

상 세 규 격 서

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상 세 내 역

1. 주요규격

- 1-1. Ø1 inch Protected Silver Mirror, 10 Pack
- Diameter : 1.0" (25.4 mm)
 - Thickness : 6.0 mm (0.24")
 - Reflectance (Average) : >97% for 450 nm - 2 µm, >95% for 2 - 20 µm
 - Substrate : Fused Silica
 - Surface Flatness (Peak to Valley) : $\lambda/10$ @ 633 nm

- Surface Quality : 40-20 Scratch-Dig
- Parallelism : < 3 arcmin
- Clear Aperture : $> 90\%$ of Diameter
- 모델 사진



1-2. 10:90 (R:T) Non-Polarizing Beamsplitter Cube, 400-700 nm, 1/2 inch

- Cube Side Length : 1/2" (12.7 mm)
- Clear Aperture : $> 10.2 \times 10.2$ mm
- Transmitted Wavefront Error : $< \lambda / 4$
- Transmitted Beam Deviation : $0^\circ \pm 5$ arcmin
- Overall Performance : Tabs = $87 \pm 10\%$, Rabs = $7 +10/-7\%$, Tabs + Rabs $> 85\%$, $|Ts - Tp| < 10\%$, and $|Rs - Rp| < 10\%$
- 모델 사진



1-3. Bandpass Filter, $\varnothing 25$ mm, CWL = 420 nm, FWHM = 10nm

- Center Wavelength (Transmission) : 420 nm ($T > 90\%$)
- FWHM Bandwidth : 10 nm
- Blocking Regions (Optical Density) : 200 - 409 nm, 431 - 1200 nm ($OD_{abs} > 5$)
- Surface Quality : 60-40 Scratch-Dig
- Mounted Thickness : 3.5 mm
- Clear Aperture : $\varnothing 21.1$ mm
- Outer Diameter : $\varnothing 25.0$ mm
- 모델 사진



1-4. Ø1 inch Longpass Dichroic Mirror, 650 nm Cut-On

- Cut-On Wavelength : 650 nm
- Transmission Band (T_{abs} > 85%, T_{avg} > 90%) : 685 - 1600 nm
- Reflection Band (R_{abs} > 90%, R_{avg} > 95%) : 400 - 633 nm
- 모델 사진



1-5. Ø1 inch Longpass Dichroic Mirror, 490 nm Cut-On

- Cut-On Wavelength : 490 nm
- Transmission Band (T_{abs} > 85%, T_{avg} > 90%) : 505 - 800 nm
- Reflection Band (R_{abs} > 90%, R_{avg} > 95%) : 380 - 475 nm
- 모델 사진



1-6. Ø1 inch Polymer Zero-Order Half-Wave Plate, 633 nm

- Clear Aperture : >90% of Diameter
- Optic Diameter : 1" (25.4 mm)
- Optic Thickness : 3.2 mm
- Design Wavelength : 633 nm
- Transmission at Design Wavelength : ≥98%
- Broadband AR Coating Range : 350 nm - 700 nm
- Average Reflectance (Per Coated Surface) : <0.5%
- Retardance Accuracy : < λ /100
- Retardance Uniformity (RMS) : <5 nm

- Material : Liquid Crystal Polymer Between N-BK7 Glass Plates
- Transmitted Wavefront Error : $< \lambda / 4$ @ 633 nm
- Surface Quality : 60-40 Scratch-Dig
- Temperature Stability : < 0.08 nm/degree over Operating Temperature Range
- Operating Temperature Range : -20 to 60 ° C
- Beam Deviation : < 5 arcmin
- 모델 사진



1-7. 30:70 (R:T) Non-Polarizing Beamsplitter Cube, 400-700 nm, 1/2 inch

- Cube Side Length : 1/2" (12.7 mm)
- Clear Aperture : $> 10.16 \times 10.16$ mm
- Transmitted Wavefront Error : $< \lambda / 4$
- Transmitted Beam Deviation : $0^\circ \pm 5$ arcmin
- Overall Performance : $T_{\text{abs}} = 65 \pm 10\%$, $R_{\text{abs}} = 26 \pm 8\%$, and $T_{\text{abs}} + R_{\text{abs}} > 80\%$, $|T_s - T_p| < 15\%$ and $|R_s - R_p| < 15\%$
- 모델 사진



1-8. 50:50 Non-Polarizing Beamsplitter Cube, 400 - 700 nm, 1/2 inch

- Cube Side Length : 1/2" (12.7 mm)
- Clear Aperture : $> 10.16 \times 10.16$ mm
- Transmitted Wavefront Error : $< \lambda / 4$
- Transmitted Beam Deviation : $0^\circ \pm 5$ arcmin
- Overall Performance : $T_{\text{abs}} = 47 \pm 10\%$, $R_{\text{abs}} = 47 \pm 10\%$, and $T_{\text{abs}} + R_{\text{abs}} > 85\%$, $T_{\text{avg}} + R_{\text{avg}} > 90\%$, $|T_s - T_p| < 10\%$ and $|R_s - R_p| < 10\%$

- 모델 사진



- 1-9. Clamping Fork, 31.5 mm Counterbored Slot, M6 x 1.0Captive Screw, 5 Pack
- Secures Pedestal-Style Mount to a Breadboard or Optical Table
 - Clamping with 1/4"-20 (M6) Cap Screws
 - Position Fork Over 360° to Select Most Convenient Mounting Hole
 - Clamping Forks Available in Packs of Five [CF038C(M)-P5 Not Sold Individually]
 - 모델 사진



- 1-10. Ø12.7 mm Pedestal Post Holder, Spring-Loaded Hex Locking Thumbscrew, L=79.7
- Aluminum, Spring-Loaded, Hex-Locking Thumbscrew for Positioning Ease
 - Three High Strength Magnets in Base Provide Holding Force Prior to Fastening
 - Extra Wide Relief Cut Provides a Two-Line Stable Contact for Post
 - Post can Pass Through Base Allowing Minimal Beam Height
 - 모델 사진



1-11. Dovetail Optical Rail, 450 mm, Metric

- Our Smallest Optical Rails for Compact Construction
- 8-32 (M4 x 0.7) Tapped Holes on Both Ends
- Compatible With Our Snap-On Rail Carriers
- Engraved Scale for Precision Alignment of Optical Elements
- Designed for the construction of stable one-dimensional assemblies
- Objects can be secured in place anywhere along the dovetail mounting surface
- These rails are offered from stock in lengths ranging from 450 mm
- 모델 사진



1-12. Dovetail Optical Rail, 600 mm, Metric

- Our Smallest Optical Rails for Compact Construction
- 8-32 (M4 x 0.7) Tapped Holes on Both Ends
- Compatible With Our Snap-On Rail Carriers
- Engraved Scale for Precision Alignment of Optical Elements
- Designed for the construction of stable one-dimensional assemblies
- Objects can be secured in place anywhere along the dovetail mounting surface
- These rails are offered from stock in lengths ranging from 600 mm
- 모델 사진



1-13. Large Kinematic V-Clamp Mount, Metric

- Provide ± 4 degrees of precision tip and tilt adjustment for cylindrical objects
- $\text{Ø}0.29$ " ($\text{Ø}7.4$ mm) to $\text{Ø}1.64$ " ($\text{Ø}41.7$ mm)
- Making it ideal where precision tip and tilt adjustment of larger cylindrical objects, such as a Laser Diode Module
- Materials : black anodized aluminum and stainless steel
- 모델 사진



1-14. Kinematic Mirror Mount for $\text{Ø}1$ inch Optics with Post Centered Front Plate, M4 Ta

- Front Surface of Mirror Aligned with Post-Mounting Hole to Simplify Beam Alignment
- Rear Loaded Double-Bored Mounting Cell with Nylon-Tipped Set Screw Secures Optic
- Mounts $\text{Ø}1$ " Optics at Least 3 mm (0.12") Thick
- $5/64$ " (2.0 mm) Hex Sockets in Lead Screws Accessible With or Without Knobs Removed
- 모델 사진



1-15. Translating Lens Mount for Ø1 Optics 1 Retaining Ring Included Metric

- High Resolution Adjusters Provide 250 $\mu\text{m}/\text{rev}$ for Micron Sensitivity
- Designed to Center Ø1" Optics in a Beam Path
- Tip/Tilt Deviation : <100 μrad
- Travel : ± 0.04 " (± 1 mm)
- Drive Type : M3 Adjustment Screw
- Optic Mounting : SM1 (1.035"-40) Thread
- 모델 사진



1-16. Ø12.7 mm Optical Post, SS, M4 Setscrew, M6 Tap, L=50 mm, 5 Pack

- One M4 Tapped Hole at Top and One M6 Tapped Hole at Base
- Removable Double-Ended M4 Setscrew
- Packs of 5 Available for 50 mm Lengths
- 모델 사진



1-17. Base Plate for Stages with 2 inch Dovetails, Metric Slot Spacing

- 1.26" Long, 1/4" (M6) Counterbored Slots for Additional Mounting Flexibility
- Orthogonal Male Dovetails for Two Stage Mounting Orientations
- Compatible with 2" Mating Dovetail Stages
- 모델 사진



1-18. Dovetail Rail Carrier, 1.00 inch x 1.00 inch (25.4 mm x 25.4 mm), 1/4 inch (M6) Counterbore

- 1.00" x 1.00" (25.4 mm x 25.4 mm) Carrier Platform
- 1/4" (M6) Counterbored Hole for Mounting
- The carrier can be placed onto the rail anywhere along its length without requiring access to the rail ends
- 모델 사진



1-19. Fixed Ø1 inch Mirror Mount, M4 Tap, 5 Pack

- Min Optic Thickness : 0.14" (3.6 mm)
- Clear Aperture : Ø0.94" (Ø23.9 mm)
- Double-Bored for Stable Contact
- 8-32 (M4) Tapped Hole allows for Mounting to Ø1/2" Posts
- Nylon-Tipped Locking Setscrew with 5/64" (2.0 mm) Hex
- 모델 사진



1-20. Compact 25 mm Travel Linear Translation Stage, Side Micrometer, M6 x 1.0 Taps

- Side- or End-Mounted Metric Micrometer
- Mounting Surface has Seventeen 1/4"-20 (M6) Tapped Blind Holes, 0.30" (7.6 mm) Deep
- Create Multi-Axis Configurations Using Dovetail Locking Screw
- Compatible with 2" Mating Dovetail Accessories
- They provide 25 mm of travel and feature a side- or end-mounted metric micrometer, respectively, which gives a 500 µm displacement for each revolution
- 모델 사진



1-21. Ø31.8 mm Studded Pedestal Base Adapter, M6 Thread, 5 Pack

- BE1(M) and BE1R(M) Adapters Convert Standard Ø1/2" Post Holders and Ø1" Post Extensions into Pedestal-Style Mounts
- The BE1R(M) adapter has a magnet in the base that is sufficiently strong to securely hold the base in place without clamping to an optical table
- 모델 사진



1-22. 90:10 (R:T) Non-Polarizing Beamsplitter Cube, 400 - 700 nm, 1/2 inch

- Cube Side Length : 1/2" (12.7 mm)
- Clear Aperture : >10.2 x 10.2 mm
- Transmitted Wavefront Error : $< \lambda / 4$
- Transmitted Beam Deviation : $0^\circ \pm 5 \text{ arcmin}$
- Overall Performance :
 Tabs = 7 +10/-5%, Rabs= 87 +10/-30%, and Tabs + Rabs > 70% (400 - 550 nm),
 Tabs = 7 +10/-5%, Rabs= 87 \pm 10%, and Tabs + Rabs > 85% (550 - 700 nm),
 $|T_s - T_p| < 10\%$ and $|R_s - R_p| < 10\%$ (400 - 700 nm)
- 모델 사진



1-23. Platform Mount for 1/2 inch or 12.5 mm Beamsplitters and Right-Angle Prisms, M4 Tap

- Compatible Optics : 0.50" or 12.5 mm Cubes and Right-Angle Prisms

- Mounting Holes : One 8-32 (M4) Tap
- Clamping Lip Height : 0.075" (1.9 mm)
- Clamping Screw Hex : 5/64" (2.0 mm)
- Mount Beamsplitter Cubes and Right-Angle Prisms
- 모델 사진



1-24. Large Adjustable Clamping Arm, M4 x 0.7 Threaded Post

- Max Optic Height : 1.61" (40.9 mm)
- Clamping Distance : 1.16" (29.3 mm)
- Post Thread : 6-32 (M4 x 0.7)
- Clamping Arms provide clamping force to secure optics to our kinematic platform mounts, stages, and V-clamps
- 모델 사진



1-25. Prism Mount Accessory for K6XS 6-Axis Mount, Metric

- Mounts on the Face of the K6XS Translating Cell
- 0.5" x 1.68" (12.7 mm x 42.7 mm) Platform
- 1/4" (6 mm) Adjustment Range
- Mounted on the rotation ring on the K6XS 6-axis kinematic mount and THORLABS 30 mm cage-compatible rotation mounts using the included 4-40 screws and hex key
- 모델 사진



1-26. 12.7 mm Translation Stage with Standard Micrometer, M6 Taps

- Actuator : 148-801ST Micrometer
- Resolution : 0.5 mm Translation per Revolution
- Travel : 12.7 mm
- Engraving : 10 μm (0.0004") per Division
- Taps(Top / Bottom) : M6 (Qty. 7) / M6 (Qty. 7), and M4 (Qty. 4)
- Barrel Size : $\varnothing 3/8$ " ($\varnothing 9.5$ mm)
- Vertical Load Capacity (Max) : 4.4 lbs (2 kg)
- Horizontal Load Capacity (Max) : 50 lbs (23 kg)
- 모델 사진



1-27. Mini-Series Kinematic Prism Mount, M3 Taps

- Mounting Platform (Maximum Depth / Tapped Holes) :
0.74" (18.7 mm) / 4-40 (M3) (3 Places)
- Adjuster Thread : M2.5 x 0.20
- Adjustment Per Revolution : 13.4 mrad
- Post Mounting : 4-40 (M3) Tapped Through Hole (2 Places)
- 모델 사진



2. 기타사항

가. 납품위치 : 경북 구미시 구미대로 350-27 XR 디바이스 개발 지원센터 207호

나. 납품개요 : 규격서의 조건에 맞는 시제품 납품

다. 납품기한 : 계약일로 부터 30일 이내

라. 계약의 이행

- 1) 본 규격서에 대한 주계약자(이하 “계약자” 라 한다)와 발주기관 간의 해석상 이견은 발주기관의 해석에 따라야 하며, 본 규격서에 특별히 명시되지 않은 사항은 정부계약법 등의 규정과 일반 관례에 따른다.
- 2) 발주기관은 계약내용 전부에 대한 권리를 행사할 수 있으며 계약자는 이에 대하여 전적으로 동의해야 한다.
- 3) 본 규격서에 명시된 모든 조항은 본 사업의 원활한 추진에 필요한 최소한의 사항만을 규정하였으므로 상세히 기술하지 않았거나 누락된 사항에 대해서도 정상운영 및 서비스에 문제가 발생되지 않도록 계약자는 사전 조치를 취하여야 한다.
- 4) 본 규격서에서 요구하는 성능 및 특성에 대해 계약자의 오인 또는 누락된 상태로 계약 체결되어, 계약 후 이를 보완하기 위한 설계 변경, 물품 등을 추가해야 할 경우 계약자 부담으로 시행한다.
- 5) 계약자는 공급하는 제품의 성능, 품질 등에 대한 최종적인 책임을 진다.

마. 하자보증기간 : 납품 후 1년

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