MP-Ultra-Low Absorption Lenses

MP-5 is an ultra-low absorbing lens that ships directly from the factory as a standard OEM CO2 laser component. Its superior features include a patented coating design enabling lower thermal distortion, visible transmission for reduced set-up time, and easy detection of thermally induced stress. A specially coated zinc selenide (ZnSe) focusing lens, the MP-5 is available in both 1.5" and 2.0" diameters, and ships in 14 standard replacement lens configurations for most popular OEM laser models.

PN	Material / lens type	Diameter (inches)	Focal Length (inches)	Edge Thickness (inches)	Working Distance (inches)
794914	ZnSe PO/CX*	1.5	-	0.280	5.0
204518	ZnSe PO/CX*	1.5	-	0.280	7.5
106106	ZnSe PO/CX*	1.5	5.0	0.300	-
383862	ZnSe PO/CX*	1.5	7.5	0.300	-
635061	ZnSe PO/CX*	2.0	7.5	0.310	-
392125	ZnSe PO/CX*	2.0	7.5	0.380	-
528717	ZnSe Meniscus	1.5	5.0	0.236	-
312503	ZnSe Meniscus	1.5	5.0	0.290	-
123397	ZnSe Meniscus	1.5	5.0	0.354	-
714512	ZnSe Meniscus	1.5	7.5	0.236	-
474664	ZnSe Meniscus	1.5	7.5	0.290	-
602033	ZnSe Meniscus	1.5	7.5	0.354	-

Typical Absorption	< 0.10%*	
Dimensional Tolerance	Diameter	+0.000"/-0.005"
	Thickness	±0.010"
Edge Thickness Variation (ETV)	<= 0.002"	
Clear Aperture (polished)	90% of diameter	
Scratch-Dig	40-20	

* Total guaranteed absorption: <= 0.13%

Aspheric lenses

Aspheric lenses are designed to be diffraction limited. They usually achieve a smaller spot size than both the plano-convex and positive meniscus lens. This provides the highest power density at the lens workpiece with equivalent focal length.

PN	Material	Diameter (mm)	Thickness (mm)
796278	ZnSe	1.1	1.5
942147	ZnSe	1.1	1.5
684500	ZnSe	1.1	2.5
679268	ZnSe	1.5	1.5
739932	ZnSe	1.5	5.0

Effective Focal Length Tolerance	±2%	
Dimensional Tolerance	Diameter	+0.000"/-0.005"
	Thickness	±0.003"
Edge Thickness Variation (ETV)	<= 0.0005"	
Clear Aperture (polished)	90% of diameter	
Scratch-Dig	40-20	
AR Reflectivity at 10.6um	<= 0.20%	

Meniscus Lenses

PN	Material	Diameter (inches)	Focal Length (inches)	Edge Thickness (inches)
247275	ZnSe	0.5	1.5	0.01
994141	ZnSe	1.0	1.0	0.09
350342	ZnSe	1.0	2.5	0.09
376587	ZnSe	1.0	5.0	0.09
566650	ZnSe	1.1	1.5	0.09
932739	ZnSe	1.1	2.5	0.09
801758	ZnSe	1.1	5.0	0.09
285767	ZnSe	1.5	2.5	0.09
507790	ZnSe	1.5	5.0	0.24
406294	ZnSe	1.5	5.0	0.29
767963	ZnSe	1.5	5.0	0.35
452726	ZnSe	1.5	7.5	0.13
784964	ZnSe	1.5	7.5	0.24
702232	ZnSe	1.5	7.5	0.29
570721	ZnSe	1.5	7.5	0.35
935669	ZnSe	2.0	5.0	0.10
695399	ZnSe	2.0	7.5	0.38
296875	ZnSe	2.0	10.0	0.10
490154	ZnSe	2.5	5.0	0.16
596352	ZnSe	2.5	7.5	0.16
286449	ZnSe	2.5	10.0	0.16

- Minimize spherical aberration producing
- Minimum focal spot size for incoming collimated light
- Negative focal length lenses upon request

Effective Focal Length Tolerance	±2%	
Dimensional Tolerance	Diameter	+0.000”/-0.005”
	Thickness	±0.010”
Edge Thickness Variation (ETV)	<= 0.002”	
Clear Aperture (polished)	90% of diameter	
Scratch-Dig	20-10	
AR Reflectivity at 10.6um	<= 0.20%	

Plano Convex Lenses

PN	Material	Diameter (inches)	Focal Length (inches)	Edge Thickness (inches)	Working Distance (inches)
123265	ZnSe	0.50	1.00	0.0600	-
379095	ZnSe	0.75	1.00	0.0850	-
104370	ZnSe	1.00	2.50	0.0850	-
614868	ZnSe	1.00	5.00	0.1020	-
949585	ZnSe	1.00	10.00	0.1110	-
696289	ZnSe	1.10	2.50	0.0850	-
561067	ZnSe	1.10	5.00	0.1600	-
774048	ZnSe	1.10	7.50	0.1060	-
982910	ZnSe	1.10	10.00	0.1090	-
803557	GaAs	1.50	2.50	0.0799	-
101766	ZnSe	1.50	2.50	0.3000	-
975597	GaAs	1.50	3.50	0.3540	-
441406	ZnSe	1.50	3.75	0.0860	-
941031	ZnSe	1.50	-	0.2800	5.0
578662	ZnSe	1.50	5.00	0.3000	-
464497	ZnSe	1.50	-	0.2800	7.5
306068	ZnSe	1.50	7.50	0.3000	-
892020	ZnSe	2.00	7.50	0.3100	-
232771	ZnSe	2.00	7.50	0.3800	-
236670	ZnSe	2.50	10.00	0.3900	-

- The most economical transmissive focusing elements available
- Ideally suited for laser heat treating, welding, cutting
- High f-number and diffraction limited
- Negative focal length lenses upon request.

Effective Focal Length Tolerance	±2%	
Dimensional Tolerance	Diameter	+0.000”/-0.005”
	Thickness	±0.010”
Edge Thickness Variation (ETV)	<= 0.002”	
Clear Aperture (polished)	90% of diameter	
Scratch-Dig	20-10	
AR Reflectivity at 10.6um	<= 0.20%	