

## 상 세 규 격 서

구분	품명	단위	수량	비고
1	12X Zoom Lens with 12 mm Fine Focus	ea	2	
2	4" x 3" Lab Jack, 1.04" Vertical Travel, 50 lbs Load Capacity, Metric	ea	2	
3	Snap-On 30 mm Cage Mounting Bracket, #8 (M4) Slot	ea	2	
4	10X Mitutoyo Plan Apochromat Objective, 480 - 1800 nm, 0.26 NA, 30.5 mm WD	ea	1	
5	f = 4.5 mm, NA = 0.55, WD = 2.4 mm, Mounted Aspheric Lens, ARC: 350 - 700 nm	ea	5	
6	Right-Angle Clamp for Ø1/2" Posts, 5 mm Hex, 5 Pack	ea	2	
7	Right-Angle Ø1/2" to Ø6 mm Post Clamp, 5 mm Hex Thumbscrew	ea	4	
8	Right-Angle Ø25.0 mm to Ø1/2" Post Clamp	ea	8	
9	Ø1.5" Mounting Post Bracket, M6 Taps	ea	4	
10	Ø1.5" Mounting Post, M6 Taps, L = 250 mm	ea	4	
11	Ø1.5" Mounting Post, M6 Taps, L = 350 mm	ea	8	
12	Clamping Fork for Ø1.5" Pedestal Post or Post Pedestal Base Adapter, 0.85" Counterbored Slot, Universal, 5 Pack	ea	2	
13	Clamping Fork for Ø1.5" Pedestal Post or Post Pedestal Base Adapter, 1.25" Counterbored Slot, Universal, 5 Pack	ea	2	
14	Mini-Series Kinematic Prism Mount, M3 Taps	ea	3	
15	Ø25.0 mm Pedestal Pillar Post, M4 Taps, L = 19 mm	ea	18	
16	Adapter with External SMI Threads and Internal SMD5 Threads, 0.40" Long	ea	10	
17	Mini-Series Kinematic Mount for 12.7 mm Tall Rectangular Optics, Right Handed, M3 Taps	ea	10	
18	Rotation Mount for Ø1/2" (Ø12.7 mm) Optics, M4 Tap	ea	5	
19	Dual Rotation Mount for Ø1" Optics, Two Interchangeable Rotating Carriages, M4 Tap	ea	1	
20	f = 50 mm, Ø1/2" UVFS Plano-Convex Lens, ARC: 350 - 700 nm	ea	2	
21	Cage Rotation Mount for Ø1" Optics, SMI Threaded, M4 Tap	ea	9	
22	Rotation Mount for Ø1/2" (Ø12.7 mm) Optics, External SMI Threads	ea	4	
23	f = 75 mm, Ø1/2" UVFS Plano-Convex Lens, ARC: 350 - 700 nm	ea	3	
24	Mounted Continuously Variable ND Filter, Ø50 mm, OD: 0.04 - 4.0	ea	1	

### 상 세 내 역

#### 1. 주요규격

##### 1-1. 12X Zoom Lens with 12 mm Fine Focus

- 12X Zoom Range (Core Lens Has a Zoom Range of 0.58 - 7X)
- 0.005 - 0.202 System NA
- Designed for 2/3" Sensor Format Cameras
- An Extension Tube is Required for Use
- 모델 사진



1-2. 4" x 3" Lab Jack, 1.04" Vertical Travel, 50 lbs Load Capacity, Metric

- Compatible with Mini-Series Breadboards and Components
- 1.04" (26.5 mm) Height Adjustment from 0.84" (21.3 mm) to 1.88" (47.8 mm)
- 3.00" (76.2 mm) x 4.00" (101.6 mm) Mounting Surface
- 50 lbs (23 kg) Vertical Load Capacity
- Mounting Holes: L200/M: M6 (7 Places), M4 (4 Places), and M3 (18 Places)
- Steel Leadscrew with 1/8" Hex Socket Height Adjuster (1/8" Hex Wrench Included)
- 모델 사진



1-3. Snap-On 30 mm Cage Mounting Bracket, #8 (M4) Slot

- 30 mm Cage System Compatible
- Snap-On Functionality for Easy Installation or Removal
- Firmly Lock onto Ø6.0 mm ER Rods with Flexure Slot Locking Design
- Off-Axis Mounting Adjustment Range CPMA3:  $\pm 0.28"$  ( $\pm 7.0$  mm)
- 모델 사진



1-4. 10X Mitutoyo Plan Apochromat Objective, 480 - 1800 nm, 0.26 NA, 30.5 mm WD

- Wavelength Range : 480 - 1800 nm
- Magnification : 10X
- Working Distance : 31 mm
- Effective Focal Length : 20 mm
- Numerical Aperture : 0.26
- Entrance Pupil Diameter : 10.4mm
- Resolution : 1.3  $\mu$ m

- Optical Field Number : 24
- Parfocal Length : 95 mm
- Objective Threading : W26 x 0.706; 5 mm Depth
- 모델 사진



1-5.  $f = 4.5$  mm,  $NA = 0.55$ ,  $WD = 2.4$  mm, Mounted Aspheric Lens, ARC: 350 – 700 nm

- Effective Focal Length : 4.5 mm
- Numerical Aperture : 0.55
- Outer Diameter : 9.2 mm
- Working Distance : 2.4 mm
- Clear Aperture : S1:  $\varnothing 3.93$  mm, S2:  $\varnothing 5.07$  mm
- Center Thickness : 2.708 mm
- Design Wavelength : 780 nm
- AR Range : 350 – 700 nm
- Laser Window Thickness : 0.250 mm
- Glass : D-ZLaF52LA
- Thread / Suggested Wrench : M9 x 0.5 / SPW301
- 모델 사진



1-6. Right-Angle Clamp for  $\varnothing 1/2$ " Posts, 5 mm Hex, 5 Pack

- Rigid Construction Accessories Required for Many Complex 3D Assemblies
- Double-Bored Through Holes for Stable Two-Line Contact
- Aluminum Thumbscrew Provides Secure Holding Force for Locking
- Clamp Angle :  $90^\circ$
- 모델 사진



1-7. Right-Angle  $\varnothing 1/2"$  to  $\varnothing 6$  mm Post Clamp, 5 mm Hex Thumbscrew

- Mounts a  $\varnothing 6$  mm Mini-Series Post or Cage Rod to a  $\varnothing 1/2"$  Post
- Right-Angle and  $360^\circ$  Continuous Adjustment Available
- The center-to-center distance between the two posts is  $1/2"$  (12.7 mm)
- 모델 사진



1-8. Right-Angle  $\varnothing 25.0$  mm to  $\varnothing 1/2"$  Post Clamp

- Mounts a  $\varnothing 1/2"$  Post Perpendicular to a  $\varnothing 1"$  ( $\varnothing 25.0$  mm) Post
- Flexure Mechanism Secures Right-Angle Clamp to  $\varnothing 1"$  ( $\varnothing 25.0$  mm) Post
- Thumbscrew Secures  $\varnothing 1/2"$  Post
- 모델 사진



1-9.  $\varnothing 1.5"$  Mounting Post Bracket, M6 Taps

- Seven M6 Tapped Holes
- Two M6 Clearance Holes
- Four M6 Clearance Slots
- Fits any  $\varnothing 1.5"$  diameter post
- The height of the platform can be adjusted up or down within a 14.0 mm adjustment range by loosening the 5 mm cap screws connecting the bracket to the clamp

- 모델 사진



1-10. Ø1.5" Mounting Post, M6 Taps, L = 250 mm

- Solid Nonmagnetic Stainless Steel Construction
- Ideal for Large, Rigid, 3D Structures
- Designed for constructing extremely rigid assemblies with demanding structural integrity requirements
- The stackable design, which has M6 tapped holes on both ends, allows the joining of multiple mounting posts to achieve an array of lengths. These posts have a thread depth between 9.525 mm and 10.16 mm
- 모델 사진



1-11. Ø1.5" Mounting Post, M6 Taps, L = 350 mm

- Solid Nonmagnetic Stainless Steel Construction
- Ideal for Large, Rigid, 3D Structures
- Designed for constructing extremely rigid assemblies with demanding structural integrity requirements
- The stackable design, which has M6 tapped holes on both ends, allows the joining of multiple mounting posts to achieve an array of lengths. These posts have a thread depth between 9.525 mm and 10.16 mm
- 모델 사진



1-12. Clamping Fork for Ø1.5" Pedestal Post or Post Pedestal Base Adapter, 0.85" Counterbored Slot, Universal, 5 Pack

- Clamping Forks Secure Pedestal-Style Mount to a Breadboard or Optical Table
- 0.85" (21.6 mm) Counterbored Slot
- Swivel Fork 360° to Select Most Convenient Mounting Hole
- 모델 사진



1-13. Clamping Fork for Ø1.5" Pedestal Post or Post Pedestal Base Adapter, 1.25" Counterbored Slot, Universal, 5 Pack

- Clamping Forks Secure Pedestal-Style Mount to a Breadboard or Optical Table
- 1.25" (31.8 mm) Counterbored Slot
- Swivel Fork 360° to Select Most Convenient Mounting Hole
- 모델 사진



1-14. Mini-Series Kinematic Prism Mount, M3 Taps

- Designed for Use with the Mini-Series Clamping Arm
- Fabricated from Black Anodized Aluminum
- Mounting Platform(Maximum Depth / Tapped Holes) :
- Adjuster Thread : M2.5 x 0.20
- Adjustment Per Revolution : 13.4 mrad
- Post Mounting : M3 Tapped Through Hole (2 Places)
- 모델 사진



1-15. Ø25.0 mm Pedestal Pillar Post, M4 Taps, L = 19 mm

- Solid Stainless Steel Construction
- Precision Ground to Ø1" (Ø25.0 mm)
- Stackable via 8-32 (M4) Tapped Holes on Both Ends
- Convenient Pedestal Base Design Compatible with Our CF Series Clamping Forks
- 모델 사진



1-16. Adapter with External SM1 Threads and Internal SM05 Threads, 0.40" Long

- Typical Application : Mount Thin Ø1/2" Optics in SM1 Lens Tube
- External Threads / Internal Threads : SM1 (1.035"-40) / SM05 (0.535"-40)
- 모델 사진



1-17. Mini-Series Kinematic Mount for 12.7 mm Tall Rectangular Optics, Right Handed, M3 Taps

- Hold 1/2" Tall Square or Rectangular Optics Using a Nylon-Tipped Setscrew
- Compact Nominal Footprint: 0.80" x 0.62" (20.2 mm x 15.8 mm)
- Resolution: 13.4 mrad (0.76°) per Revolution via Two M2.5 x 0.20 Precision Adjusters
- Two 4-40 (M3) Mounting Holes Enable Mini-Series Post Mounting
- 모델 사진



1-18. Rotation Mount for Ø1/2" (Ø12.7 mm) Optics, M4 Tap

- Mount Ø1/2" Optics up to 0.23" (5.8 mm) Thick
- Compact: 1.00" x 0.87" x 0.45" (25.4 mm x 22.1 mm x 11.4 mm) [L x W x H]
- Internal SM05 (0.535"-40) Threading for Compatibility with SM05 Lens Tubes
- One SM05RR Retaining Ring Included
- Post Mountable via 8-32 (M4) Mounting Tap
- 모델 사진



1-19. Dual Rotation Mount for Ø1" Optics, Two Interchangeable Rotating Carriages, M4 Tap

- Mount Two Ø1" Optics up to 0.25" (6.4 mm) Thick
- Each Optic Carriage Rotates Independently
- Rotating Optic Carriages are Interchangeable for Quick Swapping
- SM1-Threaded Optic Bore in Each Rotating Optic Carriage
- Two SM1RR Retaining Rings Included
- Post Mountable via 8-32 (M4) Tap
- 모델 사진





1-20.  $f = 50$  mm,  $\varnothing 1/2$ " UVFS Plano-Convex Lens, ARC: 350 - 700 nm

- Diameter :  $1/2$ "
- Focal Length : 50.2 mm
- Diopter : +19.9
- Radius of Curvature : 23.0 mm
- Center Thickness : 2.7 mm
- Edge Thickness : 1.8 mm
- Back Focal Length : 48.3 mm
- 모델 사진



1-21. Cage Rotation Mount for  $\varnothing 1$ " Optics, SM1 Threaded, M4 Tap

- $360^\circ$  of Continuous Rotation, Lockable
- $2^\circ$  Graduations on Dial, Labeled Every  $20^\circ$
- Accepts  $\varnothing 1$ " ( $\varnothing 25.4$  mm) or  $\varnothing 25.0$  mm Optics
- CRM1T(M) Maximum Optic Thickness:  $0.37$ " (9.4 mm)
- CRM1LT(M) Minimum Optic Thickness:  $0.31$ " (7.9 mm)
- 8-32 (M4) Tapped Mounting Hole to Mount on TR Series Posts
- Have a smooth rotation mechanism that allows for precise positioning of the rotation carriage and the mounts are compatible with the 30 mm cage system
- 모델 사진



1-22. Rotation Mount for Ø1/2" (Ø12.7 mm) Optics, External SM1 Threads

- Mount Ø1/2" Optics up to 0.26" (6.5 mm) Thick
- Internal Bore is SM05 (0.535"-40) Threaded for Compatibility with SM05 Lens Tubes
- External SM1 (1.035"-40) Threads for Mounting in SM1 Lens Tubes or 30 mm Cage Cubes
- One SM05RR Retaining Ring Included
- The mount features full 360° rotation of the front dial face and a setscrew for locking the rotational position into place
- 모델 사진



1-23.  $f = 75$  mm, Ø1/2" UVFS Plano-Convex Lens, ARC: 350 - 700 nm

- Diameter : 1/2"
- Focal Length : 75.3 mm
- Diopter : +13.3
- Radius of Curvature : 34.5 mm
- Center Thickness : 2.4 mm
- Edge Thickness : 1.8 mm
- Back Focal Length : 73.6 mm
- 모델 사진



1-24. Mounted Continuously Variable ND Filter, Ø50 mm, OD: 0.04 - 4.0

- Variable neutral density filters come with angular graduations and are mounted on an NDC-PM rotating axle mount
- Designed to minimize the effect on the clear aperture of the optic
- Adapters for both 8-32 and M4 mounting holes
- 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 21일 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

바. 규격관련 문의사항 : 광융합디스플레이연구센터 우성수 센터장 (054-460-9092)