

Vacuum Fiber Optic Patchcords

For Ultra-High Vacuum Applications



- Excellent optical parameters
- UHV compatible patchcords/adapters
- Precise optical length on request
- UHV FO feedthrough on request
- In SM, MM and PM version

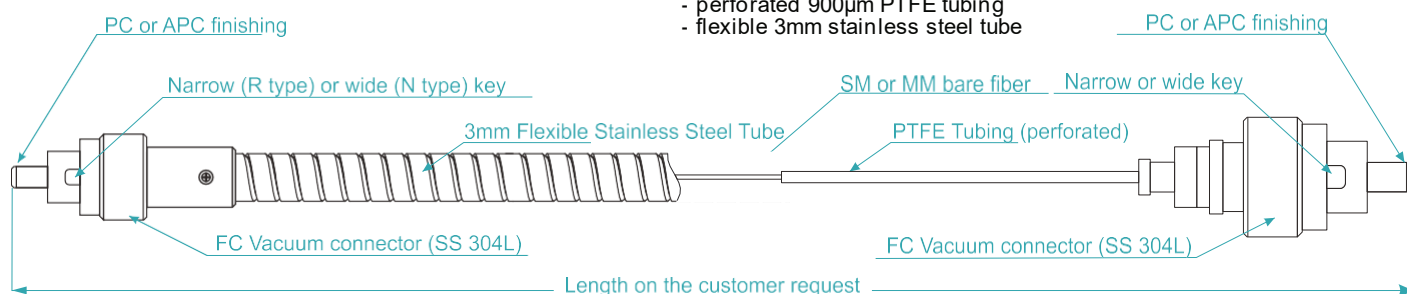
Vacuum Optic patchcords/jumpers suitable for High Vacuum or Ultra High Vacuum (UHV) environments. Vacuum patchcords assembling process needs UHV compatible process of gluing as well as UHV connectors and bare fiber protected by loose tube. The most common connectors for vacuum are FC connectors. The SMA905 connectors are also available. All mentioned patchcords can be mated in vacuum FC adapters which are also part of our offer as well as vacuum compatible fiber optic feedthroughs with pigtail or adapter interface.

Vacuum Patchcords Parameters

	SM	MM	PM
Wavelengths (according type of fiber)	400 ÷ 2000 nm	400 ÷ 2000 nm	400 ÷ 2000 nm
Insertion loss IL (max/typ):	0,3 / 0,22 dB (1310/1550nm)	0,3 / 0,2 dB (850/1300nm)	0,4 / 0,2 dB (1550nm)
Return loss (UPC) RL (min/typ):	> 50 / > 55 dB (1310 nm)	> 25 dB / > 40 dB (850/1300nm)	> 50 / > 55 dB (1310 nm)
Return loss (APC) RL (min/typ):	> 60 / > 68 dB (1310 nm)	NA	> 60 / > 68 dB (1310 nm)
Extinction ratio (min) [dB]:	-	-	20,25,30 dB
Angle misalignment (°) (real axis) [°]:	-	-	+/- 2,5 or +/- 1,5
Repeatability - 500 matings:	+/- 0,1 dB	+/- 0,1 dB	+/- 0,2
Core/cladding/coating	9/125/155 polyimide (G.652D)	50/125/155 polyimide (OM2)	according type of fiber
Connector (made in SQS)	FC/PC or APC (N or R type)	FC/PC (N or R type)	FC/PC or APC (N or R type)
Connector - material	SS 304L (1.4307)	SS 304L (1.4307)	SS 304L (1.4307)
Ferrule - material	Zirconia ferrule	Zirconia ferrule	Zirconia ferrule
Fiber protection	Polyimide or PTFE or steel tube	Polyimide or PTFE or steel tube	Polyimide or PTFE or steel tube
Operating temperature	-40 +85 °C (180°C on request)	-40 +85 °C (180°C request)	-20 +70°C

Vacuum patchcord with loose tube protection behind connectors –three basic options:

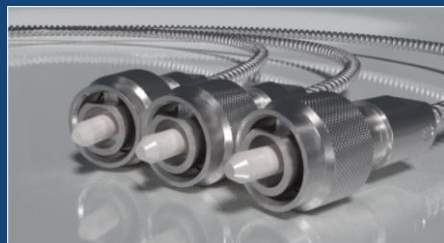
- bare fiber
- perforated 900µm PTFE tubing
- flexible 3mm stainless steel tube



Adapter Design

Adapter interface for conn.	FC/PC or FC/APC	narrow - narrow key	wide - wide key	narrow - wide key
Key hole	N type (2,15 - 2,20 mm) or R type (2,05 - 2,10 mm)			
Material - body	SS 304L (1.4307)			
Material - sleeve	Zirconia sleeve			
Flange	Full flange (rectangle)			
Laser marking of flange	On request			

FC/PC and APC Vacuum Connectors



FC/APC Vacuum Patchcord



UHV FC Adapters

