elbow** (FGS-MU9A-C)



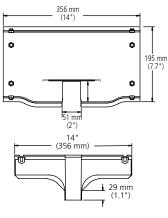


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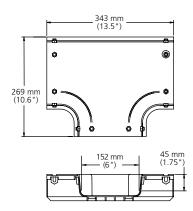
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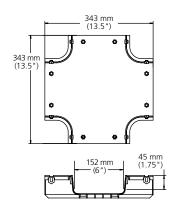
# 2x6 System



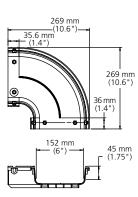
**2x6 to 2x2 Downspout** (FGS-MDSP-G)



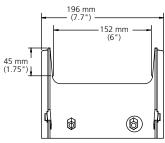
Horizontal T (FGS-MHRT-G)



Horizontal Cross (FGS-MHXP-G)

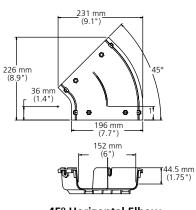


**90° Horizontal Elbow** (FGS-MH9E-G)

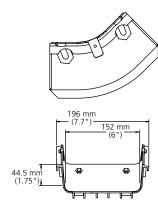


36 mm (1.4")

**90° Down Elbow** (FGS-MD9E-G)



**45° Horizontal Elbow** (FGS-MH4E-G)



**45° Up Elbow** (FGS-MU4E-G)



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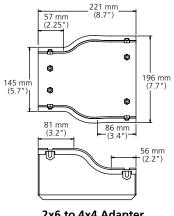
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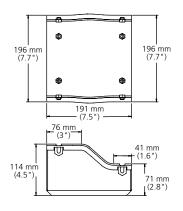
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# 2x6 System

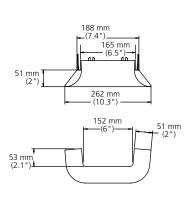
### Part Drawings



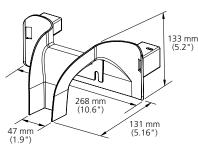
**2x6 to 4x4 Adapter** (FGS-MDSA-GA)



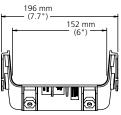
**2x6 to 4x6 Adapter** (FGS-MDSA-GB)



**Trumpet Flare** (FGS-MTRM-G)



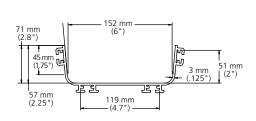
Low-Profile Express Exit™ Downspout (FGS-MEXP-LP-G)



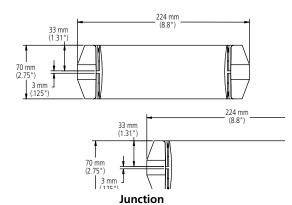
99 mm (3.9°)

140 mm (5.5")

**45° Down Elbow** (FGS-MD4E-G)



**Straight Section** (FGS-MSHS-G)



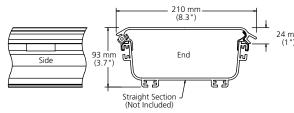
(FGS-JUNC-G)

188 mm (7.4\*)

16 mm (6.25\*)

Side (3.25\*)

Straight Section (Not included)



**Hinged Covers for Straight Section** (FGS-MSNC-B/G)

Snap-on Covers for Horizontal Straight Section (FGS-MSSC-B/G)



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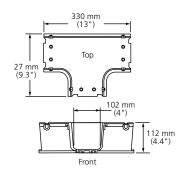
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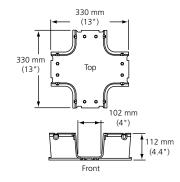
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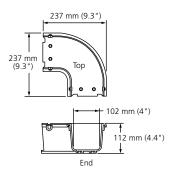
# 4x4 System



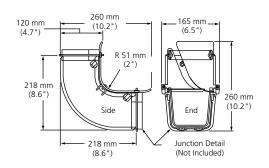
**Horizontal T** (FGS-MHRT-A)



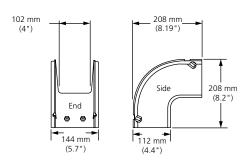
**Horizontal Cross** (FGS-MHXP-A)



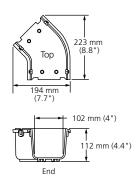
90° Horizontal Elbow (FGS-MH9E-A)



90° Up Elbow (FGS-MU9E-A)



90° Down Elbow (FGS-MD9E-A)



45° Horizontal Elbow (FGS-MH4E-A)



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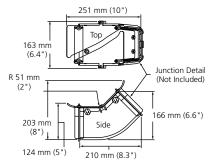
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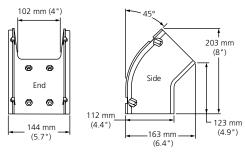
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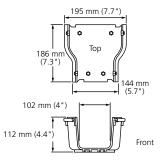
# 4x4 System



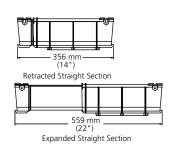
**45° Up Elbow** (FGS-MU4E-A)



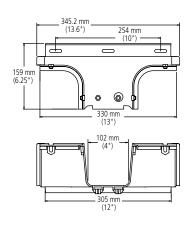
**45° Down Elbow** (FGS-MD4E-A)



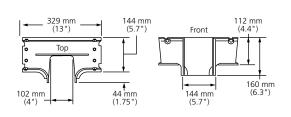
**4x4 to 4x6 Straight Adapter** (FGS-MDSA-AB)



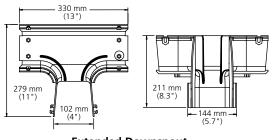
Expandable Straight Section (FGS-MVAR-A)



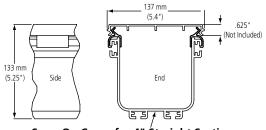
**Cut-in T** (FGS-MHIS-A)



**Downspout** (FGS-MDSP-A)



**Extended Downspout** (FGS-MDSP-EX-A)



Snap-On Cover for 4" Straight Section (FGS-MSSC-A)



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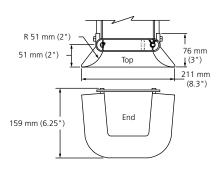
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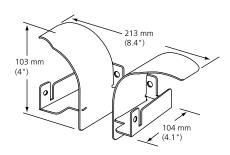
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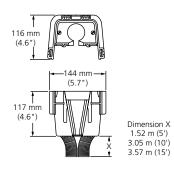
# 4x4 System



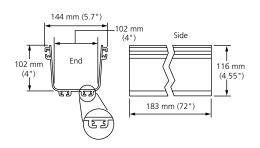
**Trumpet Flare** (FGS-MTRM-A)



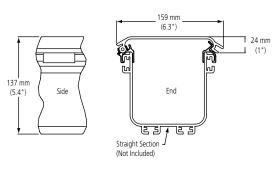
**4x4/4x6 Downspout Insert** (FGS-HDSI-AB)



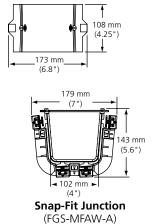
4" Square to 2" Round Adapter with Flex Tube (FGS-ASRI-X\*)



Horizontal Straight Section (FGS-MSHS-A)



Hinged Cover for 4" Horizontal Straight Section (FGS-MSNC-A)



<sup>\*</sup>Replace X with tube length as follows: 5F=5 feet, 10F=10 feet, 15F=15 feet



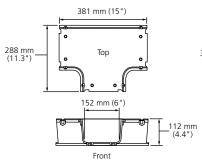
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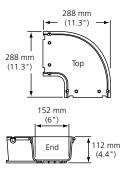
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# 4x6 System



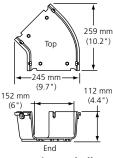
381 mm (15") Top 152 mm (4.4")



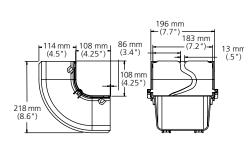
Horizontal T (FGS-MHRT-B)

Horizontal Cross (FGS-MHXP-B)

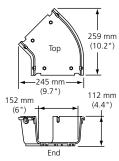
**90° Horizontal Elbow** (FGS-MH9E-B)



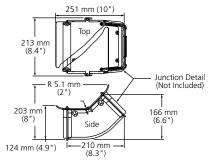
**45° Horizontal Elbow** (FGS-MH4E-B)



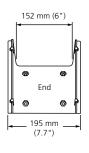
**90° Up Elbow** (FGS-MU9E-B)

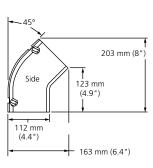


**90° Down Elbow** (FGS-MD9E-B)



**45° Up Elbow** (FGS-MU4E-B)





**45° Down Elbow** (FGS-MD4E-B)



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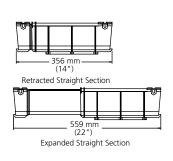
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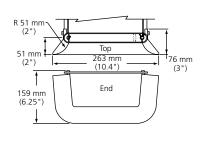
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# 4x6 System



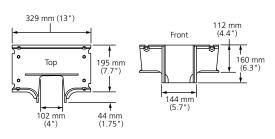
396 mm (15.6°) 305 mm (12°) (12°) (12°) (15°) (1

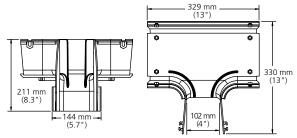


**Expandable Straight Section** (FGS-MVAR-B)

**6" Cut-in T** (FGS-MHIS-B)

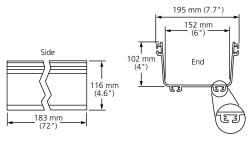
**Trumpet Flare** (FGS-MTRM-B)

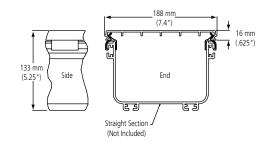




**Downspout** (FGS-MDSP-B)

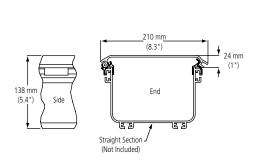
**Extended Downspout** (FGS-MDSP-EX-B)



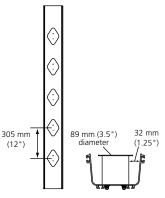


Horizontal Straight Section (FGS-MSHS-B)

**6" Snap-On Cover for Straight Section** (FGS-MSSC-B/G)



224 mm (4,25")
230 mm (9")
152 mm (5.6")



Hinged Cover for Straight Section (FGS-MSNC-B/G)

Snap-Fit Junction Assembly (FGS-MFAW-B)

Slack Storage Straight Section (FGS-MSHS-STOR-B)



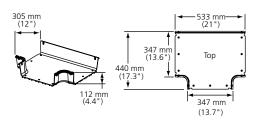
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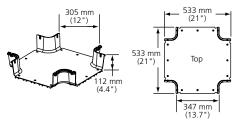
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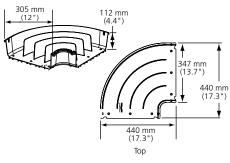
# 4x12 System



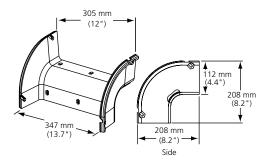
**Horizontal T** (FGS-MHRT-F)



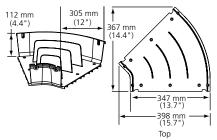
Horizontal Cross (FGS-MHXP-F)



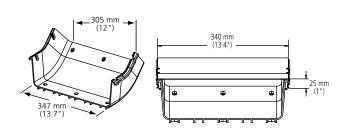
**90° Horizontal Elbow** (FGS-MH9E-F)



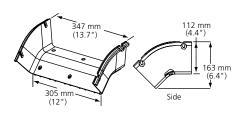
**90° Down Elbow** (FGS-MD9E-F)



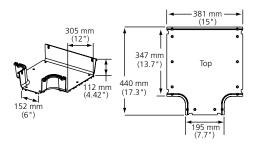
**45° Horizontal Elbow** (FGS-MH4E-F)



**45° Up Elbow** (FGS-MU4E-F)



**45° Down Elbow** (FGS-MD4E-F)



Horizontal T with (one) 6" Exit (FGS-MHRT-F/B)



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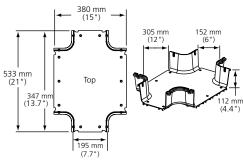
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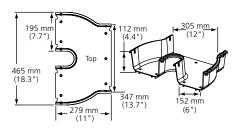
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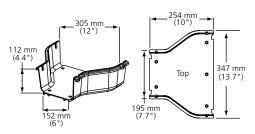
# 4x12 System



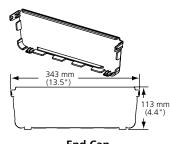
Horizontal Cross with (two) 6" Exits (FGS-MHXP-F/B)



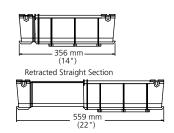
**4x12 to 4x6 Dual Adapter** (FGS-MDSA-F2B)



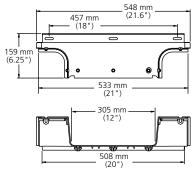
**4x12 to 4x6 Adapter** (FGS-MDSA-FB)



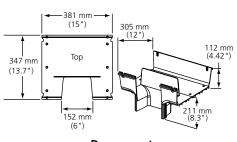
**End Cap** (FGS-HMEC-F)



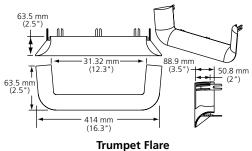
**Expandable Straight Section** (FGS-MVAR-F)



**12" Cut-in T** (FGS-MHIS-F)



**Downspout** (FGS-MDSP-F)



(FGS-MTRM-F)



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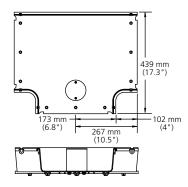
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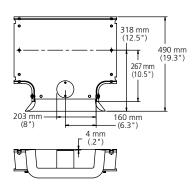
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# 4x12 System

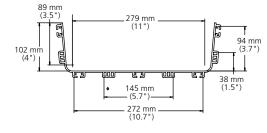
### Part Drawings



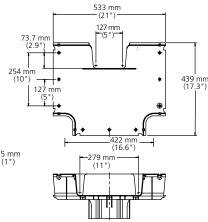
Island T with Recessed Dividing Spool (FGS-ISLAND3-F)



Island T (FGS-ISLAND-F)



**Straight Section** (FGS-MSHS-F)



93.2 mm (14.4")

Side

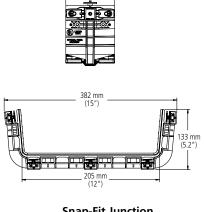
93.2 mm (1")

Straight Section
(Not Included)

Hinged Cover for Horizontal Straight Section

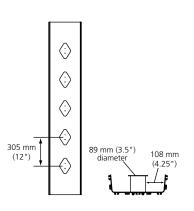
**Hinged Cover for Horizontal Straight Section**(FGS-MSNC-F)

**Downspout with Rear T** (FGS-MDRT-F)



108 mm (4.25")

**Snap-Fit Junction** (FGS-MFAW-F)



Slack Storage Straight Section (FGS-MSHS-STOR-F)



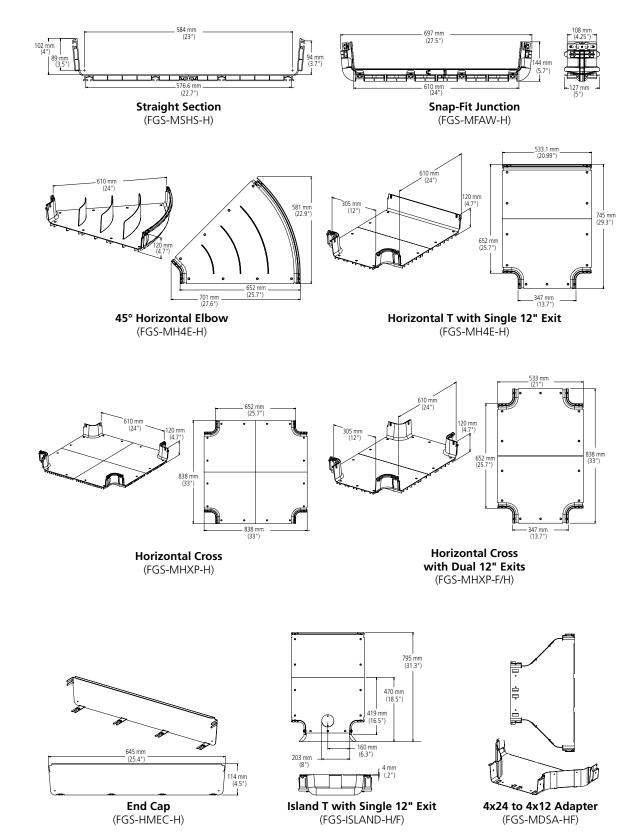
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# 4x24 System





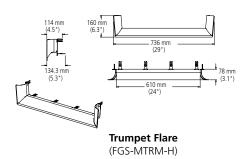
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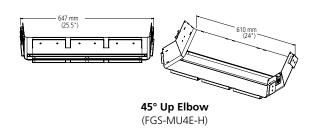
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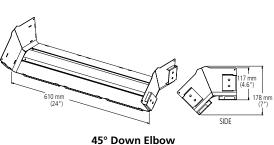
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# 4x24 System



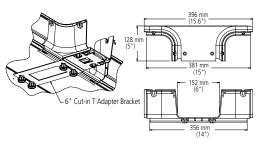




305 mm (12")

45° Down Elbow (FGS-MD4E-H)

4" Cut-in T designed exclusively for the 4x24 System (FGS-MHIS-A/H)



533 mm (21") 508 mm (20")

6" Cut-in T designed exclusively for the 4x24 System (FGS-MHIS-B/H)

12" Cut-in T designed exclusively for the 4x24 System (FGS-MHIS-F/H)



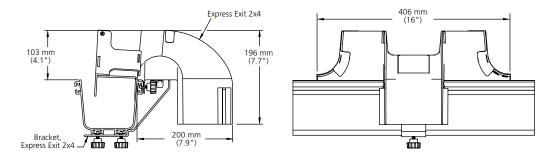
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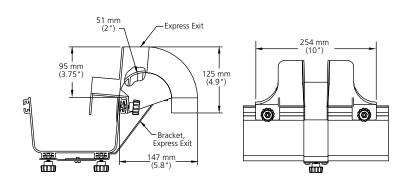
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# **Express Exit™**Part Drawings



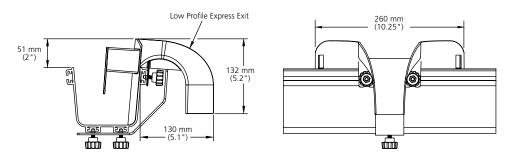
4-Inch Express Exit™

(FGS-MEXP-E-A/B/F shown attached to 4x4 straight section)



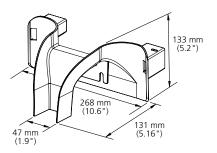
### 2-Inch Express Exit™

(FGS-MEXP-A/B/F; fits 4x4, 4x6 and 4x12 systems; shown attached to 4x6 straight section)



### **Low-Profile Express Exit**<sup>™</sup>

(FGS-MEXP-LP-A/B/F; fits 4x4, 4x6 and 4x12 systems; shown attached to 4x4 straight section)



### Low-Profile Express Exit<sup>™</sup> Designed Exclusively for 2x6 System

(FGS-MEXP-LP-G shown attached to 2x6 straight section)



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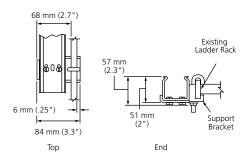
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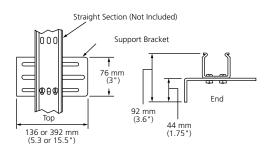
# 2x2 System

### Support Kit Drawings

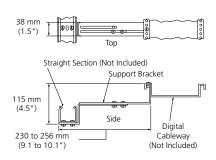


Ladder Rack Support Kit

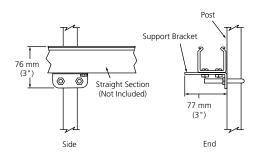
(FGS-HLR2-C shown alone and attached to ladder rack)



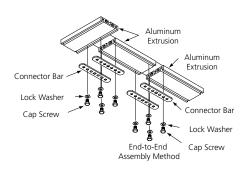
Bay Top Support Short L Bracket Kit (FGS-BTBS-C, FGS-BTBL-C)



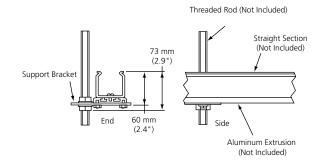
**Digital Cableway Support Kit** (FGS-HDCB-C)



Under Floor Support Kit (FGS-HUFB-C shown attached to .62"x 2" round pipe)



Aluminum Track Support Kit (FGS-HASK-C)



**New Threaded Rod Bracket Kit** (FGS-HTR2 shown attached to aluminum track support)



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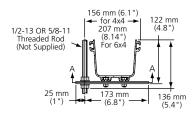
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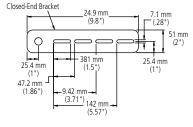
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# 2x6, 4x4, and 4x6 System

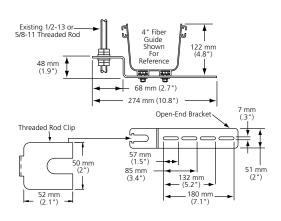
### Support Kit Drawings





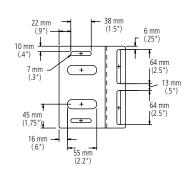
New Threaded Rod Bracket Kit

(FGS-HNTR-XX shown alone and attached to threaded rod)

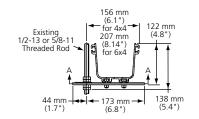


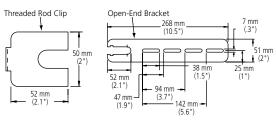
**Modified Existing Threaded Rod Bracket Kit** 

(FGS-HETR-XX-A shown alone and attached to threaded rod)



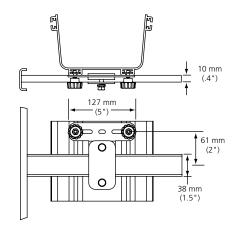
OMX Frame Center Support Bracket Kit (FGS-HOMX-16MM)



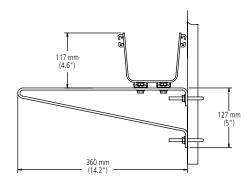


**Existing Threaded Rod Bracket Kit** 

(FGS-HETR-XX shown alone and attached to threaded rod)



**Ladder Rack Center Support Bracket Kit** (FGS-HNLR-AB)



Under Floor Support Bracket Kit (FGS-HUFB-A)



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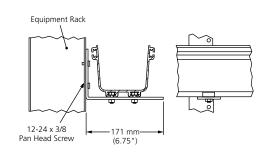
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# 2x6, 4x4, and 4x6 System

### Support Kit Drawings



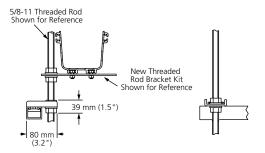
406 mm - 483 mm (16" - 19") 12 mm (4") 51 mm +13 mm (.5") 3/8-16 122 mm (4.8") Cableway Shown for Reference 130 mm (5.1") 406 mm – 483 mm (16" – 19")

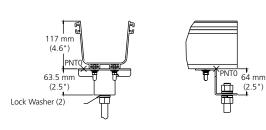
### **Support Bracket**

(FGS-HLBK shown alone and attached to 4" FiberGuide®)

### **Digital Cableway Bracket Kit**

(FGS-HCBL shown alone and attached to 4" FiberGuide®)

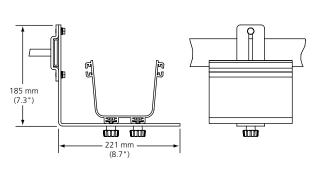


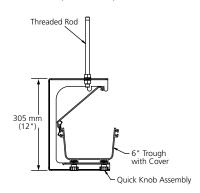


### **Unistrut Nut Kit**

(FGS-HDGR)

**Center Support Bracket** (FGS-HTUB)

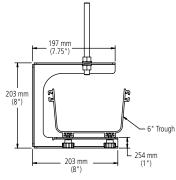




### **Ladder Rack Cantilever Support Bracket Kit**

(FGS-HDLB-4)

**Top Support C-Bracket** (FGS-HNTS)



**Top Support Low-Profile C-Bracket** (FGS-HNTS-LP)



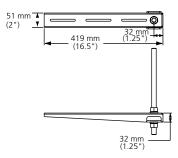
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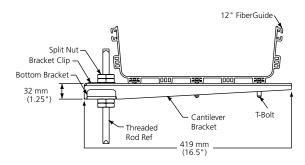
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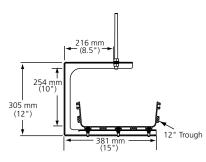
# **4x12 System**Support Kit Drawings



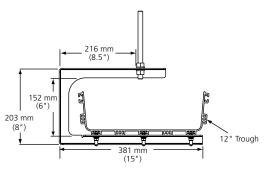
**New Threaded Rod Bracket Kit** (FGS-HNTR-F-XX shown alone and attached to threaded rod)



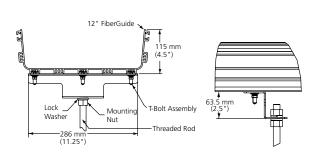
**Existing Threaded Rod Bracket Kit** (FGS-HETR-F-XX)



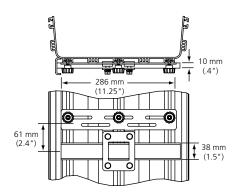
**Top Support Threaded Rod C-Bracket Kit** (FGS-HNTS-F-XX shown attached to 4x12 straight section)



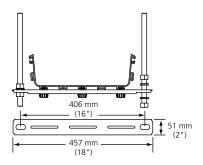
**Top Support Low Profile Threaded Rod C-Bracket Kit** (FGS-HNTS-F-XX-LP shown attached to 4x12 straight section)



**Center Support Threaded Rod Bracket Kit** (FGS-HTUB-F-XX shown attached to 4x12 straight section)



**Ladder Rack Center Support Bracket** (FGS-HNLR-F)



**Trapeze Bracket Kit** (FGS-HNTP-F)



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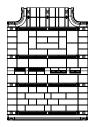
# **4x24 System**Support Kit Drawings





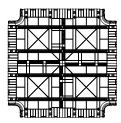
Variable Fitting Support Locater Kit -**Horizontal Elbow** (FGS-MH4E-H-VS)





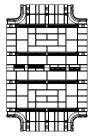
Variable Fitting Support Locater Kit -Horizontal T with Single 12" Exit (FGS-MHRT-H/F-VS)



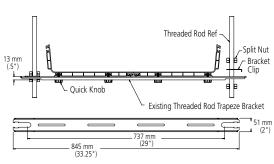


Variable Fitting Support Locater Kit – **Horizontal Cross** (FGS-MHXP-H-VS)

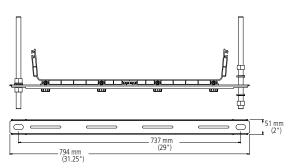




Variable Fitting Support Locater Kit -**Horizontal Cross with Dual 12" Exits** (FGS-MHXP-F/H-VS)



Existing 5/8" Threaded Rod Trapeze Bracket Kit (FGS- HETP-H-5/8)



New 5/8" Threaded Rod Trapeze Bracket Kit (FGS- HNTP-H-5/8)



# Plenum FiberGuide® System



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Express Exit™ 4x6 System	103
2x2 System	104
4x6 System	106
4x12 System	108
Accessories	110



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## Plenum FiberGuide® System

### System Description

ADC KRONE's plenum FiberGuide® system is a fibre cable raceway system that protects optical fibres, routed beneath raised computer room floors and above suspended ceilings. These physical areas, used to transport environment air, are typically categorized as plenum air spaces by National Electric Code (NEC) Standards. In general, materials used in these spaces must be non-flammable and must not emit appreciable amounts of smoke or toxic gases when exposed to heat or flame.

Made from sturdy aluminum, ADC KRONE's plenum FiberGuide® system protects optical fibres by physically separating them from copper communications cable, power cable, ground cables, heating/ventilating ducts, water pipes and many other obstructions commonly encountered in plenum air spaces.

Plenum FiberGuide® Express Exits™ allow jumpers to be permanently or temporarily routed to the fibre optic terminal (FOT) equipment or fibre frames. No cutting is required because knockout sections can be punched out as necessary.

As seen in Figure 1, the plenum FiberGuide® system can be used above a dropped ceiling as well as below a raised computer floor.

Figure 2 details a layout below a computer floor. This illustration shows a plenum FiberGuide® system featuring new Express Exits™.

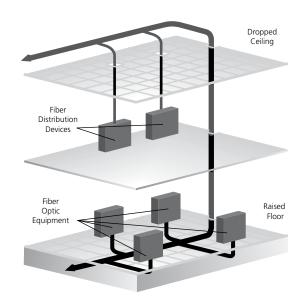


Figure 1

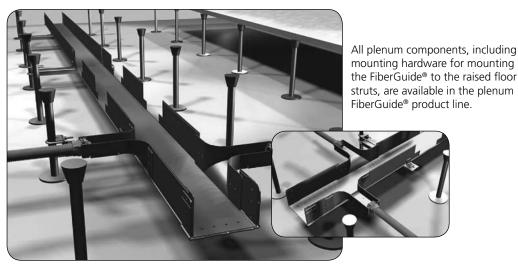


Figure 2

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## Plenum FiberGuide® System

System Description

**Straight sections:** U-shaped troughs that provide a protective pathway for optical fibres. Straight sections are usually installed horizontally but may also be installed vertically when a system is mounted on multiple levels. Straight sections are six feet in length, and covers are also available. The covers snap into place but can be easily removed for fibre installation.

**Express Exits™:** The plenum FiberGuide® Express Exit™ system allows jumpers to be routed in and out of the system with ease. Express Exits™ are secured to the sidewall of a FiberGuide® straight section where needed. No cutting is required because knockout sections allow for quick and easy deployment.

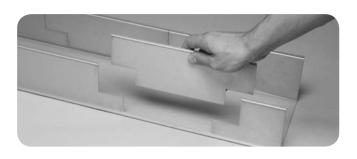
**Fittings:** Elbows, tees, crosses, trumpet flares and conversions. The fittings are used for changing direction, converting from one size system to another, adding branch segments and routing the fibres in and out of the system. Like the straight sections, snap-on covers are also available for the fittings.

**Junction kits:** Used for aligning and connecting straight sections and fittings. Two components are joined by inserting them into a junction and pushing them together.

**Support kits:** Used to support the FiberGuide® system. The short, long, span and diagonal bracket kits are used for supporting straight sections from round or square tubing.

**Flexible tubing:** Used in plenum FiberGuide® systems when the exact layout of the equipment drop locations is unknown or when frequent equipment relocations are expected. The flexible tubing is two inches in diameter and attaches to the end of a straight section with an adapter. When the equipment configuration is known, the flexible tubing is routed to the exact drop location. Other flexible tubing components include splicing couplers, finishing couplers, mounting straps and additional lengths of tubing.

Both patch cords and IFC cables may be installed in the plenum FiberGuide® system. The required two-inch bend radius for patch cords is maintained at all points within the system. IFC cables require the use of tie-down brackets to maintain the required cable bend radius specified by the cable manufacturer at the various fittings.



4x6 Horizontal Straight Section with Express Exit™ Cutouts



2x2, 4x6, and 4x12 Junction Kits



2x2 Horizontal Straight Section



4x6 Horizontal Straight Section



4x12 Horizontal Straight Section



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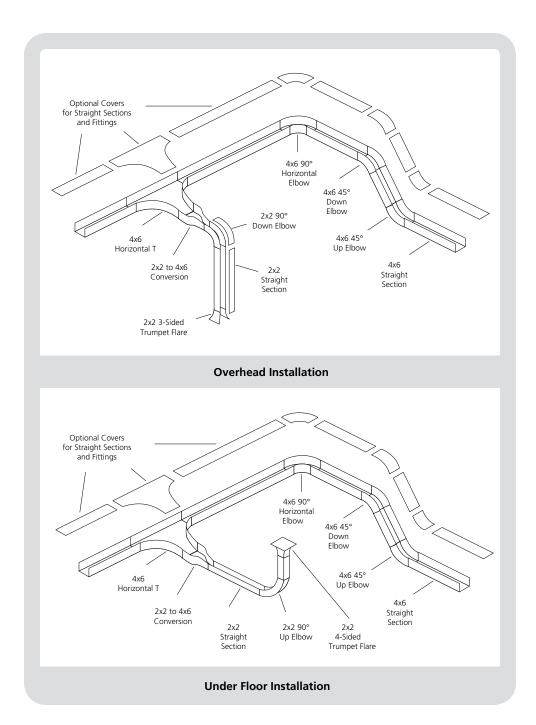
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# **Plenum FiberGuide® System**

### Typical Installations

In addition to providing physical separation and protection, the plenum FiberGuide® system also provides smooth edges and 2-inch minimum bend radius protection.

The Plenum FiberGuide® system can be assembled and installed using common hand tools. Push together assembly simplifies installation in confined areas and also permits system expansion when additional capacity is required. A variety of fittings allow adjustments in routing to avoid obstructions. The various sizes provide flexibility when considering the capacity required versus the space available.





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# Plenum FiberGuide® System

### Recommended Patch Cord Densities

Recommended capacity takes into consideration random jumper placement into the FiberGuide® system. Trough capacity refers to the maximum number of fibre jumpers in a given cross-section of a FiberGuide® installation.

### Recommended/Maximum Density

1.7 mm	2.0 mm	3.0 mm
Patch Cords (per in²)	Patch Cords (per in²)	Patch Cords (per in²)
120/142	<b>90/</b> 102	40/44

## Trough Pileup Recommended/Maximum Density

	2-Inch	3-Inch	4-Inch
4x12 System			
1.7 mm	2880/3408	4320/5112	5760/6862
2.0 mm	2160/2448	3240/3672	4320/4896
3.0 mm	960/1056	1440/1584	1920/2112
4x6 System			
1.7 mm	1440/1704	<b>-/</b> 2556	<b>-/</b> 3408
2.0 mm	1080/1224	1620/1836	2160/2448
3.0 mm	480/528	<b>720/</b> 792	960/1056
2x2 System			
1.7 mm	480/568	_	_
2.0 mm	360/408	_	_
3.0 mm	160/176	_	_
			_

Recommended density determined using GR-449-CORE Bellcore Formula Maximum density determined using Lab Manual Set-ups Pile-up beyond 2 inches is not recommended

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# Plenum FiberGuide® System

### Plenum Express Exit™ System

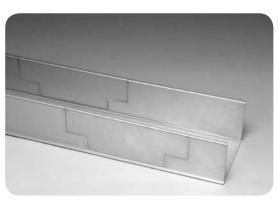
ADC KRONE introduces its new plenum FiberGuide® Express Exit™ system, which accommodates a wide range of raceway environments and applications, ensuring greater speed of deployment. Knockout areas are placed every 24" on straight sections. By simply punching out one of these areas, the Express Exit™ can be secured directly to the sidewall — allowing drops to be inserted quickly and easily. No cutting is required.

Positioning a drop with the plenum Express Exit™ family greatly simplifies installation, protecting the integrity of fibres already present in the raceway, and increases the flexibility of the entire plenum raceway system. All plenum Express Exits™ guarantee two-inch minimum bend radius protection.

# Ordering Information Description 6-inch plenum Express Exit™ straight section with Express Exit™ cutouts placed every 24"

Plenum Express Exit™ 2" square; For rigid drops — 90° up elbow and trumpet flare	PFGF-PSEE-B/C
are NOT included. See page 103 for more information on these accessories.	

12-inch plenum Express Exit™ straight section	PFGF-PSHS-KT-F
Plenum blank cover	PFGF-PSEE-BLK



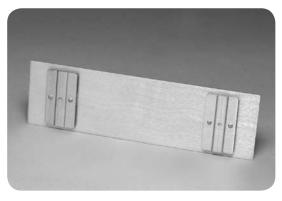
**6" Plenum Express Exit™ Straight Section** (PFGF-PSHS-KT)



**Product Number** 

PFGF-PSHS-KT

Plenum Express Exit™ 2" Square (PFGF-PSEE-B/C)



Plenum Blank Cover (PFGF-PSEE-BLK)



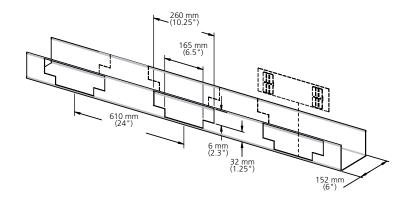
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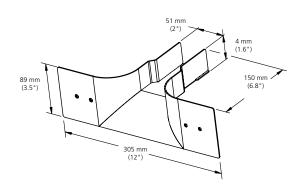
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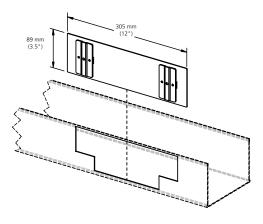
# Plenum FiberGuide® System Express Exit™ 4x6 System – 4" H x 6" W



**6-Inch Plenum Express Exit™ Straight Section** (PFGF-PSHS-KT)



Plenum Express Exit™ — 2" Square (PFGF-PSEE-B/C)



**Plenum Blank Cover** (PFGF-PSEE-BLK)



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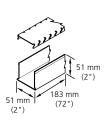
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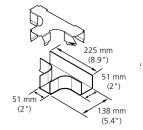
# Plenum FiberGuide® System 2x2 System – 2" H x 2" W

The 2x2 plenum FiberGuide® system interfaces with ADC KRONE's standard 2x2 FiberGuide® system and requires no special conversion piece.

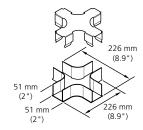
Description	Number of Junctions	Product Number	
		Fitting	Snap-on Cover
2x2 straight section			
Straight section; 6' long	_	PFGF-PSHS-C	PFGC-PSHS-C
2x2 fittings			
Horizontal T	3	PFGF-PHRT-C	PFGC-PHRT-C
Horizontal cross	4	PFGF-PHXP-C	PFGC-PHXP-C
90° horizontal elbow	2	PFGF-PH9E-C	PFGC-PH9E-C
45° horizontal elbow	2	PFGF-PH4E-C	PFGC-PH4E-C
90° up elbow	2	PFGF-PUPE-C	PFGC-PUPE-C
90° down elbow	2	PFGF-PDNE-C	PFGC-PDNE-C
45° up elbow	2	PFGF-PU4E-C	PFGC-PU4E-C
45° down elbow	2	PFGF-PD4E-C	PFGC-PD4E-C
2x2 trumpet flares			
Trumpet flare; 3 sided	_	PFGF-PTRM-C	_
Trumpet flare; 4 sided	-	PFGF-PFPT-C	_
2x2 conversions			
2x2 plenum to 4x6 conversion	(1) 2x2 (1) 4x6	PFGF-PDSA-C/B	PFGC-PDSA-C/B
2x2 plenum to 4x12 conversion	(1) 2x2 (1) 4x12	PFGF-PDSA-C/F	PFGC-PDSA-C/F
2x2 junction	-	PFGF-PJWR-C	_
2x2 end cap; includes 2x2 junction	_	PFGF-PMEC-C	_



**Straight Section** (PFGF-PSHS-C) Cover: PFGC-PSHS-C



**Horizontal T** (PFGF-PHRT-C) Cover: PFGC-PHRT-C



**Horizontal Cross** (PFGF-PHXP-C) Cover: PFGC-PHXP-C



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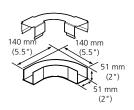
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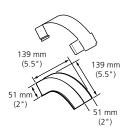
### **Plenum FiberGuide® System**

2x2 System – 2" H x 2" W



90° Horizontal Elbow

(PFGF-PH9E-C) Cover: PFGC-PH9E-C



90° Down Elbow

(PFGF-PDNE-C) Cover: PFGC-PDNE-C



136 mm

(5.4")

(3.6")

(2")

(2") 51 mm

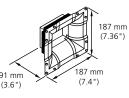
(2")

45° Up Elbow

137 mm

(5.4")

(PFGF-PU4E-C) Cover: PFGC-PU4E-C



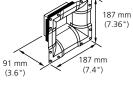
**3-Sided Trumpet Flare** 

(3.6")

. 187 mm

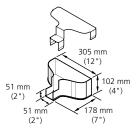
(4.6")

(PFGF-PTRM-C)



**4-Sided Trumpet Flare** 

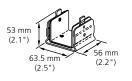
(PFGF-PFPT-C)



2x2 to 4x12 Conversion

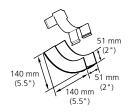
(PFGF-PDSA-C/F)

Cover: PFGC-PDSA-C/F



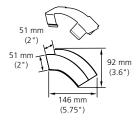
Junction

(PFGF-PJWR-C)



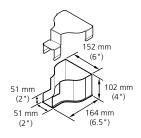
90° Up Elbow

(PFGF-PUPE-C) Cover: PFGC-PUPE-C



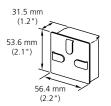
45° Down Elbow

(PFGF-PD4E-C) Cover: PFGC-PD4E-C



2x2 to 4x6 Conversion

(PFGF-PDSA-C/B) Cover: PFGC-PDSA-C/B



**End Cap** 

(PFGF-PMEC-C)





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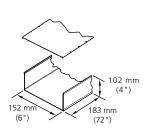
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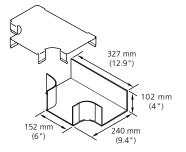
### Plenum FiberGuide® System 4x6 System – 4" H x 6" W

	Number of	Product Number	
Description	Junctions	Fitting	Snap-on Cover
4x6 straight section			•
Straight section; 6' long	_	PFGF-PSHS-B	PFGC-PSHS-B
4x6 fittings	·		
Horizontal T	3	PFGF-PHRT-B	PFGC-PHRT-B
Horizontal cross	4	PFGF-PHXP-B	PFGC-PHXP-B
90° horizontal elbow	2	PFGF-PH9E-B	PFGC-PH9E-B
45° horizontal elbow	2	PFGF-PH4E-B	PFGC-PH4E-B
90° up elbow	2	PFGF-PUPE-B	PFGC-PUPE-B
90° down elbow	2	PFGF-PDNE-B	PFGC-PDNE-B
45° up elbow	2	PFGF-PU4E-B	PFGC-PU4E-B
45° down elbow	2	PFGF-PD4E-B	PFGC-PD4E-B
4x6 trumpet flares	·		
Trumpet flare; 3 sided	_	PFGF-PTRM-B	_
Trumpet flare; 4 sided	_	PFGF-PFPT-B	_
4x6 conversions	·		
4x6 plenum to 4x6 standard conversion One 4x6 <b>plenum</b> junction kit required; 4x6 standard junction <b>is not required</b>	1*	PFGF-PPSC-B	-
4x6 plenum to 4x12 plenum conversion	(1) 2x2 (1) 4x12	PFGF-PDSA-B/F	PFGC-PDSA-B/F
4x6 junction	_	PFGF-PJWR-B	_
4x6 end cap; includes 4x6 junction	_	PFGF-PMEC-B	_

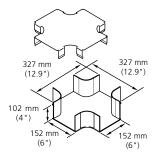
Note: For more information on Express Exits<sup>™</sup>, see pages 58-59, 90.



**Straight Section** (PFGF-PSHS-B) Cover: PFGC-PSHS-B



**Horizontal T** (PFGF-PHRT-B) Cover: PFGC-PHRT-B



**Horizontal Cross** (PFGF-PHXP-B) Cover: PFGC-PHXP-B



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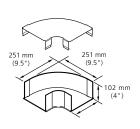
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### **Plenum FiberGuide® System**

4x6 System – 4" H x 6" W

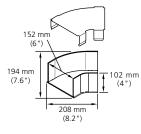


90° Horizontal Elbow (PFGF-PH9E-B)

Cover: PFGC-PH9E-B

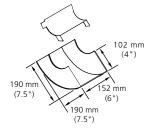
189 mm

102 mm



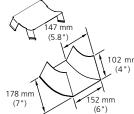
45° Horizontal Elbow

(PFGF-PH4E-B) Cover: PFGC-PH4E-B



90° Up Elbow

(PFGF-PUPE-B) Cover: PFGC-PUPE-B

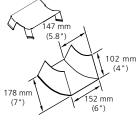


90° Down Elbow

189 mm (7.4")

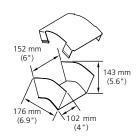
152 mm

(PFGF-PDNE-B) Cover: PFGC-PDNE-B



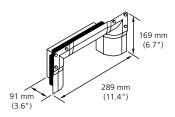
45° Up Elbow (PFGF-PU4E-B)

Cover: PFGC-PU4E-B

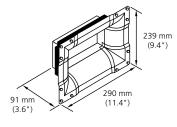


45° Down Elbow (PFGF-PD4E-B)

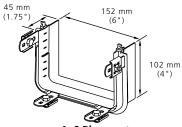
Cover: PFGC-PD4E-B



3-Sided Trumpet Flare (PFGF-PTRM-B)

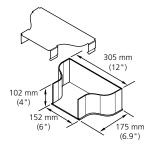


**4-Sided Trumpet Flare** (PFGF-PFPT-B)



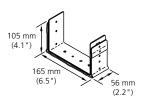
4x6 Plenum to **4x6 Standard Conversion** (PFGF-PPSC-B)

No Cover

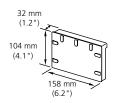


4x6 to 4x12 Conversion (PFGF-PDSA-B/F)

Cover: PFGC-PDSA-B/F



Junction (PFGF-PJWR-B)



**End Cap** (PFGF-PMEC-B)



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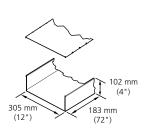
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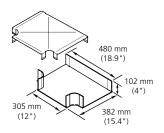
### Plenum FiberGuide® System 4x12 System – 4" H x 12" W

	Number of	Product Number	
Description	Junctions	Fitting	Snap-on Cover
4x12 straight section			
Straight section; 6' long	_	PFGF-PSHS-F	PFGC-PSHS-F
4x12 fittings			·
Horizontal T	3	PFGF-PHRT-F	PFGC-PHRT-F
Horizontal cross	4	PFGF-PHXP-F	PFGC-PHXP-F
4x12/4x6 horizontal T		PFGF-PHRT-F/B	PFGC-PHRT-F/B
90° horizontal elbow	2	PFGF-PH9E-F	PFGC-PH9E-F
45° horizontal elbow	2	PFGF-PH4E-F	PFGC-PH4E-F
90° up elbow	2	PFGF-PUPE-F	PFGC-PUPE-F
90° down elbow	2	PFGF-PDNE-F	PFGC-PDNE-F
45° degree up elbow	2	PFGF-PU4E-F	PFGC-PU4E-F
45° degree down elbow	2	PFGF-PD4E-F	PFGC-PD4E-F
4x12 trumpet flares			,
4x12 trumpet flare; 3 sided	_	PFGF-PTRM-F	_
4x12 trumpet flare; 4 sided	_	PFGF-PFPT-F	_
4x12 junction	_	PFGF-PJWR-F	_

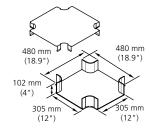


4x12 end cap; 4x12 junction included

**Straight Section** (PFGF-PSHS-F) Cover: PFGC-PSHS-F



**Horizontal T** (PFGF-PHRT-F) Cover: PFGC-PHRT-F



PFGF-PMEC-F

**Horizontal Cross** (PFGF-PHXP-F) Cover: PFGC-PHXP-F



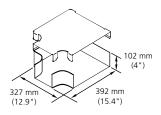
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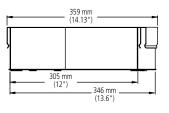
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### Plenum FiberGuide® System 4x12 System – 4" H x 12" W



405 mm (16") 319 mm (12.6")

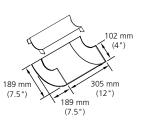


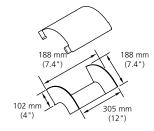
4x12/4x6 Horizontal T (PFGF-PHRT-F/B)

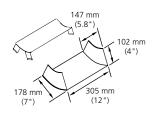
Cover: PFGC-PHRT-F/B

90° Horizontal Elbow (PFGF-PH9E-F) Cover: PFGC-PH9E-F

45° Horizontal Elbow (PFGF-PH4E-F) Cover: PFGC-PH4E-F



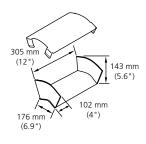


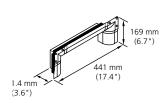


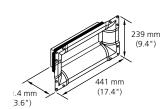
90° Up Elbow (PFGF-PUPE-F) Cover: PFGC-PUPE-F

90° Down Elbow (PFGF-PDNE-F) Cover: PFGC-PDNE-F

45° Up Elbow (PFGF-PU4E-F) Cover: PFGC-PU4E-F



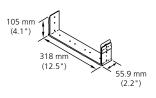


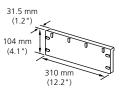


45° Down Elbow (PFGF-PD4E-F) Cover: PFGC-PD4E-F

**3-Sided Trumpet Flare** (PFGF-PTRM-F)

**4-Sided Trumpet Flare** (PFGF-PFPT-F)





**End Cap** 

Junction (PFGF-PJWR-F)



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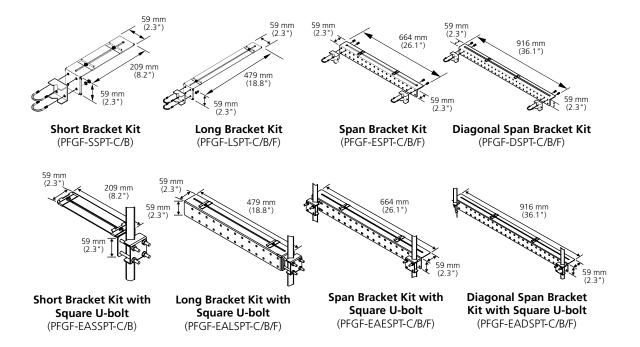
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### Plenum FiberGuide® System

Accessories (Support Bracket Kits)



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Ordering information	
Description	Product Number
Short bracket kits	
For use with 2x2 and 4x6 sizes; 8.21" overall length	PFGF-SSPT-C/B
With square U-bolt for easy access mounting	PFGF-EASSPT-C/B
Long bracket kits	
For use with 2x2, 4x6, and 4x12 sizes; 18.84" overall length	PFGF-LSPT-C/B/F
With square U-bolt for easy access mounting	PFGF-EALSPT-C/B/F
Span bracket kits	
For use with 2x2, 4x6, and 4x12 sizes; spans 24" center to center floor struts	PFGF-ESPT-C/B/F
With square U-bolt for easy access mounting	PFGF-EAESPT-C/B/F
Diagonal span bracket kits	
For use with 2x2, 4x6, and 4x12 sizes; spans diagonally up to 34" between struts	PFGF-DSPT-C/B/F
With square U-bolt for easy access mounting	PFGF-EADSPT-C/B/F



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### **Plenum FiberGuide® System**

Accessories (Flexible Tubing)

Plenum metallic 2-inch inner diameter flexible tubing is available for use in under floor applications where the exact layout of drop locations has not yet been defined, or where frequent changes in equipment location are expected. In future growth applications, the flexible tubing can be installed up front, and coiled under the floor until the exact configuration of equipment is established. The flexible tubing can then be routed to the drop location and fed through the flooring to the final location.

Flexible tubing options include a two-hose adapter that can be attached to a 6-inch standard fitting or straight section. The two-hose adapter comes complete with two 5-foot-long flexible hoses, and two end finishing couplers. When longer flexible tube requirements exist, multiple 5-foot-long extension tubes can be spliced into the two hose adapter to reach any length. The extension tubes are 5 feet long, and come with a splice coupler. Additional finishing couplers, mounting straps and splice couplers can be purchased separately.

### Ordering Information

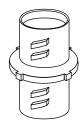
Description	Product Number
One hose adapter, with 1.53 m (5') hoses and finishing couplers For use with 2x2 openings	PFGF-KT03-C
Two hose adapter, with 1.53 m (5') hoses and finishing coupler For use with 4x6 openings	PFGF-KT03-B
Extension tube; 1.53 m (5') long with splice coupler	PFGF-HEXT
Finishing coupler	PFGF-HFIN
Mounting strap	PFGF-HMST
Splicing coupler	PFGF-HSPL
Flexible tubing; 51 mm (2") inner diameter (X = length in feet: 5, 15, 35, 75, 110, 150)	PFGF-MIDY-XF



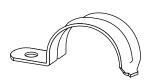
Extension Tube (PFGF-HEXT)



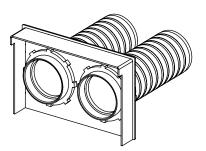
Finishing Coupler (PFGF-HFIN)



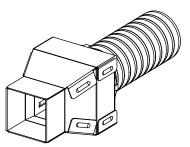
Splicing Coupler (PFGF-HSPL)



Mounting Strap (PFGF-HMST)



Two Hose Adapter (PFGF-KT03-B)



One Hose Adapter (PFGF-KT03-C)

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