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EVANESCENCE BASED VARIABLE SPLIT RATIO FIBER SPLITTER/COUPLER

Features

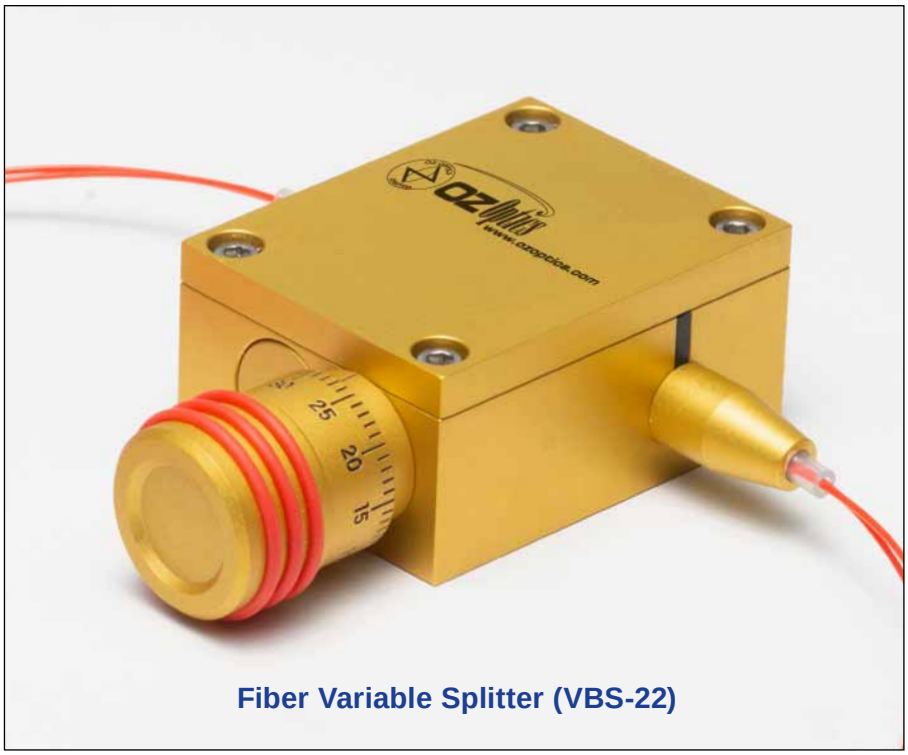
- Variable splitting ratio
- Low insertion loss
- Broad bandwidth
- Good uniformity
- Small package
- High directivity
- Selectable wavelength: 400 to 2000 nm

Applications

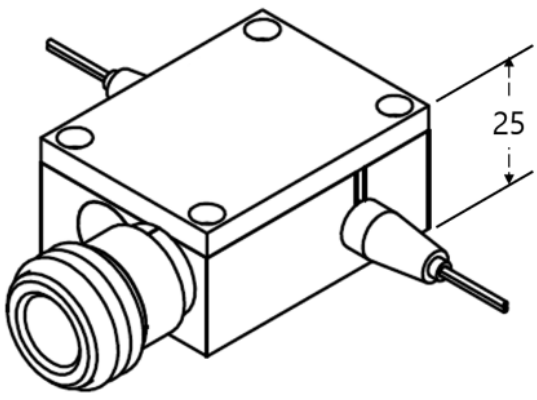
- Optical amplifiers
- Fiber lasers
- Power monitoring
- Fiber gyroscopes
- Coherent communications

Product Description

Variable split ratio fiber splitters provide splitting ratios tunable from 0% to 100% with negligible optical loss. The device consists of two side-polished fibers mated to induce evanescent field coupling. The coupling ratio is controlled by adjusting the distance between the cores of the two side-polished fibers. PM fiber models with customer specified birefringence axis alignment are available.



Fiber Variable Splitter (VBS-22)



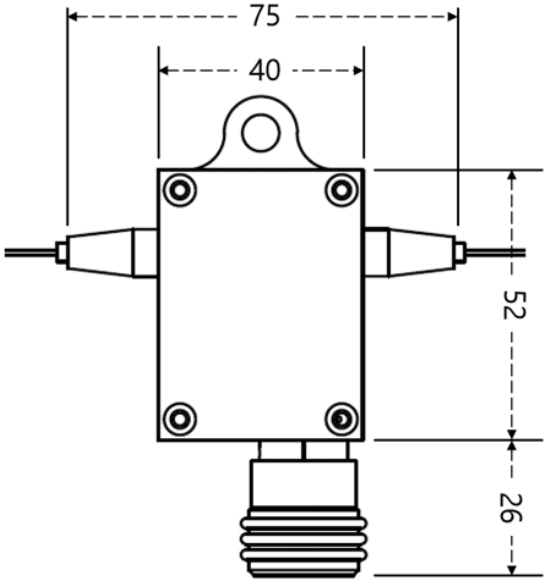


Figure 1: Reference Dimensional Drawing

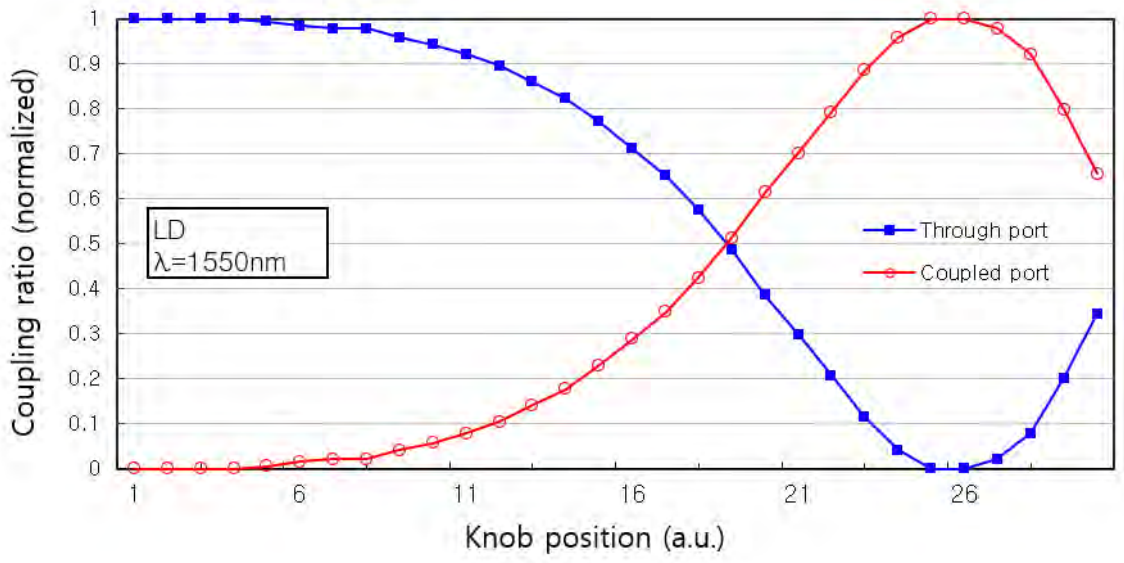


Figure 2: Coupling Ratio Variation

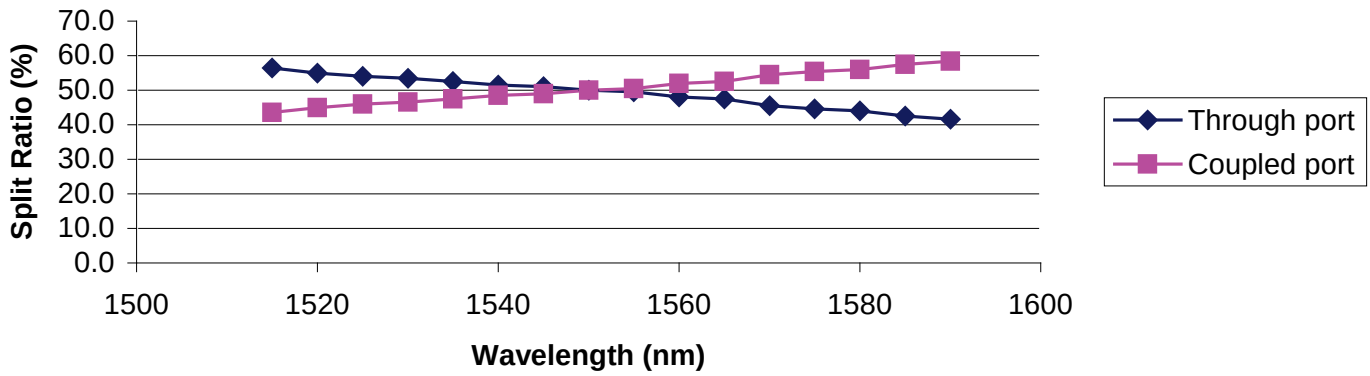


Figure 3: Split Ratio Variation Over Wavelength

Ordering Information For Standard Parts

Standard Parts

Bar Code	Part Number	Description
67232	VBS-22-1300/1550-9/125-S-3A3A3A3A-1-1	Evanescence based variable ratio fiber 2x2 splitter for 1260-1650nm with 1 meter long, 0.9 mm OD jacketed, 9/125 um single mode fiber leads, terminated with FC/APC connectors on all ports
67226	VBS-22-1550-8/125-P-3A3A3A3A-1-1	Evanescence based variable ratio fiber 2x2 splitter for 1450-1650nm with 1 meter long, 0.9 mm OD jacketed, 8/125 um polarization maintaining fiber leads, terminated with FC/APC connectors, slow axis locked to the key on all ports.
67225	VBS-22-1310-7/125-P-3A3A3A3A-1-1	Evanescence based variable ratio fiber 2x2 splitter for 1290-1550nm with 1 meter long, 0.9 mm OD jacketed, 7/125 um polarization maintaining fiber leads, terminated with FC/APC connectors, slow axis locked to the key on all ports.

Specifications*

	Without connectors	With connectors
Operation Wavelength (nm)	1260–1650	
Tuning Range of Coupling Ratio (%)	0–100	
Insertion Loss (dB)	<0.1	<0.5
Polarization Extinction Ratio (dB, PMF only)	>20	>18

(*) For 1260–1650 nm. Other wavelength bands available upon request.

Questionnaire For Custom Parts

1. What is your center wavelength and operating bandwidth?
2. What type of fiber are you using: single mode, polarization maintaining?
3. What, if any, connectors are required for each port?
4. What fiber length is required?

Ordering Information For Custom Parts

Part Number **VBS-22-*W*-*a/b*-*F*-*XY*-*JD*-*L***

W = Wavelength: in nanometers
Example 1300/1550 for
1260–1650 nm SM
1300/1550 for 1260–1650 nm SM
1550 for 1450–1650 nm PM
1310 for 1290–1550 nm PM
1060 for 980–1300 nm
830 for 760–980 nm
633 for 620–760 nm
488 for 480–630 nm
2000 for 1800–2100 nm

a/b = Fiber core and cladding:
9/125 for 1260–1650 nm SM
8/125 for 1450–1650 nm PM
7/125 for 1290–1550 nm PM

See tables 1 and 2 of the OZ *Standard Tables* datasheet for other standard fiber sizes.
https://www.ozoptics.com/ALLNEW_PDF/DTS0079.pdf

F = Fiber type:
S = Single Mode
P = Polarization Maintaining

L = Length, in meters (1 m standard)

JD = Jacket diameter
1 = 0.9 mm (standard)

XY = Connector code:

3S = Super NTT-FC/PC	SCA = Angled SC
3U = Ultra NTT-FC/PC	LC = LC
3A = Angled NTT-FC/PC	LCA = Angled LC
8 = AT&T-ST	MU = MU
SC = SC	X = No Connector

See table 6 of the OZ *Standard Tables* datasheet for other connectors.
https://www.ozoptics.com/ALLNEW_PDF/DTS0079.pdf