



# Digital Microscopes & Measurement Systems

Our philosophy is simple; we are curious, we work hard, we are passionate about what we do and we deliver value to our partners through successful delivery and support of our unique solutions. We believe in working closely with our target markets and industries to ensure that our solutions and platforms are relevant and simple to use.

We have been recognised for our innovation and product design capabilities with national and international Awards. The company continues to grow and evolve year on year as it exports over 90% of its inspection and measurement solutions to a broad range of industries and OEM/ODM partnerships. Our distribution network spans over 35 countries including UK, Germany, USA and China to name a few.



At Ash we are passionate about innovation and design. We use creative Design Thinking to actively empathize with our customers to understand their real unmet needs and jobs to be done. We seek meaningful engagement and co-creation with our end users so we can develop the best possible solutions and services in the quality assurance industry resulting in cost savings, reduced test time, waste reduction and an overall improved quality process.

**Innovation Process**



**So How Do We Do It ...**

We use a variety of tools and methodologies to discover the hidden needs of the end user. Our creative thinking process generates the ideas and concepts based on the insights from our discovery phase. A prototype is developed through our excellent R&D skills and iteratively validated with our end users in the wild. We've even managed to innovate our own business model which has allowed us to pivot into new markets with our new offerings.

In recognition of our innovation programme we were announced as winners of the Innovator of the Year award 2016 from the Small Firms Association (SFA) and Most Innovative Company 2016 from the Innovation for Growth (I4G) programme from the Institute of Management Ireland (IMI), awarded by Enterprise Ireland and Deloitte.

In 2017 our latest product Omni won the coveted Red Dot Award for Product Design.



- **Ergonomic Design**  
Allow the user to sit or stand comfortably for longer periods
- **Easy to Use**  
Connects to HDMI monitor, one button image capture
- **Documentation/Data Recording**  
Easily capture and store images to share or catalogue
- **Intuitive Integrated Software**  
Omni's mouse controlled graphical user interface is just like using a PC
- **Group Discussion/Collaboration**  
More than one person can view the live image on a monitor



Medical Device



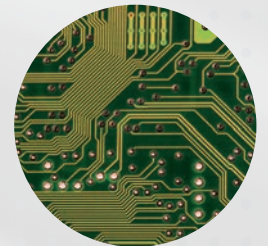
Aerospace



Automotive



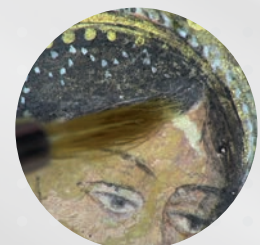
Metallurgical/Precision Engineering



Electronics



Forensic Science



Conservation & Restoration



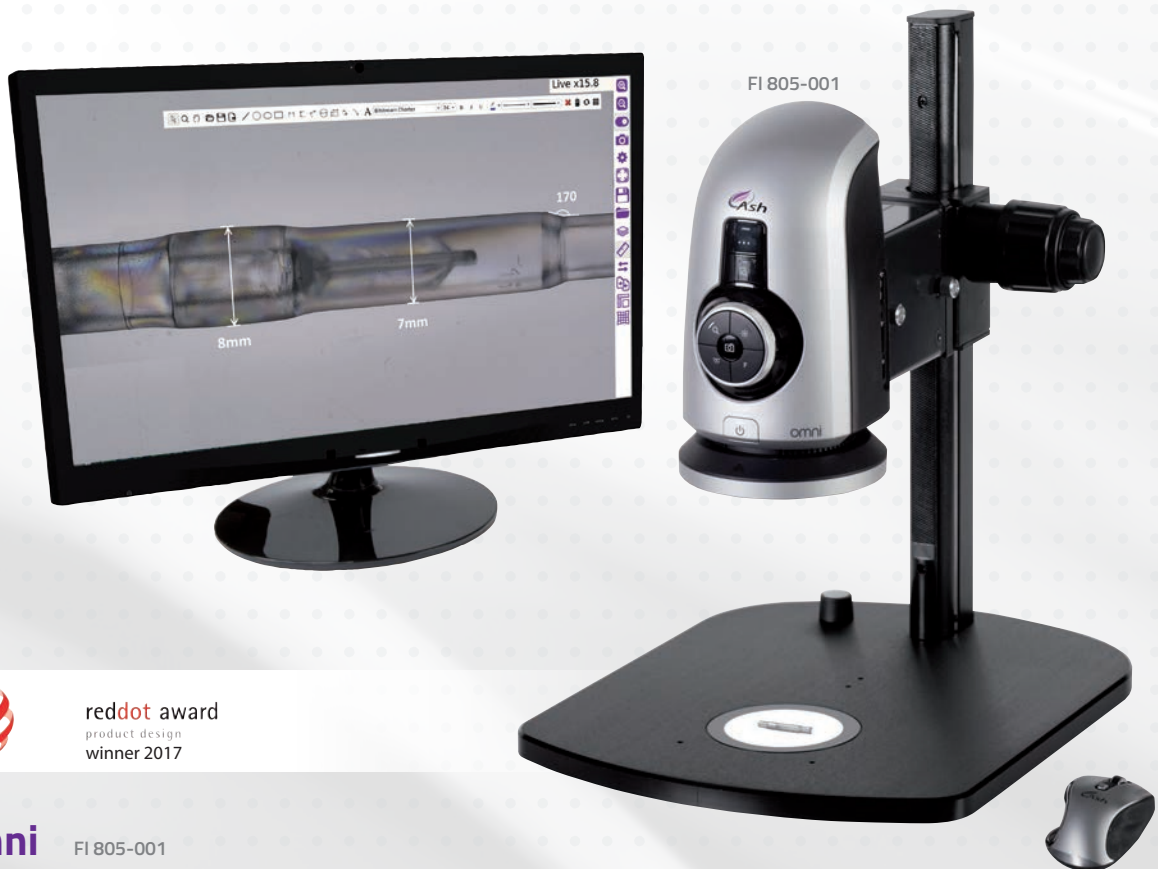
Jewellery/Watchmaking



Polymers/Plastics



A flexible digital microscope inspection system that is configurable with advanced inspection & measurement applications and system components to suit a wide range of inspection and measurement requirements.



reddot award  
product design  
winner 2017

## Omni FI 805-001

The Omni is a stand-alone full HD digital microscope and measurement system that operates without a PC. The Omni Core platform can be configured with a range of advanced inspection & measurement apps such as: 2D Measurement, Annotation & Graticules, Image Stacking, Side by Side Image Comparator, Image Overlay Comparator and DXF File Import.

The Omni platform has a powerful image processing and control engine that delivers superb full HD live video image quality at 60 frames per second enabling it to be utilised as a solution in a broad range of quality control, testing, rework, assembly, inspection and documentation tasks.



**NEW**

# System Components

**OMNI Diffused LED Dome Light**  
AI 100-045



**OMNI +10 Plan 1x**  
AI 100-055



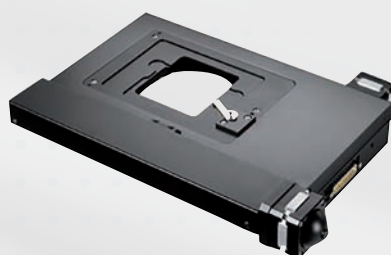
**OMNI +25**  
AI 100-053



**ASH 360° Rotating viewer**  
AI 801-422



**OMNI Motorised XY Stage**  
AI 100-050



**OMNI Touchscreen Workflow Controller**  
AI 100-049



For full details please visit [www.ash-vision.com](http://www.ash-vision.com)

**Lens Specification Table\***

|                              | <b>+5</b>     | <b>+10</b>    | <b>+10 Plan 1x</b> | <b>+25</b>    |
|------------------------------|---------------|---------------|--------------------|---------------|
| <b>Part Number</b>           | AI 280-150    | AI 280-131    | AI 100-055         | AI 100-053    |
| <b>min optical mag</b>       | 2.5           | 4             | 4.3                | 175           |
| <b>max optical mag</b>       | 61.3          | 118.9         | 122                | 305.5         |
| <b>min optical fov (mm)</b>  | 231 x 136     | 60 x 50       | 71 x 71            | 3.09 x 1.73   |
| <b>max optical fov (mm)</b>  | 8,654 x 4,875 | 4,462 x 2,514 | 3,992 x 2,24       | 1,736 x 0,978 |
| <b>Dof @ min zoom (mm)</b>   | 78            | 57            | 40                 | .025          |
| <b>Dof @ max zoom (mm)</b>   | 0.5           | 0.2mm         | 0.2                | 0.01          |
| <b>working distance (mm)</b> | 200           | 100           | 76                 | 35.1          |
| <b>max mag digital</b>       | 133.1         | 259.4         | 266.6              | 662.4         |
| <b>digital fov (mm)</b>      | 3.99 x 2.239  | 2.047 x 1.149 | 1.992 x 1.118      | 1.992 x 1.118 |

\* Specifications obtained using a 24" Monitor.

\* Depth of field measured with optimal image settings.

## Technical Specifications

|   |  |        |                         |
|---|--|--------|-------------------------|
| <b>Zoom Range (with supplied 5D lens)</b> | 2.5x – 122x  |        |                         |
| <b>Camera Resolution</b>                  | 1920 x 1080 Resolution   | 60 fps | 30x Optical, 2x Digital |
| <b>Monitor Connections</b>                | HDMI / DVI   |        |                         |
| <b>Monitor Requirements</b>               | HD Ready or Full HD (recommended)  |        |                         |
| <b>Input / Output</b>                     | <ul style="list-style-type: none"> <li>· HDMI Output</li> <li>· USB 2.0 Port x 4</li> <li>· Mini USB Port</li> <li>· RJ45 Ethernet Connector (for networking)</li> <li>· General Purpose IO Port x 3</li> <li>· DC Power Jack (24V)</li> </ul> |        |                         |
| <b>Image Capture</b>                      | <ul style="list-style-type: none"> <li>· Internal Image Storage</li> <li>· Removable USB Image Storage</li> <li>· USB On The Go (PC Connectivity)</li> </ul>   |        |                         |
| <b>Power</b>                              | 24W  |        |                         |
| <b>Dimensions</b>                         | 216mm x 125mm x 136mm  |        |                         |
| <b>Weight</b>                             | 1.75Kg   |        |                         |
| <b>Operating Temperature</b>              | Storage: -10C to +60C<br>Operating: +5C to 40C   |        |                         |

## Package Contents

- Omni
- Quadrant Controllable Ring Light
- Lens 5x
- Mouse & Mat
- Keyboard
- Power Supply
- HDMI to HDMI Cable
- Mini USB Cable
- USB Memory Stick (8GB)
- Grounding Cable
- 2 x Arm Brackets (for stand mounting)
- Arm Receiver
- User Manual
- Cleaning Cloth

# Inspex HD 1080p



**Full HD 1080p**  
Image Quality



**Image Capture**  
to USB key



**Integrated, Real-Time,**  
On-screen Dimensioning  
Grids & Cursors.

## Inspex HD 1080p

The Inspex HD 1080p is a high definition camera inspection system offering superb 1080p full HD image quality, colour reproduction, contrast and resolution. Its versatile design makes it compatible with a wide range of mounting options. Real-time on-screen dimensioning is provided by integrated XY grids and cursors.

### Key Features:

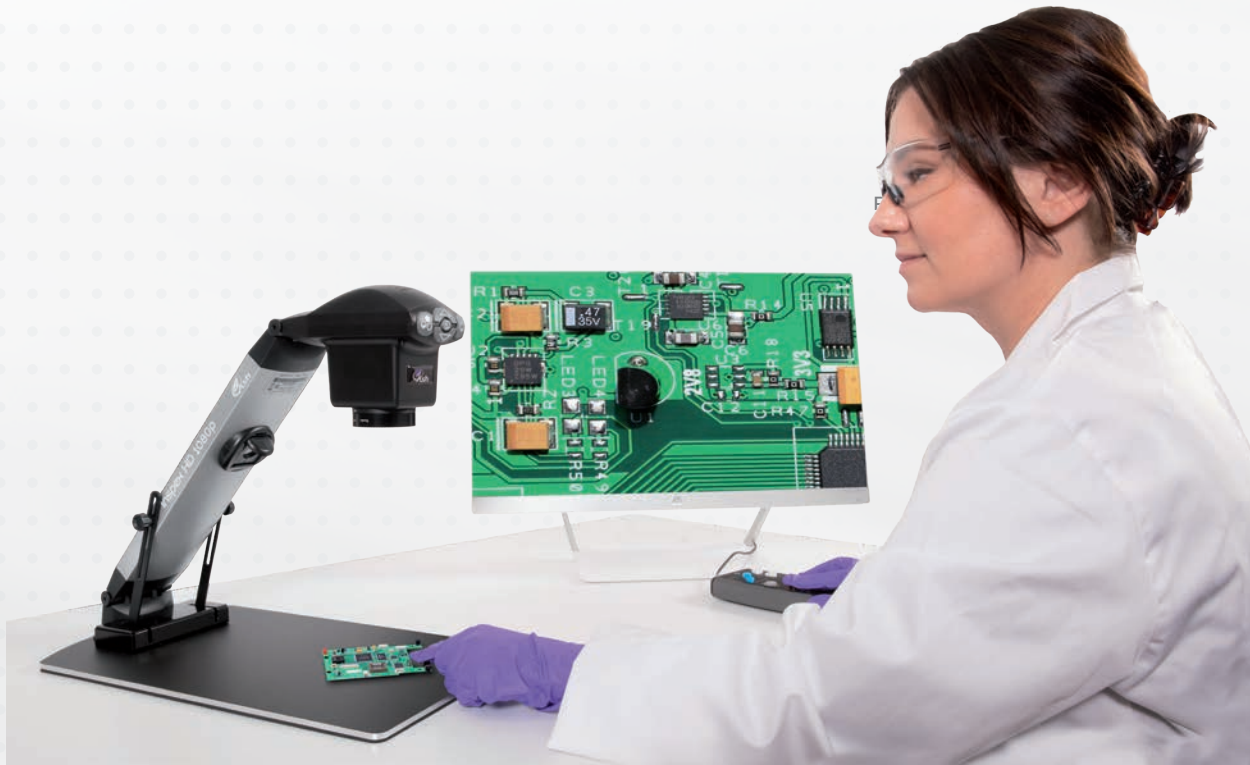
- Accurate & detailed inspection with superb HD image resolution, dynamic range of magnification levels & integrated LED illumination.
- Real-time on-screen dimensioning provided by integrated XY grids & cursors
- Less operator fatigue & improved production efficiencies due to ergonomic design enabling user to sit or stand in a comfortable and safe posture providing relief from back, neck and eye strain typically associated with traditional microscopes.
- Easy documentation & traceability for accurate quality control records using image capture to USB key.

### Applications:

The Inspex HD 1080p is suited for repair & rework, quality control & failure diagnosis processes in industries such as: Automotive, aviation, electronics, engineering, forensics, jewellers, medical devices, packaging & labelling, pharmaceuticals and security.



F1801-027 F1801-028 F1801-018 F1801-024



## KP1 External Keypad FI 801-008

The optional KP1 unlocks integrated real-time on-screen dimensioning grids and cursors. It also allows access to a variety of functions including 3 Memory Presets, Exposure and Focus, Zoom, Brightness, LED Intensity, Image Capture...



### Magnification\*

| Lens (Dioptre) (mm) | Max Height (mm) | Min Height | Minimum Magnification* | Maximum Magnification* Optical/Digital | Field of view at minimum mag. (mm) |        | Field of view at maximum mag. (mm) Optical/Digital |           | Max. & Min. Depth of field |     |
|---------------------|-----------------|------------|------------------------|--|------------------------------------|--------|--|-----------|----------------------------|-----|
|                     |                 |            |                        |  | X                                  | Y      | X  | Y         |                            |     |
| 2                   | 500             | 405        | 1.1                    | 29/57                                  | X: 595                             | Y: 334 | X: 20/10   | Y: 11/5.5 | 176                        | 5   |
| 3                   | 333             | 280        | 1.3                    | 36/71                                  | X: 400                             | Y: 225 | X: 14/7  | Y: 8/4    | 120                        | 4   |
| 4                   | 250             | 205        | 2                      | 50/98                                  | X: 280                             | Y: 164 | X: 10/5  | Y: 6/3    | 106                        | 1   |
| 5                   | 200             | 170        | 2.5                    | 62/122                                 | X: 231                             | Y: 136 | X: 8/4   | Y: 5/2    | 78                         | .50 |
| 10                  | 100             | 85         | 4                      | 121/237                                | X: 60                              | Y: 50  | X: 5/2   | Y: 3/1    | 57                         | .20 |

\* Specifications obtained using a 24" Monitor.

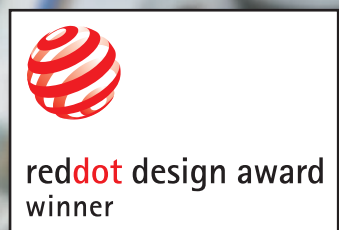
\* Depth of field measured with optimal image settings.

### Technical Specifications

| Specifications                  | Vesa (FI801-018)                                | Table (FI 801-017)   |
|---------------------------------|---|--|
| Zoom Range (with supplied lens) | 5D Lens – 2.5x - 122x                           | 4D lens – 2x - 98x   |
| Camera Resolution               | HD 1080p, 1920 x 1080 at 50/60 Hz               | HD 1080p, 1920 x 1080 at 50/60 Hz                                  |
| Monitor Connections             | HDMI / DVI                                      |  |
| Monitor Requirements            | HD Ready or Full HD (recommended)               |  |
| Dimensions                      | 37cm x 12cm x 14cm                              | Table 24cm x 41cm<br>Folded Height 11cm, Raised Height 42cm Weight |
| Weight                          | 1.2kg   | 2.5kg  |
| Power                           | 8 Watts   |  |
| Operating Temperature           | Storage: -10 C to +60C<br>Operating +5C to +40C |  |
| Image capture                   | USB 2.0 highspeed                               |  |

### Package Contents

- Inspec HD 1080p
- Power supply
- HDMI to HDMI cable
- Operation Manual
- Grounding Cable
- USB Memory Stick (16GB)



## ion 4.3" Inspection Magnifier FI 800-102

The Ion 4.3 is an award winning inspection magnifier that provides a crystal clear image for the user. Suitable for quick and immediate use, the Ion is fast to start, comfortable to hold and highly intuitive to use as the product has been designed to replicate the look and feel of an optical magnifier.

The Ions display delivers an unrivalled sharp, bright and high contrast image. The Ion 4.3s stunning colour image and wide viewing angle provides comfortable use in awkward to access places and in poor lighting conditions. Its unique patent applied for dimensioning grids and cursors enhance the capability and efficiency of decision making for inspection operators and technicians.

### Key Features:

- **Accurate & detailed inspection of a wide variety of objects enabled** through lossless image quality & super sharp magnification up to 14x with high resolution TFT display and adjustable LED illumination.
- **Instant on screen measurement for quick & cost effective quality assurance** provided by integrated on screen XY dimensioning grids & cursor functions.
- **Easy recording & traceability of one hundred images with date stamp** using image capture software for accurate quality control records.
- **Mobile visual inspection tool suitable for awkward to access areas & poor lighting conditions** due to its compact, portable design.
- **Unique Liquid lens technology provides** a wide focus range, fast response time, excellent optical quality & low power consumption

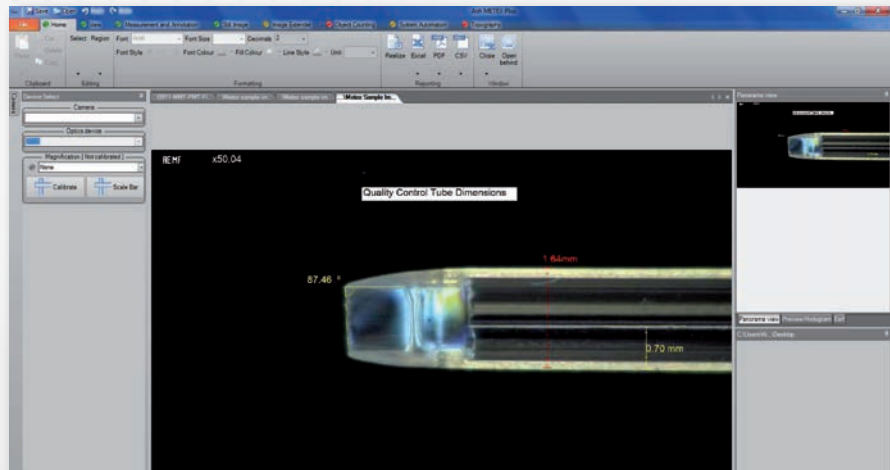
### Technical Specifications

| Specifications             | Ion 4.3 FI 800-102   |
|----------------------------|--|
| Screen size and resolution | 4.3" diagonal TFT display, 480x272   |
| Magnification              | Far focus: 4x-8x & Near focus: 7x- 14x   |
| Image storage mode         | 100 images in 480 x 272 pixels, 24-bit bitmap format transferable to PC via USB link |
| Depth of field             | 3.5cm in overview, 1.5cm close   |
| Dimensioning cursors/grids | Yes  |
| Sensor                     | 3MP CMOS, RGB565 video at 30fps  |
| Battery – Lithium Ion      | Up to 5 hours, charge time 4 hours   |
| Connection cable           | Micro USB cable  |
| Charger supply             | 100V – 240Vac 50/60Hz with supplied adaptor  |
| Unit supply voltage        | 5V dc, micro-USB connector   |
| Weight                     | 225 grams  |

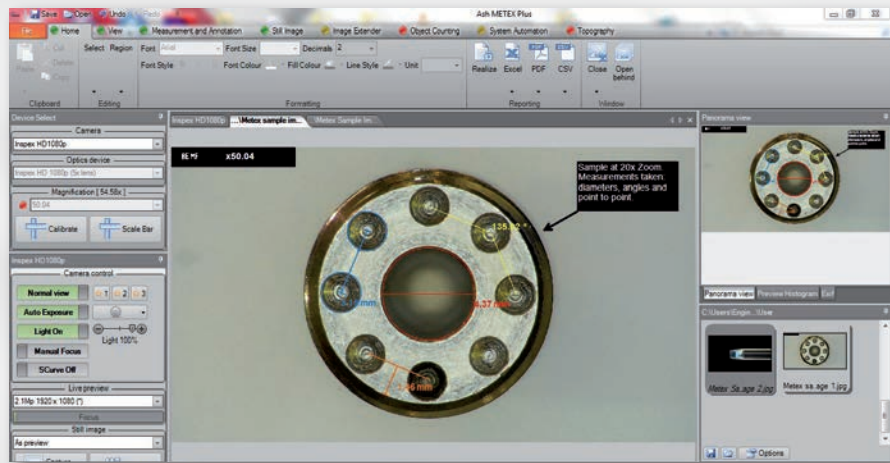


## Metex PC Measurement Software FI 803-001

The perfect Inspec partner, by any measure! Metex allows advanced measurement and live Full HD Video to your PC. With the included USB 3.0 interface Metex is ready to go out of the box.



## Metex Plus Control Inspec from your PC! FI 803-002



**Point to Point Measurement**



**Annotation**



**Image Comparison**



**View & Record Full HD Images & Video**



**Output Reports**



**Multiple Languages**

### Key Features:

- Obtain detailed dimensions for non-contact testing
- Angle, radius, centre point distances and perimeter values
- Annotation with customisable colours and font types
- Image Comparison
- View and record Full HD images and video
- Metric and Imperial units
- Output reports in common formats such as excel, pdf, csv
- Multiple Languages

### System Requirements & Specifications

|                              |   |
|------------------------------|---|
| <b>Hardware</b>              | Compatible with most major chipsets and expended USB 3.0 via PCIe Gen 1.1 x1, USB 2.0 |
| <b>Operating System</b>      | Windows 7,8,8.1   |
| <b>CPU</b>                   | The processing of the video is done by the ASH Interface and will not occupy the CPU  |
| <b>Video Output</b>          | Up to 1920 x 1200 60fps   |
| <b>Dimensions</b>            | 84.25 x 42.80 x 12.60 (LxWxH mm)  |
| <b>Power</b>                 | <= 2.5W   |
| <b>Operating Temperature</b> | Operating: 0 - 50 C<br>Storage: -20 - 70 C  |

### OMNI Track Stand

AI 100-037 No Light  
AI 100-036 with Sub Stage Light



### INSPEX Track Stand

AI 100-023 with Sub Stage Light for InspeX Vesa  
& Vesa Short Flex Cam  
AI 100-020 InspeX Vesa Short  
AI 100-019 InspeX Vesa & Vesa Short Flex Cam  
AI 100-028 InspeX Vesa Flex Cam



### Dual Arm Boom Stand

AI 100-038



### Articulated Arm Stand

AI 100-039



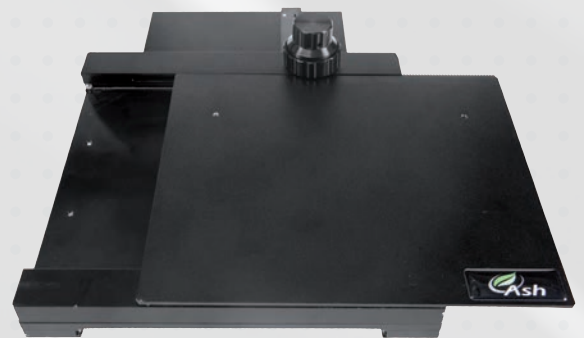
### X-Y Stage for Illuminated Stands

AI 100-011



### X-Y Stage

AI 100-010



### Vesa Mounting Arm

for InspeX & Monitor  
AI 350-322



### Height Adjustable Stage

6" x 6" AI 801-413  
8" x 8" AI 801-420



### Oblique Tilting Stage

AI 801-414



OMNI Diffused LED Dome Light **NEW**

AI 100-045



8-Point LED Ring Light

AI 100-012



■ Polarizer  
AI 100-000

Diffused LED Dome Light

AI 100-001



OMNI UV Ring Light 367nm **NEW**

AI 801-421

Contact ASH for different wavelengths



INSPEX UV Ring Light



AI 100-026 220V UV Ring Light 254nm  
AI 100-025 220V UV Ring Light 375nm  
AI 100-035 110V UV Ring Light 254nm  
AI 100-034 110V UV Ring Light 375nm

LED Fibre Optic Illuminator with Dual Gooseneck

AI 100-033



Foot Switch

AI 801-415



OMNI Lenses **NEW**



Omni +5 Lens AI 280-150  
Omni +10 Lens AI 280-131  
Omni +10 Plan 1x AI 100-055  
Omni +25 Lens AI 100-053  
Omni Polarizing Filter AI 100-041

INSPEX Lenses



Inspex +3 Lens AI 280-129  
Inspex +4 Lens AI 280-125  
Inspex +5 Lens AI 280-123  
Inspex +10 Lens AI 280-124  
Inspex Polarizing Filter AI 280-145

ASH PC Capture **NEW**

AI 801-503



OMNI & INSPEX Hard Cases



OMNI AI 801-563  
INSPEX AI 801-561

Monitor 24"

AI 801-416





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