# **OPTICAL & MEASURING**

Equipment 광학기기 제품 소개서

본 제품 소개서 외의 기타 자세한 내용에 대해서는 당사로 연락 주시기 바랍니다



PROFESSIONAL SCIENTIFIC INSTRUMENT

# 산업용 현미경

# Industrial Microscopes





## ● 대형 시료 및 FPD / 300mm 웨이퍼 검사용 현미경

- Enhanced observational performance
   Brightfield / Darkfield / DIC / Epi-fluorescence
- CFI60-2 optics with long working distance and high NA
- Tilting trinocular eyepiece tube for observation at optimum eyepoint level.
- The motorized universal nosepiece is three times more durable than others

#### **Applications**

- ITO Film 검사 PCB 검사 LCD 검사
- FPD 검사 300mm Wafer 검사 등

ECLIPSE L300N - 반사 L300ND - 투과/반사

-300mm 웨이퍼

ECLIPSE L200N - 반사 L200ND - 투과/반사

-200mm 웨이퍼

## Industrial Microscope – 연구/분석용 현미경

- Modularized microscope body applicable with various observations and tasks
- Newly developed CFI60-2 series provides the ultimate in long working distance levels and the most advanced chromatic aberration in a light weight body
- Easy digital imaging
- ECLIPSE LV150NL with LED illumination

ECLIPSE LV150N - 반사 / Manual Type

ECLIPSE LV150NA - 반사 / Motorized Type

ECLIPSE LV100ND - 반사 / 투과 / Manual Type

ECLIPSE LV100DA-U - 반사 / 투과 / Motorized Type

#### **Compatible observation methods**

<u> </u>							
	Brightfield	Darkfield	DIC	Fluorescence	Polarizing	Phase contrast	Two-beam interferomety
Episcopic	0	0	0	0	0	_	0
Diascopic	0	0	0	_	0	0	_



# Inverted Microscopes

- 금속조직 분석용 현미경

Basic performance dramatically improved. Provides a more ergonomic and clear image observation.

ECLIPSE MA200 - High Perfomance

ECLIPSE MA100 / MA100L - Compact & Economical



Revolutionary portable digital microscope

#### ShuttlePix

• Camera : 1/1.8" CCD, 2.11 megapixels, 28fps (800×600)

• Magnification : 3x to 60x • Light source : white LED

Various Optional Accessories



# 반도체 검사장비

# Semiconductor Equipments Nikon





# • 200mm 웨이퍼 자동 이송장치

NWL200 Serise

#### Nikon's proprietary technology ensures reliable loading of ultra-thin 100µm wafers

Wafers are following a trend toward ever greater thinness. Nikon's outstanding proprietary technology makes the NWL200 Series the first lineup of wafer loaders for inspection microscopes capable of loading 100  $\mu m$ thin wafers. The NWL200 Series achieves highly reliable loading suitable for inspection of next-generation semiconductors.

- Wafer Size: 200mm / 150mm×1
- Sensor : Non-contact, photoelectric sensors
- Thickness : 300μm ~ 100μm
- Standards: SEMI: S2-0706, S8-0307, F47 compatible
- Carrier : SEMI 25 (26) wafer carrier
- Laser safety: FDA Class 1

# ● 300mm 웨이퍼 자동 검사 장치 - Wafer Inspection System

#### OPTISTATION-3000

Simple and speedy manual visual inspection of 300mm wafers. Contributes to dramatic increases in yields as an inline inspection system and analysis tool for R&D defect analysis.

- High transfer stability.
- Enhanced macro observation functions.
- Extra-long working distance lens.



# CT & X-Ray Inspection System





XT H 160 An entry model scanner for interior and exterior inspection

XT H 225 for Full inner and outer inspection

XT H 320 LC Industrial CT Scanning

XT H 450 for CT Inspection of Blades & Castings MCT225 for Metrology CT

#### **Applications**

- Evaluation and measurement of precision plastic parts and small castings, complex mechanisms, internal components, part-to-CAD comparison, etc.
- Advanced material research and analysis of biological structures
- Digital archiving of models

- Troubleshooting of assembly issues
- Detailed analysis of the internal structure of turbine blades Automated pass/fail inspection of blades
- Inspection of high density parts (e.g. metal parts, castings) with a need for micron accuracy

# ● X-Ray 검사장치

Top-class inspection system for miniaturized electronic components Compact, versatile and easy-to-use electronics QA system

XT V 160 XT V 130

#### **Applications**

- · Electronic and electrical components
- Populated and unpopulated PCBs
- Micro-electro-mechanical systems (MEMS, MOEMS)
- Populated and unpopulated PCBs
- BGA and CSP inspection
- · Cables, harnesses, plastics and many more

# 실체 현미경

# Stereoscopic Microscope Nikon





# ● Top Class 연구용 실체 현미경

SMZ25 / SMZ18

**High-end** stereo microscope featuring the world's largest zoom range, higher resolution and bright Epi-fluorescence

- World's largest zoom range and highest resolution in the SMZ series
- Bright and high contrast fluorescent images
- Automation and digital imaging
- Easy to use
- Zoom ratio: 25:1, Magnification: 0.63x 15.75x (315x Max.)

# 중, 저가의 경제적인 연구용 실체 현미경

Superior optic performance, expandability, ergonomic design, and cost performance!

**SMZ1000** 8x  $\sim$  80x

High magnification: 0.8 ~ 8xHigh zoom ratio: 10:1 Zoom

Total magnification: 4x ~ 480x

**SMZ800**  $10x \sim 63x$ 

• High magnification: 1x ~ 8x

• High zoom ratio: 6.3:1 Zoom

Total magnification from 5x to 378x





# •• 다목적 고성능 실체 현미경

- Wide field of view, long working distance and High-resolution images!

AZ100 - Manual

AZ100M - Automatic control with Elements

- Mono-zoom mechanism enables true on-axis image capture in the macro.
- Total magnifications : 6.25x ~ 500x
- Zoom Ratio: 8:1
- High-resolution/high-contrast observation.
- Observation: Epi-fluorescence, Reflected/Transmitted light brightfield, Simple POL and Differential Interference Contrast
- Intelligent triple nosepiece Motorized control of Zoom and Focusing Movement
- Communication with a PC and DS-L2 and DS-U2 digital camera

# 확대 관찰용 실체 현미경

- 7.5x zoom and 115 mm working distance

SMZ745 - Binocular Optical Head

SMZ745T - Trinocular Optical Head

Optical Magnification: 6.7x ~ 50x

• Total magnifications: 3.35-300x

• Greenough optical system

Zoom ratio: 7.5: 1

• Built-in C-mount 0.55x magnification lens (F.N. 11), Compatible with 2/3 in. or smaller CCD



# Biological Microscope Nikon









For the bioscience and biomedical fields

ECLIPSE Ni-E - Automated

- ECLIPSE Ni-U Manual
- CFI60 and CFI75 infinity optical systems
- High-speed motorized accessories
- Automatic adjustment with objective changeover
- Automatic adjustment with objective change
- Change of observation conditions
- Supreme optical performance
- · High-precision motorized focusing

• Stratum structure improves system expandability

• Two exchangeable focusing mechanisms

• Ultimate ease of operation

# ● Microscopes for Clinical / Lab – 임상 및 LAB 연구용 현미경

#### ECLIPSE Ci-E / Ci-L / Ci-S

- Motorized magnification switching
- Enhanced operational ease
- Versatile observation techniques
- Bright and uniform Eco-illumination
- Effortless image capturing





# ● Clinical / Educational Microscope – 교육용 생물 현미경

Compact & basic microscope

#### **ECLIPSE E200**

- Crystal-clear image with CFI60 optics
- High-intensity LED Eco-illumination
- Ergonomic & Anti-mold design
- A wider field of view

#### **Biological Microscope**

#### ECLIPSE E100

- Plan series objective lenses for flat images
- High-intensity LED Eco-illumination
- Trinocular eyepiece tube allows image capturing
- Coaxial coarse/fine focus knob

# Inverted Microscopes – 도립 형 생물 현미경

- Stable time-lapse imaging with automatic focus correction system
- High-speed motorized control and acquisition
- High-quality phase contrast images using high NA lenses
- Advanced integration with peripherals via intelligent software
- Motorized laser TIRF illumination unit
- Photo activation illumination unit
- TIRF photo activation
- Three models for a wide range of applications
- Multiport design with a maximum of five imaging ports

#### High-Grade Research Microscope

**ECLIPSE** Ti

Its simple operation

ECLIPSE TS100/100-F

# Polarizing microscope

- 편광 현미경

High quality polarizing microscope

ECLIPSE LV100N POL

A compact polarizing microscope

ECLIPSE Ci-POL

A popular polarizing microscope

ECLIPSE E200POL



# 생물 현미경

# Biological Microscope Nikon



### ● Microscopes for Clinical / Lab – 세포내의 상호 작용 및 활동성 관찰 시스템



Nikon confocal microscope system A1R<sup>+</sup> is a powerful tool for the acquisition of intracellular dynamics and interaction.

A1<sup>+</sup> provides high-resolution imaging of up to 4096×4096 pixels with a galvano (non-resonant) scanner.

- · High-resolution imaging with a galvano scanner
- Increased light detection efficiency realizes high image quality
- VAAS pinhole unit for bright, clear images
- Enhanced spectral imaging
- Simple operation of complex applications

Captures high-quality and high-speed images

A1<sup>+</sup>/A1R<sup>+</sup>

Simple and robust - the new generation

C2<sup>+</sup>

### Confocal LASER microscope system

#### - 유기체의 형광 관찰용 LASER Confocal 현미경: 저가형 시스템

The Nikon C2<sup>+</sup> series offers the optimum confocal system to meet both your research and your budgetary needs.

AZ-C2⁺

Standard model boasts high resolution, high sensitivity, and high contrast. Suited for single laboratories or large research groups.

AZ-C2si<sup>+</sup> Ready

Upgrade to C2si<sup>+</sup> is possible by adding a spectral detector

AZ-C2si⁺

Spectral confocal system featuring a 32-ch multianode spectral detector. A spectral bandwidth of 320 nm can be captured in a single scan.





# Multiphoton Confocal Microscope

- 고성능의 유기체 형광 관찰용 LASER Confocal 현미경

#### A1 MP+/A1R MP+

A multiphoton confocal microscope which realizes ultra-deep, high-speed and high-quality imaging, and provide faster and sharper imaging from deeper within living organisms

- Ultrahigh-speed imaging of up to 420 frames per second
- Deep specimen imaging with non-descanned detectors (NDD)
- Super high-sensitive GaAsP NDD

# 비 접촉 3차원 측정기기

# CNC Video Measuring Systems



### ● NEXIV VMZ-R Series - 고속/고정밀의 범용 측정기

High-speed, high-accuracy measurement of a wide range of parts. Detailed settings for each workpiece are possible.



NEXIV VMZ-R3020

Suitable for small components such as mechanical parts, molded parts and high-density PCBs

Stroke: 300×200 mm (standard stroke model)

**NEXIV VMZ-R4540** 

Suitable for small components such as mechanical parts, molded parts and high-density PCBs

Stroke: 300×200 mm (standard stroke model)

Suitable for large components and "step-and-repeat" **NEXIV VMZ-R6555** measurements of multiple pieces on the stage

Stroke: 650×550 mm (large stroke model)

# ● Ultra-High Precision Type - 초 정밀 측정 시스템

Ultrahigh-precision and general-purpose type appropriate as a master instrument Max. measurement range: 300×300 mm

**NEXIV VMR-H3030** 

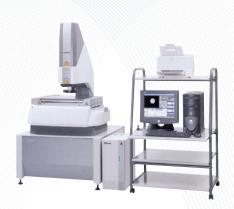
Ultrahigh-precision and general-purpose type appropriate as a master instrument.

Max. measurement range: 300×300 mm

#### Ultrahigh-precision Type with Maximum Magnification Module

NEXIV VMR-H3030 Z120X

With an ultrahigh-precision stage and maximum magnification module, it measures fine workpieces with ultrahigh accuracy



# Ultra Large Stroke Type - 대형 시료 측정 시스템

For high-precision measurements of large substrates and LCD parts Max. measurement range: 1000×800 mm



NEXIV VMR-10080

For high-precision measurements of large substrates and LCD parts Max. measurement range: 1000×800mm

#### Ultra-large Stroke Type with Maximum Magnification Module - 대형시료 및 고배율 측정대상

NEXIV VMR-10080 Z120X

For high-precision measurements of large substrates and LCD parts

Max. measurement range: 1000×800mm

# ● Confocal NEXIV – 고정밀, 고난이도 시료 측정 시스템



#### VMZ-K3040

Enables high-precision 2D measurement and fine 3D shape evaluation Measurement range: 300×400 mm

#### VMZ-K6555

Enables high-precision 2D measurement and fine 3D shape evaluation Measurement range: 650×550 mm

#### Compact! Economy!

#### **NEXIV VMA-2520**

Designed to meet the automated metrology requirements of mechanical parts, electronic devices, dies & molds and medical devices



# 접촉식 3차원 측정기

# 3D Metrology Systems Nikon





# 보급형 3차원 측정기

LK V Bridge and LK V HA High Accuracy CMM

LK High-speed Scanning Bridge CMM

Horizontal Arm CMM

Gantry CMM

The LK V series provides the ultimate stability to deliver significantly improved repeatability.

LK V-SL and LK V-SL HA offer the ultimate in scanning and inspection performance

The fastest high accuracy horizontal arm CMMs on the market

A new breed of large scale CMMs

# 비 접촉을 결합한 멀티센서 타입의 3차원 측정기

#### HN-6060

From critical dimension measurement to high-precision and non-contact shape inspection.

- Accuracy : 1.5+4L/1000 μm.
- Five-axis operation control
- Measuring Range: 600×600×600 mm



MCAx - Manual CMM Arm



#### Accuracy, usability and portability

7-axis versions

- High accuracy in volumetric length accuracy test 25µm for 7-axis version (6ft)
- Quick and repeatable sensor exchange and support of multiple sensors (laser scanner and tactile probe)
- Lightweight and thermally stable arm thanks to advanced carbon fiber and aluminum alloy components
- Ultrafast Wireless WiFi data transmission for tactile measurements
- Li-ion battery offering hours of measurement autonomy for tactile probe measurements
- Effortless single-handed operation through integrated pneumatic counterbalance and infinite-rotation arm joints



## ● 비 접촉 3차원 Laser Scanner

LC60Dx/LC50Cx/LC15 Line Scanners

XC65D(-LS) Cross Scanner

#### Benefits of CMM-Based LASER Scanning!

- Simplified measurement and processing setup
- Reduced measurement time
- Unique capability to measure freeform and fragile surfaces

Applications Inspection and reverse engineering of mobile phones, turbine blades, tools, castings, dies, sheet metal parts, plastics, etc.



# 측정기기

# Measuring Instruments Nikon







For Large Stroke Stage (Max, 300mm×200mm×200mm)



MM-800 / SL - For 3d Party DRO with Built-in Z Linear Scale

For Large Stroke Stage (Max, 300mm×200mm×200mm)

MM-400 / LM - Motorized Z Axis MM-400 / L - Built-in Z Linear Scale MM-400 - 2 axes measurement model MM-400 / S - For 3rd Party DRO MM-400 / SL - For 3rd Party DRO with Built-in Z Linear Scale

#### **Compact Measuring Microscopes**

MM-200 series / 50×50×110mm



# Profile Projector – 투영기

Powerful tool for the measurement and inspection of precision components, molds, and other objects. 600 mm, 500 mm and 305 mm effective screen diameters are available.

V-12B Screen diameter of 305mm

V-24B Screen diameter of 600mm

V-20B Screen diameter of 500mm





### Autocollimator

- 직각도. 직진도. 평탄도 등 정밀측정 시스템

#### 6B-LED/6D-LED

Autocollimator is for angularity, parallelism, perpendicularity, straightness of precision components, machine guide-way and many other applications.

- Telescope magnification: 38x
- Objective : f= 700 mm, effective aperture : 70 mm
- Measuring range: 30 minutes of arc (both vertical and horizontal axes)
- Minimum reading: 0.5 seconds of arc
- Measuring accuracy: 0.5 seconds of arc within a range of 5 minutes of arc
  - : 1 second of arc within a range of 30 minutes of arc
- Light source : LED

# 줌 렌즈 / FA용 렌즈

# Zoom Lens / Fixed Lens



# ● 고 해상도 ZOOM Video Microscope

#### High-resolution zoom monocular video microscope systems

MZDH0850

MZDH0850C (Coaxial)

MZDH0850D (Detents)

MZDH0850C-D (Coaxial, Detents)

Magnification: 0.75x ~ 5x

Working Distance: 82mm

MZDH0670

MZDH0670D (Detents)

MZDH0670C (Coaxial)

MZDH0670C-D (Coaxial, Detents)

Magnification 0.58X ~ 7.0X

Working distance: 82mm (1X objective)

MZDB0746C (Coaxial)

MZDB0746C-D (Coaxial Detents)

• Magnification : 0.7X ~ 4.6X

• Working distance: 73mm

#### Mini zoom

#### MZDV0640

MZDV0640C (Coaxial)

Magnification: 0.7X ~ 4.6X



기본 구성 예

# M 제율 Zoom Video Microscope systems

#### MZD0212

- Optical magnification: 0.2X ~ 1.2X
- Working distance(mm): 115

#### MZD0318

- Optical magnification: 0.3X ~ 1.8X
- Working distance(mm): 115

## MTDY series Object Space Telecentric Lens

### - 영상처리 시스템 용 렌즈

#### Working distance: 65mm

- Objective Mag.: 0.8x ~ 4x
- Resolution : 11.2 ~ 8.6µm
- D.O.F: 1.67 ~ 0.26mm

#### Working distance: 115mm

- Objective Mag.: 0.8x ~ 4x
- Resolution: 11.2 ~ 8.6µm
- D.O.F: 1.67 ~ 0.26mm

# MTV series CCTV Lens - 저 배율 감시용 렌즈

## MTD series fixed magnification monocular video microscope objectives

#### - 영상처리 시스템 용 렌즈

- Working distance : 40 ~ 200mm
- Objective Mag. : 0.1x ~ 8x
- Resolution: 11.2 ~ 8.6µm
- D.O.F: 1.67 ~ 0.26mm



MV2514 Focus: 25mm, Aperture: F1.4 ~ close MV3521 Focus: 35mm, Aperture: F2.1 ~ close MV4526 Focus: 45mm, Aperture: F2.6 ~ close MV6035 Focus: 60mm, Aperture: F3.5 ~ close

• Support : Up to 2/3" Sensor Working Distance: 110mm ~ ∞

• Aperture : F1.4 ~ close • Focal Length: 25mm



# 카메라 & 소프트웨어

# Cameras & Software for Microscopy



### Digital Camera System for Microscopy

- 고 배율 / 고 해상도 CCD 카메라

#### **Digital Sight Series**

High-definition color camera head
Super high-definition cooled color camera head
Super high-definition cooled color camera head
High-speed live display color camera head
High-speed live display color camera head

DS-Fi2 5-megapixel camera

DS-Ri1 12,7 megapixels

DS-Fi1c 5-megapixel CCD

DS-Vi1 2,0-magapixel CCD

DS-Vi1



#### **Control Unit**

Standalone control unit

DS-L3

PC-use control unit

DS-U3



#### **USB 2.0 Digital Camera**

#### **TE-Cooled CCD Camera**

- SONY ICX655AQ (Progressive)
- 2/3" Color SONY CCD Sensor
- 5.2M, 1.4M Pixels.

#### EX CCD Camera

- SONY ICX618ALA (Progressive)
   1/4" B/W SONY EXCCD Sensor
- Resolutions : 640×480 pixels

#### **UH CCD Camera**

- SONY ICX655AQ CCD(Color)
- Resolution: 5M, 4M, 3M, 1.4M
- Pixel Size: 3.45µm×3.45µm



# USB3.0 CCD / CMOS Cameras

#### U3CMOS14000KPA-MT9F002

- Resolution: 14M pixels
- Pixel Size : 1.4μm×1.4μm
- 6.2fps @4096×3286, 21fps @2048×1644, 54fps @1024×822
- 1/2.3" (6.138mm(H)×4.603mm(V), Diagonal 7.672mm)

#### U3CMOS10000KPA-MT9J003

- 1/2.2" Color Aptina MT9J003 (Progressive) CMOS Sensor
- 3584×2748 (Approx. 10M Pixels)
- 1.67µm×1.67µm
- 25fps @1792×1372 (Multiple Speed Level)

#### U3CMOS08500KPA-Special

- 1/2.3" Aptina CMOS Special sensor (Color)
- 3328×2548 (Approx. 8M Pixels)
- 1.67µm×1.67µm



#### U3CMOS05100KPA-MT9P006

- 1/2.5" Aptina MT9P006 CMOS (Color)
- 2560×1922 (Approx.5M Pixels)
- 2.2µm×2.2µm

#### U3CMOS03100KPA-AR0330

- 1/3" Aptina AR0330 CMOS Sensor (Color)
- 2.2µm×2.2µm
- 2048×1536 (Approx.3M Pixels)

#### 1D 3648 Pixel Linear CCD Camera

- TCD1304 (1D Toshiba CCD)
- 3648 Pixels
- 8µm×200µm
- Interface : USB2.0

# VGA Color Digital Camera

#### - LCD 모니터용 디지털 카메라

- 1/2.5" CMOS, Max. resolution
- 1024×768, frame rate 60fps
- VGA Output, C/CS Mount
- 4 adjustable horizontal/vertical lines
- Pixel Size : 5.2µmx5.2µm
- Power : DC 5V
- Lens Interface : C-Mount
- Computer graphics card standard : D-sub, 15 pin analog signal

# • 소프트웨어

#### Imaging Software for Microscopy



NIS-Elements Documentation (D)
NIS-Elements Basic Research (BR)

NIS-Elements Advanced Research (AR)

Image Analyzer & Measuring Software

TOUPVIEW™





# 저가형 현미경

# **Economical & OEM**



# Parallel Stereo Zoom Microscope

- 고성능 실체 현미경

#### **ZOOM 800**

- Parallel Optical System
- Magnification: 0.8x ~ 8x
- Working Distance: 78mm



# Toolmaker's Microscopes

- 공구 현미경

#### Compact & Economical System!

#### MV500031

- Monocular with 30° inclination angle
- 15X Eyepieces with cross-hair reticle
- 2X Objective
- Total magnification 30X
- Power: 220V 50Hz



### Industrial Microscope

- 사업용 현미경

#### MT2300T

- WF10X/25mm eyepiece,
- Infinity Apochromatic LWD objective : 5X/10X/20X/50X
- Quadruple Nosepiece
- Stage190×140mm(travel 50×40mm)
- Power: 12V/50W Halogen light.



### Metallurgical Microscope

- 금속 현미경

#### MT2100T

- 10X/22mm plan objective eyepiece,
- Bright field, Dark field, Polarizing, DIC
- Infinity LWD B/D objectives : 5X, 10X, 20X, 50X, 100X
- Quintuple Nosepiece,
- 6" stage, travel 158×158mm
- Power: 90-240V

# IC Pin Detector Zoom Microscope

- IC핀 검사 현미경

#### MZ3-7001-A



- 0.7-5X Micro Zoom Body
- 1.0X Objective Lens
- Horizontal Base Stand.
- 1/3" Color CCD Camera
- 12V Power Supply

# Video Endoscope & Bore Scope

- 전자내시경



#### MZ3-7001-A

- Monitor : 5" LCD Monitor
- Lamp: Metalhalide, Cold Light, 24W
- Viewing: 80° ~ 120°, Direct View
- Depth of Field : 200mm ~ ∞
- Length: 1.5 ~ 12m
- Horizontal Resolution: 480 TV Lines
- Outer diameter: Ø6.9, 8.5, 15, 16mm
- Bending Angle: 4-Ways, 120°

### 3-D Video Microscope

- 3-D 비디오 현미경

#### M-N3D

- 0.7X-4.5X Zoom Body
- 35° angle attachment with motorized control
- Working Distance: 46mm-331mm
- Bright LED lights with area control

# Inverted Metallurgical Microscope

- LWD Plan objectives 5X, 10X, 20X, 50X, 100X
- Stage size: 226mm×178mm(Travel 40×40mm)
- Observation : Bright/Dark Field, DIC as option







# 주변기기

# Accessories



### Stands



#### Multi-Angle Stand

- Dimensions: 537×460×406mm
- Horizontal Adjusting Range of Angle: 80°
- Vertical Adjusting Range of Angle: 60°
- The stand can rotate freely for 360°



#### Track Stand

- 76mm Scope Holder
- Track Length: 500mm
- LED Transmitted Lighting
- With a Manual Stage: 217×155mm
- Travel Distance: X: 80mm, Y: 90mm



#### Multi-Angle Stand

- Easy to use leg lock
- Grooved tubular legs
- 3-position leg angle adjustment
- Gearless Center Column
- Super low camera height of 40cm
- Rubber leg tips
- Pan Head with 4 independent movements
- Dual axis bubble level



#### Universal Stands

- 360° free in horizontal direction
- Length of Horizontal Arm : 250mm
- Length of Gradient Arm: 380mm
- Maximum Radius : 380mm
- Minimum Radius : 275mm
- Max. Load : 5.36kg

#### Universal Stand

- Base size : 285×260×18mm
- The length of horizontal bar : 530mm
- Vertical post : 384mm
- Maximum load: 9.5kg

#### X, Y Mechanical Stage

- Dimensions: 180×155×34mm
- Working Size : 180×155×26mm
- Travel : 75×55mm
- Dia. of Glass: 95mm





#### **Rotating Table**

- Top Dimensions : 150×150mm
- Diameter of Glass : 65mm with 360° scale



#### Inspection Stage

- Dimensions : 440×290×36mm
- Travel: XY 300×250mm travel, with
- Back Light Window: 19×14.5cm



#### Mechanical Stage

- Dimensions : 180×150mm
- Travel : XY 90×60mm





#### SF5 Holder

- Main Body Holder: Ø76mm
- Post hole : Ø15.8mm
- Center distance of two hole : 140mm



### SF9 Holder

- Coaxial Fine/Coarse Handwheel
- Post hole : Ø25mm.
- Main Body Holder: Ø76mm.
- Center distance of two hole: 150mm



#### SF5 Holder

- Post hole : Ø25mm.
- Main Body Holder: Ø45mm.
- Center distance of two hole: 140mm



#### **Tilting Stage**

- Top Stage Dia. 110mm
- Bottom Stage Dia. 95mm
- Total Height 60mm
- Angle: 0 ~ 45° Tilted
- Rotation: 360°

# 주변기기 Accessories

### Illuminators



#### **Fiber Optics Illuminators**

- 24V 150W Halogen
- Input 110/220 50/60Hz
- Color temperature 3200K



#### **DOME Illuminator**

- Power Supply : AC 100-240V, 50/60Hz
- Output : DC 24V
- Top mount : Ø78mm(outer)ר60mm(inner)
- Top caliber : Ø40mm
- Bottom opening size : Ø123mm(outer)ר92mm(inner)



#### **LED Ring Illuminator**

- Input: AC 90-240V 50/60Hz
- 144 LED Bulbs
- Max. Opening: 61mm



#### LED Point Illuminator (Coaxial)

- Input voltage: 100 ~ 240V Output voltage: 5V DC
- LED power : 3W
- · Color: White, red, yellow, green, blue, purple



#### **LED Point Illuminator**

- 2W spot light
- AC 90-240V 50/60Hz
- Output : DC 18-24V, 6W Max



#### **LED Back Light Illuminator**

- AC 90-240V 50/60Hz
- 144LED Bulbs
- Max. Opening: 61mm
- Divided into 4 areas



#### **Dual Pipe LED Illuminator**

- 1w×2 Dual Pipe LED
- Color temperature : 5500k
- Input AC 95-245V



#### Area Control LED Illuminator

- 2×2" active area
- Dimension: 86×52×16mm
- Input: AC 90-240V 50/60Hz
- Output : DC 18-24V, 6W Max

# Fiber Optics & LED Unit



#### **Dual Pipe Light Guide**

- Goose Neck Dual Pipe Fiber dia. : 7.1mm
- 460mm in length
- Focusing Lens



#### **Ring Fiber Optics**

- Ring Dia. : 58mm
- Fiber dia. : 10mm
- 1m in length (주문제작)



#### Single Pipe Light Guide (Flexible)

- Ring Dia. : 58mm
- Fiber dia. : 10mm
- 1m in length (주문제작)



#### Single Pipe Light Guide (Rigid)

- Goose Neck Dual Pipe Fiber dia. : 6mm
- 460mm in length
- Focusing Lens



#### Line Light Guide

- Fiber Optic Cable : Ø10mm
- Output 1×71mm
- 1m in Length



#### Color Filters

- Blue, Red, Yellow, Violet, Green, Diffuser
- UV / IR

### Objectives



Infinity LWD Objective



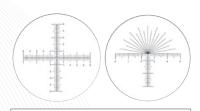
**NUV / NIR Objective** 



접안렌즈용 C-Mount Lens

#### Scales & Reticles

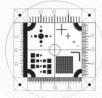
#### **Reticles & Stage Micrometers**





- Crosshair Reticle
- : Ø24mm, Crosshair 10mm/100 Div.
- Crosshair Reticle
- : Ø24mm, Crosshair 12mm/120 Div.
- Cross line Reticle : Ø24mm, Plain Crosshair
- Net Grid Reticle
- : Ø24mm, Net Grid 10×10mm/10×10mm
- Multi-Scale: Ø24mm, 0-180°/10°Half Protractor Linear Scales: 10mm/100/0.5mm
- Crosshair Reticle
- : Ø20mm. Crosshair 10mm/100 Div.
- Crosshair Reticle
- : Ø20mm, Crossed 10mm/100 Div.
- Crosshair Reticle : Ø20mm, Plain Crosshair.

- Net Grid Reticle
- : Ø20mm, Net Grid 10×10mm/10×10mm
- Scaled Reticle
- : Ø18mm, Straight Line 5mm/100 Div.
- Scaled Reticle: Ø18mm, Single Line 10mm/200 Div.
- Scale Micrometer
- : Dual Axis Linear (1mm/100/0.01mm)
- Scale Micrometer : Linear (1mm/100/0.01mm)
- Scale Micrometer : Linear (1inch/100/0.001inch)
- Multi-Function Scale Micrometer: Dual Axis (1mm/100/0.01mm), Linear(50mm/500/0.1mm)
- Multi-Function Scale Micrometer
- : Linear (10mm/100/0.1mm), Linear (1mm/100/0.01mm), Linear (10mm/200/0.05mm)



# Multi – Function Scale Micrometer

- Diameter: 35×2mm
- Mark : Positive 25 ~ 160 lp/mm
   Negative 25 ~ 160lp/mm





#### **Resolution Target**

- 1w×2 Dual Pipe LED
- Color temperature: 5500k
- Input AC 95-245V

# LCD Monitors, Color / BW



- Size: 7", 9", 12", 14", 17", 20"
- Input Signal : A/V, VGA, BNC
- Power: 90 ~ 240VAC

# Magnifiers



- 3x, 5x diopter
- Lens Dia. 5" (127mm)
- 22W circular fluorescent
- 40" arm, big clamp
- 3x, 5x, 7x diopter,
- 13W-2U fluorescent lights
- 185×115mm crown glass lens
- 40" arm, big clamp, ESD safe





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