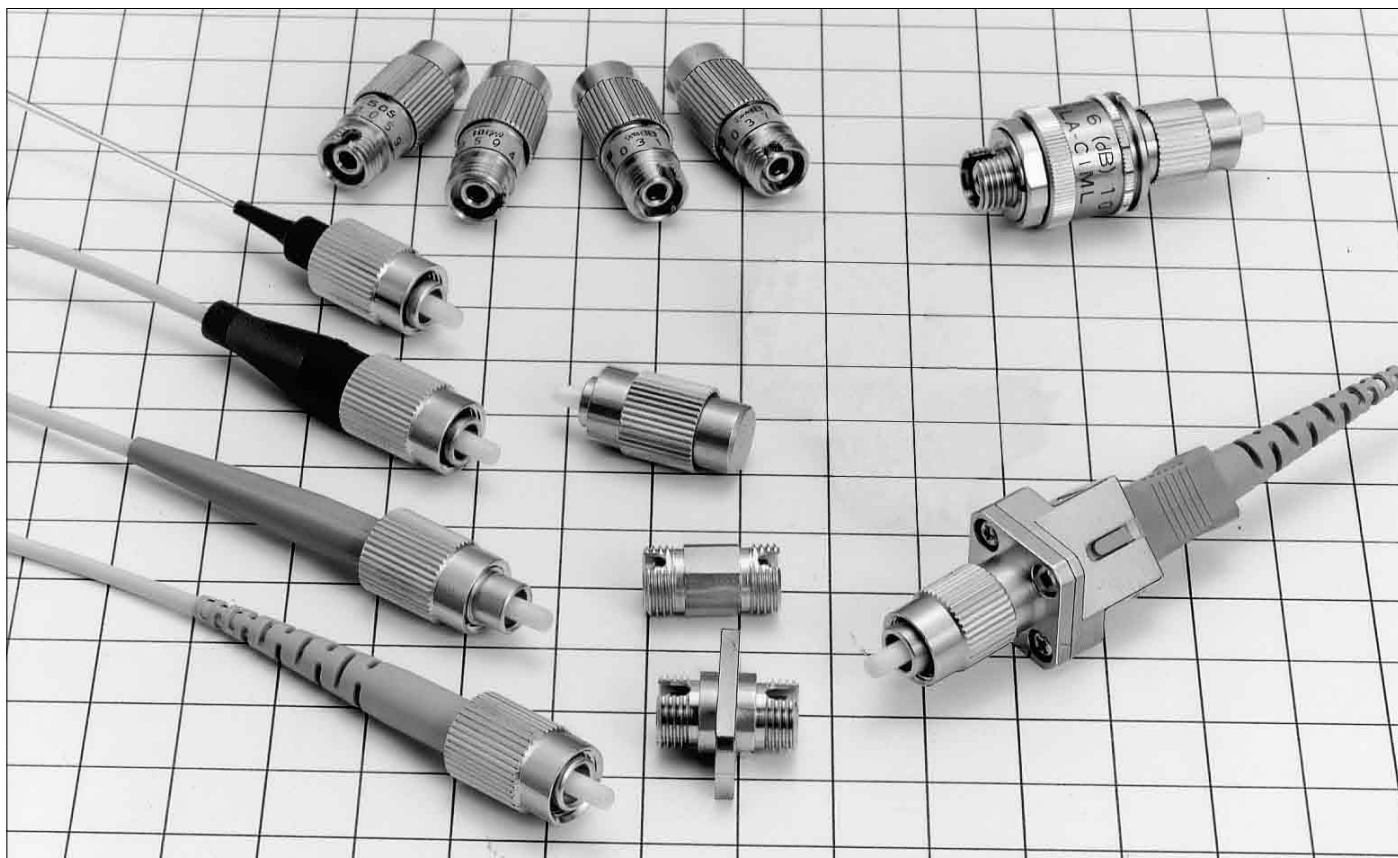


# FC Type Fiber Optic Connectors

## HRFC Series



### ■ Features

#### 1. JIS, IEC standard compliant and intermateability test certified.

Comply with IEC 61754-13 and JIS C 5970(type F01).  
FC intermate test by NTT certified connector.

#### 2. Polishing

Available with PC polishing, advanced PC(AdPC) polishing and Angled PC(APC) polishing.

#### 3. Flame resistant

Satisfies flammability rating UL94V-0.

### ■ Applications

Public communications lines, CATV, Test equipment, etc.

## ■Product Specifications

| Ratings                       |                                          | Operating temperature range |                                                                                                  | -25°C to +70°C | Storage temperature range                                                                                    |  | -25°C to +70°C |
|-------------------------------|------------------------------------------|-----------------------------|--------------------------------------------------------------------------------------------------|----------------|--------------------------------------------------------------------------------------------------------------|--|----------------|
|                               |                                          |                             |                                                                                                  |                |                                                                                                              |  |                |
| Item                          |                                          |                             | Test Method (IEC 61300)                                                                          |                | Specifications                                                                                               |  |                |
| Optical Characteristics       | Insertion Loss                           | (SM)                        | Wavelength 1310nm (LD)                                                                           |                | 0.5dB max. (PC, AdPC, APC)                                                                                   |  |                |
|                               |                                          | (GI)                        | Wavelength 1310nm (LED)                                                                          |                | 0.3dB max. (PC)                                                                                              |  |                |
|                               | Return Loss                              | (SM)                        | Wavelength 1310nm (LD)                                                                           |                | 22dB min. (PC), 40dB min. (AdPC), 60dB min. (APC)                                                            |  |                |
|                               |                                          | (GI)                        |                                                                                                  |                | 22dB min. (PC)                                                                                               |  |                |
| Mechanical Characteristics    | Ferrule withdrawal                       |                             | Extract zirconia gauge 2.499 ±0.0005mm dia from split sleeve.                                    |                | Phosphor bronze split sleeve    2N to 5.9N<br>Zirconia split sleeve                2N to 3.9N                |  |                |
|                               | Cable retention (Straight pull)          |                             | 98N tensile load for 1 minute.                                                                   |                | 1) Insertion loss fluctuation after test: 0.2dB max.<br>2) No visible damage, dislocation of clamp or cable. |  |                |
|                               | Durability (cycles, mating/un-mating)    |                             | 1000 times                                                                                       |                | 1) Insertion loss fluctuation after test: 0.2dB max.<br>2) No visible damage, cracks or part dislocation.    |  |                |
|                               | Vibration                                |                             | Frequency: 10 to 55 Hz, single amplitude of 0.75mm, 2 hours in each of the 3 axis.               |                |                                                                                                              |  |                |
|                               | Shock                                    |                             | Acceleration of 981 m/s², 6 ms duration, half sine shock pulse, 10 cycles in each of the 3 axis. |                |                                                                                                              |  |                |
| Environmental Characteristics | Humidity (Temperature/ humidity- cycles) |                             | -10°C to 65°C, humidity: 90% to 96% 10 cycles                                                    |                | 1) Insertion loss fluctuation after test: 0.2dB max.<br>2) No visible damage, cracks or part dislocation.    |  |                |
|                               | Change of temperature                    |                             | -40°C to +75°C    42 cycles<br>(Complies with Telcordia standard GR-326-CORE)                    |                |                                                                                                              |  |                |
|                               | Dry heat                                 |                             | 240 hours at 85°C                                                                                |                |                                                                                                              |  |                |
|                               | Cold                                     |                             | 240 hours at -25°C                                                                               |                |                                                                                                              |  |                |
|                               | Salt mist                                |                             | 48 hours in a 5% concentration of salt mist                                                      |                | No significant corrosion.                                                                                    |  |                |

## ■Materials

| Part         | Material                    |
|--------------|-----------------------------|
| Plug housing | Brass, Zinc alloy           |
| Spring       | Stainless steel             |
| Ferrule      | Zirconia                    |
| Adapter      | Brass                       |
| Split sleeve | Zirconia or Phosphor bronze |
| Receptacle   | Brass                       |

SC

FC

MU

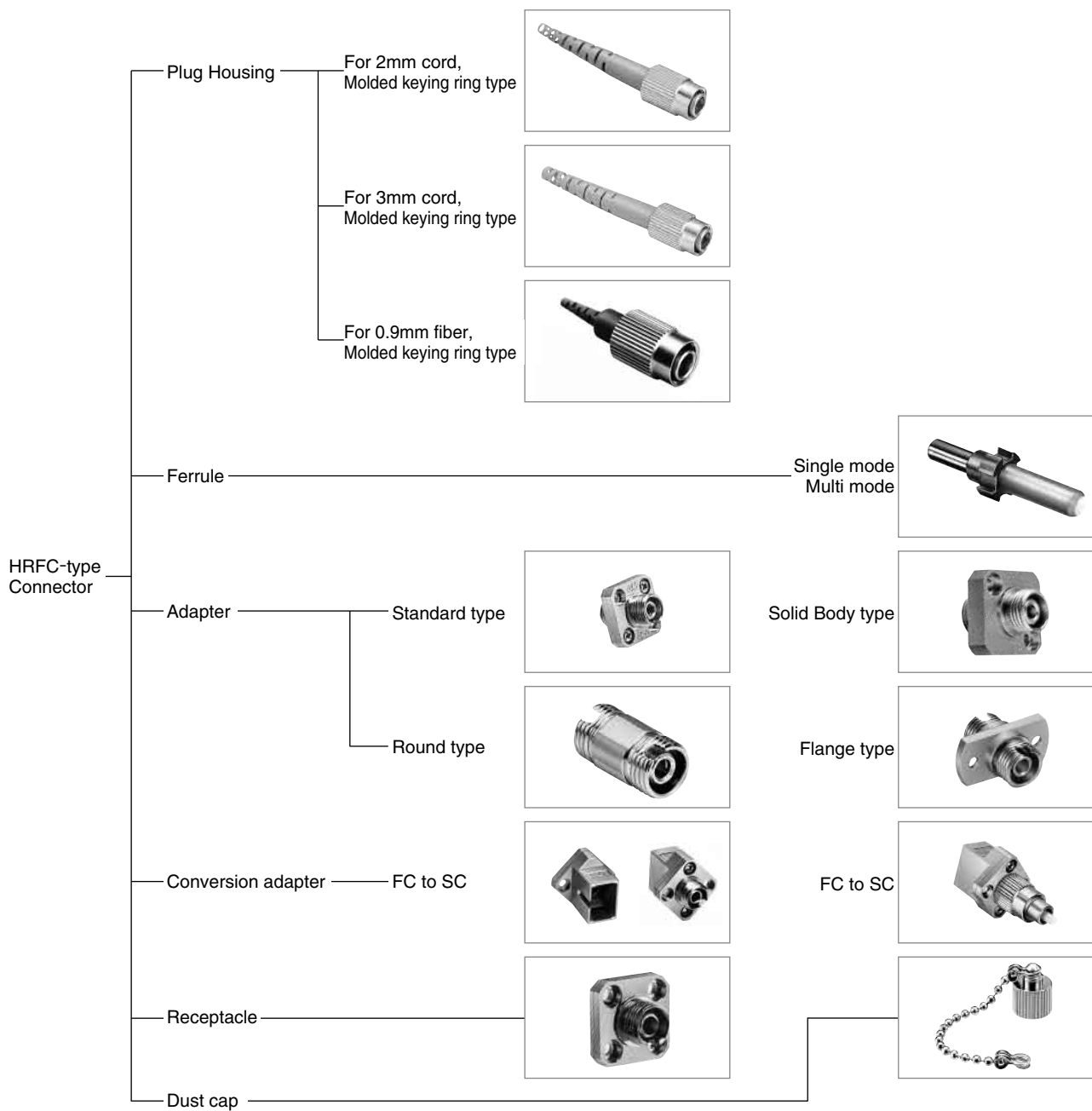
Harsh  
Environment

Attenuators

Terminators

POF / PCF

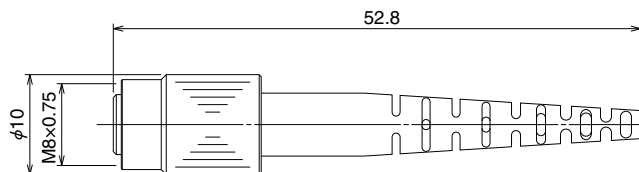
## ■ FC products



## ■Plug Housing

Please use it with the SC ferrules.

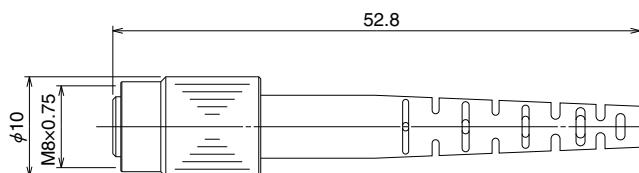
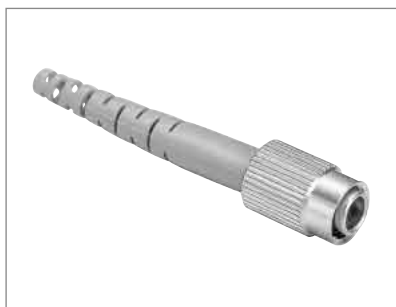
### ●For 2mm cable



| Part Number    | CL No.        | Boot color   | Polishing type |
|----------------|---------------|--------------|----------------|
| HRFC-P8-H2(63) | 701-0075-3-63 | Blue         | PC             |
| HRFC-P8-L2(61) | 701-0077-9-61 | Light purple | AdPC           |
| HRFC-P8-G2(62) | 701-2001-8-62 | Green        | APC            |

Note: Guide key width is 2.1mm

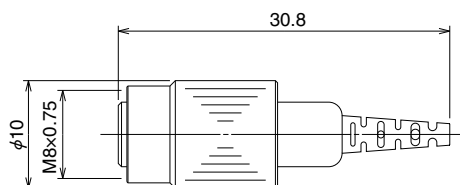
### ●For 3mm cable



| Part Number    | CL No.        | Boot color   | Polishing type |
|----------------|---------------|--------------|----------------|
| HRFC-P8-H3(62) | 701-0074-0-62 | Blue         | PC             |
| HRFC-P8-L3(61) | 701-0078-1-61 | Light purple | AdPC           |
| HRFC-P8-G3(61) | 701-2002-0-61 | Green        | APC            |

Note: Guide key width is 2.1mm

### ●For 0.9mm fiber



| Part Number    | CL No.        | Boot color   | Polishing type |
|----------------|---------------|--------------|----------------|
| HRFC-P15-H(62) | 701-0114-3-62 | Blue         | PC             |
| HRFC-P15-L(62) | 701-0115-6-62 | Light purple | AdPC           |
| HRFC-P15-G(61) | 701-2004-6-61 | Green        | APC            |

Note: Guide key width is 2.1mm

SC

FC

MU

Harsh  
Environment

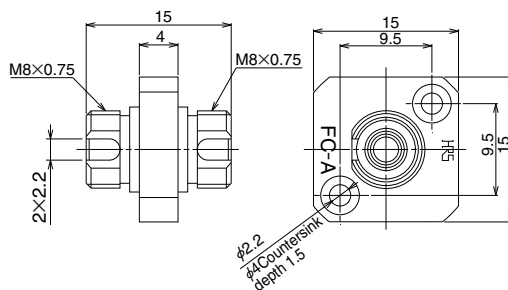
Attenuators

Terminators

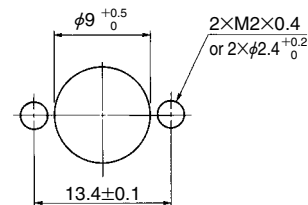
POF / PCF

## Adapters

### ●Solid Body type



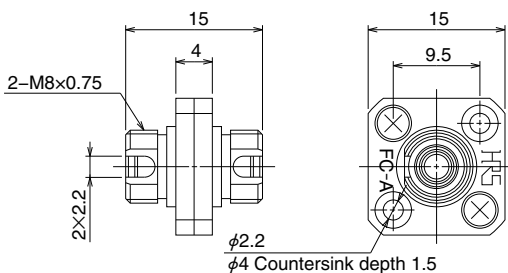
### ■Panel Cutout



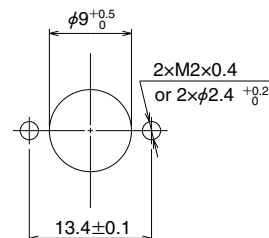
| Part Number      | CL No.        | Split sleeve    | Remarks |
|------------------|---------------|-----------------|---------|
| HRFC-PA11-G1(40) | 701-0071-2-40 | Phosphor bronze | —       |
| HRFC-PA11-D1(40) | 701-0106-5-40 | Zirconia        | (Note)  |

Note: Please take utmost care when inserting FC plug into a FC adapter. When applying excessive force to the FC plug or inserting in an odd angle, the zirconia sleeve within the adapter might be damaged

### ●Standard Body type



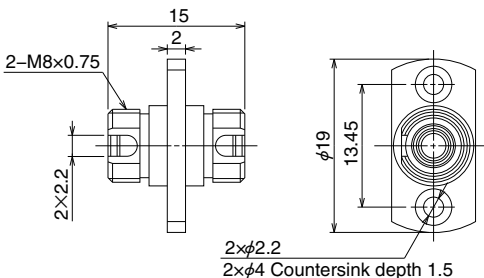
### ■Panel Cutout



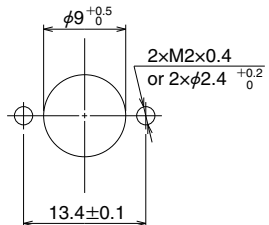
| Part Number     | CL No.        | Mark  | Split sleeve    | Remarks |
|-----------------|---------------|-------|-----------------|---------|
| HRFC-PA1-G1(41) | 701-0014-9-41 | FC-AP | Phosphor bronze | —       |
| HRFC-PA1-D1(40) | 701-0089-8-40 | FC-A  | Zirconia        | (Note)  |

Note: Please take utmost care when inserting FC plug into a FC adapter. When applying excessive force to the FC plug or inserting in an odd angle, the zirconia sleeve within the adapter might be damaged

### ●Flange type



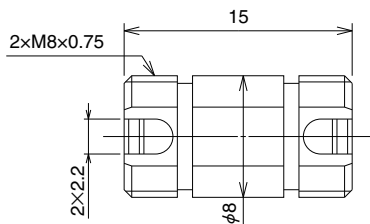
### ■Panel Cutout



| Part Number     | CL No.        | Split sleeve    | Remarks |
|-----------------|---------------|-----------------|---------|
| HRFC-PA4-G1(40) | 701-0068-8-40 | Phosphor bronze | —       |
| HRFC-PA4-D1(40) | 701-0112-8-40 | Zirconia        | (Note)  |

Note: Please take utmost care when inserting FC plug into a FC adapter. When applying excessive force to the FC plug or inserting in an odd angle, the zirconia sleeve within the adapter might be damaged

### ●Round type

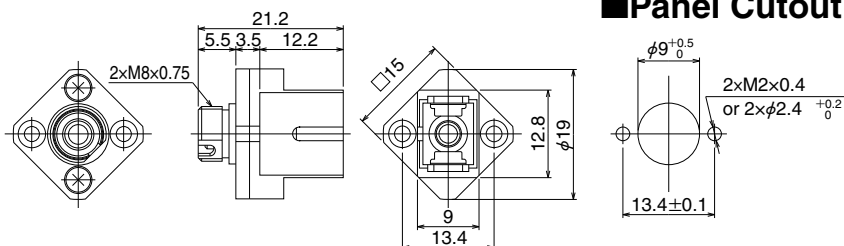


| Part Number       | CL No.        | Split sleeve    | Remarks |
|-------------------|---------------|-----------------|---------|
| HRFC-A2-SF(41)    | 701-0039-0-41 | Phosphor bronze | —       |
| HRFC-A2-SF-D1(40) | 701-0140-3-40 | Zirconia        | (Note)  |

Note: Please take utmost care when inserting FC plug into a FC adapter. When applying excessive force to the FC plug or inserting in an odd angle, the zirconia sleeve within the adapter might be damaged

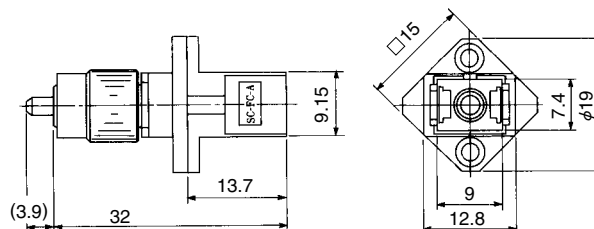
## ■ Conversion adapters

### ● FC / SC



| Part Number      | CL No.        | Split sleeve    |
|------------------|---------------|-----------------|
| HSCJ-HRFCJ-B(43) | 704-0021-3-43 | Phosphor bronze |

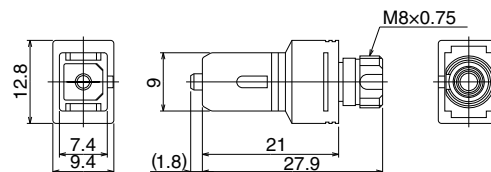
### ● FC / SC



| Part Number        | CL No.        | Split sleeve    | Polishing type | Fiber type |
|--------------------|---------------|-----------------|----------------|------------|
| HRFCP-HSCJ-1(61)   | 701-0065-0-61 | Phosphor bronze | PC             | GI-50/125  |
| HRFCP-HSCJ-1AS(61) | 701-0108-0-61 |                 | AdPC           |            |
| HRFCP-HSCJ-2(61)   | 701-0085-7-61 |                 | PC             | SM-9.5/125 |
| HRFCP-HSCJ-2AS(61) | 701-0109-3-61 |                 | AdPC           |            |

The positions of SC guide slot and FC guide key will not be always aligned.

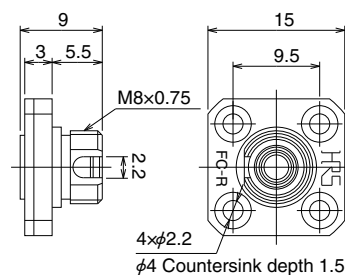
### ● FC / SC



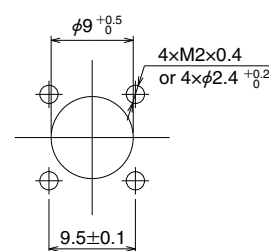
| Part Number        | CL No.        | Split sleeve    | Polishing type | Fiber type |
|--------------------|---------------|-----------------|----------------|------------|
| HSCP-HRFCJ-1(61)   | 704-0203-0-61 | Phosphor bronze | PC             | GI-50/125  |
| HSCP-HRFCJ-1AS(61) | 704-0288-3-61 |                 | AdPC           |            |
| HSCP-HRFCJ-2(61)   | 704-0204-3-61 |                 | PC             | SM-9.5/125 |
| HSCP-HRFCJ-2AS(61) | 704-0289-6-61 |                 | AdPC           |            |

The positions of SC guide key and FC guide slot will not be always aligned.

## ■ Receptacle



## ■ Panel Cutout



| Part Number | CL No.        | Remarks |
|-------------|---------------|---------|
| HRFC-R1(41) | 701-0016-4-41 | GI      |
| HRFC-R2(41) | 701-0023-0-41 | SM      |

SC

FC

MU

Harsh  
Environment

Attenuators

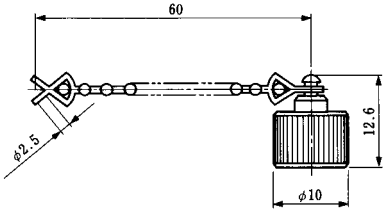
Terminators

POF / PCF

■Ferrule

Please use the SC connector's ferrule.

■Dust Cap



| Part Number | CL No.        |
|-------------|---------------|
| HRFC-C1(40) | 701-0019-2-40 |

■Tool

●Crimp tool

Please use the SC connector's crimp tool .

## ■Patch cords

### ●Single mode, Polishing type:AdPC (Advanced PC)

| Connector | Cable Dia. | Polishing type | Length | Part Number           | CL No.        |
|-----------|------------|----------------|--------|-----------------------|---------------|
| SC        | φ0.9       | AdPC           | 1m     | HSC-ASPK2-F3L-1M(61)  | 704-1095-5-61 |
|           |            |                | 2m     | HSC-ASPK2-F3L-2M(62)  | 704-1095-5-62 |
|           |            |                | 3m     | HSC-ASPK2-F3L-3M(63)  | 704-1095-5-63 |
|           | φ2.0       |                | 1m     | HSC-ASPAD2-F3Q-1M(21) | 704-1170-9-21 |
|           |            |                | 2m     | HSC-ASPAD2-F3Q-2M(22) | 704-1170-9-22 |
|           |            |                | 3m     | HSC-ASPAD2-F3Q-3M(23) | 704-1170-9-23 |
| FC        | φ0.9       |                | 1m     | HRFC-ASPA2-F3L-1M(01) | 701-1073-3-01 |
|           |            |                | 2m     | HRFC-ASPA2-F3L-2M(02) | 701-1073-3-02 |
|           |            |                | 3m     | HRFC-ASPA2-F3L-3M(03) | 701-1073-3-03 |
|           | φ2.0       |                | 1m     | HRFC-ASP72-F3Q-1M(41) | 701-1059-2-41 |
|           |            |                | 2m     | HRFC-ASP72-F3Q-2M(42) | 701-1059-2-42 |
|           |            |                | 3m     | HRFC-ASP72-F3Q-3M(43) | 701-1059-2-43 |
| MU        | φ0.9       |                | 1m     | HMUA-ASPH2-F3L-1M(61) | 710-1052-4-61 |
|           |            |                | 2m     | HMUA-ASPH2-F3L-2M(62) | 710-1052-4-62 |
|           |            |                | 3m     | HMUA-ASPH2-F3L-3M(63) | 710-1052-4-63 |
|           | φ2.0       |                | 1m     | HMUA-ASP2-F3Q-1M(70)  | 710-0029-7-70 |
|           |            |                | 2m     | HMUA-ASP2-F3Q-2M(71)  | 710-0029-7-71 |
|           |            |                | 3m     | HMUA-ASP2-F3Q-3M(72)  | 710-0029-7-72 |

### ●Single mode, Polishing type:APC (Angled PC)

| Connector | Cable Dia. | Polishing type | Length | Part Number          | CL No.        |
|-----------|------------|----------------|--------|----------------------|---------------|
| SC        | $\phi 2.0$ | APC            | 1m     | HSC-CSPE2-F3Q-1M(21) | 704-3139-0-21 |
|           |            |                | 2m     | HSC-CSPE2-F3Q-2M(22) | 704-3139-0-22 |
|           |            |                | 3m     | HSC-CSPE2-F3Q-3M(23) | 704-3139-0-23 |

### ●Multi mode, Polishing type:PC

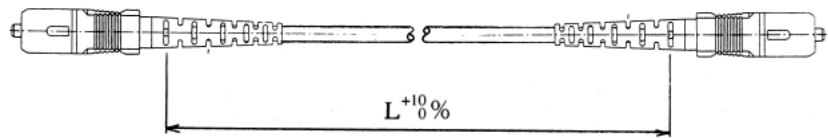
| Connector | Cable Dia. | Polishing type | Length | Part Number          | CL No.        |
|-----------|------------|----------------|--------|----------------------|---------------|
| SC        | φ0.9       | PC             | 1m     | HSC-SPK2-F3M7-1M(01) | 704-1172-4-01 |
|           |            |                | 2m     | HSC-SPK2-F3M7-2M(02) | 704-1172-4-02 |
|           |            |                | 3m     | HSC-SPK2-F3M7-3M(03) | 704-1172-4-03 |
|           | φ2.0       |                | 1m     | HSC-SPAD2-F3P-1M(01) | 704-1173-7-01 |
|           |            |                | 2m     | HSC-SPAD2-F3P-2M(02) | 704-1173-7-02 |
|           |            |                | 3m     | HSC-SPAD2-F3P-3M(03) | 704-1173-7-03 |
| FC        | φ2.0       |                | 1m     | HRFC-SP72-F3P-1M(51) | 701-1062-7-51 |
|           |            |                | 2m     | HRFC-SP72-F3P-2M(52) | 701-1062-7-52 |
|           |            |                | 3m     | HRFC-SP72-F3P-3M(53) | 701-1062-7-53 |

Please contact HIROSE for other specifications.

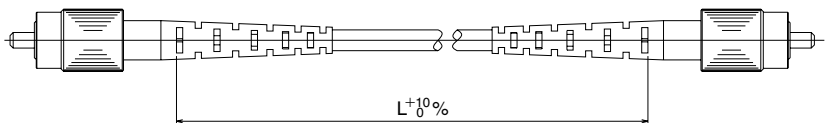


●Patch cord structure

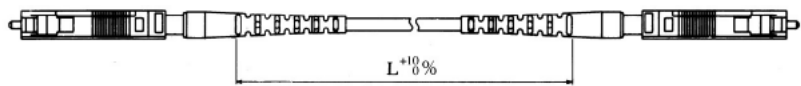
SC-SC



FC-FC



MU-MU



Please refer to each connector's page for SC, FC or MU type Connector's detail.

●Other type patch cords

Please select connector and cord specification from Table, and contact HIROSE.

| Parts              | Item           | Specified example                                           |
|--------------------|----------------|-------------------------------------------------------------|
| Side A connector   | Connector type | SC, FC, MU, LC, Simplified SC, Simplified MU                |
|                    | Polishing type | AdPC, APC, PC                                               |
| Side B connector   | Connector type | SC, FC, MU, LC, Simplified SC, Simplified MU, None(pigtail) |
|                    | Polishing type | AdPC, APC, PC                                               |
| Optical Fiber Cord | Cord style     | Simplex, Duplex zipcord                                     |
|                    | Fiber mode     | SM-9.5/125, MM-50/125                                       |
|                    | Cord diameter  | φ0.9(Tight buffered), φ2, φ3                                |
|                    | Length         | Unit: m                                                     |

Please contact HIROSE for other specifications.