

SERIES GFS

FREE-STANDING WIRE GRID POLARIZER



FEATURES:

- Very low transmission loss (perpendicular polarization)
- Very high reflectivity (parallel polarization)
- Wide bandwidth/high isolation

APPLICATIONS:

- High efficiency polarizers/analyzers
- Beam splitters/diplexing elements
- Variable attenuators/reflectors

DESCRIPTION

The Millitech series GFS free-standing wire grid polarizer consists of an array of parallel wires stretched tight in a plane and affixed to a mounting frame. The closely spaced wires reflect essentially 100% of the electric field components parallel to the direction of the wires, and transmit the component of the field perpendicular to the wires. The standard wire diameter used is

0.001 inches (25 microns). The number of wires can be as high as 400/in (16/mm), although the optimum for most purposes is below 300/in. For lower frequencies, the number of wires can be decreased. The wire spacing accuracy is typically 0.0006 inch (15 microns). Custom frame sizes are available.

THEORETICAL GRID PERFORMANCE

Wire Diameter (in/ μ m)*	Wires per Inch*	Max Operation (GHz)	Typical Power Transmission at Maximum Frequency	
			E Field Perpendicular to Wires	E Field Parallel to Wires
0.001/25	200	200	>0.99	<0.01
0.001/25	300	650	0.98	0.01
0.001/25	400	1600	0.95	0.01

* Please consult Millitech for other wire sizes and pitch.

HOW TO ORDER

Specify Model Number GFS- $\emptyset\emptyset$ -AAABBCD
AAA = Wires per Inch See above table
BB = Wire Diameter (in/μm)* 10 – 0.001/25
C = Frame Shape S – square R – round
D = Frame Size Typically 2 to 9 inches. (Contact Millitech for other sizes)
*Please contact Millitech for tungsten wire availability