

# Custom Fiber Optics Design Information

# Borosilicate Fiber Optics Goosenecks



## Self Supporting Single and Dual Arm Gooseneck Cables

Part Number	Description For Use With N.P. Adapter 30123177	Active Fiber Diameter	Distal End Tip (Lens End)	Proximal End Tip
SGN-1918-BE	Single Arm Obedient, Black Electroplated Metal Sheathing, 18" length, No Focus Lenses	0.187" (4.76mm)	5/16" (7.94mm)	0.625
SGN-1924-BE	Single Arm Obedient, Black Electroplated Metal Sheathing, 24" length, No Focus Lenses	0.187" (4.76mm)	5/16" (7.94mm)	0.625
DGN-1918-BE	Dual Arm, Obedient, Black Electroplated Metal Sheathing, 18" length, No Focus Lenses	0.265" (4.76mm)	5/16" (7.94mm)	0.625
DGN-1924-BE	Dual Arm, Obedient, Black Electroplated Metal Sheathing, 24" length, No Focus Lenses	0.265" (4.76mm)	5/16" (7.94mm)	0.625
30123400	Focusing Lens, Black Lens housing with Locking Thumbscrew (Per lens assembly)	N/A	N/A	0.625

NOTE: The SGN and DGN part numbers replace all SPL, DPL and DG part numbers. The FL lens is replaced by the 30123400 lens. Lenses are not included with light guides.

## Gooseneck Selection Guide

<b>D</b>		<b>Model Name</b>
<b>G</b>		SGN = Single Goose Neck
<b>N</b>		DGN = Dual Goose neck
<b>1</b>		<b>Active Fiber Diameter</b>
<b>9</b>		19 = 0.187" (4.76mm or (3/16"))
<b>1</b>		<b>Length</b>
<b>8</b>		18 = 18" Length 24 = 24' length
<b>B</b>		<b>Cladding</b>
<b>E</b>		BE = Black Electroplating

Goosenecks are Characterized by their Obedient Sheathing Which Makes it Possible to Position the Light At a Range of Angles to the Subject. Goosenecks Provide Point Source Illumination.



30123400 Focus Lens (Pair)

## Borosilicate Fiber Optics

## Single Flexible Fiber Optic

## Common Cables With Matching End Tips

Part Number	1/4" Bundle Diameter Cables Fits Adapter 30123176	Cable Length	Exterior Sheathing	Input Ferrule	Output Ferrule
SF13036M	Single, Flexible, 1/8" Active Fiber Bundle	36"	PVC Monocoil	.187	.187
SF13048M	Single, Flexible, 1/8" Active Fiber Bundle	48"	PVC Monocoil	.187	.187
SF13060M	Single, Flexible, 1/8" Active Fiber Bundle	60"	PVC Monocoil	.187	.187
SF13072M	Single, Flexible, 1/8" Active Fiber Bundle	72"	PVC Monocoil	.187	.187

Part Number	1/4" Bundle Diameter Cables Fits Adapter 30123176	Cable Length	Exterior Sheathing	Input Ferrule	Output Ferrule
SF25036M	Single, Flexible, 1/4" Active Fiber Bundle	36"	PVC Monocoil	.312	.312
SF25048M	Single, Flexible, 1/4" Active Fiber Bundle	48"	PVC Monocoil	.312	.312
SF25060M	Single, Flexible, 1/4" Active Fiber Bundle	60"	PVC Monocoil	.312	.312
SF25072M	Single, Flexible, 1/4" Active Fiber Bundle	72"	PVC Monocoil	.312	.312

Part Number	3/8" Bundle Diameter Cables Fits Adapter 30123177	Cable Length	Exterior Sheathing	Input Ferrule	Output Ferrule
SF38036M	Single, Flexible, 3/8" Active Fiber Bundle	36"	PVC Monocoil	.625	.625
SF38048M	Single, Flexible, 3/8" Active Fiber Bundle	48"	PVC Monocoil	.625	.625
SF38060M	Single, Flexible, 3/8" Active Fiber Bundle	60"	PVC Monocoil	.625	.625
SF38072M	Single, Flexible, 3/8" Active Fiber Bundle	72"	PVC Monocoil	.625	.625

Part Number	1/2" Bundle Diameter Cables Fits Adapter 30123177	Cable Length	Exterior Sheathing	Input Ferrule	Output Ferrule
SF50036S	Single, Flexible, 1/2" Active Fiber Bundle	36"	S.S. Interlock	.625	.625
SF50048S	Single, Flexible, 1/2" Active Fiber Bundle	48"	S.S. Interlock	.625	.625
SF50060S	Single, Flexible, 1/2" Active Fiber Bundle	60"	S.S. Interlock	.625	.625
SF50072S	Single, Flexible, 1/2" Active Fiber Bundle	72"	S.S. Interlock	.625	.625

## Selection Guide

## Single Flexible Fiber Cables

S	<p><b>Product Code</b></p> <p>SF = Single Fiber Optic Cable</p>
F	
2	<p><b>Active Fiber Bundle Diameter (in)</b></p> <p>13 = 1/8" (0.125")</p>
5	<p>25 = 1/4" (0.250")</p> <p>38 = 3/8" (0.365")</p> <p>50 = 1/2" (0.500")</p>
0	<p><b>Bundle Length (Inches)</b></p> <p>025 = 24"      084 = 84"</p>
3	<p>036 = 36"      096 = 96"</p> <p>048 = 48"      108 = 108"</p>
6	<p>060 = 60"      120 = 120"</p> <p>072 = 72"      144 = 144"</p>
M	<p><b>Sheathing</b></p> <p>M= PVC Over Monocoil (Black Smooth)</p> <p>S= Stainless Steel Interlock (Shiny, Ridges)</p>

Single Flexible Fiber Optic Cables with Matching End Tips

Single Flexible Fiber Optic Cables are Ideal for Transporting Light to a Single Location - Commonly Used in Photonics, Microscopy, Machine Vision and related Applications.

Selection of fiber diameter on Single Flexible Fiber Optic Cables with similar end tips determines the input and output ferrule dimensions. (See next page for custom cables)

#### Input Ferrule Diameters

SF13 Cable = .187"  
 SF25 Cable = .312"  
 SF38 Cable = .625"  
 SF50 Cable = .625"

#### Output Ferrule Diameters

SF13 Cable = .187"  
 SF25 Cable = .312"  
 SF38 Cable = .625"  
 SF50 Cable = .625"



## Borosilicate Fiber Optics

# Custom Single Flexible Fiber

## Cables With Non Matching End Tips

Select Your Part Number (See Selection Guide)	1/8" Bundle Diameter Cables	Cable Length	Select Exterior Sheathing	Select Input Ferrule	Select Output Ferrule
CF13036xxxxxxx	Single, Flexible, 1/8" Active Fiber Bundle	36"	See Chart	Chart	Chart
CF13048xxxxxxx	Single, Flexible, 1/8" Active Fiber Bundle	48"	See Chart	Chart	Chart
CF13060xxxxxxx	Single, Flexible, 1/8" Active Fiber Bundle	60"	See Chart	Chart	Chart

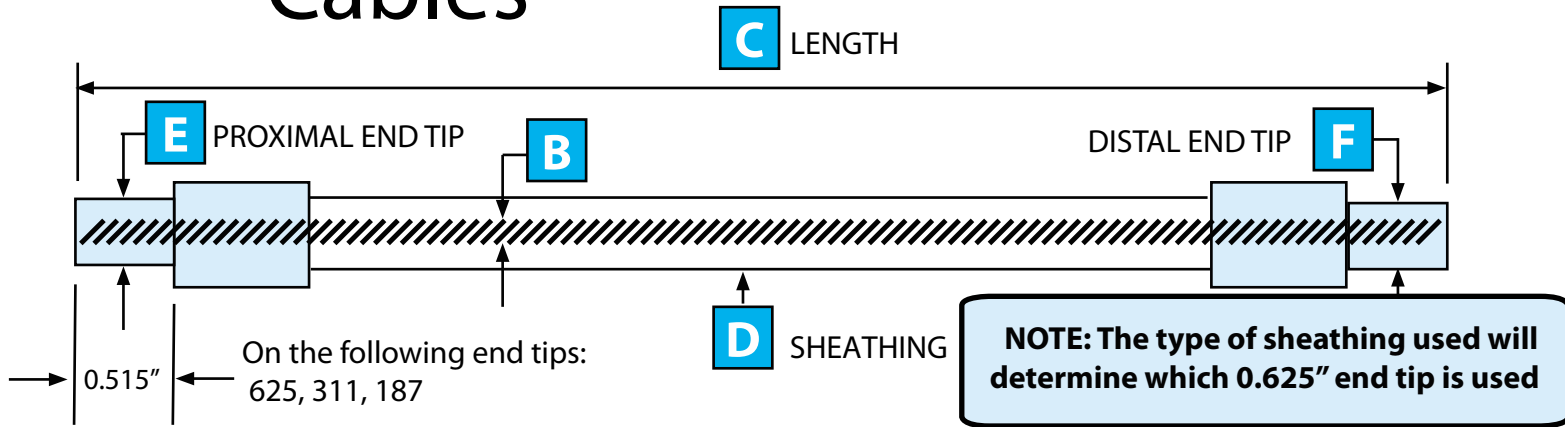
Select Your Part Number	1/4" Bundle Diameter Cables	Cable Length	Select Exterior Sheathing	Select Input Ferrule	Select Output Ferrule
CF25036xxxxxxx	Single, Flexible, 1/4" Active Fiber Bundle	36"	See Chart	Chart	Chart
CF25048xxxxxxx	Single, Flexible, 1/4" Active Fiber Bundle	48"	See Chart	Chart	Chart
CF25060xxxxxxx	Single, Flexible, 1/4" Active Fiber Bundle	60"	See Chart	Chart	Chart

Select Your Part Number	3/8" Bundle Diameter Cables	Cable Length	Select Exterior Sheathing	Select Input Ferrule	Select Output Ferrule
CF38036xxxxxxx	Single, Flexible, 3/8" Active Fiber Bundle	36"	See Chart	Chart	Chart
CF38048xxxxxxx	Single, Flexible, 3/8" Active Fiber Bundle	48"	See Chart	Chart	Chart
CF38060xxxxxxx	Single, Flexible, 3/8" Active Fiber Bundle	60"	See Chart	Chart	Chart

Select Your Part Number	1/2" Bundle Diameter Cables	Cable Length	Select Exterior Sheathing	Select Input Ferrule	Select Output Ferrule
CF50036xxxxxxx	Single, Flexible, 1/2" Active Fiber Bundle	36"	See Chart	Chart	Chart
CF50048xxxxxxx	Single, Flexible, 1/2" Active Fiber Bundle	48"	See Chart	Chart	Chart
CF50060xxxxxxx	Single, Flexible, 1/2" Active Fiber Bundle	60"	See Chart	Chart	Chart

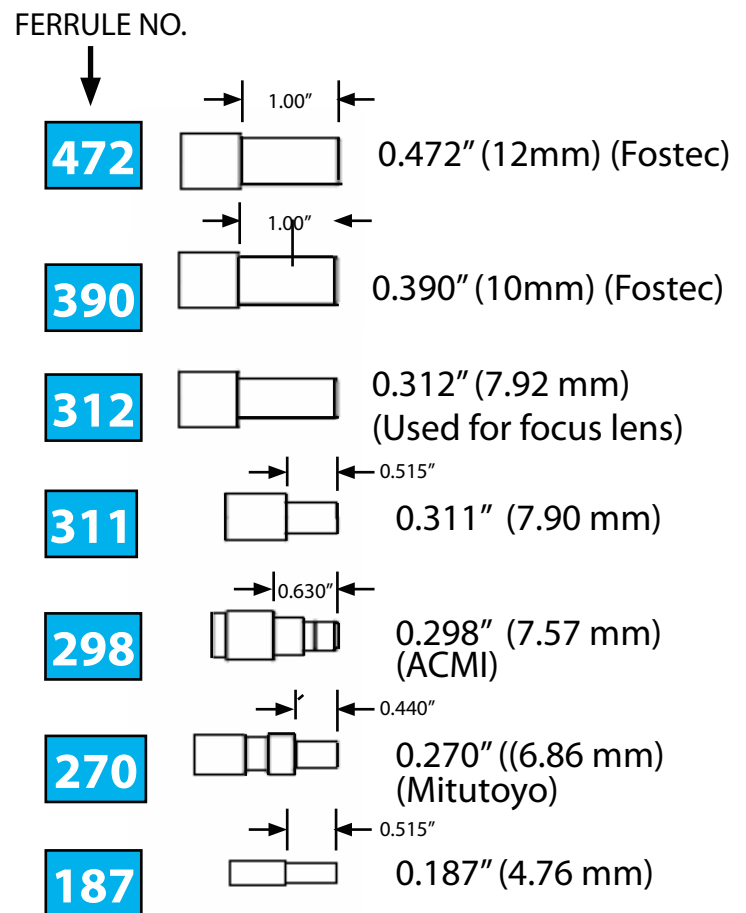
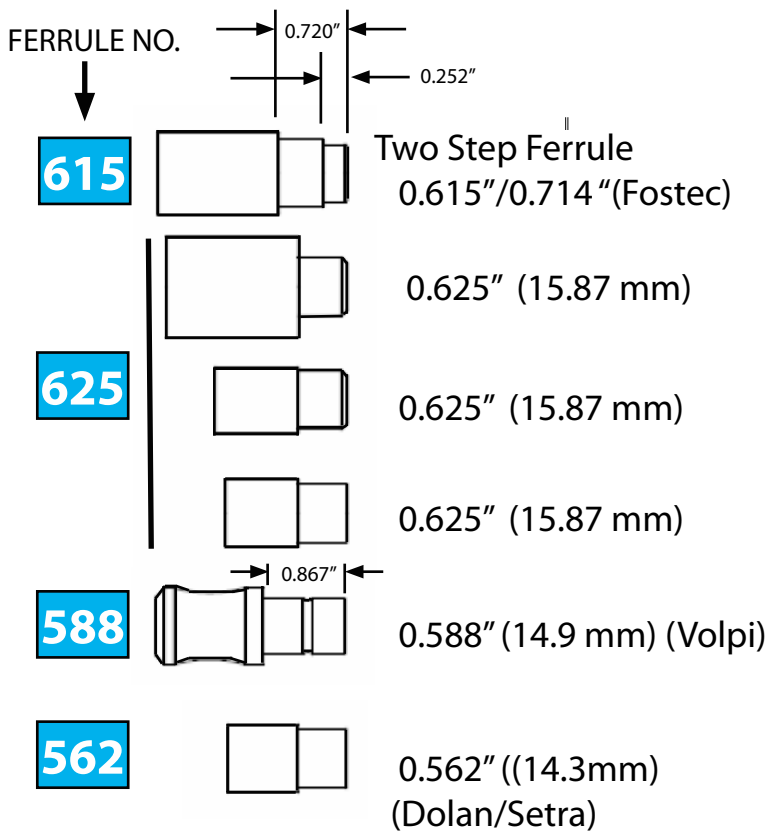
Selection Guide

# Custom Single Flexible Fiber Cables



**C** **F** **2** **5** **0** **6** **0** **S** **4** **7** **2** **6** **2** **5**

CUSTOM FIBER    FIBER DIAMETER    FIBER LENGTH    SHEATHING    FERRULE NO    FERRULE NO



Selection Guide

# Custom Single Flexible Fiber Cables



- C** | **A = Product Code**
- F** | CF = Custom Single Flexible Fiber Optic
  
- B = Active Fiber Bundle Diameter**
- 2** | 13 = 1/8" (0.125") (3.175 mm)
- 5** | 25 = 1/4" (0.250") (6.350 mm)
- 38 = 3/8" (0.365") (9.525 mm)
- 50 = 1/2" (0.500") (12.700 mm)
  
- C = Bundle Length (Inches)**
- 0** | 025 = 24"    084 = 84"
- 6** | 036 = 36"    096 = 96"
- 0** | 048 = 48"    108 = 108"
- 060 = 60"    120 = 120"
- 072 = 72"    144 = 144"
  
- D = Exterior Sheathing**
- S** | M = PVC Over Monocoil (Black Smooth)
- S = Stainless Steel Interlock (Shiny, Ridges)
- F = Flexa (PVC over Galvanized Steel)
  
- E & F = Select Proximal and Distal End Tips**
- 4** | 0.187" (4.76 mm)
- 7** | 0.270" (6.86 mm) (Mitutoyo)
- 2** | 0.298" (7.57 mm) (ACMI)
- 0.311" (7.90 mm)
- 0.312" (7.92 mm)
- 0.390" (10 mm) (Fostec)
- 0.472" (12 mm) (Fostec)
- 6** | 0.562" (14.3 mm) (Dolan/Setra)
- 0.588" (14.9 mm) (Volpi)
- 0.625" (15.87 mm)
- 2** | 0.625" (15.87 mm)
- 0.625" (15.87 mm)
- 5** | 0.615" / 0.718" (Two Step End Tip - Fostec )  
(15.6mm/18.2mm)



Borosilicate Fiber Optics

# Doubles



DF Dual flexible



"Y" Single to Dual

Dual Bundles are Commonly Used in Equipment to Illuminate Two Sides or the Upper and Lower Sides of a Subject

## Common Cables

Part Number	Description	Overall Length	Length To Split	Sheathing	Active Fiber Diameter	End Tips
DF13036M	Flexible Double Arm and 12" Extention, No Focus Lenses	36"	12"	Black PVC Monocoil	1/8" (3.175mm)	3/16" (4.763mm)
DF25036M	Flexible Double Arm and 12" Extention, No Focus Lenses	36"	12"	BlackPVC Monocoil	1/4" (6.35mm)	5/16" (7.93mm)
DF38036M	Flexible Double Arm and 12" Extention, No Focus Lenses	36"	12"	BlackPVC Monocoil	3/8" (9.525mm)	5/8" (15.875mm)
DF5036M	Flexible Double Arm and 12" Extention, No Focus Lenses	36"	12"	BlackPVC Monocoil	1/2" (12.70mm)	5/8" (15.875mm)

- D** | Model Name
- F** | DF = Dual Arm Flexible with 12" extension
- 2** | Active Fiber Bundle Diameter
- 5** | 13 = 1/8" (.125")  
25 = 1/4" (.250")  
38 = 3/8" (.375")  
50 = 1/2" (.500")
- 0** | Dual Bundle Length (Inches)
- 3** | 025 = 24" (Standard)
- 6** | 036 = 36"
- M** | 048 = 48"
- M** | Sheathing  
M= PVC Over Monocoil (Black Smooth)

Call to discuss custom options - Dual fiber optics can be made entirely with flexible sheathing or a combination of flexible and obedient sheathing.



## Borosilicate Fiber Optics

## Annular Rings



Fiber Optic Annular Rings provide 360 degree illumination at a range of focal lengths. Available in sizes from 25mm I.D to 99mm I.D. A rugged black anodized aluminum housing contains and protects the Borosilicate fiber. Custom lengths available upon request.

### Diameters 21mm - 39mm - 36" Standard Length (Fits 30123177 Adapter)

Part Numbers	Ring Top I.D.	Ring Bottom I.D.	Input End	Fiber Type	Bundle Diameter	Cone Angle	Working distance	Style	Polarizer Part Numbers	Standard Sheathing
A2521MD036	1.015" (25.8 mm)	0.83" (21 mm)	0.3125" (7.93 mm)	Borosilicate Fiber	0.25" (6.35mm)	38	0.25" (0.50")	Step	N/A	Black Polymer Over Multi-Coil
A3328MD036	1.299" (33mm)	1.102" (28 mm)	0.3125" (7.93 mm)	Borosilicate Fiber	0.25" (6.35 mm)	20	0.63" (1.26")	Step	N/A	Black Polymer Over Multi-Coil
A4339MA036	1.693" (43 mm)	1.547" (39.3 mm)	0.625" (15.88 mm)	Borosilicate Fiber	0.25" (6.35 mm)	5	1.29" (2.60")	Step	N/A	Black Polymer Over Multi-Coil

### Diameters 50 mm to 66 mm - 36" Standard Length (Fits 30123177 Adapter)

Part Numbers	Ring Top I.D.	Ring Bottom I.D.	Input End	Fiber Type	Bundle Diameter	Cone Angle	Focal Length		Polarizer Part Numbers	Standard Sheathing
A5852SA36-ESD	2.283" (58 mm)	2.047" (52 mm)	0.625" (15.86 mm)	Borosilicate Fiber	0.372" (9.45 mm)	20	1.27" (2.54")	Step	N/A	Stainless Steel Interlock
A5850SA036	2.283" (58 mm)	2.063" (52.4 mm)	0.625" (15.86 mm)	Borosilicate Fiber	0.372" (9.45 mm)	10	1.78" (3.56")	Step	A58-60-PLZR-KIT	Stainless Steel Interlock
A6050SA036	2.362" (60 mm)	2.00" (50 mm)	0.625" (15.86 mm)	Borosilicate Fiber	0.372" (9.45 mm)	10	1.78" (3.56")	Step	A58-60-PLZR-KIT	Stainless Steel Interlock
A6664SA036	2.600" (66 mm)	2.52" (64 mm)	0.625" (15.86 mm)	Borosilicate Fiber	0.372" (9.45 mm)	20	1.27" (2.54")	Step	A66-PLZR-KIT	Stainless Steel Interlock

## Borosilicate Fiber Optics

## Annular Rings

Custom lengths available upon request. Select ring diameter and calculate your price based on length from chart below. The last three digits of the part number indicate cable length. (036=36", 048=48" etc.)



## Diameter 50.8 mm 36" Standard Length (Fits 30123174 Adapter)

Part Numbers	Ring Top I.D.	Ring Bottom I.D.	Input End	Fiber Type	Bundle Diameter	Cone Angle	Focal Length	Style	Polarizer Part Numbers	Standard Sheathing
A5351FA036	2.09" (53.1 mm)	2.00" (50.8 mm)	0.176" (18.19 mm) Fostec	Borosilicate Fiber	0.66" (16.78 mm)	10	1.27" (2.54")	Step	N/A	Flexa

## Diameters Greater than 66 mm - 36" Standard Length (Fits 30123177 Adapter)

Part Numbers	Ring Top I.D.	Ring Bottom I.D.	Input End	Fiber Type	Bundle Diameter	Cone Angle	Focal Length	Style	Polarizer Part Numbers	Standard Sheathing
A8078SA036	3.150" (80.1 mm)	3.07" (78 mm)	0.625" (15.88 mm)	Borosilicate Fiber	0.456" (11.5 mm)	32	1.20" (2.40")	Step	A80-PLZR-KIT	Stainless Steel Interlock
A9989PA036	3.906" (99.2 mm)	3.50" (89 mm)	0.625" (15.88 mm)	Borosilicate Fiber	0.5" (6.35 mm)	20	2.28" (4.56")	Step	N/A	Black Polymer Over Multi-Coil

