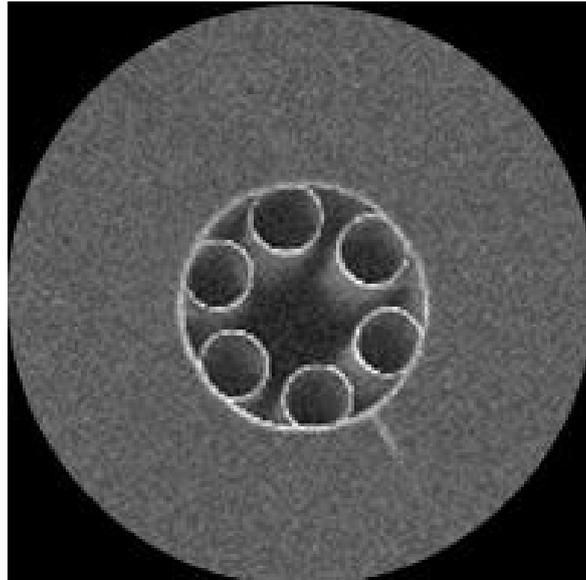


## Anti-Resonant Hollow Core Fibers



- **Product Description**

Optical signal in hollow core anti-resonant fibers propagates in an air core surrounded by single ring of anti-resonant tube elements. Guidance is based on an anti-resonance from the thin glass membranes constituted by the non-touching tubes surrounding the hollow core. The extremely low overlap of guided power with the surrounding silica, less than  $2 \times 10^{-5}$ , added to the mode effective area, confers to these fibers design record material non-linearity.



- **Product features**

High damage threshold 、 Nearly single mode guidance 、 Ultra low dispersion in the transmission bands

- **Part Number**

IP-HCF-235/3710-C+L

- **Application area**

Low latency data transmission 、 Gas-filled AR hollow core fibre laser 、  
Molecular tracing, gas detection 、 High power delivery for pico- and  
sub-picoseconds、 optical pulses

- **Core parameters**

Wavelength	Cladding Diameter	Coating Diameter
1530-1625nm	235 ± 5um	370 ± 10um

- **General Parameters**

Specifications

Performance Parameters of Hollow Core Fibre

Geometrical Properties

<b>Fibre Type</b>	IP-HCF-23 5/ 370-C+L	IP-HCF-235 / 370-O	IP-HCF-23 5/ 370-1μm	IP-HCF-215/ 360-0.85μm	IP-HCF-325/ 460-2μm	IP-HCF-425/ 540-3μm
<b>Core diameter (μm)</b>	30±2	30±2	30±2	27±2	40±2	52±2
<b>Cladding diameter (μm)</b>	235±5	235±5	235±5	215±5	325±5	425±5
<b>Coating diameter (μm)</b>	370±10	370±10	370±10	360±10	460±10	540±10
<b>Optical Properties</b>						
<b>Transmission window (nm)</b>	1530-1625	1260-1360	980-1100	800-920	1960-2120	2820-3100



Maximum attenuation (dB/km)	0.5	0.5	2	1.4	1.4	62
Mode field diameter (μm)	21± 2@1550nm	20.5± 2@1310nm	20± 2@1060nm	19.5± 2@850nm** *	28.5± 2@2000nm* **	37± 2@3000nm ***
Dispersion coefficient (ps/nm/km)	3± 3@1550nm	3± 3@1310nm	--	--	--	--



Macro-bending loss/D60-100 turns (dB)	≤ 0.1@1550nm	≤ 0.1@1310nm	--	--	--	--
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**\*Hollow core fibres with other wavelengths can be customized**

**\*\*Both the fibre attenuation and the delivery length can be customized to meet the customer's requirements**

**\*\*\*Simulation results**

**Note: The hollow core fibres shall be stored in a sealed manner.**

**A hollow core fibre adapter is designed to connect hollow core fibres with single-mode fibres. Featuring a modular packaging design, the adapter enables optical power coupling between hollow core fibres and single-mode fibres with low insertion loss and low return loss. It allows for direct connection of hollow core fibres to existing transmission systems, enhancing user convenience. Furthermore, when used in conjunction with hollow core fibre cables, the adapter contributes to the construction of a complete low-latency communication system.**



## Specifications

Optical Properties	Range
Insertion loss	$\leq 0.5\text{dB}$
Return loss	$\geq 40\text{dB}$
Geometrical Properties	
Length of hollow core fibre	$>1\text{m}$
Length of single-mode pigtail	1-1.5m
Single-mode connector	Customizable
Encapsulation box description	4*6*60mm

## Ordering info

PN#IP-HCF-235/370-C+L C+L Band Anti-Resonant Hollow Core Fibers

Operation wavelength:1530-1625nm,Maximum attenuation : <  
0.5dB/km, core/cladding/coating diameter:30/235/370um

PN#IP-HCF-235/370-O O Band Anti-Resonant Hollow Core Fibers

Operation wavelength:1260-1360nm,Maximum attenuation : <  
0.5dB/km, core/cladding/coating diameter:30/235/370um

PN#IP-HCF-235/370-1 $\mu\text{m}$  1um Band Anti-Resonant Hollow Core Fibers

Operation wavelength:980-1100nm,Maximum attenuation : <



2dB/km, core/cladding/coating diameter:30/235/370um

PN#IP-HCF-215/360-0.85 $\mu$ m 850nm Band Anti-Resonant Hollow Core Fibers

Operation wavelength:800-920nm,Maximum attenuation : <

1.4dB/km, core/cladding/coating diameter:27/215/360um

PN#IP-HCF-325/460-2 $\mu$ m 2000nm Band Anti-Resonant Hollow Core Fibers

Operation wavelength:1960-2120nm,Maximum attenuation : <

1.4dB/km, core/cladding/coating diameter:40/325/460um

PN#IP-HCF-425/540-3 $\mu$ m 3000nm Band Anti-Resonant Hollow Core Fibers

Operation wavelength:2820-3100nm,Maximum attenuation : <

62dB/km, core/cladding/coating diameter:52/425/540um