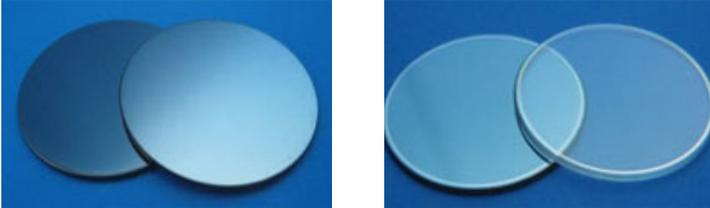


# THz Spectral Splitters

Tydex offers spectral splitters for applications where NIR or MIR radiation has to be reflected without transmission degradation in THz range.

NIR-THz spectral splitter is used for separation of pump radiation (centered in the wavelength 790-800 nm) from THz radiation in Ti:Sapphire laser and MIR-THz spectral splitters for separation of pump radiation (9.6  $\mu\text{m}$  and 10.6  $\mu\text{m}$ ) from THz radiation in THz laser optically pumped by  $\text{CO}_2$  - laser.



Common specification:

Type	NIR-THz spectral splitter	MIR-THz spectral splitter
Material of substrate	HRFZ-Si THz-grade crystal quartz	
Dimensions tolerance, mm	+/-0.25	
Clear aperture, %	90	
Surface quality, scr/dig	60/40	
Surface accuracy, mm	+/-0.01 deviation from ideal plane	
Coating	High-reflection dielectric coating (R>90%) @ 730-860 nm	High-reflection dielectric coating (R>90%) @ 9-11 $\mu\text{m}$
Angle of incidence, arc. grad:	45	

The following THz spectral splitters are available from stock:

No.	Diameter		Thickness
	mm	inches	mm
1	25.4	1.0	1.0
2	50.8	2.0	1.0

Please check the Optics stock at our website. Custom designs are available upon request. For price quotation and delivery please fax or e-mail us.

Typical reflection and transmission curves.

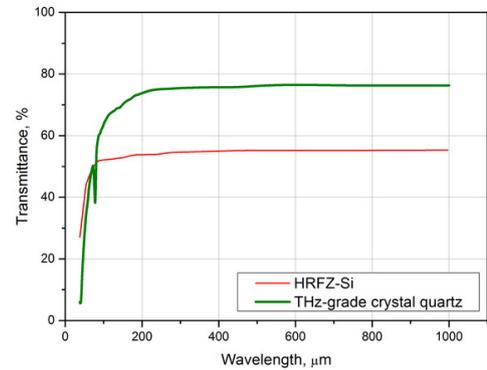
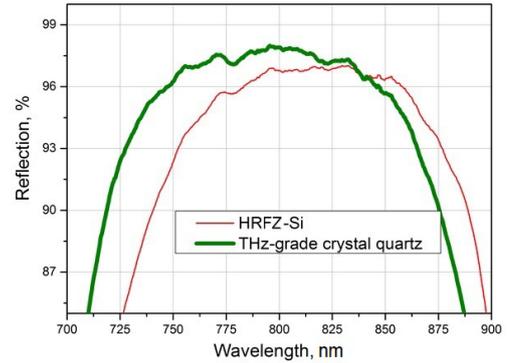


Fig. 1, 2 Reflection and transmission of NIR-THz spectral splitter (two types of substrate)

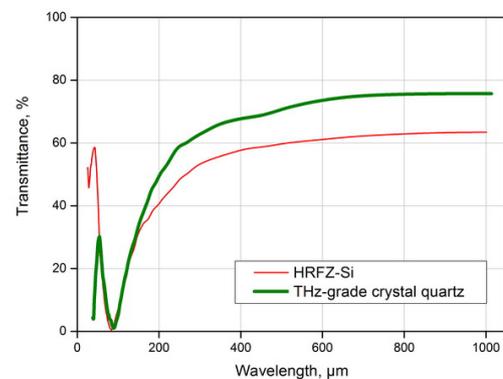
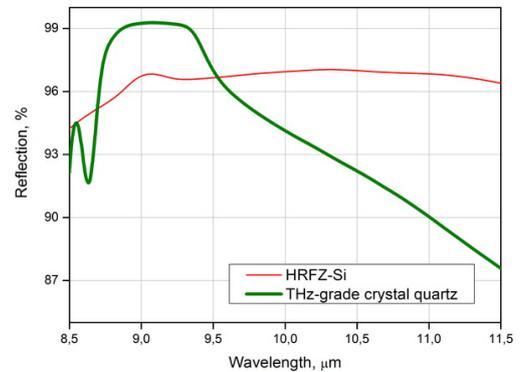


Fig. 3, 4 Reflection and transmission of MIR-THz spectral splitter (two types of substrate)