



StockOptics

CATALOG 2024 | North America

## Dear asphericon customer

Within the StockOptics product range, you can choose from an extensive portfolio of precision-polished aspheric lenses, acylinders and axicons. Benefit from outstanding asphericon quality at excellent conditions and fast delivery.

Discover, for example, the various quality levels of our aspheres: Precision, Ultra and BeamTuning. These aspheres are optimized for a wide range of applications, including high laser powers. In addition to further diameters, all fused silica aspheres are now available with V-Coatings (355 nm, 532 nm and 1064 nm). Learn more at page 10.

The new StockOptics catalog contains latest technical information and prices. Shop conveniently online or contact the asphericon sales team for professional support.



## Product Range

asphericon's fine collection of aspheres, axicons, acylinders and mounted optics – profit from the technology leader in manufacturing high precision aspheres.

### YOUR BENEFITS:

- = Precision polished StockOptics for remarkable performance
- = CNC grinding & polishing for superior surface roughness
- = High quality level for demanding applications
- = Off-the-shelf delivery for short lead times
- = Files for optical design and drawings available (Zemax, CodeV, OSLO, VirtualLab™, Step)



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# Quick Guide:

## WHY TO CHOOSE AN ASPHERIC SOLUTION?

In comparison to spherical lenses our aspheres perform with minimal foci and show outstanding imaging characteristics (see fig. 1).

The quality of all StockOptics is sufficient for high-end applications. Within our BeamTuning line (see p. 13) we also offer diffraction-limited aspheric lenses. They generate an even better spot size (fig. 2).

Finally, both qualities convince with outstanding surface form deviations (fig. 3).

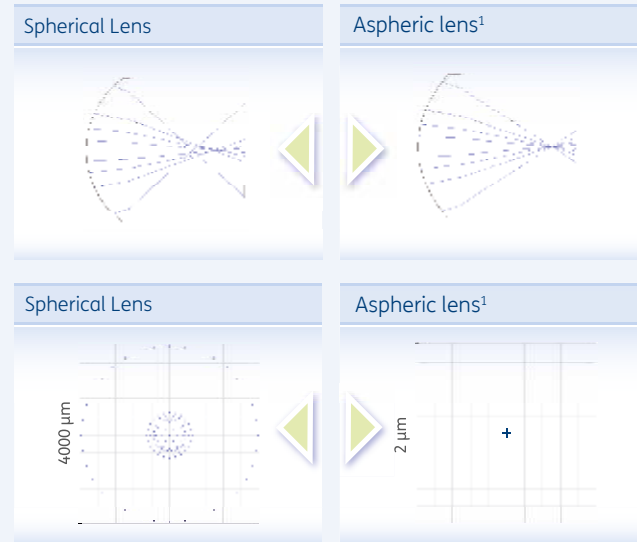
Choose all lenses out of this catalog and order online at asphericon.com. We also offer customized lenses and systems. For your individual solution please contact us!

### Contact us:

✉ [info@asphericon-inc.com](mailto:info@asphericon-inc.com)

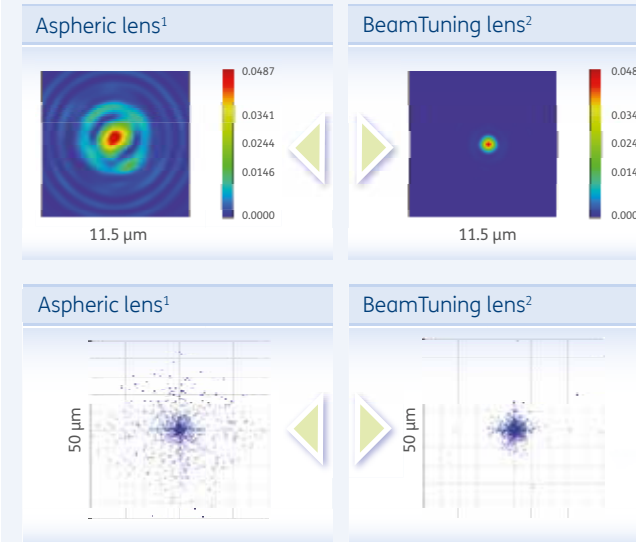
☎ +1 - 941 - 564 0890

fig. 1  
**1** Optical path / Spot size  
Spherical lens vs. Aspheric lens<sup>1</sup>  
Dia: 25 mm | EFL: 20 mm | NA: 0.54



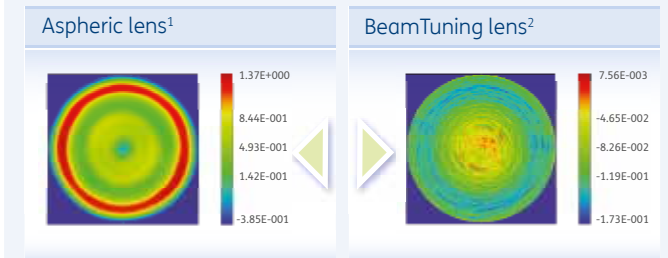
- = Spot sizes from both lenses differ significantly: 4000 µm (Sphere) vs. 2 µm (Asphere)
- = Spherical lenses produce improper foci and spherical aberrations
- = StockOptic lenses stand out with minimal foci to maximize intensity

fig. 2  
**2** Point spread function / Spot size  
Aspheric lens<sup>1</sup> vs. BeamTuning lens<sup>2</sup>  
Dia: 25 mm | EFL: 20 mm | NA: 0.54



- = Wavefront RMS shows great result for both lenses (aspheric lens = 0.361 waves, BeamTuning lens = 0.065 waves)
- = BeamTuning lens performs with an excellent spot size and diffraction-limited focus (Strehl ratio: 0.85)

fig. 3  
**3** Surface form deviation  
Aspheric lens<sup>1</sup> vs. BeamTuning lens<sup>2</sup>  
Dia: 25 mm | EFL: 20 mm | NA: 0.54



- = asphericon lens convinces with a  $RMS_i \leq 0.5 \mu m$
- = Full-surface interferometric measurement shows an outstanding  $RMS_i$  of up to  $0.02 \mu m$  for BeamTuning quality

1 asphericon AHL25-20 (see p. 06/07), design wavelength: 780 nm  
2 BeamTuning lens (see p. 13), design wavelength: 355 nm

# a|High-NA

Precision polished aspheres for a superior beam energy distribution. Especially suitable for your demanding laser applications. Also available as mounted lenses.

## KEY BENEFITS

- = Outstanding surface form deviation of RMS, up to  $\leq 0.1 \mu\text{m}$
- = Decrease of chromatic aberrations by use of low dispersion material
- = Available with 3 standard coatings (customized coatings on request)
- = Laser induced damage threshold:  $12 \text{ J/cm}^2$ , 100 Hz, 6 ns, 532 nm  
*For higher laser power applications please request a V-Coating. Contact us for an individual offer.*
- = Off-the-shelf delivery
- = RoHS compliance

## LENS DESCRIPTION

EFL Tolerance	[%]	$\leq 0.1$
Surface Imperfections	[Scratch-Dig]	60-40
Diameter Tolerance	[mm]	$+0/-0.05$
Center Thickness Tolerance <sup>2</sup>	[mm]	$\pm 0.05$
Clear Aperture	[%]	$\geq 90$

### AR-Coatings<sup>3</sup>

- A:  $R_{\text{MAX}} < 1.0\%$ ,  $R_{\text{AVG}} \leq 0.4\%$ , 400-600 nm, AOI=0°
- B:  $R_{\text{MAX}} < 1.0\%$ ,  $R_{\text{AVG}} \leq 0.4\%$ , 600-1050 nm, AOI=0°
- C:  $R_{\text{MAX}} < 1.0\%$ ,  $R_{\text{AVG}} \leq 0.4\%$ , 1000-1600 nm, AOI=0°

## PRECISION

Surface Form Deviation (RMS) <sup>1</sup> $[\mu\text{m}] \leq 0.5$				Wavefront RMS $[\text{nm}] \leq 390$							
Product Code	$\emptyset$	EFL	NA	f/d	WD	$\lambda_{\text{Design}}$	Material	Prices 1pc <sup>4</sup>		Prices 5pc <sup>4</sup>	
	[mm]	[mm]			[mm]	[nm]		uncoated	coated	uncoated	coated
AHL10-08-P <sup>6</sup>	10	8	0.55	0.80	6.0	780	S-LAH64	\$161	\$189	\$157	\$183
AHL12-10-P	12.5	10	0.55	0.80	7.6	780	S-LAH64	\$188	\$215	\$181	\$208
AHL15-12-P	15	12	0.55	0.80	9.0	780	S-LAH64	\$202	\$230	\$195	\$222
AHL18-15-P	18	15	0.53	0.83	11.5	780	S-LAH64	\$215	\$253	\$208	\$245
AHL20-18-P	20	18	0.49	0.90	14.0	780	S-LAH64	\$230	\$264	\$222	\$256
AHL25-20-P	25	20	0.54	0.80	15.7	780	S-LAH64	\$242	\$277	\$234	\$269
AHL30-26-P	30	26	0.52	0.87	20.6	780	S-LAH64	\$310	\$355	\$300	\$344
AHL45-32-P	45	32	0.61	0.71	24.2	780	S-LAH64	\$404	\$505	\$392	\$489
AHL50-40-P	50	40	0.55	0.80	31.3	780	S-LAH64	\$432	\$553	\$419	\$535

## ULTRA

Surface Form Deviation (RMS) <sup>1</sup>					Wavefront RMS								
		[μm]	≤0.1				[nm]	≤78					
Product Code	Ø	EFL	NA	f/d	WD	λ <sub>Design</sub>	Material	Prices 1pc <sup>4</sup>		Prices 5pc <sup>4</sup>		Prices Mounted 1pc <sup>4</sup>	
	[mm]	[mm]			[mm]	[nm]		uncoated	coated	uncoated	coated	uncoated	coated
AHL10-08-U <sup>6</sup>	10	8	0.55	0.80	6.0	780	S-LAH64	\$323	\$375	\$312	\$364	-	-
AHL12-10-U	12.5	10	0.55	0.80	7.6	780	S-LAH64	\$376	\$429	\$365	\$417	\$479	\$528
AHL15-12-U	15	12	0.55	0.80	9.0	780	S-LAH64	\$403	\$458	\$391	\$445	\$504	\$564
AHL18-15-U	18	15	0.53	0.83	11.5	780	S-LAH64	\$431	\$506	\$418	\$491	\$534	\$609
AHL20-18-U	20	18	0.49	0.90	14.0	780	S-LAH64	\$457	\$528	\$444	\$512	\$560	\$628
AHL25-20-U	25	20	0.54	0.80	15.7	780	S-LAH64	\$485	\$556	\$470	\$539	\$588	\$659
AHL30-26-U	30	26	0.52	0.87	20.6	780	S-LAH64	\$619	\$712	\$600	\$691	-	-
AHL45-32-U	45	32	0.61	0.71	24.2	780	S-LAH64	\$810	\$1,009	\$785	\$978	-	-
AHL50-40-U	50	40	0.55	0.80	31.3	780	S-LAH64	\$864	\$1,109	\$838	\$1,074	-	-

1 RMS, corresponds to ISO 10110-5. | 2 For lenses AHL45-32, AHL50-40 please consider a center thickness tolerance of  $\pm 0.1$ . | 3 Custom coatings available upon request. | 4 Prices valid per piece. More volumes and discounts of coated and uncoated lenses at [www.asphericon.com](http://www.asphericon.com). | 6 Calculated for 250  $\mu\text{m}$  cover glass thickness. | General: Technical parameters and prices are subject to change without prior notice.



# a|Low-NA

Available in a focal length-diameter-ratio (f/d) of 2.0 and ideally suited for light collection and laser applications. Some diameters are also available with high-precision mountings.

## KEY BENEFITS

- = Outstanding surface form deviation up to  $RMS_s \leq 0.1 \mu m$
- = Long focal length (f/d 2.0)
- = Available with 3 standard coatings (customized coatings on request)
- = Laser induced damage threshold:  $12 J/cm^2$ , 100 Hz, 6 ns, 532 nm  
*For higher laser power applications please request a V-Coating. Contact us for an individual offer.*
- = Off-the-shelf delivery
- = RoHS compliance

## LENS DESCRIPTION

EFL Tolerance	[%]	$\leq 0.1$
Surface Imperfections	[Scratch-Dig]	60-40
Diameter Tolerance	[mm]	+0/-0.05
Center Thickness Tolerance <sup>2</sup>	[mm]	$\pm 0.05$
Clear Aperture	[%]	$\geq 90$

### AR-Coatings<sup>3</sup>

A:  $R_{MAX} < 1.0\%$ ,  $R_{AVG} \leq 0.4\%$ , 400-600 nm, AOI=0°

B:  $R_{MAX} < 1.0\%$ ,  $R_{AVG} \leq 0.4\%$ , 600-1050 nm, AOI=0°

C:  $R_{MAX} < 1.0\%$ ,  $R_{AVG} \leq 0.4\%$ , 1000-1600 nm, AOI=0°

## PRECISION

Surface Form Deviation (RMS) <sup>2</sup>				Wavefront RMS							
[μm] ≤0.5				[nm] ≤255							
Product Code	Ø	EFL	NA	f/d	WD	λ <sub>Design</sub>	Material	Prices 1pc <sup>4</sup>		Prices 5pc <sup>4</sup>	
	[mm]	[mm]			[mm]	[nm]		uncoated	coated	uncoated	coated
ALL12-25-P	12.5	25	0.23	2.0	22.4	780	N-BK7	\$188	\$215	\$181	\$208
ALL25-50-P	25	50	0.23	2.0	46.0	780	N-BK7	\$242	\$277	\$234	\$269
ALL50-100-P	50	100	0.24	2.0	93.4	780	N-BK7	\$432	\$570	\$419	\$553
ALL75-60-P	75	60	0.62	0.8	36.5	780	N-BK7	\$737	\$952	\$715	\$923
ALL75-150-P	75	150	0.23	2.0	140.1	780	N-BK7	\$737	\$952	\$715	\$923
ALL100-100-P	100	100	0.48	1.0	76.2	780	N-BK7	\$1,056	\$1,443	\$1,024	\$1,398
ALL100-200-P	100	200	0.23	2.0	187.4	780	N-BK7	\$1,056	\$1,443	\$1,024	\$1,398

## ULTRA

Surface Form Deviation (RMS) <sup>2</sup>					Wavefront RMS								
[μm] ≤0.1					[nm] ≤51								
Product Code	Ø <sup>6</sup>	EFL	NA	f/d	WD	λ <sub>Design</sub>	Material	Prices 1pc <sup>4</sup>		Prices 5pc <sup>4</sup>		Prices Mounted 1pc <sup>5</sup>	
	[mm]	[mm]			[mm]	[nm]		uncoated	coated	uncoated	coated	uncoated	coated
ALL12-25-U	12.5	25	0.23	2.0	22.4	780	N-BK7	\$376	\$429	\$365	\$417	\$479	\$528
ALL25-50-U	25	50	0.23	2.0	46.0	780	N-BK7	\$485	\$556	\$470	\$539	\$588	\$659
ALL50-100-U	50	100	0.24	2.0	93.4	780	N-BK7	\$864	\$1,141	\$838	\$1,105	-	-

1 For lenses ALL75-60, ALL75-150, ALL100-100, ALL100-200 please consider a maximum value of 0.75. RMS, corresponding to ISO 10110-5 (surface form tolerances). | 2 For lenses ALL50-100, ALL100-200 please consider a center thickness tolerance of  $\pm 0.1$ . For lenses ALL75-60, ALL100-100 please consider a center thickness tolerance of  $\pm 0.15$ . | 3 Custom coatings available upon request. | 4 Prices valid per piece. More volume discounts at [www.asphericon.com](http://www.asphericon.com). | 5 Prices of mounted lenses valid per piece. More volumes and discounts of coated and uncoated mounted lenses at [www.asphericon.com](http://www.asphericon.com). | 6 Other diameters on request. | General: Technical parameters and prices are subject to change without prior notice.



Fused silica lenses are optimized for several high-power laser applications, as prototypes in test devices or as standard components for beam focusing or collimation. Available in three different quality levels, with superior roughness values, as mounted optics and with 7 different coatings.

## KEY BENEFITS

- = Outstanding surface form deviation ( $RMS_s$  up to  $\leq 0.02 \mu m$ )
- = High-end finished optics with lowest roughness ( $R_q \leq 0.5 \text{ nm}$ ) for reduced scattering
- = Available with 7 coatings (customized coatings on request)
- = Laser induced damage threshold:  $12 \text{ J/cm}^2$ , 100 Hz, 6 ns, 532 nm
- = Off-the-shelf delivery

## LENS DESCRIPTION

EFL Tolerance	[%]	$\leq 0.1$
Surface Imperfections	[Scratch-Dig]	20-20
Diameter Tolerance	[mm]	$+0/-0.05$
Center Thickness Tolerance <sup>1</sup>	[mm]	$\pm 0.05$
Clear Aperture	[%]	$\geq 90$

### AR-Coatings

- A:  $R_{MAX} < 1.0\%$ ,  $R_{AVG} \leq 0.4\%$ , 400-600 nm, AOI=0°
- B:  $R_{MAX} < 1.0\%$ ,  $R_{AVG} \leq 0.4\%$ , 600-1050 nm, AOI=0°
- C:  $R_{MAX} < 1.0\%$ ,  $R_{AVG} \leq 0.4\%$ , 1000-1600 nm, AOI=0°
- X:  $R_{MAX} < 1.0\%$ ,  $R_{AVG} \leq 0.4\%$ , 240-380 nm, AOI=0°
- Y:  $R_{MAX} < 1.0\%$ ,  $R_{AVG} \leq 0.4\%$ , 320-450 nm, AOI=0°

### V-Coatings

- K:  $R < 0.25\%$ , 355 nm, AOI=0°
- L:  $R < 0.25\%$ , 532 nm, AOI=0°
- M:  $R < 0.25\%$ , 1064 nm, AOI=0°



Aspheres with optimized design wavelengths, perfectly matching your UV application!

## PRECISION

Surface Form Deviation ( $RMS_s$ ) <sup>2</sup>	[ $\mu m$ ]	$\leq 0.5$
Wavefront RMS	[nm]	$\leq 235$

Product Code	$\emptyset$	EFL	NA	f/d	WD	$\lambda_{Design}$	Prices 1pc <sup>3</sup>	
	[mm]	[mm]			[mm]	[nm]	uncoated	coated
AFL12-10-P	12.5	10	0.58	0.833	5.7	355	\$398	\$447
AFL12-15-P	12.5	15	0.39	1.2	12.3	285	\$365	\$417
AFL12-20-P	12.5	20	0.29	1.6	17.3	285	\$365	\$417
AFL25-17-P	25	17	0.64	0.7	10.0	355	\$594	\$666
AFL25-20-P	25	20	0.56	0.8	12.6	355	\$569	\$654
AFL25-25-P	25	25	0.48	1.0	17.0	285	\$544	\$629
AFL25-30-P	25	30	0.39	1.2	23.3	285	\$452	\$525
AFL25-40-P	25	40	0.29	1.6	34.6	285	\$452	\$525
AFL25-50-P	25	50	0.23	2.0	45.1	355	\$452	\$525
AFL25-75-P	25	75	0.15	3.0	70.9	355	\$452	\$525
AFL25-100-P	25	100	0.11	4.0	96.3	355	\$452	\$525
AFL50-40-P	50	40	0.56	0.8	25.2	355	\$880	\$978
AFL50-50-P	50	50	0.48	1.0	37.0	355	\$855	\$955
AFL50-60-P	50	60	0.39	1.2	48.3	285	\$855	\$955
AFL50-80-P	50	80	0.29	1.6	70.6	285	\$855	\$955
AFL50-100-P	50	100	0.23	2.0	91.5	355	\$794	\$918

<sup>1</sup> For lenses AFL50-60, AFL50-80, please consider a center thickness tolerance of  $\pm 0.1$ . | <sup>2</sup>  $RMS_s$  corresponds to ISO 10110-5 (surface form tolerances). | <sup>3</sup> Prices valid per piece. More volume discounts at [www.asphericon.com](http://www.asphericon.com). | <sup>4</sup> Prices valid per piece. More volumes and discounts of coated and uncoated mounted lenses at [www.asphericon.com](http://www.asphericon.com). | General: Technical parameters and prices are subject to change without prior notice.





Ultra-precise lenses with outstanding surface form deviation and wavefront RMS.

## ULTRA

Surface Form Deviation (RMS) <sup>1</sup>	[μm]	≤0.3
Wavefront RMS	[nm]	≤140

Product Code	Ø	EFL	NA	f/d	WD	λ <sub>Design</sub>	Prices 1pc <sup>2</sup>		Prices Mounted 1pc <sup>3</sup>	
							uncoated	coated	uncoated	coated
	[mm]	[mm]			[mm]	[nm]				
AFL12-10-U	12.5	10	0.58	0.833	5.7	355	\$422	\$470	\$523	\$571
AFL12-15-U	12.5	15	0.39	1.2	12.3	285	\$416	\$465	\$514	\$562
AFL12-20-U	12.5	20	0.29	1.6	17.3	285	\$416	\$465	\$514	\$562
AFL25-17-U	25	17	0.64	0.7	10.0	355	\$636	\$709	\$737	\$847
AFL25-20-U	25	20	0.56	0.8	12.6	355	\$599	\$709	\$706	\$816
AFL25-25-U	25	25	0.48	1.0	17.0	285	\$575	\$684	\$684	\$795
AFL25-30-U	25	30	0.39	1.2	23.3	285	\$525	\$599	\$636	\$709
AFL25-40-U	25	40	0.29	1.6	34.6	285	\$525	\$599	\$636	\$709
AFL25-50-U	25	50	0.23	2.0	45.1	355	\$525	\$599	\$636	\$709
AFL25-75-U	25	75	0.15	3.0	70.9	355	\$525	\$599	\$618	\$709
AFL25-100-U	25	100	0.11	4.0	96.3	355	\$525	\$599	\$636	\$709
AFL50-40-U	50	40	0.56	0.8	25.2	355	\$930	\$1,027	-	-
AFL50-50-U	50	50	0.48	1.0	37.0	355	\$905	\$1,002	-	-
AFL50-60-U	50	60	0.39	1.2	48.3	285	\$905	\$1,002	-	-
AFL50-80-U	50	80	0.29	1.6	70.6	285	\$905	\$1,002	-	-
AFL50-100-U	50	100	0.23	2.0	91.5	355	\$855	\$1,004	-	-

For lenses AFL50-60, AFL50-80, please consider a center thickness tolerance of ±0.1. | 1 RMS<sub>s</sub> corresponds to ISO 10110-5. | 2 Prices valid per piece. More volume discounts at [www.asphericon.com](http://www.asphericon.com). | 3 Prices valid per piece. More volumes and discounts of coated and uncoated mounted lenses at [www.asphericon.com](http://www.asphericon.com). | General: Technical parameters and prices are subject to change without prior notice.



High-end finished optics with lowest roughness of  $R_q \leq 0.5 \text{ nm}$ .

## BEAMTUNING

Surface Form Deviation (RMS) <sup>1</sup>	[μm]	≤0.02
Wavefront RMS	[nm]	≤10
Surface Roughness (Rq)	[nm]	≤0.5

Product Code	Ø	EFL	NA	f/d	WD	λ <sub>Design</sub>	Prices 1pc <sup>2</sup>		Prices Mounted 1pc <sup>3</sup>	
							uncoated	coated	uncoated	coated
	[mm]	[mm]			[mm]	[nm]				
AFL25-50-D	25	50	0.23	2.0	45.1	355	\$846	\$945	\$950	\$1,058
AFL25-75-D	25	75	0.15	3.0	70.9	355	\$846	\$945	\$950	\$1,058
AFL25-100-D	25	100	0.11	4.0	96.3	355	\$846	\$945	\$950	\$1,058

1 RMS<sub>s</sub> corresponds to ISO 10110-5. | 2 Prices valid per piece. More volume discounts at [www.asphericon.com](http://www.asphericon.com). | 3 Prices valid per piece. More volumes and discounts of mounted lenses at [www.asphericon.com](http://www.asphericon.com). | General: Technical parameters and prices are subject to change without prior notice.



The premium selection of a|Axicons convince with superior surface roughness for high performance applications. Also available as mounted axicons.

Mounted & unmounted axicons

## KEY BENEFITS

- = Outstanding surface form deviation of  $RMS_s \leq 0.07 \mu m$
- = Suitable for high-power laser applications and available off-the-shelf
- = Available with 4 standard coatings (customized coatings on request)
- = Laser induced damage threshold:  $12 J/cm^2$ , 100 Hz, 6 ns, 532 nm  
*For higher laser power applications please request a V-Coating. Contact us for an individual offer.*
- = RoHS compliance

## LENS DESCRIPTION

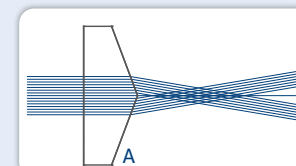
Surface Form Deviation (RMS) <sup>1</sup>	[ $\mu m$ ]	<0.07
Surface Imperfections	[Scratch-Dig]	40-20
Diameter Tolerance	[mm]	+0/-0.1
Center Thickness Tolerance	[mm]	$\pm 0.1/-0$
Clear Aperture	[%]	>90

### AR-Coatings<sup>2</sup>

- A:  $R_{MAX} < 1.0\%$ , 532 nm, AOI=0°
- B:  $R_{MAX} < 1.0\%$ ,  $R_{AVG} \leq 0.4\%$ , 632-780 nm, AOI=0°
- C:  $R_{MAX} < 1.0\%$ , 1064 nm, AOI=0°
- X:  $R_{MAX} < 1.0\%$ , 355 nm, AOI=0°

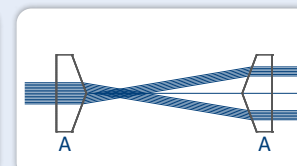
## Utilizing Axicons

Axicons are conical lenses that are widely used in different scientific research and laser applications.

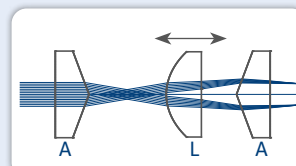


1. Generation of a Bessel beam.

A - Axicon, L - Lens



2. Generation of a ring beam.



3. Generation of variable ring foci.

### Fields of Application

- = Laser material processing
- = Measurement & Alignment
- = Research & Science
- = Medical engineering

Product Code	$\emptyset$	Angle	Edge Thickness	$\lambda_{design}$	Material	Prices 1pc <sup>3</sup>		Prices 5pc <sup>3</sup>		Prices Mounted 1pc <sup>4</sup>	
	[mm]	[degree]	[mm]	[nm]		uncoated	coated	uncoated	coated	uncoated	coated
XFL25-005-U <sup>5</sup>	25.4	0.5	5.0	780	Fused Silica	\$552	\$665	\$523	\$629	\$659	\$778
XFL25-010-U <sup>5</sup>	25.4	1.0	5.0	780	Fused Silica	\$552	\$665	\$523	\$629	\$659	\$778
XFL25-020-U <sup>5</sup>	25.4	2.0	5.0	780	Fused Silica	\$552	\$665	\$523	\$629	\$659	\$778
XFL25-050-U <sup>5</sup>	25.4	5.0	5.0	780	Fused Silica	\$552	\$665	\$523	\$629	\$659	\$778
XFL25-100-U <sup>5</sup>	25.4	10.0	5.0	780	Fused Silica	\$552	\$665	\$523	\$629	\$659	\$778
XFL25-200-U <sup>5</sup>	25.4	20.0	5.0	780	Fused Silica	\$552	\$665	\$523	\$629	\$659	\$778
XFL50-005-U <sup>6</sup>	50.8	0.5	8.0	780	Fused Silica	\$896	\$1,045	\$849	\$990	-	-
XFL50-020-U <sup>6</sup>	50.8	2.0	8.0	780	Fused Silica	\$896	\$1,045	\$849	\$990	-	-
XFL50-050-U <sup>6</sup>	50.8	5.0	8.0	780	Fused Silica	\$896	\$1,045	\$849	\$990	-	-
XFL50-100-U <sup>6</sup>	50.8	10.0	8.0	780	Fused Silica	\$896	\$1,045	\$849	\$990	-	-
XFL50-200-U <sup>6</sup>	50.8	20.0	8.0	780	Fused Silica	\$896	\$1,045	\$849	\$990	-	-

1 RMS<sub>s</sub> corresponds to ISO 10110-5 (surface form tolerances). | 2 Custom coatings available upon request. | 3 Prices valid per piece. More volume discounts at [www.asphericon.com](http://www.asphericon.com). | 4 Prices of mounted lenses valid per piece. More volumes and discounts of coated and uncoated mounted lenses at [www.asphericon.com](http://www.asphericon.com). | 5 Conical tip, Clear Aperture 2.3-23 mm, smaller conical tips on request. | 6 Conical tip, Clear Aperture 4.6-46 mm, smaller conical tips on request. | General: Technical parameters and prices are subject to change without prior notice.



# a|Acylinders

Benefit from our attractive selection of acylinders with a surface form deviation smaller than 0.5  $\mu\text{m}$ . a|Acylinders are made from high-index-glass and can be especially used for laser applications.

## KEY BENEFITS

- = Outstanding surface form deviation of  $\text{RMS}_i \leq 0.5 \mu\text{m}$
- = Ideal line-focus without spherical aberration and off-the-shelf delivery for short lead times
- = Available with 3 standard coatings (customized coatings on request)
- = Laser induced damage threshold: 12  $\text{J}/\text{cm}^2$ , 100 Hz, 6 ns, 532 nm  
*For higher laser power applications please request a V-Coating. Contact us for an individual offer.*
- = RoHS compliance

## LENS DESCRIPTION

Surface Form Deviation ( $\text{RMS}_i$ ) <sup>1</sup>	$[\mu\text{m}]$	$\leq 0.5$
EFL Tolerance	$[\%]$	$\leq 0.1$
Surface Imperfections	[Scratch-Dig]	60-40
Width Tolerance	$[\text{mm}]$	$+0/-0.05$
Length Tolerance	$[\text{mm}]$	$\pm 0.1$
Center Thickness Tolerance <sup>2</sup>	$[\text{mm}]$	$\pm 0.05$
Clear Aperture	$[\%]$	$\geq 90$

## AR-Coatings<sup>3</sup>

A:  $R_{\text{MAX}} < 1.0\%$ ,  $R_{\text{AVG}} \leq 0.4\%$ , 400-600 nm, AOI=0°

B:  $R_{\text{MAX}} < 1.0\%$ ,  $R_{\text{AVG}} \leq 0.4\%$ , 600-1050 nm, AOI=0°

C:  $R_{\text{MAX}} < 1.0\%$ ,  $R_{\text{AVG}} \leq 0.4\%$ , 1000-1600 nm, AOI=0°



Product Code	Size	EFL	NA	f/d	WD	$\lambda_{\text{Design}}$	Material	Prices 1pc <sup>4</sup>		Prices 5pc <sup>4</sup>	
	$[\text{mm}]$	$[\text{mm}]$			$[\text{mm}]$	$[\text{nm}]$		uncoated	coated	uncoated	coated
CHL10-08-P	10x10	8	0.54	0.8	6.3	780	S-LAH64	\$335	\$390	\$325	\$379
CHL12-10-P	12.5x12.5	10	0.55	0.8	7.2	780	S-LAH64	\$391	\$447	\$380	\$432
CHL15-12-P	15x15	12	0.54	0.8	9.2	780	S-LAH64	\$419	\$476	\$405	\$461
CHL18-15-P	18x18	15	0.53	0.83	11.6	780	S-LAH64	\$448	\$526	\$433	\$510
CHL20-18-P	20x20	18	0.49	0.9	14.3	780	S-LAH64	\$475	\$553	\$460	\$536
CHL25-20-P	25x25	20	0.54	0.8	15.8	780	S-LAH64	\$504	\$582	\$488	\$564
CHL30-26-P	30x30	26	0.52	0.87	21.5	780	S-LAH64	\$644	\$756	\$624	\$734
CHL45-32-P	45x45	32	0.61	0.71	24.7	780	S-LAH64	\$841	\$1,095	\$815	\$1,062
CHL50-40-P	50x50	40	0.55	0.8	32.1	780	S-LAH64	\$898	\$1,151	\$870	\$1,117

<sup>1</sup>  $\text{RMS}_i$  corresponds to ISO 10110-5 (surface form tolerances). | <sup>2</sup> For lenses CHL45-32, CHL50-40, please consider a center thickness tolerance of  $\pm 0.1$ . | <sup>3</sup> Custom coatings available upon request. | <sup>4</sup> Prices valid per piece. More volume discounts at [www.asphericon.com](http://www.asphericon.com). | General: Technical parameters and prices are subject to change without prior notice.

## a|MountedAspheres/Axicons

Benefit from a convenient solution for your laser application with the attractive selection of pre-aligned aspheres and axicons from our StockOptics product line in high-precision mountings. All lenses with diameters from 12.5 mm to 25.4 mm are ideally aligned with  $< 10 \mu\text{m}$  decentration of the optical and mechanical axis. By using one of the available a|Adapters – SM1, C-Mount, 1.2 inch – the lenses can easily be applied in all standard optical systems.

### KEY BENEFITS

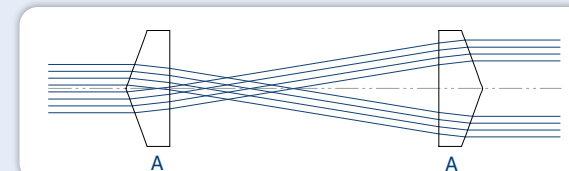
- = Especially designed mounts engraved with lens specifications
- = High-precision mounted through using auto-collimation technique
- = Perfect alignment ( $< 10 \mu\text{m}$  decentration)
- = Tilt-reduced for optimal focusing
- = Modular design for high compatibility with all asphericon products and common optical systems
- = Comfortable and timesaving handling
- = Easy and safe storage thanks to protective design and safety caps
- = Off-the-shelf delivery

@ Contact us for more information: [info@asphericon-inc.com](mailto:info@asphericon-inc.com)

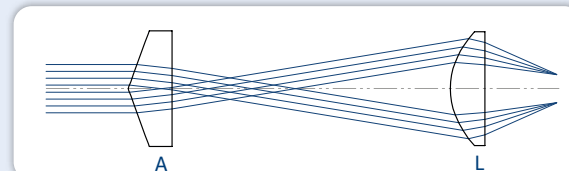


### Fields of Application

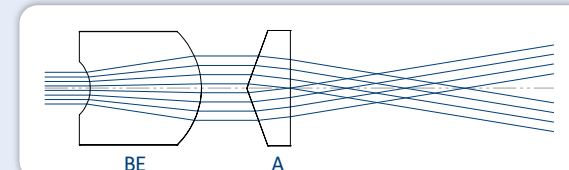
With especially designed mounts for aspheres, axicons and acylinders an optimized use of the lens is guaranteed. Thanks to harmonized metric fine thread all mounted optical components presented by asphericon can be easily combined.



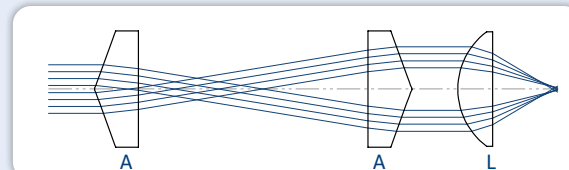
Generation of a collimated ring-shaped beam by altering the distance between two axicons.



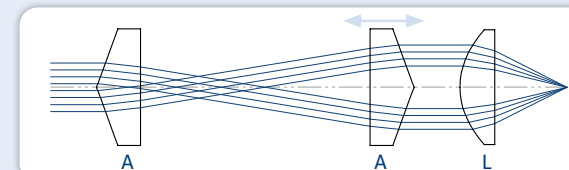
Generation of a ring focus - Distance changing through focal length of the lens, diameter changing through axicon angle.



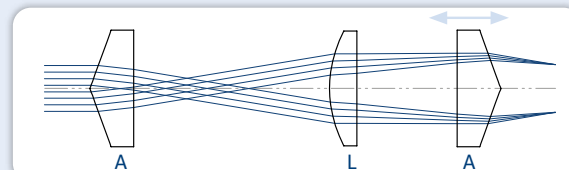
Optimizing the illumination of the axicon to adjust the length of the Bessel Beam.



Changing the focal length of a sphere by altering the distance between the axicons.



Changing the focus width of an asphere by altering the distance between axicons - Focusing under the diffraction limit.



Generation of adjustable ring foci by shifting the last axicon to vary the ring diameters.

A - Axicon, L - Lens, BE - BeamExpander



Visionen leben



**Looking for a  
custom solution?**

Contact us:  
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