EDMUND OPTICS®
LASER OPTICS

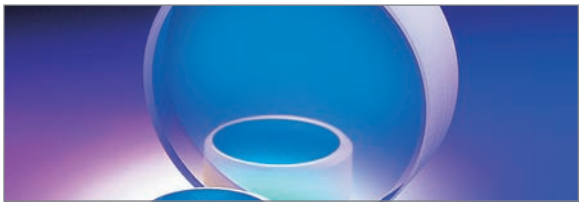
- Precision, High Damage Threshold Optics and Optical Assemblies
- Over 26,250 Stock Optical Components Available
- Custom Manufacturing Capabilities

Edmund Optics® offers an extensive line of optics targeted at laser applications. From simple components to complex assemblies, Edmund Optics® will work with you to develop a solution to meet your application needs.

Visit www.edmundoptics.com/laser optics for a complete selection

BEAM EXPANDERS

- Non-rotating Optics Designs
- High Damage Threshold
- 3X to 20X Expansion Powers Available



MIRRORS

- High Reflection at Laser Wavelength
- High Damage Threshold
- Superior Surface Quality

BEAM MANIPULATION

- ReflX™ Objective: Ultra Wide Spectral Band
- F-Theta Scanning Lens: Provide Flat Field at Image Plane
- Beam Shaper: Uniform Power Distribution

GLOBAL MANUFACTURING

- Superior Coating Capability
- Precision Alignment
- Advanced Metrology

COATINGS

- Superior Beam Transmission or Rejection
- Hard, Durable Coatings on Precision Substrates
- Precise Spectral and Polarization Control

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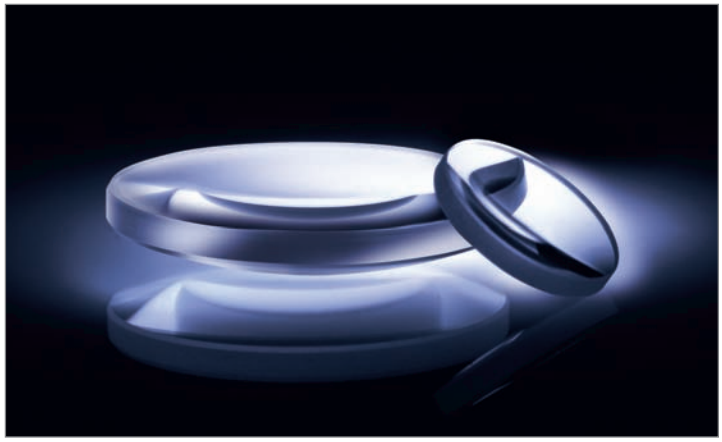
TECHSPEC® LASER GRADE PCX LENSES

- High Damage Threshold
- Fused Silica Substrate
- Custom Coating Options Available

Our TECHSPEC® Laser Grade PCX Lenses are ideal for high energy laser applications. Featuring precision fused silica substrates, these lenses offer improved surface quality and irregularity compared to our TECHSPEC® Precision PCX UV Fused Silica lenses. Custom laser line coatings between 193 and 2200nm are available – contact our sales department for more information.



Substrate:	UV Grade Fused Silica	**Diameter Tolerance (mm):**	+0.0/-0.10	**Surface Accuracy (P-V):**	1/10λ
Damage Threshold:		**Thickness Tolerance (mm):**	±0.10	**Clear Aperture:**	85%
355nm:	4J/cm², 10ns pulse	**Focal Length Tolerance:**	±1%	**Coating:**	Uncoated or R_{abs}<0.25%@DWL
532 and 1064nm:	10J/cm², 10ns pulse	**Surface Quality:**	20-10		

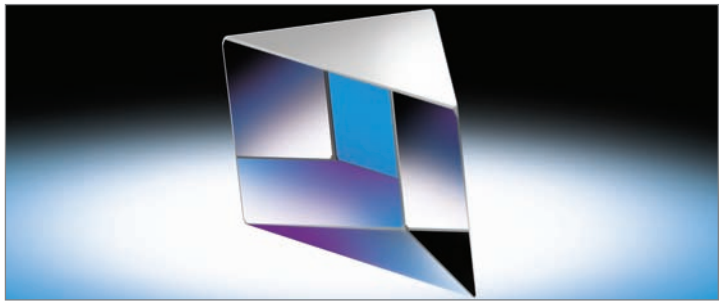
TECHSPEC® LASER GRADE PLANO CONVEX (PCX) LENSES

Diameter (mm)	Effective FL (mm)	Back FL (mm)	Center Thickness (mm)	Edge Thickness (mm)	Radius R_1 (mm)	Stock No. Uncoated	266nm Stock No.	355nm Stock No.	532nm Stock No.	1064nm Stock No.
12.0	18.0	15.26	4.00	1.41	8.25	#67-090	#67-939	#67-949	#67-959	#67-969
12.0	25.0	22.31	3.92	2.22	11.46	#67-091	#67-940	#67-950	#67-960	#67-970
12.0	36.0	34.29	2.50	1.37	16.51	#67-092	#67-941	#67-951	#67-961	#67-971
12.0	50.0	48.01	2.90	2.10	22.92	#67-093	#67-942	#67-952	#67-962	#67-972
25.0	38.0	33.03	7.25	1.96	17.42	#67-094	#67-943	#67-953	#67-963	#67-973
25.0	50.0	46.00	5.84	2.13	22.92	#67-095	#67-944	#67-954	#67-964	#67-974
25.0	75.0	71.96	4.43	2.08	34.39	#67-096	#67-945	#67-955	#67-965	#67-975
25.0	100.0	97.40	3.79	2.05	45.85	#67-097	#67-946	#67-956	#67-966	#67-976
25.0	150.0	147.82	3.18	2.04	68.79	#67-098	#67-947	#67-957	#67-967	#67-977
25.0	250.0	248.14	2.71	2.03	114.61	#67-099	#67-948	#67-958	#67-968	#67-978

HIGH POWER LASER-LINE RIGHT ANGLE PRISMS

- 355nm, 532nm and 1064nm Options Available
- High Damage Threshold
- Ray Deviation of 90°

TECHSPEC® High Power Laser-Line Right Angle Prisms provide high damage thresholds ranging from 2 - 5J/cm², allowing for easy integration into most Nd:YAG laser systems. They feature low arcsecond angle tolerance and are made from precision UV fused silica, ideal for laser based applications requiring precise alignment.



TECHSPEC® HIGH POWER LASER LINE RIGHT ANGLE PRISMS

Size (mm)		355nm	532nm	1064nm
A = C	B	Stock No.	Stock No.	Stock No.
5.00	7.00	#83-317	#83-323	#83-329
10.00	14.10	#83-318	#83-324	#83-330
12.50	17.50	#83-319	#83-325	#83-331
15.00	21.20	#83-320	#83-326	#83-332

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TECHSPEC® HARD COATED LASER LINE CLEAN-UP FILTERS

- Narrow Bandwidths for Gas and Solid State Lasers
- Broad Bandwidths for Diode Laser Clean-Up
- High Transmission, Deep Blocking

TECHSPEC® HARD COATED LASER LINE CLEAN-UP FILTERS

CWL (nm)	FWHM (nm)	Trans. Color	Min. Trans.	Blocking Range (nm)	12.5mm Diameter Stock No.	25mm Diameter Stock No.	50mm Diameter Stock No.
488.0	3.0	●	>80%	350 - 483 & 493 - 650	#68-840	#68-872	#68-904
514.5	3.0	●	>80%	400 - 509 & 520 - 700	#68-842	#68-874	#68-906
532.0	3.0	●	>80%	400 - 527 & 537 - 700	#68-843	#68-875	#68-907
632.8	3.0	●	>80%	500 - 627 & 639 - 900	#68-847	#68-879	#68-911
641.0	11.5	●	>80%	450 - 625 & 658 - 850	#68-720	#68-721	#68-722
785.0	3.0	●	>80%	650 - 777 & 793 - 1100	#68-852	#68-884	#68-916
808.0	3.0	●	>80%	650 - 800 & 816 - 1100	#68-854	#68-886	#68-918
830.0	3.0	●	>80%	700 - 821 & 839 - 1200	#68-855	#68-887	#68-919
980.0	4.0	●	>80%	850 - 970 & 990 - 1300	#68-857	#68-889	#68-921
1064.0	5.0	●	>80%	900 - 1054 & 1074 - 1400	#68-859	#68-891	#68-923

TECHSPEC® NOTCH FILTERS

- OD 4.0 or 6.0 Rejection of Laser Wavelength
- Broad Transmission Range
- Ideal for Laser-Based Raman, Fluorescence, and Biomedical Systems

Featuring deep blocking and broad transmission bands, TECHSPEC® Notch Filters are fabricated utilizing hard-sputter Advanced Plasma Reactive Sputtering (APRS) technology, guaranteeing durable coatings that will not degrade with time, temperature, or humidity. Each filter is mounted in a black anodized ring which has been engraved to ease filter handling, identification, and orientation.

	OD > 4.0 Notch Filters	OD > 6.0 Notch Filters
Diameter Tolerance:	+0.0 / -0.1mm	+0.0 / -0.1mm
Thickness:	5.0 ±0.1mm	3.5 ±0.1mm
Reflectivity at CWL:	R_{avg} >99%	R_{avg} >99.5%
Pass Band Transmission:	T_{avg} > 90%	T_{avg} > 80%, 350 - 400nm T_{avg} > 90%, 400 - 1200nm
Rejection Band Blocking:	OD ≥ 4.0	OD ≥ 6.0
Clear Aperture:	>85%	>85%
Transmitted Wavefront:	<1λRMS	<1λRMS
Surface Quality:	60-40	60-40
Durability:	MIL-C-48497A	MIL-C-48497A

TECHSPEC® NOTCH FILTERS

CWL (nm)	OD > 4.0 Notch Filters					OD > 6.0 Notch Filters				
	FWHM (nm)	Transmission Range (nm)	12.5mm Dia.	25mm Dia.	50mm Dia.	FWHM (nm)	Transmission Range (nm)	12.5mm Dia.	25mm Dia.	50mm Dia.
355	17.8	325 - 475	#67-106	#67-115	#67-124	-	-	*	*	*
405	20.2	325 - 540	#67-107	#67-116	#67-125	9.0	350 - 1200	#86-119	#86-124	#86-129
488	24.4	365 - 650	#67-108	#67-117	#67-126	-	-	*	*	*
514.5	25.7	385 - 685	#67-109	#67-118	#67-127	-	-	*	*	*
532	26.6	400 - 700	#67-110	#67-119	#67-128	17.0	350 - 1200	#86-120	#86-125	#86-130
632.8	31.6	475 - 845	#67-111	#67-120	#67-129	25.0	350 - 1200	#86-121	#86-126	#86-131
785	39.2	585 - 1045	#67-112	#67-121	#67-130	39.0	350 - 1200	#86-122	#86-127	#86-132
980	49.0	735 - 1300	#67-113	#67-122	#67-131	-	-	*	*	*
1064	53.2	800 - 1400	#67-114	#67-123	#67-132	73.0	350 - 1200	#86-123	#86-128	#86-133

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TECHSPEC® LASER MIRRORS

- Available for UV, Visible, and NIR Lasers
- >97% to >99.8% Reflectivity at Design Wavelength
- High Damage Threshold Options

Featuring high reflectivity and high damage thresholds, TECHSPEC® Laser Mirrors minimize scatter loss while providing the durability needed for the most demanding of environments.

TECHSPEC® LASER MIRRORS

*Call for Availability and Pricing

Design Wavelength	Reflectivity @ DWL	Laser Type	Damage Threshold	12.5mm Diameter		25mm Diameter		50mm Diameter	
				0°	45°	0°	45°	0°	45°
193nm	>97%	Excimer	1.5 J/cm² (10ns pulse)	*	#47-982	*	#47-983	*	#48-931
244 - 257nm	>98%	Argon-Ion	1kW/cm² CW	*	#48-225	*	#48-226	*	#63-123
248nm	>99%	Excimer	1.5 J/cm² (10ns pulse)	*	#47-984	*	#47-985	*	#63-120
266nm	>99.8%	Nd:YAG	3 J/cm² (10ns pulse)	#63-110	#47-980	#63-111	#47-981	#63-112	#63-116
300 - 308nm	>98%	Argon-Ion	1kW/cm² CW	*	#48-227	*	#48-228	*	#63-124
308nm	>99.5%	Excimer	5 J/cm² (10ns pulse)	*	#47-986	*	#47-987	*	#63-121
351nm	>99.5%	Excimer	5 J/cm² (10ns pulse)	*	#48-231	*	#48-232	*	#63-122
351 - 364nm	>98%	Argon-Ion	1kW/cm² CW	*	#48-229	*	#48-230	*	#63-125
355nm	>99.8%	Nd:YAG	5 J/cm² (10ns pulse)	#47-970	#47-323	#47-971	#47-324	#63-113	#63-117
405nm	>99.8%	Diode	NA	#63-141	#63-138	#63-142	#63-139	#63-143	#63-140
458 - 528nm	>98%	Argon-Ion	1kW/cm² CW	*	#47-033	*	#47-034	*	#47-158
532nm	>99.8%	Nd:YAG	20 J/cm² (20ns pulse)	#47-972	#45-990	#47-973	#45-991	#63-114	#47-157
635 - 670nm	>99.8%	Diode	NA	#63-126	#45-994	#63-127	#45-995	#63-128	#47-159
700 - 1100nm	>99%	Ti:Sapphire	300W/cm² CW	#63-135	#47-035	#63-136	#47-036	#63-137	#47-162
785nm	>99.8%	Diode	NA	#63-147	#63-144	#63-148	#63-145	#63-149	#63-146
880nm	>99.8%	Diode	NA	#63-153	#63-150	#63-154	#63-151	#63-155	#63-152
980nm	>99.8%	Diode	NA	#63-129	#45-998	#63-130	#45-999	#63-131	#47-160
1064nm	>99.8%	Nd:YAG	20 J/cm² (20ns pulse)	#47-974	#45-989	#47-975	#45-987	#63-115	#47-156
1064nm & 532nm	>99.8%	Nd:YAG	20 J/cm² (20ns pulse)	#68-273	#47-976	#68-275	#47-977	#68-277	#63-118
1064nm & 635 - 670nm	>99.8%	Nd:YAG	20 J/cm² (20ns pulse)	#68-274	#47-978	#68-276	#47-979	#68-279	#63-119
1480nm	>99.8%	Diode	NA	#63-132	#47-002	#63-133	#47-003	#63-134	#47-161
1550nm	>99.8%	Diode	NA	#63-159	#63-156	#63-160	#63-157	#63-161	#63-158

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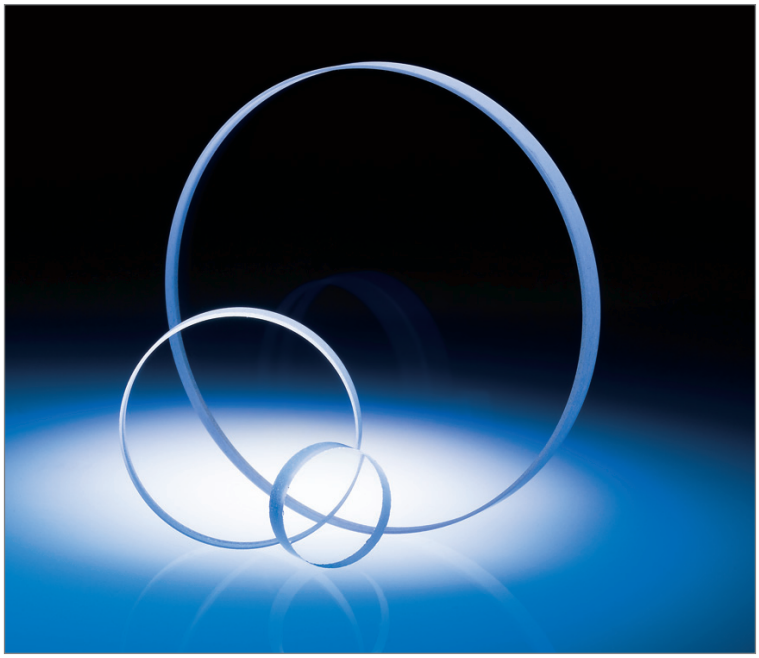
TECHSPEC® BK7 LASER LINE WINDOWS



- <0.25% Reflection at Design Wavelength
- Coatings Available for Diode, HeNe and Nd:YAG Laser Sources
- Precision BK7 Substrate

TECHSPEC® BK7 Laser Line Windows are an ideal choice for applications utilizing low to moderate power HeNe or Nd:YAG sources. The high tolerance design yields minimum beam distortion and the high efficiency coating prevents scattered light from being reflected back towards the laser cavity. For broadband laser and non-laser sources, our BK7 windows are also available with a number of BBAR coatings.

TECHSPEC® BK7 LASER LINE WINDOWS

Size (mm)	Thickness (mm)	405nm Stock No.	532nm Stock No.	632nm Stock No.	785nm Stock No.	980nm Stock No.	1064nm Stock No.	1550nm Stock No.
5.0	2.0	#64-035	#49-125	#49-135	#64-045	#83-515	#49-145	#83-525
9.0	2.0	#64-036	#49-126	#49-136	#64-046	#83-516	#49-146	#83-526
10.0	2.0	#64-037	#49-127	#49-137	#64-047	#83-517	#49-147	#83-527
12.5	3.0	#64-038	#49-128	#49-138	#64-048	#83-518	#49-148	#83-528
15.0	3.0	#64-039	#49-129	#49-139	#64-049	#83-519	#49-149	#83-529
20.0	3.0	#64-040	#49-130	#49-140	#64-050	#83-520	#49-150	#83-530
25.0	4.0	#64-041	#49-131	#49-141	#64-051	#83-521	#49-151	#83-531
30.0	4.0	#64-042	#49-132	#49-142	#64-052	#83-522	#49-152	#83-532
40.0	4.0	#64-043	#49-133	#49-143	#64-053	#83-523	#49-153	#83-533
50.0	4.0	#64-044	#49-134	#49-144	#64-054	#83-524	#49-154	#83-534

TECHSPEC® HIGH POWER LASER LINE WINDOWS

- 266nm, 355nm, 532nm and 1064nm Options
- Low Auto-Fluorescence
- High Damage Threshold

TECHSPEC® High Power Laser Line Windows feature a high efficiency, high damage threshold V-coating to maximize transmission at the design wavelength. Damage thresholds ranging from 2J/cm² to 10J/cm² allow for easy integration into most Nd:YAG laser systems. The coating is deposited on a precision excimer grade UV grade fused silica substrate for excellent thermal stability, low wavefront distortion, and ultra-low autofluorescence.

TECHSPEC® HIGH POWER LASER LINE WINDOWS

Size (mm)	Thickness (mm)	Uncoated Stock No.	266nm Stock No.	355nm Stock No.	532nm Stock No.	1064nm Stock No.
5.0	3.0	68-850	#49-125	#49-135	#64-045	#83-515
10.0	3.0	65-855	#49-127	#49-137	#64-047	#83-517
12.5	3.0	48-022	#49-128	#49-138	#64-048	#83-518
20.0	3.0	65-860	#49-130	#49-140	#64-050	#83-520
25.0	3.0	48-023	#49-131	#49-141	#64-051	#83-521
50.0	3.0	65-865	#49-134	#49-144	#64-054	#83-524
Damage Threshold:		5J/cm²	2J/cm²	4J/cm²	10J/cm²	10J/cm²

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TECHSPEC® LASER BEAM EXPANDERS

- Compact Design for Easy System Integration
- Wavelength Optimized Designs & Coatings
- Focusing With No Internal Rotation of Optics

TECHSPEC® Laser Beam Expanders family feature a high performance optical design in a compact package, and are available in 3X, 5X, and 10X magnifications for common Nd:YAG and a variety of other laser sources. The diffraction-limited optical performance combined with large input aperture eliminates the need for critical alignment.TECHSPEC® Laser Beam Expanders guarantee 1/10λ transmitted wavefront for a 1mm input beam diameter and 1/4λ transmitted wavefront at specified beam diameters (see table below). The focus adjustment can be used for divergence correction, collimation, and focusing.

Lens Element Material:	All Fused Silica, Corning 7980	**Focus Travel:**	±7.5mm
Transmitted Wavefront:	1/10λ at 1mm Input Beam Diameter	**Exit Beam Max. Diameter:**	30mm
Transmitted Wavefront:	1/4λ at Input Beam Diameter: 4mm (3X), 3mm (5X), 2mm (10X)	**Exit Aperture Diameter:**	33mm
		Mounting: Input:	Male C-Thread (1"x32 TPI)
		Output:	Male T2-Thread (M42x0.75mm)
Focus Range:	1.5m to ∞	**Housing Max. Diameter:**	46mm

TECHSPEC® LASER BEAM EXPANDERS

Expansion Power	Design Wavelength	Coating	Entrance Max. Beam Dia. (1/e²)	Input Aperture Diameter	Housing Max. Length (Including threads)	Damage Threshold	Wavelength Range	Refelctivity per Surface over WR	Stock No.
3X	532nm	V @ 532nm	10mm	11mm	92mm	5 J/cm² @ 8ns pulse @ 532nm	510 - 555nm	R_{avg} <0.5%	#59-125
5X	532nm		6mm	10mm	89mm				#59-126
10X	532nm		3mm	8mm	102mm				#59-127
3X	1064nm	V @ 1064nm	10mm	11mm	92mm	15 J/cm² @ 10ns pulse @ 1064nm	1030 - 1100nm	R_{avg} <0.5%	#59-128
5X	1064nm		6mm	10mm	89mm				#59-129
10X	1064nm		3mm	8mm	102mm				#59-130
3X	Broadband	BBAR for UV	10mm	11mm	92mm	1 J/cm² @10ns pulse @ 355nm 2 J/cm² @10ns pulse @ 266nm	260 - 365nm	R_{avg} <0.5%	#68-270
5X	Broadband		6mm	10mm	89mm				#68-271
10X	Broadband		3mm	8mm	102mm				#68-272
3X	Broadband	BBAR for VIS	10mm	11mm	92mm	5 J/cm² @ 8ns pulse @ 633nm	425 - 700nm	R_{avg} <1.0%	#59-131
5X	Broadband		6mm	10mm	89mm				#59-132
10X	Broadband		3mm	8mm	102mm				#59-133
3X	Broadband	BBAR for NIR	10mm	11mm	92mm	5 J/cm² @ 8ns pulse @ 785nm	750 - 1100nm	R_{avg} <1.0%	#59-134
5X	Broadband		6mm	10mm	89mm				#59-135
10X	Broadband		3mm	8mm	102mm				#59-136

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TECHSPEC® LASER DIODE AND HeNe BEAM EXPANDERS

- 3X to 20X Expansion Powers
- Minimally Aberrated Output Across Focus
- Common Interfaces for Integration with HeNe and Diode Lasers

TECHSPEC® Laser Diode and HeNe Beam Expanders offers high performance optical designs packaged in a precise opto-mechanical platform. The 3X, 5X, 10X, 15X, and 20X versions are designed with a C-Mount input. The 4X and 6X models feature M14 input, with available accessories to adapt to a C-Mount or the common dovetail mount featured on our High Performance Laser Diode Modules.

All models feature a precision focusing mechanism designed to prevent optics from rotating while focusing. The focus is lockable, and two full rotations vary the output from collimated to the minimum distance of 1.2m.

Focus Range:	1.2m to ∞
Exit Aperture:	Entrance Beam x Mag (27mm max)
Housing:	Black Anodized Aluminum
Diameter:	50.0mm

TECHSPEC® DIODE BEAM EXPANDERS

Description	Stock No.
4X Complete Diode Beam Expander	#58-271
6X Complete Diode Beam Expander	#58-272
4X Accessory Attachment	#58-273
6X Accessory Attachment	#58-274
Adapter with Male Dovetail, For High Performance Diode	#58-275
Female M-14 to Male C-Thread Adapter	#58-478

TECHSPEC® FIXED POWER HeNe BEAM EXPANDERS

Description	Stock No.	Description	Stock No.
3X Complete Beam Expander	#58-208	3X Accessory Attachment	#58-210
5X Complete Beam Expander	#55-577	5X Accessory Attachment	#55-580
10X Complete Beam Expander	#55-578	10X Accessory Attachment	#55-581
15X Complete Beam Expander	#58-209	15X Accessory Attachment	#58-211
20X Complete Beam Expander	#55-579	20X Accessory Attachment	#55-582

TECHSPEC® LASER DIODE AND HeNe BEAM EXPANDER SPECIFICATIONS

Laser Type	Beam Expansion Power	Entrance Aperture	Length of Complete Assembly	Optics Coating	Mount	Design Wavefront Error
HeNe	3X	2.0mm max	115mm	¼λ MgF_2 @ 632.8nm	C-Thread (1" - 32 TPI)	¼λ @ 632.8nm
HeNe	5X	2.0mm max	107.5mm			
HeNe	10X	2.0mm max	118.0mm			
HeNe	15X	2.0mm max	120.5mm			
HeNe	20X	2.0mm max	122.5mm			
Diode	4X	4.0mm max	105.5mm	BBAR Coating from 450 - 750nm centered @ 633nm	Male M14 x 0.5mm Thread	¼λ @ 633nm - 670nm
Diode	6X	4.0mm max	105.5mm			

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JAPAN: 81-3-5800-4751

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TECHSPEC® REFLX™ OBJECTIVES

- Long Working Distance, High Numerical Aperture
- Ultra-Wide Spectral Band with No Chromatic Aberration
- 3 Coating Options Available to Best Fit Your Application

Each TECHSPEC® ReflX™ Objective is available with one of three coating options: aluminum, DUV enhanced aluminum and gold. Free from the problems of chromatic aberration and material absorption associated with standard microscope objectives, these components are ideal for applications requiring high throughput and excellent resolution, including FTIR spectroscopy and microscopy, photolithography, thin film measurement, semiconductor inspection, and laser etching.

COATINGS

	Designed Wavelength	Wavelength Range
DUV Enhanced Aluminum:	R > 88%, 190mm - 11µm	150nm - 11µm
UV Enhanced Aluminum:	R > 85%, 200mm - 700mm	200nm - 11µm
Protected Gold:	R > 94%, 700mm - 11µm	550nm - 20µm

TECHSPEC® REFLX OBJECTIVES

ReflX™ Objectives	DUV Enhanced Aluminum	UV Enhanced Aluminum	Protected Gold
15X ReflX™, Infinite Conjugate	#59-315	#58-417	#58-418
15X ReflX™, Finite Conjugate	#59-316	#58-421	#58-422
15X HP ReflX™, Infinite Conjugate	#59-884	#59-886	#59-888
15X HP ReflX™, Finite Conjugate	#59-885	#59-887	#59-889

Numerical Aperture, NA:	0.28	
Working Distance WD (mm):	23.6	
Focal Length (mm):	13.3	
Entrance Pupil Diameter (mm):	8.5	
Small Mirror Diameter (mm):	8.8	
Mounting:	RMS	
Field of View (mm):		
⅔" Sensor (H x V):	0.59 x 0.44	
½" Sensor (H x V):	0.43 x 0.32	
Obscuration:	27%	
	ReflX™	HP ReflX™
Transmitted Wavefront:	1/10λ (RMS)	1/4λ (P-V)

TECHSPEC® ADJUSTABLE REFLX™ OBJECTIVES

Magnification	15X	15X	25X	36X	52X	74X
Numerical Aperture	0.28	0.5	0.4	0.5	0.65	0.65
Adjustable Centration	Yes	No	Yes	Yes	Yes	Yes
Tube Length Adjustment	160mm	160mm	160mm	90mm - ∞	120mm - ∞	120mm - ∞
Cover Glass Correction (mm)	0.17	0.17	0.17	0-1.0	0-1.0	0-1.0
Focal Length (mm)	13.35	13.41	8.00	5.40	3.55	2.54
Field of View (mm)	1.20	1.20	0.72	0.50	0.34	0.24
Obscuration (%)	18.9	19.5	16.7	12.2	16.7	13.3
Typical Working Distance (mm)	24.5	23.2	14.5	8.6	1.9	1.0
Surface Accuracy	1/8λ	1/8λ	1/8λ	1/8λ	1/8λ	1/8λ
DUV Enhanced Aluminum Finite	#66-575	#66-578	#66-581	#66-584	#66-587	#66-590
DUV Enhanced Aluminum Infinite	#68-184	#68-187	#68-190	–	–	–
UV Enhanced Aluminum Finite	#66-576	#66-579	#66-582	#66-585	#66-588	#66-591
UV Enhanced Aluminum Infinite	#68-185	#68-188	#68-191	–	–	–
Protected Gold Finite	#66-577	#66-580	#66-583	#66-586	#66-589	#66-592
Protected Gold Infinite	#68-186	#68-189	#68-192	–	–	–

Edmund optics | worldwide

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