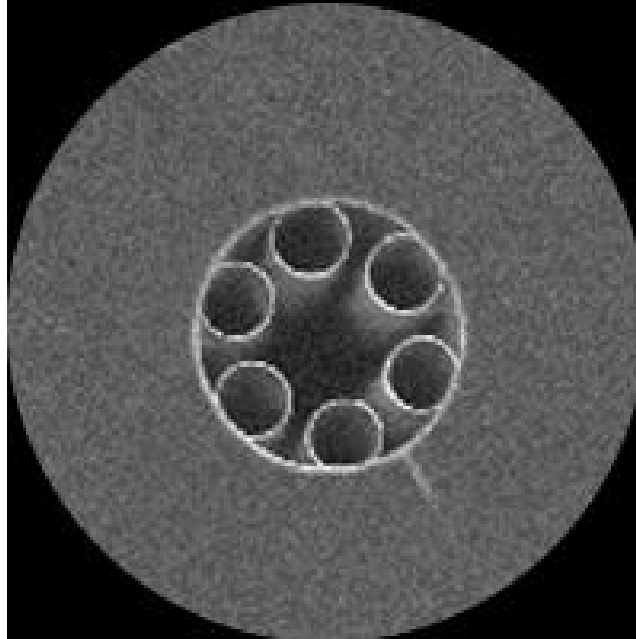


Anti-Resonant Hollow Core Fibers



- **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 2×10^{-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						
Fibre	IP-HCF-23	IP-HCF-235	IP-HCF-23	IP-HCF-215/	IP-HCF-325/	IP-HCF-425/
Type	5/	/	5/	360-0.85µm	460-2µm	540-3µm



	370-C+L	370-O	370-1 μ m			
Core diameter (μm)	30 \pm 2	30 \pm 2	30 \pm 2	27 \pm 2	40 \pm 2	52 \pm 2
Cladding diameter (μm)	235 \pm 5	235 \pm 5	235 \pm 5	215 \pm 5	325 \pm 5	425 \pm 5
Coating diameter (μm)	370 \pm 10	370 \pm 10	370 \pm 10	360 \pm 10	460 \pm 10	540 \pm 10
Optical Properties						
Transmission window (nm)	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	21 \pm	20.5 \pm	20 \pm	19.5 \pm	28.5 \pm	37 \pm



field	2@1550n	2@1310n	2@1060n	2@850nm**	2@2000nm*	2@3000nm
diameter (μm)	m	m	m	*	**	***
Dispersion coefficient (ps/nm/km)	3 \pm 3@1550nm	3 \pm 3@1310nm	--	--	--	--
Macro-bending loss/ D60-100 turns (dB)	\leq 0.1@1550nm	\leq 0.1@1310nm	--	--	--	--

*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	>1m
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 μ 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 μ 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 μ 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 μ m 3000nm Band Anti-Resonant Hollow Core Fibers

Operation wavelength:2820-3100nm,Maximum attenuation : <
62dB/km, core/cladding/coating diameter:52/425/540um