

WHAT'S **NEW** IN OPTICS

Thousands of New Products Online – 736 Inside

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Contact us today!

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EO® **Edmund**
optics | worldwide

www.edmundoptics.com/new-products

Integrating Our **NEW** Optics Has Never Been Easier!

New Products ADDED WEEKLY!

Edmund Optics® takes great pride in providing its customers with thousands of new products continuously throughout the year. We're delighted to present **over 1000 Products** in the 2020 edition of our new product brochure, "What's New in Optics"! Each page is filled with a unique selection of many of our favorite new optics, imaging, and optomechanical components for you to choose from. For our most up to date new products, visit www.edmundoptics.com/new.

NEW LIGHTPATH® THERMAL IMAGING ASSEMBLIES



- Precision Molded Chalcogenide Lenses
- Compact Designs for Thermal Imaging Cameras
- Focal Lengths from 2.7 to 24mm

www.edmundoptics.com/lightpathIR

So Much More Online...



Ultra-Thin OD6 Notch Filters

- Deep Blocking of Common Laser Wavelengths
- Less than 300µm Total Thickness
- Flexible Structure and Scratch Resistant

www.edmundoptics.com/4083



Colored Glass Replacement Filters

- Sharp Cut-On Wavelengths from 320 to 1000nm
- High Transmission Greater Than 90%
- RoHS and REACH Compliant

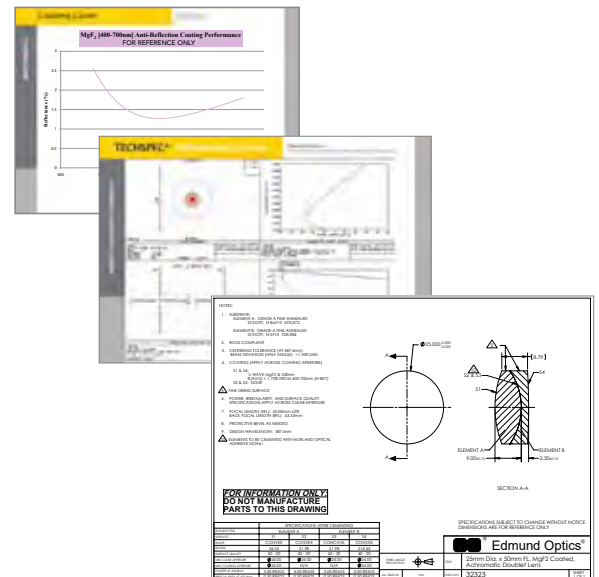
www.edmundoptics.com/4084

Over 500,000 Customer Downloads of **TECHNICAL DOCUMENTATION** Annually!

Explore our library of over **140,000 documents** to ease integration into your application.



- Full Prescription Data for Spherical and Aspherical Lenses
- Coating Performance Curves
- 2-D and 3-D Models including STEP, IGES, and eDrawing
- Specsheets, Manuals, Start Up Guides, Software, & Drivers
- Code V Optical Prescription Data
- ISO 10110 Standard Drawing Format



To our customers: we understand that our products may be sold to businesses in California that may be subject to California's Proposition 65, Cal. Health & Safety Code 25249.7 et seq. Proposition 65 requires businesses to provide warnings to consumers if they are exposed to certain chemicals above the legal threshold. While trace levels of Proposition 65 chemicals may be detectable in components of our products, these chemicals are generally inaccessible to consumers and would not be expected to present any consumer exposure under customary use conditions. If you have any questions, please contact us at compliance@edmundoptics.com.

TECHSPEC® $\lambda/40$ Aspheric Lenses

Design Wavelength (nm):	587.6
Clear Aperture (%):	90
Diameter Tolerance (mm):	+0.00/-0.025
Center Thickness Tolerance (mm):	± 0.1
Asphere Figure Error (RMS):	$\lambda/40$
Surface Quality:	40-20
Centering (arcmin):	<1

- $\lambda/40$ RMS Asphere Figure Error
 - High Numerical Aperture Designs
 - 3D Surface Profile Included with Each Lens
- TECHSPEC® $\lambda/40$ Aspheric Lenses guarantee better than $\lambda/40$ wave aspheric figure error. Achieved via precision magneto-rheological finishing (MRF), these aspheres offer high numerical apertures with diameters ranging from 15 to 50mm and are ideal for a variety of imaging and low light level applications. Each TECHSPEC® $\lambda/40$ Aspheric Lens is individually measured and a 3D surface profile is included.



NEW

TECHSPEC® $\lambda/40$ Aspheric Lenses

Dia. (mm)	EFL (mm)	Numerical Aperture	BFL (mm)	CT (mm)	ET (mm)	Glass Type	Stock No.	Price		50+
								1-10	11-49	
15.0	15.00	0.50	10.22	8.62	6.21	N-SF6	#12-428	\$495.00	\$396.00	Call
15.0	18.75	0.40	14.32	8.00	6.10	N-SF6	#12-429	\$495.00	\$396.00	
15.0	22.50	0.33	16.71	8.79	6.25	N-BK7	#12-430	\$495.00	\$396.00	
25.0	37.50	0.33	31.09	9.72	5.49	N-BK7	#12-438	\$595.00	\$476.00	
25.0	50.00	0.25	45.23	7.24	4.14	N-BK7	#12-439	\$595.00	\$476.00	
40.0	40.00	0.50	31.21	14.70	6.83	N-SF5	#12-445	\$750.00	\$600.00	
50.0	50.00	0.50	42.77	13.06	4.82	N-SF6	#12-448	\$850.00	\$680.00	

TECHSPEC® Near-Infrared (NIR) Precision Aspheric Lenses

Design Wavelength (nm):	780
Clear Aperture (%):	90
Diameter Tolerance (mm):	+0.00/-0.10
Center Thickness Tolerance (mm):	± 0.1
Asphere Figure Error (RMS):	0.75 μ m
Surface Quality:	40-20
Centering (arcmin):	<3

- CNC Polished Aspheric Surface
 - S-LAH64 or N-BK7 Substrates
 - Optimized for Applications in the NIR
- TECHSPEC® Near-Infrared (NIR) Precision Aspheric Lenses are designed at 780nm and are optimized to eliminate spherical aberration. Manufactured from S-LAH64 or N-BK7 substrates and polished through a computer numerical controlled (CNC) process, these aspheres achieve high precision performance across the NIR spectrum. For custom designed CNC polished aspheric lenses, please contact us.



NEW

TECHSPEC® Near-Infrared (NIR) Precision Aspheric Lenses

Dia. (mm)	EFL (mm)	Numerical Aperture	BFL (mm)	CT (mm)	ET (mm)	Glass Type	Stock No.	Price		26+
								1-5	6-25	
10.0	8.00	0.53	5.92	3.70	1.57	S-LAH64	#13-496	\$155.00	\$124.00	Call for OEM Quantity Pricing
12.5	10.00	0.53	7.61	4.25	1.60	S-LAH64	#13-497	\$175.00	\$140.00	
12.5	25.00	0.24	22.35	4.00	2.43	N-BK7	#13-498	\$175.00	\$140.00	
15.0	12.00	0.53	9.02	5.28	2.09	S-LAH64	#13-499	\$295.00	\$236.00	
18.0	15.00	0.52	11.51	6.20	2.55	S-LAH64	#13-500	\$310.00	\$248.00	
20.0	17.99	0.49	14.00	7.10	3.37	S-LAH64	#13-501	\$315.00	\$252.00	
25.0	20.00	0.63	15.73	7.60	2.30	S-LAH64	#13-502	\$350.00	\$280.00	
25.0	50.00	0.24	46.03	6.00	2.86	N-BK7	#13-503	\$230.00	\$184.00	
30.0	26.00	0.50	20.57	9.65	3.82	S-LAH64	#13-504	\$395.00	\$316.00	
45.0	32.00	0.58	24.18	13.90	3.02	S-LAH64	#13-505	\$525.00	\$420.00	
50.0	40.00	0.53	31.28	15.50	4.90	S-LAH64	#13-506	\$650.00	\$520.00	
50.0	100.00	0.24	93.39	10.00	3.73	N-BK7	#13-507	\$450.00	\$360.00	

So Much More Online...



HOYA Molded Glass Aspheric Lenses

- Manufactured through a Precision Glass Molding Process
 - Compact Sizes for Integration into Measurement Systems
 - Multiple Glass Substrates Available
- www.edmundoptics.com/3999



LightPath® Fiber Optic Collimators

- New FC/APC Connector Options
 - Models for FC/PC, FC/APC, and SMA Connections Available
 - Four Wavelength Ranges Covering 350 - 1600nm
- www.edmundoptics.com/2330



TECHSPEC® 12.7mm Laser Grade Plano-Convex (PCX) Lenses

- New 12.7mm Diameter Versions
 - Guaranteed Laser Damage Threshold
 - 10-5 Surface Quality, $\lambda/10$ Surface Accuracy
- www.edmundoptics.com/3212



TECHSPEC® Mounted MgF₂ Coated Plano-Convex (PCX) Lenses

- Pre-Mounted PCX Lenses in Engraved C-Mount Housings
 - Simplifies System Integration
 - AR Coated for <1.75% Reflectance per Surface for 400 - 700nm
- www.edmundoptics.com/3995

TECHSPEC® IBS Laser Line Mirrors



- **IBS Mirror Coatings for Low Loss and High Reflectivity**
 - **Guaranteed High Laser Damage Threshold at DWL up to 15 J/cm² @ 1064nm**
 - **Superpolished Substrates Available with Parts per Million Level Scattering Performance**
- TECHSPEC® IBS Laser Line Mirrors are coated using ion beam sputtering (IBS) technology. These laser mirrors are designed for extremely demanding laser applications that require the highest reflection at their design wavelength. The Ion Beam Sputtered coating causes these mirrors to have lower surface roughness than competing coating technologies, resulting in less scatter. TECHSPEC® IBS Laser Line Mirrors feature high environmental stability due to dense coating films. Environmental factors such as temperature and humidity cause negligible performance degradation. Please contact us if your application requires an IBS Laser Line Mirror with custom dimensions or a custom IBS mirror coating.

Substrate:	Fused Silica	Angle of Incidence (°):	45	Damage Threshold, Certified (J/cm²):		
Diameter Tolerance (mm):	+0.00/-0.10	Clear Aperture (%):	85	355nm:	7.5 @ 20ns, 20Hz	
Thickness Tolerance (mm):	±0.20	Parallelism (arcmin):	<3	532nm:	10 @ 20ns, 20Hz	
Coating Specification:		Surface Quality:	10-5	1064nm:	15 @ 20ns, 20Hz	
	355 & 532nm: R _{abs} >99.9% @ DWL	Surface Flatness:	λ/10			
	1064nm: R _{abs} >99.95% @ DWL	Back Surface:	Commercial Polish			

TECHSPEC® IBS Laser Line Mirrors							
Diameter (mm)	Thickness (mm)	355nm	532nm	1064nm	Price		26+
		Stock No.	Stock No.	Stock No.	1-5	6-25	
25.4	6.35	#34-838	#34-842	#34-845	\$115.00	\$103.00	IP

TECHSPEC® IBS Laser Line Windows



- **IBS Coated for Minimal Absorption and Scatter**
 - **<0.1% Reflectivity at Nd:YAG Laser Lines**
 - **Guaranteed Laser Damage Thresholds at Design Wavelength**
- TECHSPEC® IBS Laser Line Windows feature an ion beam sputtering (IBS) anti-reflection coating that provides <0.1% reflectivity at their design wavelength with minimal losses due to absorption or scatter. The IBS coating process produces dense, homogeneous coating layers that are environmentally stable and insensitive to temperature and humidity changes, enabling these windows to be used in harsh environments. TECHSPEC® IBS Laser Line Windows are available in standard imperial sizes with designs for the Nd:YAG laser wavelengths of 355nm, 532nm, and 1064nm. In-house manufacturing enables Edmund Optics® to provide custom sizes and designs in the wavelength range 343nm to 1600nm.

Substrate:	Fused Silica	Clear Aperture (%):	90	Damage Threshold, Certified:		
Surface Quality:	10-5	Angle of Incidence (°):	0	355nm:	7.5J/cm ² @ 355nm, 20ns, 20Hz	
Surface Flatness:	λ/10	Parallelism (arcmin):	<3	532nm:	10J/cm ² @ 532nm, 20ns, 20Hz	
Diameter Tolerance (mm):	+0.00/-0.10	Coating Specification:	R _{abs} < 0.10% @ DWL	1064nm:	15J/cm ² @ 1064nm, 20ns, 20Hz	
Thickness Tolerance (mm):	±0.20					

TECHSPEC® IBS Laser-Line Windows								
Diameter (mm)	Thickness (mm)	355nm		532nm		1064nm		26+
		Stock No.	Price	Stock No.	Price	Stock No.	Price	
25.4	6.35	#12-969	\$130.00	#12-979	\$130.00	#12-989	\$130.00	IP

So Much More Online...



Multi Line Nd:YAG Laser Line Mirror

- High Reflectivity at 266, 355, 532, and 1064nm
 - Low Cost to Performance Ratio
 - 25.4mm Diameter for Easy System Integration
- www.edmundoptics.com/3869



Ultra-Broadband Complementary Chirped Mirror Pairs

- Ultra-Broadband Design Supports Dispersion Compensation of <3fs Pulses
 - Negative GDD of -60fs² and Average Rp >99% @ 650 - 1350 nm
- www.edmundoptics.com/4058



1030nm Highly-Dispersive Broadband Ultrafast Mirrors

- Negative GDD of -200 fs²
 - >99.8% Reflection (p-polarization) between 950 - 1120nm
 - Designed for Pulse Compression of Yb:doped Fiber Lasers
- www.edmundoptics.com/3935



High-Energy Picosecond and Femtosecond Ultrafast Mirrors

- New 266nm Designs Available
 - High Laser Induced Damage Thresholds at DWL
 - High Reflectance for S and P Polarizations
- www.edmundoptics.com/4047

TECHSPEC® Ultrafast Harmonic Separators

- Separates Ultrafast Harmonic Wavelengths
- Ultrafast Beamsplitter Coating with Low GDD
- $< \lambda/10$ Wavefront Distortion

TECHSPEC® Ultrafast Harmonic Separators, also known as Ultrafast Harmonic Beamsplitters, are used to reflect the second or third harmonic of femtosecond lasers while transmitting the fundamental pulse. The reflective surface is designed to have high reflectivity and a low Group Delay Dispersion (GDD) of $\pm 20\text{fs}^2$ to minimize pulse dispersion. The back surface is coated with an anti-reflection coating to enhance the transmission of the fundamental light. TECHSPEC® Ultrafast Harmonic Separators provide low wavefront distortion and feature high quality, thin UV fused silica substrates with 10-5 surface quality.



NEW

NEW FILTERS

Substrate:	Fused Silica	Parallelism (arcmin):	< 3	Surface Flatness:	$\lambda/8$
Diameter Tolerance (mm):	+0.00/-0.10	Group Delay Dispersion (GDD) (fs²):	0 ± 20 @ Reflection Wavelength	Angle of Incidence (°):	45
Thickness Tolerance (mm):	± 0.10	Surface Quality:	10-5	Clear Aperture (%):	80

TECHSPEC® Ultrafast Harmonic Separators

Reflection Wavelength (nm)	Transmission Wavelength (nm)	Diameter (mm)	Thickness (mm)	Coating Specification		Stock No.	Price		4+
				Front Surface	Back Surface		1-3	Call	
266	800	25.4	3.0	$R_{\text{avg}} > 98\%$ @ 258 - 272nm, $T_{\text{avg}} > 98\%$ @ 700 - 900nm	$R_{\text{avg}} < 1\%$ @ 700 - 900nm	#12-662	\$240.00		
343	1030	25.4	3.0	$R_{\text{avg}} > 99\%$ @ 323 - 354nm, $T_{\text{avg}} > 98\%$ @ 1000 - 1090nm	$R_{\text{avg}} < 0.8\%$ @ 1000 - 1090nm	#12-664	\$240.00		
400	800	25.4	3.0	$R_{\text{avg}} > 99\%$ @ 376 - 425nm, $T_{\text{avg}} > 98\%$ @ 700 - 900nm	$R_{\text{avg}} < 1\%$ @ 700 - 900nm	#12-661	\$240.00		
515	1030	25.4	3.0	$R_{\text{avg}} > 99.5\%$ @ 505 - 535nm, $T_{\text{avg}} > 98\%$ @ 1000 - 1090nm	$R_{\text{avg}} < 0.8\%$ @ 1000 - 1090nm	#12-663	\$240.00		

TECHSPEC® Low GDD Dichroic Shortpass Ultrafast Filters

- Reduced Thickness for Limited GDD
- Broad Transmission and Reflection Ranges
- Ideal for Ultrafast Laser Applications

TECHSPEC® Low GDD Dichroic Shortpass Ultrafast Filters feature thin substrates and a low group delay dispersion (GDD) coating, making them ideal for use with ultrafast laser sources. Designed for a 45° angle of incidence and covering a range of wavelengths, these spectral filters can be used with Ti:sapphire, Nd:doped, and Yb:doped fiber or glass lasers, as well as with optical parametric oscillators and amplifiers. TECHSPEC® Low GDD Dichroic Shortpass Ultrafast Filters are ideal for ultrafast laser applications including multi-photon microscopy, nonlinear fluorescence, and femtosecond stimulated Raman spectroscopy.



NEW

Substrate:	Fused Silica	Reflection:	$T_{\text{abs}} > 80\%$, S-Polarization	Surface Quality:	60-40
Dimensional Tolerances (mm):	+0.0/-0.1		$R_{\text{avg}} > 97\%$, Random Polarization	Wavefront Distortion:	$\lambda/4$
Thickness (mm):	1.05 \pm 0.1		$R_{\text{avg}} > 95\%$, P-Polarization	Slope Factor (%):	3
Transmission:	$T_{\text{avg}} > 85\%$, Random Polarization	Angle of Incidence (°):	$T_{\text{abs}} > 95\%$, S-Polarization	Cut-Off Tolerance (%):	± 2
	$T_{\text{abs}} > 80\%$, P-Polarization		45		

TECHSPEC® Low GDD Dichroic Shortpass Ultrafast Filters

Cut-Off Wavelength (nm)	Transmission Band (nm)	Reflection Band (nm)	GDD Specification (Transmission)	25.0mm Diameter			25.2 x 35.6mm			26+
				Stock No.	1-5	6-25	Stock No.	1-5	6-25	
450	325 - 430	470 - 545	$80 \pm 30\text{fs}^2$ @ 360 - 425nm; $120 \pm 80\text{fs}^2$ @ 325 - 430nm	#13-996	\$209.00	\$177.65	#14-008	\$239.00	\$203.15	Call for OEM Quantity Pricing
500	325 - 480	520 - 610	$80 \pm 30\text{fs}^2$ @ 345 - 480nm; $120 \pm 80\text{fs}^2$ @ 325 - 480nm	#13-997	\$209.00	\$177.65	#14-009	\$239.00	\$203.15	
600	400 - 580	625 - 795	$80 \pm 30\text{fs}^2$ @ 410 - 580nm; $120 \pm 80\text{fs}^2$ @ 400 - 580nm	#13-999	\$209.00	\$177.65	#14-011	\$239.00	\$203.15	
650	400 - 630	675 - 850	$80 \pm 30\text{fs}^2$ @ 420 - 630nm; $120 \pm 80\text{fs}^2$ @ 400 - 630nm	#14-001	\$209.00	\$177.65	#14-012	\$239.00	\$203.15	
700	400 - 680	725 - 900	$80 \pm 20\text{fs}^2$ @ 450 - 680nm; $120 \pm 80\text{fs}^2$ @ 400 - 680nm	#14-002	\$209.00	\$177.65	#14-013	\$239.00	\$203.15	
750	400 - 725	800 - 990	$80 \pm 30\text{fs}^2$ @ 500 - 725nm; $120 \pm 80\text{fs}^2$ @ 400 - 725nm	#14-003	\$209.00	\$177.65	#14-014	\$239.00	\$203.15	
800	400 - 775	850 - 1050	$80 \pm 30\text{fs}^2$ @ 510 - 775nm; $120 \pm 80\text{fs}^2$ @ 400 - 775nm	#14-004	\$209.00	\$177.65	#14-015	\$239.00	\$203.15	
850	400 - 820	910 - 1110	$80 \pm 30\text{fs}^2$ @ 440 - 820nm; $120 \pm 80\text{fs}^2$ @ 410 - 820nm	#14-005	\$209.00	\$177.65	#14-016	\$239.00	\$203.15	
900	465 - 865	960 - 1170	$80 \pm 30\text{fs}^2$ @ 610 - 865nm; $120 \pm 80\text{fs}^2$ @ 465 - 865nm	#14-006	\$209.00	\$177.65	#14-017	\$239.00	\$203.15	
950	495 - 912	997 - 1235	$80 \pm 30\text{fs}^2$ @ 625 - 912nm; $120 \pm 80\text{fs}^2$ @ 495 - 912nm	#14-030	\$209.00	\$177.65	#14-036	\$239.00	\$203.15	
1050	546 - 1008	1102 - 1365	$80 \pm 30\text{fs}^2$ @ 546 - 625nm; $120 \pm 80\text{fs}^2$ @ 746 - 1008nm	#14-032	\$209.00	\$177.65	#14-038	\$239.00	\$203.15	
1100	572 - 1056	1155 - 1430	$80 \pm 30\text{fs}^2$ @ 750 - 1056nm; $120 \pm 80\text{fs}^2$ @ 600 - 1056nm	#14-033	\$209.00	\$177.65	#14-039	\$239.00	\$203.15	
1200	624 - 1152	1260 - 1560	$0 \pm 100\text{fs}^2$ @ 840 - 1152nm; $0 \pm 500\text{fs}^2$ @ 624 - 1152nm	#14-035	\$209.00	\$177.65	#14-041	\$239.00	\$203.15	

So Much More Online...



Nd:YAG Laser Output Couplers

- Designs for 532nm and 1064nm Nd:YAG Lasers
 - 80% Reflectivity at Design Wavelengths
 - Fused Silica Substrates with 10-5 Surface Quality and $\lambda/10$ TWD
- www.edmundoptics.com/4066



Caibals Canada Reflective Axicons

- High-Power, Chromatic Dispersion Free Bessel Beam Generation via Reflective Design
 - Multiple Axicon Angles and Coating Options Available
- www.edmundoptics.com/4049



Nonlinear Crystals

- BBO and LBO Crystals for Frequency Conversion
 - High Damage Thresholds Up to 10 J/cm² @ 1064nm, 10ns, 10Hz
 - Broad Transparency Range from the UV to the IR
- www.edmundoptics.com/3898



Low GDD Ultrafast Broadband IR Mirrors

- High Reflectivity from 1750 - 3050nm
 - 1" and 2" Versions Available
 - $\pm 80\text{fs}^2$ GDD Over Entire Range
- www.edmundoptics.com/4048

SCHOTT Color Filter Glass



- Longpass, Shortpass, Bandpass, and Neutral Density Filters
- Standard 50 x 50mm Sizes with 1, 2, or 3mm Thickness Options
- Over 50 SCHOTT Optical Filter Glass Types Available

Dimensions (mm):	50 x 50 ±0.2
Surface Quality:	60-40
Thickness Tolerance (mm):	1mm Thickness: ±0.1 2, 3mm Thickness: ±0.2

SCHOTT Colored Glass Longpass Filters

Glass Reference Number	Cut On Wavelength (nm)	Color	Density (g/cm ³)	Transformation Temperature (°C)	1mm Thickness		2mm Thickness		3mm Thickness	
					Stock No.	Price	Stock No.	Price	Stock No.	Price
SCHOTT N-WG280	280 ±6	Clear	2.51	558	#14-460	\$77.50	#14-461	\$77.50	#14-462	\$77.50
SCHOTT N-WG295	295 ±6	Clear	2.51	565	#14-463	\$77.50	#14-464	\$77.50	#14-465	\$77.50
SCHOTT N-WG305	305 ±6	Clear	2.51	562	#14-466	\$77.50	#14-467	\$77.50	#14-468	\$77.50
SCHOTT N-WG320	320 ±6	Clear	2.51	563	#14-469	\$77.50	#14-470	\$77.50	#14-471	\$77.50
SCHOTT GG395	395 ±6	Clear	2.55	538	#14-472	\$77.50	#14-473	\$77.50	#14-474	\$77.50
SCHOTT GG400	400 ±6	Clear	2.55	537	#14-475	\$77.50	#14-476	\$77.50	#14-477	\$77.50
SCHOTT GG420	420 ±6	Yellow	2.55	535	#14-478	\$77.50	#14-479	\$77.50	#14-480	\$77.50
SCHOTT GG435	435 ±6	Yellow	2.55	537	#14-481	\$77.50	#14-482	\$77.50	#14-483	\$77.50
SCHOTT GG455	455 ±6	Yellow	2.56	529	#14-484	\$77.50	#14-485	\$77.50	#14-486	\$77.50
SCHOTT GG475	475 ±6	Yellow	2.56	531	#14-487	\$77.50	#14-488	\$77.50	#14-489	\$77.50
SCHOTT GG495	495 ±6	Yellow	2.56	535	#14-490	\$77.50	#14-491	\$77.50	#14-492	\$77.50
SCHOTT OG515	515 ±6	Yellow	2.56	509	#14-493	\$77.50	#14-494	\$77.50	#14-495	\$77.50
SCHOTT OG530	530 ±6	Yellow	2.56	506	#14-496	\$77.50	#14-497	\$77.50	#14-498	\$77.50
SCHOTT OG550	550 ±6	Orange	2.56	507	#14-499	\$77.50	#14-500	\$77.50	#14-502	\$77.50
SCHOTT OG570	570 ±6	Orange	2.56	510	#14-505	\$77.50	#14-506	\$77.50	#14-507	\$77.50
SCHOTT OG590	590 ±6	Red	2.56	506	#14-508	\$77.50	#14-509	\$77.50	#14-510	\$77.50
SCHOTT RG610	610 ±6	Red	2.65	520	#14-511	\$77.50	#14-512	\$77.50	#14-513	\$77.50
SCHOTT RG630	630 ±6	Red	2.65	527	#14-514	\$77.50	#14-515	\$77.50	#14-516	\$77.50
SCHOTT RG645	645 ±6	Red	2.65	519	#14-517	\$77.50	#14-518	\$77.50	#14-519	\$77.50
SCHOTT RG665	665 ±6	Red	2.77	527	#14-520	\$77.50	#14-520	\$77.50	#14-522	\$77.50
SCHOTT RG695	695 ±6	Black	2.76	532	#14-523	\$77.50	#14-524	\$77.50	#14-525	\$77.50
SCHOTT RG715	715 ±9	Black	2.76	532	#14-526	\$77.50	#14-527	\$77.50	#14-528	\$77.50
SCHOTT RG9	726	Black	2.58	519	#14-529	\$77.50	#14-530	\$77.50	#14-531	\$77.50
SCHOTT RG780	780 ±9	Black	2.94	552	#14-532	\$77.50	#14-533	\$77.50	#14-534	\$77.50
SCHOTT RG830	830 ±9	Black	2.94	554	#14-535	\$77.50	#14-536	\$77.50	#14-537	\$77.50
SCHOTT RG850	850 ±9	Black	2.93	554	#14-538	\$77.50	#14-539	\$77.50	#14-540	\$77.50
SCHOTT RG1000	1000 ±6	Black	2.73	476	#14-541	\$77.50	#14-542	\$77.50	#14-543	\$77.50

SCHOTT Colored Glass Bandpass Filter

Glass Reference Number	Center Wavelength (nm)	Color	Density (g/cm ³)	Index of Refraction n _d	Transformation Temperature (°C)	1mm Thickness		2mm Thickness		3mm Thickness	
						Stock No.	Price	Stock No.	Price	Stock No.	Price
SCHOTT UG5	318	Black	2.85	1.54	462	#14-451	\$210.00	#14-452	\$210.00	#14-453	\$210.00
SCHOTT UG11	325	Black	2.92	1.56	545	#14-454	\$210.00	#14-455	\$210.00	#14-456	\$210.00
SCHOTT UG1	355	Black	2.77	1.54	603	#14-448	\$71.50	#14-449	\$71.50	#14-450	\$71.50
SCHOTT BG3	360	Deep Blue	2.56	1.51	478	#14-403	\$71.50	#14-404	\$71.50	#14-405	\$71.50
SCHOTT BG25	400	Blue-Violet	2.56	1.51	487	#14-412	\$75.00	#14-413	\$75.00	#14-414	\$75.00
SCHOTT BG38	470	Blue-Green	2.66	1.53	482	#14-415	\$75.00	#14-416	\$75.00	#14-417	\$75.00
SCHOTT BG42	480	Blue-Green	2.69	1.54	475	#14-424	\$89.00	#14-425	\$89.00	#14-426	\$89.00
SCHOTT BG7	488	Deep Blue	2.61	1.52	468	#14-406	\$71.50	#14-407	\$71.50	#14-408	\$71.50
SCHOTT BG18	493	Blue-Green	2.68	1.54	482	#14-409	\$87.50	#14-410	\$87.50	#14-411	\$87.50
SCHOTT BG50	500	Blue-Green	2.61	1.53	452	#14-427	\$145.00	#14-428	\$145.00	N/A	-
SCHOTT VG20	500	Green	2.85	NA	390	#14-445	\$145.00	#14-446	\$145.00	#14-447	\$145.00
SCHOTT BG39	507	Blue-Green	2.74	1.54	322	#14-418	\$75.00	#14-419	\$75.00	#14-420	\$75.00
SCHOTT BG40	514	Blue-Green	2.74	1.53	313	#14-421	\$75.00	#14-422	\$75.00	#14-423	\$75.00
SCHOTT BG55	514	Blue-Green	2.64	1.54	453	#14-429	\$145.00	#14-430	\$145.00	N/A	-
SCHOTT VG9	525	Green	2.87	1.55	462	#14-442	\$75.00	#14-443	\$75.00	#14-444	\$75.00
SCHOTT BG36	Multi Band	Clear	3.59	1.69	657	#14-457	\$210.00	#14-458	\$210.00	#14-459	\$210.00

SCHOTT Colored Glass Heat Absorbing Shortpass Filters

Glass Reference Number	Density (g/cm ³)	Transformation Temperature (°C)	1mm Thickness		2mm Thickness		3mm Thickness	
			Stock No.	Price	Stock No.	Price	Stock No.	Price
SCHOTT KG1	2.53	599	#14-544	\$75.00	#14-545	\$75.00	#14-546	\$75.00
SCHOTT KG2	2.52	605	#14-547	\$75.00	#14-548	\$75.00	#14-549	\$75.00
SCHOTT KG3	2.52	581	#14-550	\$75.00	#14-551	\$75.00	#14-552	\$75.00
SCHOTT KG5	2.53	565	#14-553	\$85.00	#14-554	\$85.00	#14-555	\$85.00

SCHOTT Harsh Environment Colored Glass NIR Cut-Off Filters

Glass Reference Number	Cut Off Wavelength (nm)	Color	Density (g/cm ³)	Transformation Temperature (°C)	1mm Thickness	
					Stock No.	Price
SCHOTT BG60	500	Blue-Green	2.83	411	#14-431	\$145.00
SCHOTT BG61	490	Blue-Green	2.81	402	#14-433	\$145.00
SCHOTT BG62	500	Blue-Green	2.85	410	#14-435	\$145.00
SCHOTT BG63	480	Blue-Green	2.79	416	#14-437	\$145.00
SCHOTT BG64	450	Blue-Green	2.78	417	#14-439	\$145.00
SCHOTT BG67	510	Blue-Green	2.85	390	#14-441	\$145.00

TECHSPEC® Linear Polarizing Film

- High Contrast, High Transmission, or High Temperature Options
- Range of Sizes from 25 x 25mm to 1000 x 600mm
- Custom Sizes Available

TECHSPEC® Linear Polarizing Film is available in high contrast, high transmission, or high temperature options in a variety of standard sizes and thicknesses with thicker films providing increased rigidity. High Contrast Polarizing Film provides extinction ratios up to 30,000:1 and is ideal for general imaging applications or optical inspection systems. High Transmission Polarizing Film provides the highest possible light transmission of a polymer film in the visible spectrum and is ideal for machine vision or illumination applications. High Temperature Polarizing Film provides a temperature resistance of 100°C over 1000 hours and is used in harsh environment applications.



NEW

NEW POLARIZERS

	High Contrast Polymer Film XP42	High Transmission Polymer Film XP44-40	High Temperature Polymer Film XP40HT
Substrate:			
Transmission Single (%):	≥42	44.2 ± 1.5	40 ± 2
Transmission Parallel (%):	≥36	38.6	32.2
Transmission Crossed (%):	<0.004	<0.02	<0.007
Operating Temperature (°C):	-40 to +80	-40 to +80	-40 to +100
Extinction Ratio:	9,000:1	2,000:1	5,000:1
#14-345, 14-346, 14-347:	30,000:1		

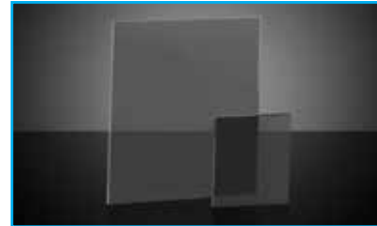
Dimensional Tolerance (mm):	See Web
Thickness Tolerance (%):	±10
Wavelength Range (nm):	400 - 700
Polarization Axis:	See Web

TECHSPEC® Linear Polarizing Films												*Call for Availability and Pricing	
Dimensions (mm)	High Contrast				High Temperature				High Transmission				
	0.18mm Thickness	Price	0.40mm Thickness	Price	0.75mm Thickness	Price	0.19mm Thickness	Price	0.40mm Thickness	Price	0.40mm Thickness	Price	
25 x 25							#13-911	\$14.00	*		*		
50 x 50	#86-178	\$19.50	*		#86-186	\$19.50	#13-912	\$20.10	*		*		
100 x 100	#86-179	\$35.70	*		#86-187	\$35.70	#13-913	\$36.00	*		*		
150 x 150	#86-180	\$51.00	*		#86-188	\$51.00	*		*		*		
200 x 200	#86-181	\$86.70	*		#86-189	\$86.70	#13-914	\$89.00	*		*		
250 x 250	#86-182	\$112.00	#14-347	\$160.00	#86-190	\$112.00	*		*		#14-353	\$150.00	
300 x 300	#86-183	\$147.90	#14-344	\$147.90	#86-191	\$147.90	#13-915	\$150.00	#14-350	\$150.00	*		
500 x 500	*		#14-346	\$290.00	*		*		*		#14-352	\$260.00	
600 x 450	*		#14-343	\$254.00	#86-192	\$254.00	*		*		*		
600 x 500	#86-184	\$254.00	*		*		#13-916	\$260.00	#14-349	\$260.00	*		
900 x 600	*		#14-342	\$355.00	#86-193	\$355.00	*		*		*		
1000 x 500	*		#14-345	\$395.00	*		*		*		#14-351	\$365.00	
1000 x 600	*		*		*		#13-917	\$365.00	#14-348	\$365.00	*		

Near-Infrared (NIR) Linear Polarizing Film

- Ideal for NIR Polarization Applications
- >400:1 Extinction Ratio from 800 - 2200nm
- High Efficiency Across Wavelength Range

Near-Infrared (NIR) Linear Polarizing Film consists of a durable polymer substrate and is ideal for imaging applications that range from the visible to NIR (400 - 2200nm). This polarizing polymer film features an excellent average transmission of 39% with greater than 99.6% polarization efficiency for incident randomly polarized light between 760 and 2200nm. Multiple rectangular sizes are available to accommodate light sources that range from low power NIR lasers with small beam diameters, to larger LED light beams. Near-Infrared (NIR) Linear Polarizing Film is used in industrial imaging and laboratory applications, i.e. to attenuate the intensity of low output NIR lasers and LEDs or to reduce glare in images recorded using NIR photodetectors. The polarization axis is labelled on the protective masking of the polarizing polymer film.

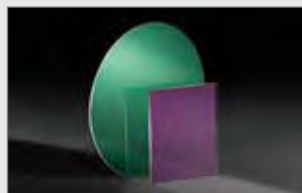


NEW

Near-Infrared (NIR) Linear Polarizing Film				
Dimensions (mm)	Stock No.	Price		
		1-10	11-25	26+
12.5 x 12.5	#12-472	\$39.90	\$38.70	Call
25.0 x 25.0	#12-473	\$110.00	\$106.70	
50.0 x 50.0	#12-474	\$259.00	\$250.00	
76.0 x 76.0	#12-475	\$399.00	\$389.00	

Substrate:	Polymer Film on TAC
Thickness (mm):	0.50 ± 0.1
Dimensional Tolerance (mm):	±0.25
Extinction Ratio:	400:1 (Average @ 800 - 2200nm)
Polarization Efficiency (%):	99.83 @ 400 - 760nm 99.63 @ 761 - 2200nm
Operating Temperature (°C):	-55 to +85 (3 hours)

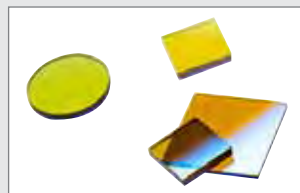
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Protective Overcoat Wire Grid Polarizers

- Protective Overcoat for Easy Handling and Cleaning
- Lighter, Thinner Design than Traditional Wire Grid Polarizers

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Corning Polarcor™ Glass Polarizers

- High Extinction Ratio and Low Insertion Loss in the NIR
- Resistant to Chemical, Physical, and Thermal Damage
- Suitable for High Power Applications

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Avantes Avaspec Interchangeable Slit Compact Spectrometers

- Back-Thinned CCD or CMOS Sensors with High Sensitivity and Dynamic Range
- Interchangeable Slit Kit Included

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Optotune Beam Steering Mirrors

- ±50° of Optical Scanning
- Protected Gold or Silver Coated Mirror Options
- Compact 45mm Diameter Housing Footprint

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TECHSPEC® Laser Focusing Singlets and Doublets

NEW



- Mounted AR Coated Nd:YAG Lenses Ease System Integration
- Singlets Feature Positive Focal Lengths from 60mm to 120mm
- Doublets Minimize Spot Size and Spherical Aberration

TECHSPEC® Laser Focusing Singlet and Doublet Lenses are economical and convenient options for a Nd:YAG laser machining applications. These lenses are mounted in an anodized aluminum housing for ease of system integration. Each housing is engraved with the stock number, focal length, and coating name (where applicable) for identification. TECHSPEC® Laser Focusing Singlet Lenses are coated with an Nd:YAG broadband antireflection coating (YAG-BBAR), providing less than 0.25% reflectance at the laser lines of 532nm and 1064nm. TECHSPEC® Nd:YAG Air-Spaced Achromatic Focusing Doublets close the performance gap between more economical single element spherical lenses and more costly aspheric versions, and minimize chromatic aberration where single lens element solutions cannot.

TECHSPEC® Laser Focusing Singlet Lenses		Irregularity (P-V):	$\lambda/4$	Housing Diameter (mm):	41.0
Substrate:	N-BK7	Surface Quality:	40-20	Coating Specification:	$R_{ds} < 0.25\%$ @ 532nm
Clear Aperture (mm):	28.0	Diameter Tolerance (mm):	+0.0/-0.025		$R_{ds} < 0.25\%$ @ 1064nm
Focal Length Tolerance (%):	± 1	Centering (arcmin):	<1		$R_{avg} < 1.0\%$ @ 500 - 1100nm
Design Wavelength (nm):	587.6				

TECHSPEC® Laser Focusing Singlet Lenses					
Effective Focal Length (mm)	Working Distance @ 532nm (mm)	Working Distance @ 1064nm (mm)	Housing Length (mm)	Stock No.	Price
60.0	47.7	48.3	24.6	#12-318	\$145.00
75.0	61.5	62.2	28.9	#12-319	\$145.00
100.0	73.3	73.7	33.6	#12-320	\$145.00
120.0	111.6	111.5	24.0	#12-321	\$145.00

TECHSPEC® Nd:YAG Air-Spaced Achromatic Focusing Doublet		Damage Threshold, By Design (J/cm²):	≥ 10 @ 1064nm, 20Hz, 10ns (typical)
Housing Diameter (mm):	36 ± 0.25	Transmitted Wavefront Error, RMS	$\lambda/4$ On central 18mm
Housing Length (mm):	16.1 ± 0.2	Coating Specification	$R_{ds} < 0.5\%$ @ 1030 - 1090nm
Input and Output Threads:	M34 x 0.75		$R_{ds} < 1.0\%$ @ 632.8nm

TECHSPEC® Nd:YAG Air-Spaced Achromatic Focusing Doublets					
EFL (mm)	WD (mm)	Center Air Spacing (mm)	f/#	Stock No.	Price
100.00	92.37	1.0	f/3.7	#12-160	\$700.00

ZEISS A-Plan Infinity Corrected Objectives

NEW



- Ideal for Brightfield and Fluorescence Applications
- Excellent Color Correction and Flatness of Field
- Oil Immersion Options Available

ZEISS A-Plan Infinity Corrected Objectives are designed for a variety of routine life science applications. These objectives exhibit excellent color correction and flatness of field that satisfy ISO 19012-1:2013 standards. They are ideal for brightfield inspection of fixed and stained tissues or cells in fluorescence applications. The large field number of 23mm facilitates fast screening of samples. ZEISS A-Plan Infinity Corrected Objectives are corrected for standard cover slips with 0.17mm thickness. **Note:** Tube Lens #13-828 is required when using ZEISS A-Plan Infinity Corrected Objectives with non-ZEISS Infinity Color Corrected (ICS) microscope systems.

Cover Glass Thickness (mm):	0.17
Field Number (mm):	23
Mounting:	M27 x 0.75
Type:	Infinity Color Corrected

Zeiss A-Plan Infinity Corrected Objectives								
	2.5X	5X	10X	20X	40X	63X	100X	100X OIL
Numerical Aperture, NA:	0.06	0.12	0.25	0.45	0.65	0.80	0.80	1.25
Working Distance (mm):	10.40	10.10	4.50	0.46	0.45	0.30	0.97	0.22
Stock No.	#13-814	#13-815	#13-816	#13-817	#13-818	#13-819	#13-820	#13-821
Price	\$379.00	\$270.00	\$216.00	\$292.00	\$433.00	\$572.00	\$520.00	\$703.00
Zeiss Tube Lens 1X							#13-828	\$245.00

ZEISS EC Epiplan Infinity Corrected Objectives

NEW



- Ideal for Brightfield, Fluorescence and Differential Interference Contrast Applications
- Enhanced Contrast
- Excellent Color Correction and Flatness of Field

ZEISS EC Epiplan Infinity Corrected Objectives are plan achromats and feature excellent color correction and flatness of field. Designed to meet the requirements of ISO 19012-1:2013, these objectives are ideal for material microscopy applications. By minimizing stray light, these objectives enhance system contrast making them ideal for reflected light brightfield applications. ZEISS EC Epiplan Infinity Corrected Objectives have a 23mm field number enabling large areas of magnification. **Note:** Tube Lens #13-828 is required when using ZEISS EC Epiplan Infinity Corrected Objectives with non-ZEISS Infinity Color Corrected (ICS) microscope systems.

Cover Glass Thickness (mm):	0
Field Number (mm):	23
Mounting:	M27 x 0.75
Type:	Infinity Color Corrected

Zeiss EC Epiplan Infinity Corrected Objectives						
	5X	10X	20X	40X	50X	100X
Numerical Aperture, NA:	0.13	0.25	0.40	0.60	0.75	0.85
Working Distance (mm):	11.80	11.00	3.20	2.20	1.00	0.87
Stock No.	#13-822	#13-823	#13-824	#13-825	#13-826	#13-827
Price	\$572.00	\$572.00	\$884.00	\$1,206.00	\$1,118.00	\$1,898.00
Zeiss Tube Lens 1X					#13-828	\$245.00

TECHSPEC® LH Series Fixed Focal Length Lenses

- Ultra-High Resolution Large Format Lenses
- F-Mount Lens Optimized for 120 Megapixels, 2.2µm Pixel Size Sensors
- Compatible with APS-H (35.5mm) and 35mm Full Frame Sensors

TECHSPEC® LH Series Fixed Focal Length Lenses are designed for 120 Megapixel sensors in an APS-H format. The LH Series are the first large format lenses to truly support the 2.2µm pixel size featured on the Canon 120MP CMOS Sensor. These ultra-high resolution lenses work with APS-H sensors (35.5mm diagonal) and also on larger 35mm full frame sensors (43.3mm diagonal). TECHSPEC® LH Series Fixed Focal Length Lenses provide a solution for the ultra-high resolution requirements of machine vision and many factory automation and display inspection applications. These lenses are available with an F-Mount or with a TFL-II Mount configuration on request.

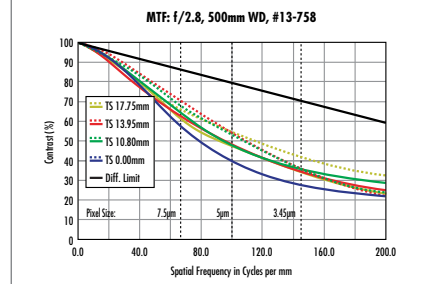


NEW

TECHSPEC® LH Series Fixed Focal Length Lenses

Focal Length:	35mm	
Maximum Sensor Format:	35mm	
Optimized Sensor Format:	APS-H	
Horizontal Field of View, APS-H Sensor:	247.3mm - 47.3°	
Working Distance:	250mm - ∞	
Aperture (f/#):	f/2.8 - f/22	
Lens Mount:	F-Mount	
Stock No. / Price	#13-758	\$2,295.00

Call For OEM Quantity Pricing



TECHSPEC® APS-C Format CA Series Fixed Focal Length Lenses

- High Resolution, Compact APS-C Lens (CA)
- Greater than 30 MegaPixels, 3.45µm Pixel Size Sensors
- APS-C (27.9mm), TFL-Mount Lens

TECHSPEC® APS-C Format CA Series Fixed Focal Length Lenses are designed for high resolution large format sensors. Covering the APS-C format sensors with a 28mm image circle, these lenses feature a TFL Mount. TFL Mounts feature an M35 x 0.75 thread with a 17.5mm flange distance, and offers the same flange distance, robustness, and ease of use as a C-Mount. TECHSPEC® APS-C Format CA Series Fixed Focal Length Lenses offer a compact size while accommodating large format sensors, making them ideal for machine vision and factory automation applications.



NEW

TECHSPEC® APS-C Format CA Series Fixed Focal Length Lenses

Focal Length (mm):	50mm	75mm	100mm
Maximum Camera Sensor Format:	APS-C	APS-C	APS-C
Aperture (f/#):	f/1.8 - f/16	f/1.8 - f/16	f/2.8 - f/22
Horizontal FOV on APS-C Sensor:	93.8mm - 25.2°	129.6mm - 15.3°	102.1mm - 12.7°
Working Distance:	200mm - ∞	500mm - ∞	500mm - ∞
Filter Thread:	M37.5 x 0.5	M40.5 x 0.5	M46 x 0.75
Diameter:	50mm	56mm	61mm
Max Length:	72.58mm	84.61mm	132.97mm
Mount:	TFL Mount	TFL Mount	TFL Mount
Stock No. / Price	#11-320 \$795.00	#11-321 \$850.00	#11-322 \$895.00

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Olympus X-Line Extended Apochromat Objectives

- High NA up to 1.45
- Chromatic Aberration Correction from 400 - 1000nm
- Uniform Image Flatness over Large FOVs

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Lucid Vision Labs Atlas™ Power over Ethernet (PoE) 5GBASE-T (5GigE) Cameras

- TFL-Mount Compatible with TECHSPEC® APS-C Format CA Series FFL Lenses
- 5.0 to 31.4 Megapixel Sensors

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Wide Angle Large Format F-Mount Lenses

- Wide Angles and Large Fields of View
- Covers up to 43.3mm Diagonal Large Format Sensor
- Lockable Manual Focus and Iris

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Compact Fixed Focal Length Lenses for 1.1" Sensors

- Ideal for 1.1" Camera Sensor Formats
- Compact Size
- Lightweight

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ZABER™ Motorized Stages

NEW



- Linear, Vertical, and Rotary Motorized Stages
- Controlled Manually or via RS-232 Serial Interface
- Easily Configurable In X-Y-Z Configurations

Zaber™ Motorized Stages are computer-controlled stages available as vertical translation stages, linear translation stages, and rotary translation stages. The vertical translation stage is a stepper actuator-driven platform that can lift loads up to 10kg over 20mm of travel at speeds up to 48mm/s. The linear translations stages are available as high precision models with 0.0476µm resolution or long travel models with speeds up to 280mm/s over 300mm of travel. The rotary translation stage provides 360° of continuous rotation with high resolution and speeds up to 115°/s. Zaber Motorized Stages can easily be combined together to create X-Y-Z stages configurations to meet application requirements.

Visit www.edmundoptics.com for Zaber™ Motorized Stage Accessories

	High Precision Linear Stage	Long Travel Linear Stage	Vertical Translation Stage	Rotary Translation Stage
Resolution:	0.0476µm	0.4961µm	0.0953µm	0.0002°
Repeatability:	<3µm	<3µm	<1µm	<0.02°
Min. Speed:	0.00003mm/s	0.003mm/s	0.00006mm/s	0.0001°/s
Max. Speed:	26mm/s	280mm/s	48mm/s	115°/s
Max. Thrust (N):	55	75	200	—
Backlash:	<12µm	<18µm	<35µm	<0.04°
Center Load (kg):	10	20	10	20
Maximum Operating Current (mA):	350	1450	1500	950

Zaber™ Motorized Stages

Travel	Accuracy, Unidirectional	Dimensions (mm)	Vertical		High Precision		Long Travel		Rotary	
			Stock No.	Price	Stock No.	Price	Stock No.	Price	Stock No.	Price
20mm	50µm	64 x 64 x 55	#15-292	\$2,195.00	N/A	—	N/A	—	N/A	—
25.4mm	15µm	45 x 162.6 x 21	N/A	—	#15-285	\$1,750.00	N/A	—	N/A	—
50.8mm	20µm	45 x 188.0 x 21	N/A	—	#15-286	\$1,850.00	N/A	—	N/A	—
101.6mm	35µm	45 x 238.8 x 21	N/A	—	#15-287	\$2,050.00	N/A	—	N/A	—
150mm	50µm	65 x 361.2 x 35.8	N/A	—	N/A	—	#15-289	\$2,350.00	N/A	—
203.2mm	60µm	45 x 340.4 x 21	N/A	—	#15-288	\$2,250.00	N/A	—	N/A	—
300mm	65µm	65 x 511.2 x 35.8	N/A	—	N/A	—	#15-290	\$2,820.00	N/A	—
360°	0.08°	82.6 x 144.8 x 31.7	N/A	—	N/A	—	N/A	—	#15-291	\$2,050.00

TECHSPEC® X-Y Positioning Stages

NEW



- Compatible with Our TECHSPEC® Manual Translation, Rotation, and Tip-Tilt Stages for Additional Axis Alignment
- Extended Travel in Both X and Y in a Low Profile Package
- Universal Bottom Plate for Both English and Metric Breadboard Mounting

TECHSPEC® X-Y Positioning Stage features a low profile design and two rack and pinion movements to allow for travel in both X and Y directions. English or Metric hole pattern top plates are available for the user's mounting requirement and sold separately from the rack and pinion mechanism. The English plate is compatible with our TECHSPEC® English Manual Translation Stages, while the Metric plate is compatible with our TECHSPEC® Metric Manual Translation Stages. The Rack & Pinion Drive Mechanism comes with a black anodized bottom plate featuring a universal hole pattern, which allows it to mount to both standard English and Metric breadboards directly without using additional adapter plates. TECHSPEC® X-Y Positioning Stage is ideal for quick X-Y positioning applications requiring a low profile design.

	#12-832	#12-694
Travel:	25 (±12.5mm) in X and Y	70 (±35mm) in X and Y
Travel Per Knob Rotation:	18mm	18mm
Load Capacity:	5 kg / 11 lbs	10 kg / 22 lbs
Dimensions (L x W x H):	65 x 65 x 46mm	125 x 125 x 50mm

TECHSPEC® X-Y Positioning Stages

Description	46mm Stage	Price	125mm Stage	Price
Rack and Pinion Drive Mechanism	#12-832	\$395.00	#12-694	\$450.00
English Top Plate	#12-831	\$25.00	#12-693	\$45.00
Metric Top Plate	#12-830	\$25.00	#12-692	\$45.00

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TECHSPEC® Small Optic Mounts

- Ideal for Ball Lenses and GRIN Lenses as Small as 1mm Diameter
- Spring-Loaded
- 1" Offset Design Allows Easy Placement with Shorter FL Lenses

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Ultra-High Power UV Curing System

- 4mm Beam Diameter for Focused Curing
- 365nm Center Wavelength
- Up to 5.5W/cm² UV Irradiance

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Gardasoft TR-CL180 Industrial Lens Controller

- Compatible with Optotune Industrial Focus-Tunable Lenses
- Control Range of -400 to +400mA with 0.1mA Steps
- GigE Vision Compliant

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Corning® Varioptic® Variable Focus Liquid Lenses

- New 1.6mm CA Liquid Lens
- Ideal for Machine Vision Autofocus Applications
- Development Kit with Boards and Software Available

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TECHSPEC® Stemmed Mirrors

Diameter Tolerance (mm):	+0.00/-0.10
Stem Diameter Tolerance (mm):	+0.00/-0.10
Coating Specification:	
Enhanced Aluminum:	R _{avg} >95% @ 450 - 650nm
UV Enhanced Aluminum:	R _{avg} >89% @ 250 - 450nm
	R _{avg} >85% @ 250 - 700nm
Protected Gold:	R _{avg} >96% @ 700 - 2000nm
	R _{avg} >96% @ 2000 - 10,000nm
Protected Silver:	R _{avg} >98% @ 450 - 2000nm
	R _{avg} >98% @ 2000 - 10,000nm
CA (%):	90.00
Thickness Tolerance (mm):	±0.20
Stem Length Tolerance (mm):	±0.20
Substrate:	Fused Silica
Back Surface:	Fine Grind
Surface Quality:	20-10

- **Stemmed Design Reduces Stress on the Mirror Surface when Mounted**
- **Monolithic Fused Silica Construction**
- **Designed to Fit TECHSPEC® Circular Kinematic Mounts**

TECHSPEC® Stemmed Mirrors are flat mirrors designed to be mounted by a stem on their back surface to TECHSPEC® Kinematic Circular Optical Mounts. All contact between the mirror and the kinematic mount is through the stem, reducing the stress imparted on the optical surface of the mirror. These mirrors feature a monolithic design and are manufactured from fused silica. TECHSPEC® Stemmed Mirrors can achieve a higher surface flatness when mounted than $\lambda/10$ flat mirrors directly mounted into kinematic mounts due to their stress-reducing design. These mirrors are available in standard metallic coatings, including enhanced aluminum, protected gold, and protected silver.



NEW

NEW SPECIALTY OPTICS

TECHSPEC® Stemmed Mirrors

Diameter (mm)	Thickness (mm)	Stem Diameter	Stem Length	Uncoated		UV Enhanced Aluminum		Enhanced Aluminum		Protected Silver		Protected Gold	
				Stock No.	Price	Stock No.	Price	Stock No.	Price	Stock No.	Price	Stock No.	Price
25.00	13.00	12.50	6.50	#14-577	\$100.00	#14-580	\$120.00	#14-579	\$120.00	#14-582	\$175.00	#14-581	\$185.00

TECHSPEC® Diamond-Like Carbon (DLC) Coated Germanium Windows

Substrate:	Germanium (Ge)
Dimensional Tolerance (mm):	+0.0/-0.1
Thickness Tolerance (mm):	±0.1
Surface Flatness (@ 10.6µm):	$\lambda/10$
Surface Quality:	60-40
Parallelism (arcmin):	≤1
Knoop Hardness (kg/mm ²):	780
Clear Aperture (%):	90
AR Coating:	
R _{avg} @ 8 - 12µm:	≤0.5%
Adhesion:	per MIL-C-48497A Paragraph 4.5.3.1
Abrasion:	Moderate, per MIL-C-48497A Paragraph 4.5.3.3
Humidity:	per MIL-C-48497A Paragraph 4.5.3.2
Temp. (°C):	-80 to +160 per MIL-C-48497A Paragraph 4.5.4.1
Solubility and Cleaning:	per MIL-C-48497A Paragraph 4.5.4.2
DLC Coating:	
Adhesion:	per MIL-M-13508C Paragraph 4.4.6
Abrasion:	Severe, per MIL-C-675C Paragraph 4.5.10
Humidity:	≥24 Hours per MIL-C-675C paragraph 4.5.8
Salt Solubility:	≥24 Hours Immersion per MIL-C-675C paragraph 4.5.7
Salt Spray:	≥24 Hours per MIL-C-675C paragraph 4.5.9
Temp. (°C):	-80 to +160 per MIL-M-13508C Paragraph 4.4.4
Wiper:	≥5,000 Wipes of Sand/Slurry per TS-1888

- **Meets Severe Abrasion Requirements of MIL-C-675C**
- **≥90% Transmission from 8 - 11.5µm**
- **Ideal for Harsh Environments**

TECHSPEC® Diamond-Like Carbon (DLC) Coated Germanium Windows have been designed with durability in mind. Featuring a high efficiency broadband anti-reflection coating on one surface, and a specially designed DLC coating on the other surface, these windows feature excellent transmission and environmental resistance. The DLC coated surface is designed to withstand temperature cycling from -80 to +120°C, salt spray for a continuous period of 24 hours, salt solubility for an immersion period of 24 hours, and 5,000 wiper oscillations in a sand and slurry mixture. Further, TECHSPEC® DLC Coated Germanium Windows meet the MIL-C-675C requirements for severe abrasion.



NEW

TECHSPEC® Diamond-Like Carbon (DLC) Coated Germanium Windows

Diameter (mm)	Thickness (mm)	Stock No.	Price
25.0	1.0	#13-795	\$350.00
25.0	3.0	#13-796	\$350.00
50.0	1.0	#13-797	\$700.00
50.0	3.0	#13-798	\$700.00
75.0	5.0	#13-799	\$1,225.00

So Much More Online...



TECHSPEC® Concave Laser Line Mirrors

- Ideal for Focusing Laser Light
- >99.8% Reflectivity at Center Wavelength
- High Thermal Stability Fused Silica Substrates

www.edmundoptics.com/3889



CO₂ Laser Optics Cleaning Kits

- Cleaning and Handling Supplies for ZnSe Optics
- Storage Case and Infrared Optics Cleaning Instructions Included
- Refill Kits and Extra Lens Polish Available

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HOLO/OR Diffractive Beam Sampler

- Produces Two Higher Order Beams for Beam Monitoring
- Insensitive to X-Y-Z Displacement
- Compatible with Single Mode or Multimode Beams

www.edmundoptics.com/4074



Hamamatsu USB-Powered Photon Counting PMT Modules

- Plug-and-Play Photon Counting via USB
- 8mm Effective Area
- Programmable with C++ or LabVIEW

www.edmundoptics.com/4079

TECHSPEC® Ultrafast Beamsplitters



- Designs for Ti:sapphire and Yb:doped Fiber Lasers
- 90:10, 70:30, and 50:50 (R:T) Split Ratios
- Controlled Reflection and Transmission GDD

TECHSPEC® Ultrafast Beamsplitters are designed for use with femtosecond pulsed Ti:sapphire and Yb:doped fiber lasers. Their front surface features a 90:10, 70:30, or 50:50 (R:T) non-polarizing beamsplitter coating while their back surface features an anti-reflective coating to minimize losses due to reflection. Each coating has controlled dispersion to allow for predictable group delay dispersion (GDD) of the transmitted or reflected pulses. TECHSPEC® Ultrafast Beamsplitters are available in standard imperial sizes for easy integration into optical systems. Please contact us if your application requires an Ultrafast Beamsplitter with a custom size or coating specifications. **Note:** The arrow on the edge of these optics points towards the beamsplitter coating.

Substrate:	Fused Silica
Diameter Tolerance (mm):	+0.00/-0.10
Thickness (mm):	3.00 ± 0.10
Clear Aperture (%):	80
Surface Quality:	10-5
Transmitted Wavefront	
Distortion @ 632.8nm:	λ/8
Parallelism (arcmin):	< 10
Angle of Incidence (°):	45

TECHSPEC® Ultrafast Beamsplitters

Wavelength Range (nm)	Reflection/Transmission Ratio (R/T)	Group Delay Dispersion (GDD)		12.7mm Diameter		25.4mm Diameter	
		Transmission	Reflectivity	Stock No.	Price	Stock No.	Price
650 - 1050	50/50	±15 fs² @ 650 - 1100nm	±15 fs² @ 650 - 1100nm	#13-833	\$190.00	#13-834	\$220.00
680 - 1020	70/30	±15 fs² @ 700 - 1080nm	±20 fs² @ 700 - 1080nm	#13-831	\$190.00	#13-832	\$220.00
715 - 980	90/10	±65 fs² @ 715 - 980nm	±75 fs² @ 715 - 980nm	#13-829	\$210.00	#13-830	\$240.00

TECHSPEC® Ultrafast Thin Film Polarizers



- Ideal for Ti:sapphire and Yb:doped Ultrafast Lasers
- Optimized for Separation of S and P Polarizations at 45° AOI
- High Extinction Ratio of 1000:1 @ DWL

TECHSPEC® Ultrafast Thin Film Polarizers utilize thin film coating technology to achieve optimal performance at 800 and 1030nm. The ion beam sputtering (IBS) coating on these polarizers provides >99.8% reflectance of the s-polarization and >98% transmission of the p-polarization at a 45° angle of incidence. TECHSPEC® Ultrafast Thin Film Polarizers are ideal to use with ultrafast laser sources such as Ti:sapphire and Yb:doped lasers. Please contact us if your application requires an Ultrafast Thin Film Polarizer with a custom size or coating specifications. **Note:** The arrow on the edge of these optics points towards the thin film polarizer coating.

Substrate:	Fused Silica
Diameter Tolerance (mm):	+0.00/-0.10
Thickness Tolerance (mm):	±0.10
Parallelism (arcmin):	< 3
Surface Quality:	10-5
Transmitted Wavefront,	
P-V @ 632.8nm:	λ/10
Angle of Incidence (°):	45
Clear Aperture (%):	85

TECHSPEC® Ultrafast Thin Film Polarizers

Design Wavelength (nm)	Thickness (mm)	Coating Specification		12.7mm Diameter		25.4mm Diameter	
		Front Surface	Back Surface	Stock No.	Price	Stock No.	Price
800	3.0	Rs >99.8%, Tp >98%	Rp <0.1%	#13-054	\$300.00	#12-993	\$350.00
1030	3.0	Rs >99.8%, Tp >98%	Rp <0.1%	#13-055	\$300.00	#12-992	\$350.00

So Much More Online...



TECHSPEC® Gorilla® Glass Windows

- New 25, 50, and 75mm Sizes
 - Chemically Strengthened Drawn Glass
 - Highly Resistance to Surface Scratches
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FLIR Blackfly® S Polarization Cameras

- Feature Sony's Polarization Image Sensor
 - Four-Directional Polarizers Formed on Chip
 - PoE GigE and USB 3 Versions
- www.edmundoptics.com/3958



HOLO/OR Diffractive Vortex Phase Plates

- Convert Gaussian Beams to Donut-Shaped Energy Rings
 - Vortex Phase Plates for 532nm and 1030nm Lasers Available
- www.edmundoptics.com/4070



HOLO/OR Diffractive Beamsplitters

- Split Input Beam into Several Diffraction Orders
 - Designs for Nd:YAG and CO₂ Lasers
- www.edmundoptics.com/4072

Substrate: Fused Silica
Surface Flatness: $\lambda/10$
Surface Quality: 10-5
Reflectivity: $R_{\text{avg}} >99\%$ @ 600 - 1000nm, 0°
 $R_{\text{avg}} >99\%$ @ 540 - 1000nm, 45°
 $R_{\text{avg}} >98.5\%$ @ 730 - 870nm, 45°
GDD: $0 \pm 20\text{fs}^2$ @ 600 - 1050nm
Damage Threshold, By Design:
 0.3 J/cm² @ 800nm, 48fs, 100Hz 1 pulse
 0.16 J/cm² @ 800nm, 48fs, 100Hz, 1000 pulses

- **Reflectivity >99% Between 600 - 1000nm**
 - **Low Group Delay Dispersion of $0 \pm 20\text{fs}^2$**
 - **Ideal for Ti:sapphire Lasers**
- TECHSPEC® Ultrafast-Enhanced Silver Laser Mirrors feature silver coatings that are enhanced with a dielectric coating to provide increased reflectivity between 600 - 1000nm. These mirrors have an intrinsically low group delay dispersion (GDD) within their broad wavelength range, making them ideal for the fundamental and harmonic wavelengths of Ti:sapphire lasers.



NEW

NEW GRATINGS

TECHSPEC® Ultrafast-Enhanced Silver Laser Mirrors

Diameter (mm)	Thickness (mm)	Stock No.	Price		26+ Call
			1-5	6-25	
12.7 +0.00/-0.10	6.35 ±0.20	#13-059	\$75.00	\$60.00	
25.4 +0.00/-0.10	6.35 ±0.20	#13-060	\$125.00	\$99.00	
50.8 +0.00/-0.10	9.53 ±0.20	#13-061	\$185.00	\$166.00	

ZEISS Concave Diffraction Gratings

- **High Grating Efficiency and Low Stray Light**
- **Holographically Produced to Minimize Aberrations**
- **Rowland Circle or Polychromator Mounting Configurations**

ZEISS Concave Diffraction Gratings combine dispersive and imaging properties onto a single optical component for integration into spectroscopic systems. These concave gratings are produced holographically, optimizing the focal plane and minimizing aberrations over the wavelength range of the grating. ZEISS Concave Diffraction Gratings are designed to have high grating efficiency and minimized stray light, improving the spectral resolution and signal to noise ratios of spectrometers. Diffraction gratings with Rowland Circle or polychromator mounting configurations are available. Rowland Circle gratings are ideal for spectroscopic systems designed on a Rowland Circle while polychromator gratings are optimized for setups with a fixed arrangement of the entrance slit, grating, and plane sensor.



NEW

Substrate: Rowland: ZERODUR®
 #11-539: N-ZK7
 Polychromator: N-BK7
Coating: Bare Aluminum
Groove Profile: Rowland: Sinusoidal
 Polychromator: Blazed

See our website for full mounting configurations and datasheets

ZEISS Concave Diffraction Gratings - Rowland Circle

Diameter (mm)	Thickness (mm)	ROC (mm)	Groove Density (l/mm)	Blaze Wavelength (nm)	Angle of Incidence, α	Diffraction Angle @ 200nm, β	Object Distance, l_o (mm)	Focal Distance, l_f (mm)	Stock No.	Price
32.0	7.0	150.7	3600	220	-40.0	-4.4	115.4	150.3	#11-536	\$550.00
40.0	8.0	298.5	3600	220	-40.0	-4.4	228.7	297.6	#11-535	\$595.00
40.0	12.2	501.2	2700	220	-40.0	5.9	383.9	498.5	#11-537	\$610.00
50.0	9.3	398.8	2400	200	-40.0	9.4	305.5	393.5	#11-539	\$570.00
64.5	11.8	749.9	2400	180	-40.0	9.4	574.4	739.9	#11-538	\$685.00

ZEISS Concave Diffraction Gratings - Polychromator

Diameter (mm)	Thickness (mm)	ROC (mm)	Groove Density (l/mm)	Blaze Wavelength (nm)	Angle of Incidence, α	Diffraction Angle @ 200nm, β	Object Distance, l_o (mm)	Focal Distance, l_f (mm)	Stock No.	Price
25.0	10.0	149.7	1600	230	4.0	14.5	159.7	146.6	#11-540	\$545.00
30.0	8.0	109.8	320	230	-3.8	7.4	110.0	108.2	#11-543	\$550.00
30.0	8.0	109.8	600	230	-7.2	14.2	113.6	104.8	#11-541	\$645.00
41.0	8.7	138.1	844	230	15.4	-5.5	144.7	133.1	#11-544	\$535.00
64.0	12.0	109.8	320	230	12.0	-8.3	105.4	111.4	#11-542	\$675.00

So Much More Online...



TECHSPEC® Ultrafast Enhanced Silver Reflex™ Objectives

- New Ultrafast-Enhanced Silver Coating Available
- 10X, 15X, and 20X Magnifications Available

www.edmundoptics.com/2687



TECHSPEC® Canopus™ Reflective Beam Expanders

- New Ultrafast-Enhanced Silver Coating Available
- 2X, 3X, and 5X Expansion Powers Available

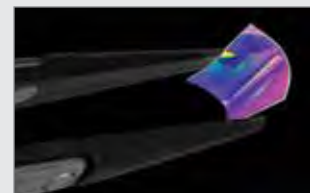
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High Power Laser Beam Visualizers

- Laser Beam Detection from the UV to the NIR
- High Damage Threshold for CW and Pulsed Lasers
- Ideal for Laser Alignment Applications

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Ultra-Thin Shortpass Filters

- Flexible Design to Conform to Curved Surfaces
- Scratch Insensitive, Ultra-thin Polymer Construction
- >80% Average Transmission

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TECHSPEC® Anamorphic Prism Pairs

NEW



- **Adjustable and Fixed Magnifications**
- **Ideal for Reshaping Elliptical Profile Laser Diodes**
- **Compatible with TECHSPEC Cage System or Standard Post Optical Mounts**

TECHSPEC® Anamorphic Prism Pairs are an economical solution to reshaping elliptical profile laser beams. These prisms utilize refraction in order to expand a beam in one dimension allowing users to manipulate beam profiles with minimal transmitted wave front distortion. Mounted versions of fixed and variable magnification, as well as unmounted versions are available for application flexibility. TECHSPEC® Anamorphic Prism Pairs are designed to be integrated with standard Edmund Optics mechanics such as the TECHSPEC® Cage System Component Kit and TECHSPEC® Stainless Steel Mounting Posts, providing laser integrators with more options for circularizing laser beam profiles.

Substrate: N-SF11 **Surface Flatness:** $\lambda/10$ **Surface Quality:** 20-10

TECHSPEC® Anamorphic Prism Pairs

*Depends on Mounting Configuration **With 1mm Minor Axis Input Beam

Mount Type	Coating Specification	Wavelength Range (nm)	Magnification	Stock No.	Price
Unmounted	$R_{\text{abs}} < 0.25\%$ @ 405nm $R_{\text{avg}} < 1.5\%$ @ 375 - 435nm	375 - 435	2X - 6X*	#65-933	\$185.00
Unmounted	$R_{\text{avg}} \leq 0.5\%$ @ 600 - 1050nm	600 - 1050	2X - 6X*	#47-244	\$158.00
Mounted	$R_{\text{avg}} \leq 0.5\%$ @ 600 - 1050nm	600 - 1050	4.22X	#47-274	\$423.50
Variable	$R_{\text{avg}} \leq 0.5\%$ @ 600 - 1050nm	600 - 1050	1X-8X**	#34-553	\$245.00

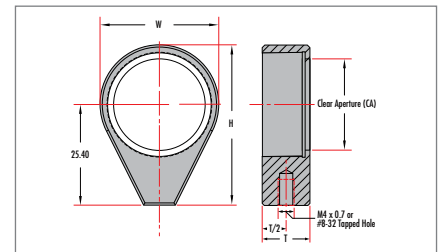
TECHSPEC® Compact Mirror & Lens Mounts

NEW



- **Ideal for Mounting Mirrors, Lenses, and Filters at a Uniform 25.4mm Optical Centerline**
- **Compact Design Ideal for Space-Restricted Systems**
- **Options Include C and S-Mount Circular Optic Mount Compatibility**

TECHSPEC® Compact Mirrors & Lens Mounts facilitate integration and alignment of optics into post-mounted benchtop systems that require a common centerline height. All mounts share a 25.4mm centerline, ensuring that mechanical and optical axes are aligned without additional adjustment.



TECHSPEC® Compact Mirror Mounts

Optic Dia. (mm)	Centerline Height (mm)	H (mm)	W (mm)	T (mm)	Clear Aperture CA (mm)	Barrel Thread	Note	#8-32 Post Mounting Stock No.	Price	M4 Post Mounting Stock No.	Price
12.7	25.4	37.9	18.0	6.4	9.9	None	Held by one set screw	#13-599	\$14.00	#13-598	\$14.00
25.4	25.4	43.9	30.0	6.4	22.9	None	Held by one set screw	#13-591	\$17.00	#13-590	\$17.00

TECHSPEC® Compact Lens Mounts

*ID1 is equivalent to SM1, while ID05 is equivalent to SM05

Optic Dia. (mm)	Centerline Height (mm)	H (mm)	W (mm)	T (mm)	Clear Aperture CA (mm)	Barrel Thread	Note	#8-32 Post Mounting Stock No.	Price	M4 Post Mounting Stock No.	Price
12.5/12.7	25.4	34.4	18.0	10.0	10.5	ID05 (0.535" x 40 TPI)*	One retainer ring included	#13-790	\$15.50	#13-789	\$15.50
25/25.4	25.4	40.4	30.0	12.0	23.0	ID1 (1.035" x 40 TPI)*	One retainer ring included	#13-788	\$16.00	#13-787	\$16.00
16mm Tube	25.4	36.4	22.0	8.0	16.0	None	Requires S-Mount Circular Optic Mounts (16mm O.D.)	#13-792	\$17.00	#13-791	\$17.00
30mm Tube	25.4	43.4	36.0	8.0	30.0	None	Requires C-Mount Circular Optic Mounts (30mm O.D.)	#13-794	\$19.50	#13-793	\$19.50

So Much More Online...



Acktar Blackened Pinholes

- Low Reflectance from the EUV to SWIR
 - 99% Absorbance Blackening Coating
 - Aperture Sizes from 50 to 1000 μ m
- www.edmundoptics.com/3903



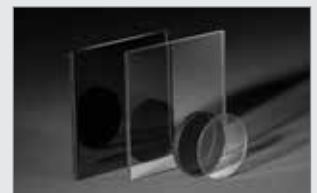
Colored Glass Diffusers

- Colored Glass Filter Substrates
 - 120-Grit Sandblasted Surface
 - Red, Blue, and Green Options
 - 25.4mm Diameter for Ease of Integration
- www.edmundoptics.com/3998



Acktar Blackened Laser Beam Traps and Blocks

- Coated for High Absorbance of Laser Light
 - Tubular Beam Trap or Thin, Flat Beam Block Designs
 - 30 to 92mm Apertures Available
- www.edmundoptics.com/3992



SCHOTT NG Gray Glass Neutral Density (ND) Filters

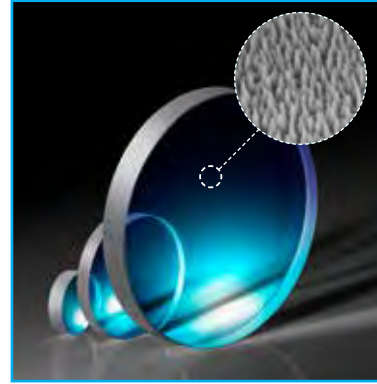
- Tightly Controlled Thickness
 - Standard Thicknesses of 1, 2, and 3mm
 - 0.14 to Greater Than 5 OD Versions Available
- www.edmundoptics.com/4041

TECHSPEC® Laser Line Windows with Nebular™ Technology

- Precision Fused Silica Windows with Nebular™ Nano-Structured Anti-Reflective Surfaces
- 1" Versions Available in Protective Delrin Ring to Facilitate Handling and Prototyping
- Custom Test Reports Available Upon Request

TECHSPEC® Laser Line Windows with Nebular™ Technology are designed to be used in demanding laser applications requiring high transmission and high laser damage thresholds. The absence of dissimilar materials such as thin film coatings eliminates stress, absorption, and heating at the surface of the window, reducing thermal lensing and increasing the laser-induced damage threshold. 355, 532, and 1064nm versions are available with specified high transmission, guaranteeing minimal scatter loss from the sub-wavelength structures at the design wavelength. TECHSPEC® Laser Line Windows with Nebular™ Technology are available in common imperial sizes and are ideal for integration in laser optics assemblies. **Note:** While the nano-structured surfaces can withstand high laser fluences and powers and have excellent UV durability, the surfaces are sensitive to mechanical contact. Do not touch surfaces and do not wipe clean.

Substrate:	Fused Silica	Damage Threshold, Certified:	Near Bulk
Surface Quality:	10-5	Angle of Incidence (°):	0
Dimensional Tolerance, Unmounted (mm):	+0.00/-0.10	Parallelism (arcmin):	<3
Thickness Tolerance, Unmounted (mm):	±0.20		



NEW

NEW WINDOWS

TECHSPEC® Laser Line Windows with Nebular™ Technology

Diameter (mm)	Thickness (mm)	Construction	355nm		532nm		1064nm	
			Stock No.	Price	Stock No.	Price	Stock No.	Price
12.7	6.35	Unmounted	#14-670	\$189.00	#14-671	\$189.00	#14-672	\$189.00
25.4	6.35	Unmounted	#14-648	\$239.00	#14-649	\$239.00	#14-650	\$239.00
50.8	6.35	Unmounted	#13-606	\$349.00	#13-607	\$349.00	#13-608	\$349.00
29.4	7.1	Protective Delrin Ring	#14-596	\$249.00	#14-597	\$249.00	#14-598	\$249.00

TECHSPEC® Ultrafast Thin Windows

- 1mm Thickness for Limited GDD
- Low Loss Broadband IBS Anti-Reflection Coating
- Designs for Wavelengths from 370 - 2200nm

TECHSPEC® Ultrafast Thin Windows are designed with a 1mm thickness to have limited group delay dispersion (GDD), making them ideal for ultrafast laser applications. These thin windows are available coated on both surfaces with an ion-beam sputtered (IBS) broadband antireflection coating optimized to provide low reflectance at wavelength ranges between 370 - 2200nm. The IBS coating process also provides these windows with lower absorption losses and scatter than conventionally coated anti-reflection windows. TECHSPEC® Ultrafast Thin Windows can also be used in general optical applications that require high-performance optical windows with a small form factor. Uncoated Thin Window substrates (UV Fused Silica or IR Grade Fused Silica) are available to offer the flexibility of custom coatings to meet your application requirements, please contact us for more information.

Dimensional Tolerance:	+0.0/-0.1	Transmitted Wavefront
Thickness Tolerance (mm):	±0.10	Distortion (P-V @ 632.8nm): $\lambda/6$
Clear Aperture (%):	90	Group Delay Dispersion (GDD): $0 \pm 30 \text{ fs}^2$
Parallelism (arcsec):	≤30	Coating: $R_{\text{refl}} < 0.1\% \text{ @ CWL}$
Surface Quality:	20-10	$R_{\text{abs}} < 0.2\% \text{ over full wavelength range}$



NEW

TECHSPEC® Ultrafast Thin Windows

Diameter (mm)	Thickness (mm)	Substrate	Uncoated		370 - 550nm		700 - 900nm		950 - 1150nm		1900 - 2200nm	
			Stock No.	Price	Stock No.	Price	Stock No.	Price	Stock No.	Price	Stock No.	Price
12.7	1.0	UV Fused Silica (Corning 7980)	#11-749	\$69.00	#11-746	\$79.00	#11-743	\$79.00	#11-740	\$79.00	N/A	–
25.4	1.0	UV Fused Silica (Corning 7980)	#11-750	\$89.00	#11-747	\$139.00	#11-744	\$139.00	#11-741	\$139.00	N/A	–
50.8	1.0	UV Fused Silica (Corning 7980)	#11-751	\$139.00	#11-748	\$219.00	#11-745	\$219.00	#11-742	\$219.00	N/A	–
12.7	1.0	IR Fused Silica (Corning 7979)	#11-752	\$79.00	N/A	–	N/A	–	N/A	–	#11-737	\$79.00
25.4	1.0	IR Fused Silica (Corning 7979)	#11-753	\$74.00	N/A	–	N/A	–	N/A	–	#11-738	\$139.00
50.8	1.0	IR Fused Silica (Corning 7979)	#11-754	\$139.00	N/A	–	N/A	–	N/A	–	#11-739	\$245.00

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Chief Executive
Officer

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