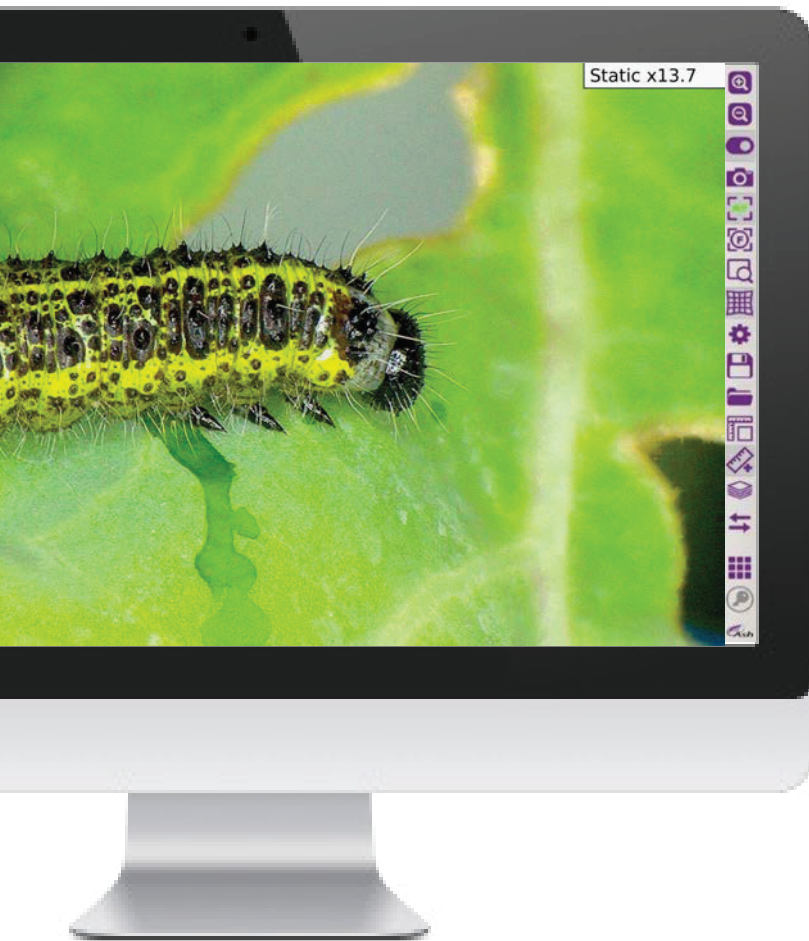


Digital Microscope and  
Measurement System

# ASH

# OMNI 3

Smarter Inspection



**Free Unrestricted Access  
to Full Suite of ASH Apps\***

# OMNI 3

Smarter Inspection



# OMNI 3

Omni 3 incorporates the AshCam+™ zoom lens module with a host of new benefits for smart inspection and measurement.

**Free Unrestricted Access to Full Suite of ASH Apps\***

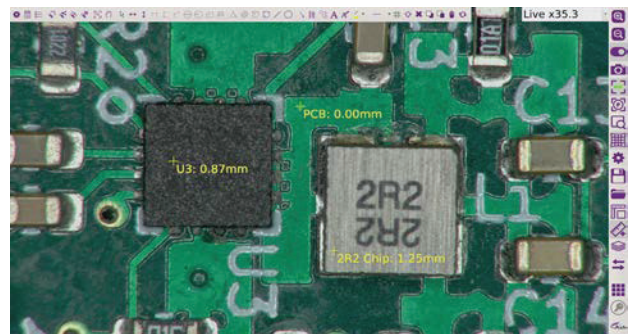
## Powerful New Apps

### Z Height Measurement App

Measure in **3D** on the new Omni 3.

Now you can measure in the **Z axis**, in addition to the X and Y axes, bringing the Omni 3 capability to a whole new dimension.

**Rapidly** inspect your parts up to **five times quicker** when compared to outdated manual inspection methods.



Component Height Measurement on the Omni 3 Z Height App

### Object Counting App

Automatically **identify** and **count** the number of objects within your region of interest.

**Increase efficiency by 70% whilst eliminating human error.**

Significantly reduce the time spent manually counting parts while reducing costly overheads. Report generation is quick and simple for easy documentation and traceability.

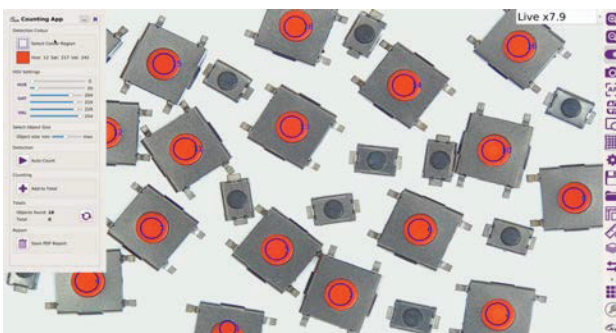
### Colour Analysis App

Advanced algorithms **automatically calculate** the colour value of any sample.

Identify contaminants or foreign objects within your sample.

**Eliminate human error and improve yield by up to 50%.**

Reports can be generated for easy documentation and traceability.



Omni 3 automatically counting objects



Colour Analysis of rice on the Omni 3

\* Further details on page 7

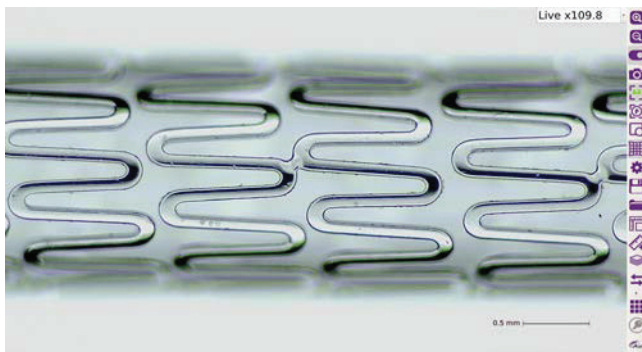
## Powerful New Features and Benefits

### Super Fast Auto-Focus

Place the sample under the Omni 3 and it will immediately focus on your part throughout the inspection process.

#### Inspect your parts up to three times faster.

Quickly and seamlessly inspect your part without having to adjust manual focus or change the height of the part.



### SpotFocus™

Quickly focus on the area of interest by simply using the mouse pointer.

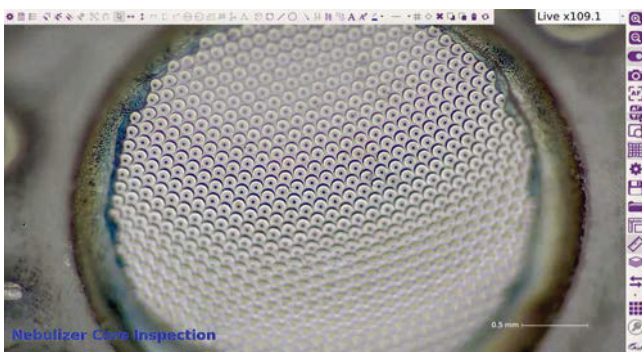
#### Increase speed, improve accuracy and reduce human error with the capabilities of SpotFocus.\*



### Manual Rocker Focus

Use **Manual Rocker Focus** to accurately adjust the focus level to your region of interest.

**Save time** by quickly adjusting the focus level using the rocker icon to inspect specific regions on an object when in manual focus mode.



### Superb Image Quality

Experience unrivalled Full HD video imaging never seen before in an ASH system.

#### AshCam+™ enables vibrant image quality ensuring true representation of your sample.

Omni 3 offers an enhanced, crystal clear image for even the most demanding inspection applications.



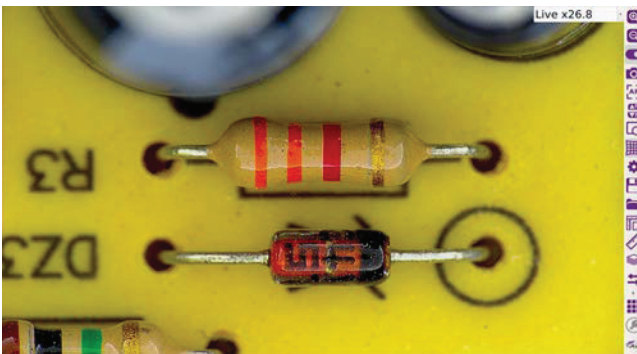
\* Global patent applied for by ASH.

## AshTruColour™ - True Colour Reproduction

View true colour reproduction of your sample with Omni 3.

**AshCam+™ brings next generation colour reproduction to Omni 3.**

Replicate real and accurate colours as seen with the naked eye for true colour representation. \*



## No Video Latency

There is zero delay between movement under Omni 3 and what you see on the screen, resulting in a more efficient inspection process.

**Omni 3 is 3x times faster than our previous systems.**

View parts in real time with no video lag, allowing you to comfortably inspect, rework, modify or assemble anything.

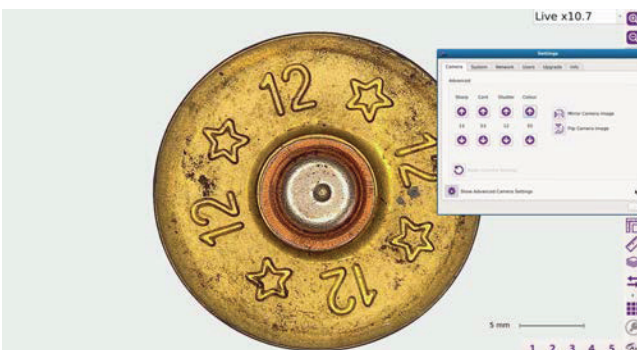


## Advanced Camera Settings

The new Advanced Camera Settings gives the user more power and control to enhance the image for a wide range of inspection and measurement capabilities.

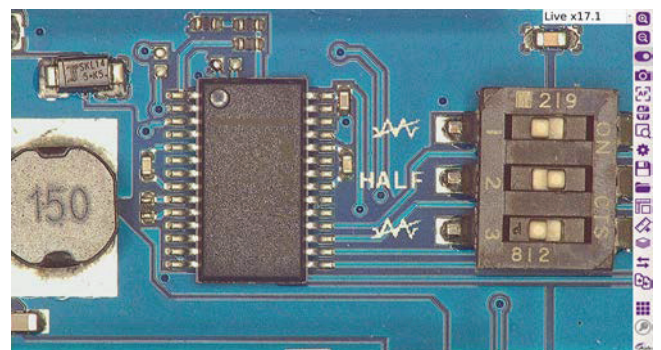
**Ensure image quality exceeds your needs.**

**Unlock the full potential of Omni 3** by fine-tuning sharpness, contrast, saturation and camera shutter speed to suit your specific requirements.



## Improved DoF

The **Omni 3** has improved depth of field, making inspection **much faster and more efficient** without the need for changing focus positions or adjusting camera height..



# OMNI 3

The Omni 3 maintains the following improved great apps introduced with the hugely successful Omni core app suite.



## 2D Measurement, Annotation & Graticules

Intuitive on screen full 2D patented measurement application. Point to point, diameter, angle, adjustable X-Y grid, shapes and annotation features to accommodate a multitude of samples specifications. Graticule creation allows samples to be analysed against on-screen digital templates with set tolerance limits. It also enables quick go/no-go defect analysis.



## Image Stacking

View a sample with different layers all in focus at the same time. Omni automatically captures several images from 2 to 12 at different focal depths and creates an image based on the sharpest regions from each of these separate captures.



## DXF Import & Export

Import a range of DXF files to create graticules for overlay comparison with parts.

Imported DXF files can be edited and annotated on the Omni 3 system.



## Image Comparator Side by Side

Visually compare your live sample image to a stored master image in the form of a split screen. Add notes through annotation and save the comparison image for documentation and traceability. Enables rapid identification of differences between gold sample and test samples.



## Image Comparator Overlay

Create an image overlay of a master image to identify defects by overlaying and flashing the live sample image against the stored master image.

Enables rapid identification of differences between gold sample and test samples.



## Image Stitching

Stitch multiple images together, increasing your field of view at high magnification.

Perform full measurements on the full image. Document and annotate for traceability.

# OMNI 3

Risk-Free Trial of ASH Apps

Free Unrestricted Access  
to Full Suite of ASH Apps\*



Feel the full power of the Omni 3 with risk-free access to ASH apps!

Each Omni 3 system offers 30 free trial clicks of all apps. This allows the user unrestricted access to experience each app 30 times before purchasing the full app license.

This model continues on from the successful app trials available with the Omni core, which supported our partners in evaluating which app best suited their needs before purchasing.



# OMNI 3

The Omni 3 maintains the following improved great apps introduced with the hugely successful Omni core.



## AshCal™

Omni 3 is factory calibrated before shipping. No time is wasted performing recalibrations between changing magnifications.



## RTLDC™

Real-Time Lens Distortion Correction\*. Lens distortion is inherent in all microscopes. Image distortion at the outer edges of large samples is automatically corrected by the Omni 3. \*



## User Privileges

User privilege settings enables operational control and traceability. Assign multiple users with access to different settings and features, improving security and streamlining the inspection process.



## Interchangeable Lighting

Multiple types of interchangeable lighting available, including Ring Light, DomeLight, Polarised Light and UV Light to address any inspection application.



## Email

Save time by emailing directly from Omni 3.



## Save to Network

Networking enables direct saving to the server or cloud for increased workflow efficiency.



## On Screen Preset Buttons

On Screen Preset Buttons allow quick access to pre-configured part-specific system settings.



## Image Stamping

Image Stamping with time, date, user and magnification level. Easy documentation & traceability for accurate quality control records using image capture to USB key.



# OMNI 3

is the latest evolution

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AshCal™  
Automatic Calibration  
Tracking

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Z Height Measurement App

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Object Counting App

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Colour Analysis App

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Improved  
Auto-Focus Speed

---

Spot Focus™

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Manual Rocker Focus

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No Video  
Latency

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Improved  
Depth of Field

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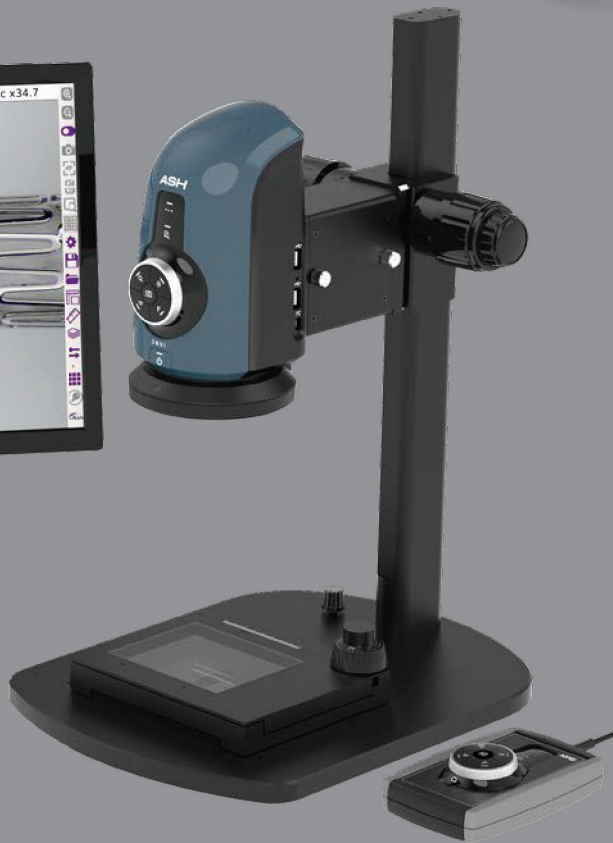
Improved  
Sensitivity

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Smooth  
Magnification  
Zoom



PLUGIN  
AND GO!



## Applications

- Research and Development
- Quality Control
- Large Scale Inspection in a Production Environment

## Industries

- Medical Device Manufacture
- Pharma
- Precision Engineering
- Aerospace
- Automotive
- Electronics

Steven Martin, Dakin Flathers

### Dakin Flathers

"The ease of use has meant that we have had no issues with operator engagement and everyone who we asked insists it has taken away any degree of uncertainty that was always evident in analogue checks.

From a personal point of view, right from the initial demonstration through to the after-sales service, I cannot fault the staff at ASH, who have gone over-and-above to assist however they have been able. Possibly the greatest testament to the unit is that other sections within the factory have seen the potential it brings and have begun making their own case to me for the purchase of additional units. I have to say, it is only a matter of time!"



Pádraig McVeigh, Creganna - TE Connectivity

### Conductix Wampfler

"ASH supplied a digital microscope system to help assessment of tube finishes without major impact to the overall cycle of production. ASH have provided excellent support from problem classification, through vision system development, right to fixturing and set-up support.



Roland Rucker, Quality Engineer Optoelectronics, Germany

### Heraeus Noblelight GmbH

"Our goal was to acquire a microscope with the smallest possible surface differences between 5 and 500 microns without fatigue. Likewise, we wanted to create sharp images with the abnormalities and these surveying. The implementation of these requirements has now been confirmed in practice by our employees. What also stands out is the intuitive user

interface our employees were able to use within a very short time. The support from their side for commissioning and technical questions is also to be positively emphasized. We can highly recommend this microscope because of our positive experiences and you as a partner."





# OMNI 3

FI 805-003

## System Components Included



### LENSES

+5 Lens



### LIGHTS

LED Ring Light



### OTHERS

Wireless Keyboard and Mouse

USB Memory Stick

HDMI Cable

## Optional System Components



### LENSES

+5 Lens

AI 280-150

+10 Plan 1x Lens

AI 100-055

+25 Lens

AI 100-053

Ash 360 Rotating Viewer

AI 801-422

Polarising Lens (Analyser)

AI 100-041

Sub-Stage Polarising Film & Analyser

AI 801-835

Sub-Stage Polarising Film

AI 801-836

Polarised Ringlight & Analyser (58mm)

AI 801-423



### LIGHTS

Diffused LED Dome Light

AI 100-045

UV Ring Light 367nm

AI 801-421

Polarised Ringlight & Analyser (58mm)

AI 801-423



### CONTROLLERS

KPII External Keypad

FI 806-002

KIII External Keypad

FI 806-003



### OTHERS

Ash PC Capture

AI 100-052

24" Monitor

AI 801-416

Hard Carry Case

AI 801-563

### STANDS & STAGES

XY Stage for Uplight

AI 100-011

XY Stage

AI 100-010

Large XY Stage

AI 100-057

Illuminated Track Stand

AI 100-036

Track Stand

AI 100-037

Articulated Arm Stand

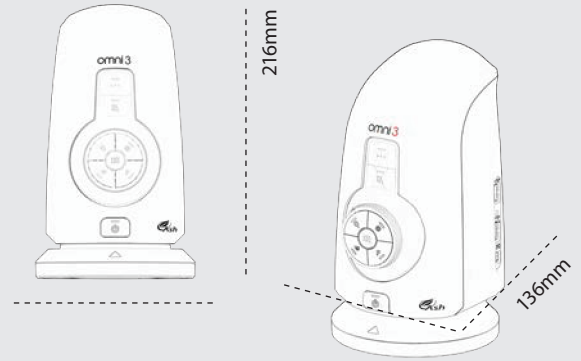
AI 100-039

Dual Arm Boom Stand

AI 100-038

# OMNI 3

Digital Microscope System



## Camera Specifications

	Lens Type	+5	+10 Plan 1x	+25	+50
Optical	Magnification Range (X)	2.5 - 68	4.8 - 136	54.7 - 336	109.4 - 673
	X-axis FOV (mm)	200 - 7.5	76 - 3.8	9.3 - 1.5	4.6 - 0.76
	Y-axis FOV (mm)	112 - 4.2	59.5 - 2.1	5.4 - 0.85	2.6 - 0.43
Digital	Magnification Range (X)	69d - 136.5d	137d - 272d	337d - 673.3d	674d - 1346d
	X-axis FOV (mm)	7.5 x 3.75	3.8 x 1.9	1.5 x 0.75	0.76 - 0.37
	Y-axis FOV (mm)	4.2 x 2.1	2.1 x 1.1	0.85 x 0.425	0.43 - 0.22
	Working Distance (mm)	195	78	36	34
	Depth of Field (mm)	80 (min. zoom) / 0.5 (max. optical)	35 (min. zoom) / 0.1 (max. optical)	0.3 (min. zoom) / 0.1(max. optical)	0.1 ( min. zoom) / 0.05 (max. optical)
	Video Latency (milli seconds)	20/17	20/17	20/17	20/17

## 2-D Measurement Accuracy

Lens Type	+5	+10 Plan 1x	+25	+50
Accuracy (%)	+/- 1	+/- 1	+/- 1	+/- 1

## Z Height Range & Accuracy

Lens Type	Range	Accuracy
+5	0 - 25mm	100 µm
+10 Plan 1x	0 - 6mm	100 µm

## Technical Specifications

	OMNI 3
Magnification Range (with supplied +5 Lens)	2.5 - 68 (Optical) 69d - 136.5d (Digital)
Camera Resolution	1920 x 1080 Pixels
Monitor Connections	HDMI / DVI
Monitor Requirements	HD Ready / Full HD (Recommended)
Input / Output	HDMI Output USB 2.0 (x4 Ports) Mini USB Port General Purpose IO (x3 Ports) DC Power Jack 24V
Internal Storage	16GB
Image Capture	Internal Storage Removable USB Image Storage USB on the Go (PC Connectivity)
Power	24W
Dimensions	216mm x 125mm x 136mm
Weight	1.5kg
Operating Temperature	Storage 10°C to 60°C Operating 5°C to 40°C