

NEW

10<sup>-n</sup>  
mbar VACOM®

## VACOM LWL

### Fibre Optic Feedthroughs for UHV

- Completely assembled
- UHV compatible to  $5 \times 10^{-11}$  mbar
- Low insertion loss
- Helium leak rate  $< 1.5 \times 10^{-10}$  mbar l/s
- Bakeout temperature 180 °C
- Assembled with singlemode or multimode fibre
- FC-PC or FC-APC connectors
- Flanges: DN16CF, DN40CF, DN63CF with 1 to 5 couplings<sup>(1)</sup>



<sup>(1)</sup> Other flanges on request

## Technical data

<b>Leak rate</b>	< 1.5 x 10 <sup>-10</sup> mbar l/s
<b>Fibres</b>	Assembled singlemode or multimode fibre
<b>Ferrules</b>	2.5 mm ZrO <sub>2</sub> ceramics, bore diameter 126 µm (128 µm with multimode), steel ferrules on request
<b>Typical loss<sup>(2)</sup></b>	Singlemode (IL/RL) 0.3 dB / 50 dB Multimode (IL) 0.5 dB
<b>Operating temperature</b>	-25 °C to 75 °C
<b>Bakeout temperature</b>	Max. 180 °C (heat rate 3 K/min)
<b>Coupling length</b>	41 mm

<sup>(2)</sup> At room temperature

Singlemode feedthroughs, ceramics ferrule<sup>(3)</sup>, fibre dimension: 9/125 µm

### FC-PC coupling

Order code	Flange	No. of couplings
W-FCPC-09-1-DE-ZR	-	1
CF16-FCPC-09-1-DE-ZR	DN16CF	1
CF40-FCPC-09-1-DE-ZR	DN40CF	1
CF40-FCPC-09-2-DE-ZR	DN40CF	2
CF40-FCPC-09-3-DE-ZR	DN40CF	3

### FC-APC coupling

Order code	Flange	No. of couplings
W-FCAPC-09-1-DE-ZR	-	1
CF16-FCAPC-09-1-DE-ZR	DN16CF	1
CF40-FCAPC-09-1-DE-ZR	DN40CF	1
CF40-FCAPC-09-2-DE-ZR	DN40CF	2
CF40-FCAPC-09-3-DE-ZR	DN40CF	3

Multimode feedthroughs, ceramics ferrule<sup>(3)</sup>, fibre dimension: 50/125 µm

### FC-PC coupling

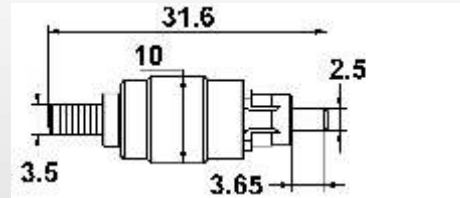
Order code	Flange	No. of couplings
W-FCPC-50-1-DE-ZR	-	1
CF16-FCPC-50-1-DE-ZR	DN16CF	1
CF40-FCPC-50-1-DE-ZR	DN40CF	1
CF40-FCPC-50-2-DE-ZR	DN40CF	2
CF40-FCPC-50-3-DE-ZR	DN40CF	3

### FC-APC coupling

Order Code	Flange	No. of couplings
W-FCAPC-50-1-DE-ZR	-	1
CF16-FCAPC-50-1-DE-ZR	DN16CF	1
CF40-FCAPC-50-1-DE-ZR	DN40CF	1
CF40-FCAPC-50-2-DE-ZR	DN40CF	2
CF40-FCAPC-50-3-DE-ZR	DN40CF	3

<sup>(3)</sup> Metal ferrules, other fibre dimensions and flanges on request

## FC-Connector



<b>Connector</b>	FC-PC or FC-APC, vacuum and atmosphere side
<b>Cable Ø</b>	0.9 to 3.5 mm
<b>Locking</b>	Thread with twist secured
<b>Operating temperature</b>	-25 °C to 75 °C
<b>Cable retention<sup>(4)</sup></b>	150 Nm
<b>Mating cycles</b>	1000

<sup>(4)</sup> Depends on cable type

### Vacuum side connector<sup>(5)</sup>

Stainless steel with ceramics ferrule, FC/PC (plane angled polish)

Order code	Ferrule bore hole Ø	
<b>CONN-FCPC-09-V-ZR</b>	126 µm	for singlemode fibres 125 µm
<b>CONN-FCPC-50-V-ZR</b>	128 µm	for multimode fibres 125 µm

Stainless steel with ceramics ferrule, FC/APC (8° angled polish end face)

Order Code	Ferrule bore hole Ø	
<b>CONN-FCAPC-09-V-ZR</b>	126 µm	for singlemode fibres 125 µm
<b>CONN-FCAPC-50-V-ZR</b>	125 µm	for multimode fibres 125 µm

<sup>(5)</sup> Special connectors with metal ferrule on request

### Atmosphere side connector

Zinc diecasting with ceramics ferrule, FC/PC (plane angled polish)

Order code	Ferrule bore hole Ø	
<b>CONN-FCPC-09-V-ZR</b>	126 µm	for singlemode fibres 125 µm
<b>CONN-FCPC-50-V-ZR</b>	128 µm	for multimode fibres 125 µm

Zinc diecasting with ceramics ferrule, FC/APC (8° angled polish end face)

Order code	Ferrule bore hole Ø	
<b>CONN-FCAPC-09-V-ZR</b>	126 µm	for singlemode fibres 125 µm
<b>CONN-FCAPC-50-V-ZR</b>	125 µm	for multimode fibres 125 µm

### Assembled Fibres

fibre pigtail, assembled, for use inside the vacuum, fibre: SiO<sub>2</sub> with polyimide coating<sup>(6)</sup>

Order code	Connector type	Fibre	Length
<b>KON-V-250-FCPC-09-SE-ZR</b>	FCPC	Singlemode 9/125 µm	250 mm
<b>KON-V-500-FCPC-09-SE-ZR</b>	FCPC	Singlemode 9/125 µm	500 mm
<b>KON-V-1000-FCPC-09-SE-ZR</b>	FCPC	Singlemode 9/125 µm	1000 mm
<b>KON-V-250-FCAPC-09-SE-ZR</b>	FCAPC	Singlemode 9/125 µm	250 mm
<b>KON-V-500-FCAPC-09-SE-ZR</b>	FCAPC	Singlemode 9/125 µm	500 mm
<b>KON-V-1000-FCAPC-09-SE-ZR</b>	FCAPC	Singlemode 9/125 µm	1000 mm
<b>KON-V-250-FCPC50-SE-ZR</b>	FCPC	Multimode 50/125 µm	250 mm
<b>KON-V-500-FCPC-50-SE-ZR</b>	FCPC	Multimode 50/125 µm	500 mm
<b>KON-V-1000-FCPC-50-SE-ZR</b>	FCPC	Multimode 50/125 µm	1000 mm

<sup>(6)</sup> Special fibres and custom length on request

## Fibre optical cables for vacuum use

- Fibre optical cable
- Glass fibre: SiO<sub>2</sub> with polyimide coating<sup>(7)</sup>
- Strain relief: glass fibre
- Cable mantle: stainless steel
- Connectors on both ends

Order code	Connector type	Fibre	Length
KAB-V-250-FCPC-09-DE-ZR	FCPC	Singlemode 9/125 µm	250 mm
KAB-V-500-FCPC-09-DE-ZR	FCPC	Singlemode 9/125 µm	500 mm
KAB-V-1000-FCPC-09-DE-ZR	FCPC	Singlemode 9/125 µm	1000 mm
KAB-V-250-FCAPC-09-DE-ZR	FCAPC	Singlemode 9/125 µm	250 mm
KAB-V-500-FCAPC-09-DE-ZR	FCAPC	Singlemode 9/125 µm	500 mm
KAB-V-1000-FCAPC-09-DE-ZR	FCAPC	Singlemode 9/125 µm	1000 mm
KAB-V-250-FCPC50-DE-ZR	FCPC	Multimode 50/125 µm	250 mm
KAB-V-500-FCPC-50-DE-ZR	FCPC	Multimode 50/125 µm	500 mm
KAB-V-1000-FCPC-50-DE-ZR	FCPC	Multimode 50/125 µm	1000 mm

<sup>(7)</sup> Special fibres and custom length on request

### Special feedthroughs:

- Double-sided FC/PC coupling
- Copper-nickel alloy ferrule
- For multimode fibres with core diameter above 100 µm<sup>(8)</sup>
- UHV compatible
- Bakeable to 180 °C
- CF flanges

### Options

- UHV compatible FC/PC-connectors with metal ferrule
- Assembled fibre optic cables
- Special flanges

<sup>(8)</sup> Fibre according to customers' specification