

# THz Lenses

We offer THz lenses made of TPX and HRFZ-Si.

## 1. TPX Lenses



Common specification:

Material	<b>TPX</b>
Type	plano-convex, bi-convex
Available diameters, mm	to 100
Dimensions tolerance, mm	+ /-0.25
Clear aperture, %	$\geq 90$
Effective focal length (EFL) tolerance, %	+/- 1
Surface quality (two-sided polishing), scr/dig	80/50
Surface accuracy, mm	+/-0.01 deviation from ideal sphere and plane

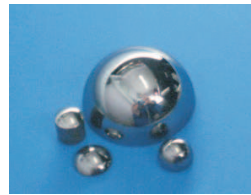
The following TPX lenses are available from stock:

No.	Diameter		EFL*
	mm	inches	
1	25.4	1.0	25.0
2	25.4	1.0	50.0
3	25.4	1.0	100.0
4	25.4	1.0	200.0
5	38.1	1.5	50.0
6	38.1	1.5	75.0
7	38.1	1.5	100.0
8	38.1	1.5	150.0
9	38.1	1.5	200.0
10	50.8	2.0	50.0
11	50.8	2.0	75.0
12	50.8	2.0	100.0
13	50.8	2.0	150.0
14	50.8	2.0	200.0

\*All EFLs are calculated for wavelength 300  $\mu\text{m}$ . EFL deviations related with refraction index dispersion at the edges of THz range (30-3000  $\mu\text{m}$ ) and within visible range are negligible in comparison with EFL tolerances manufactured.

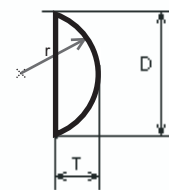
Custom sizes (max thickness 30 mm) are available upon request.

## 2. HRFZ-Si Lenses



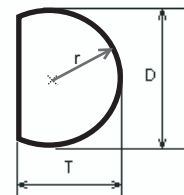
Common specification:

Material	<b>HRFZ-Si</b>
Type	spherical, hyper-hemispherical, hemispherical, hypo-hemispherical, and bullet
Available diameters, mm	2-100
Dimensions tolerance, mm	+/-0.1
Clear aperture, %	$\geq 90$
Surface quality (two-sided polishing), scr/dig	80/50
Surface accuracy, mm	+/-0.01 deviation from ideal sphere and plane
Coatings	AR coatings upon request



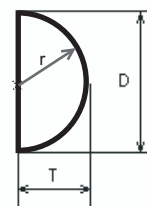
$$T < D/2$$

Hypo-Hemispherical



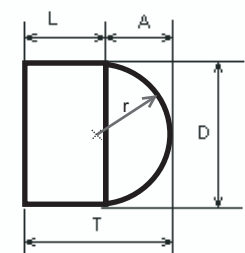
$$T > D/2$$

Hyper-Hemispherical



$$T = D/2$$

Hemispherical



$$T = L + A, \text{ where } A \leq D/2$$

Bullet

The polished "ball-shaped" blanks of HRFZ-Si (with diameters 2.0, 4.0, 6.0, 8.0, 10.0, and 12.0 mm) are always in stock. Upon your request hyper-/hypo-/hemi-spheres will be supplied within 2 weeks as the flat surface of the lens can be polished for the required thickness.

The finished parts of different dimensions are available from stock and supplied within a week. Please check the Optics stock at our website.

For price quotation and delivery please fax or e-mail us.



**TYDEX**<sup>®</sup>  
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# THz Lenses

We also offer HRZF-Si meniscus lenses .

*Common specification:*

Material	<b>HRFZ-Si</b>
Type	positive meniscus
Available diameters, mm	to 150
Diameter tolerance, mm	+0.0 / -0.1
Thickness tolerance, mm	+/-0.1
Edge thickness variation, mm	<= 0.05
Clear aperture, %	90
Effective focal length (EFL) tolerance, %	+/-1
Surface quality (two-sided polishing), scr/dig	80/50
Surface figure	varies depending on radius
Coatings	AR coatings upon request



Alternate sizes and custom designs are manufactured upon request.

Negative meniscus lenses are also available.

For price quotation and delivery please fax or e-mail us.

The following HRZF-Si meniscus lenses are available from stock:

No.	Diameter		EFL*
	mm	inches	mm
1	25.4	1.0	25.0
2	25.4	1.0	50.0
3	25.4	1.0	100.0
4	25.4	1.0	200.0
5	38.1	1.5	50.0
6	38.1	1.5	75.0
7	38.1	1.5	100.0
8	38.1	1.5	150.0
9	38.1	1.5	200.0
10	50.8	2.0	25.0
11	50.8	2.0	50.0
12	50.8	2.0	75.0
13	50.8	2.0	100.0
14	50.8	2.0	150.0
15	50.8	2.0	200.0

\*All EFLs are calculated for wavelength 300  $\mu\text{m}$ . EFL deviations related with refraction index dispersion at the edges of THz range (30-3000  $\mu\text{m}$ ) and within visible range are negligible in comparison with EFL tolerances manufactured.



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