Vision ENGINEERING

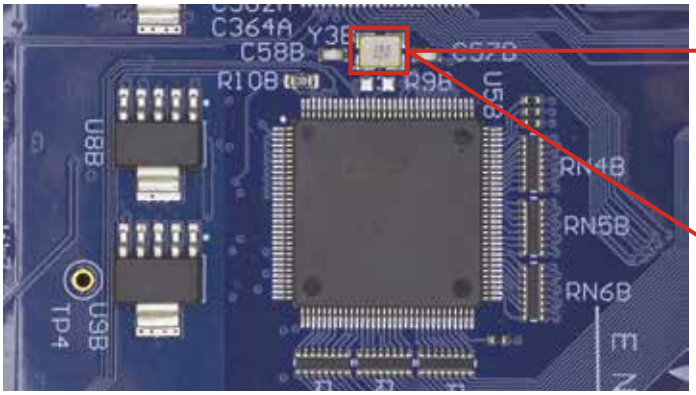

FOCUSED | QUALITY

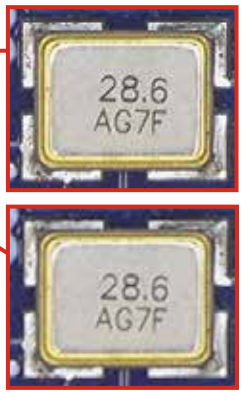
# EVO Cam HALO

4K ULTRA HD Digital Microscope
with Intelligent Features

# 4K INSPECTION MADE EASY

*EVO Cam HALO digital microscope combines stunning 4K image quality with advanced, adaptive illumination to deliver unmatched precision and versatility for inspection and measurement tasks.*




4K

FHD

### Four times more detail

4K image sensor delivers four times more detail than full HD cameras. High Dynamic Range (HDR) ensures important details are not lost in dark or light areas of the image.

### Measure, analyse, report

HALO's ViPlus software provides real-time insights, making it easier to detect anomalies and patterns that would otherwise go unnoticed. With intuitive image capture, measurement, and analysis tools, the software delivers accurate and actionable results, enabling faster, data-driven decisions. This supports more efficient workflows and increased confidence in the results.


### Intelligent features

#### Auto lens ID

Easy to use, intelligent lens mount automatically adjusts magnification display providing accurate inspections every time.

#### Quick-clip ring-light

Intelligent clip-on ring-lights automatically save and recall settings when connected. Quadrant controlled white, white and UV and wide area panel lights fit directly to the camera and are changed in seconds.

### 360-degree Oblique and Direct Viewer (ODV)

Switch on an extra dimension with direct and rotating oblique views of your subject. Switch from a direct perpendicular view to a 34° oblique angle, and rotate around the subject to enhance inspections. The oblique view allows easy inspection of joints, intersections, raised components, and the inside of holes.

4K ULTRA HD
Outstanding image quality

0.8x - 192x
Magnification

Auto lens ID

AF
Auto focus

Measurement & Analytics

360°
360 viewer compatible


## Range of stands

Whatever the application requirements, EVO Cam HALO is available with a stand that meets the needs of the workspace. It is supported by a range of accessories, making it a versatile solution.




# CHOICE AND PRECISION

*EVO Cam HALO offers configurable options to optimise workflows, meet inspection requirements, and deliver insightful reporting.*

### PC control version

Connect HALO to a PC with ViPlus software to capture images, annotate them, measure objects on the screen, generate reports, and use a range of image processing tools.

### ViPlus software offers:

- Control of camera settings
- Image capture in JPEG, PNG, BMP and TIFF formats
- Annotation tools, including markers and measures
- Measurement tools such as distance, angle, diameter, area
- Import of CAD files for inspection
- Image processing such as colour inversion, shape detection, focus stacking, overlays
- Generation of reports in Excel and other formats

### Range of lenses

HALO's dedicated bayonet lenses are easy to fit and feature Auto Lens ID. The bespoke design is optimised for digital systems and includes filter thread for easy addition of polarisation or other filters.


### Console (keypad control) version

The console version connects directly to a monitor via HDMI, allowing full control of zoom and other camera settings. It can also capture 4K images and videos to a USB drive.

### Data sharing

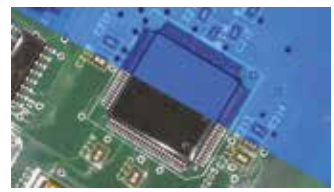
Share 4K images, videos, or reports with colleagues, suppliers, customers, and regulators quickly and easily across networks. The option to save images and video to a USB drive is also available with both the PC and the console configurations.

### Camera controls include:

- 20:1 zoom ratio, with magnification range 3x to 330x
- Auto, Spot and Manual focus modes
- Auto, Spot and Manual exposure modes
- 3 customisable presets for recall of groups of settings
- Range of image optimisation features
- Control of lighting from above and below

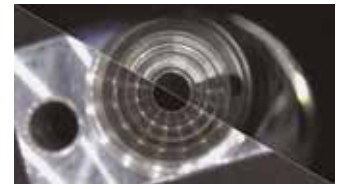
### Range of lighting

The best images require the best lighting, and HALO comes fully equipped. Quadrant-controlled top lights with white and UV, sub-stage illumination, and specialised EPI and contrast-enhancing illuminators ensure optimal performance


White and UV light


Contrast-enhancing base


Polarised sub-stage illumination

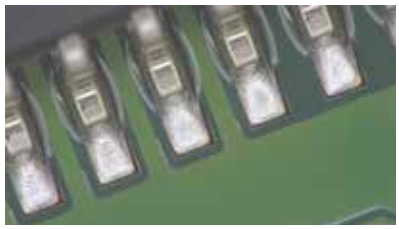

Without and with EPI illuminator

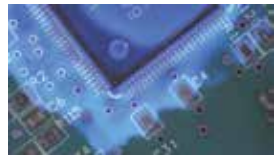
# PRECISION ACROSS INDUSTRIES

*EVO Cam HALO can improve inspection performance with exceptional clarity of 4K image resolution across industries and applications.*

### Electronics and coating

Electronics manufacturing demands a clear, accurate view of printed circuit boards, plated-through holes, components, solder masks, solder joints.
HALO provides a sharp view of highly reflective fresh solder helping users to assess reflow quality and more. The white and UV ring-light allows easy inspection of and through fluorescent coatings.





### Biological and life sciences

HALO's high resolution and dedicated lighting solutions are ideal for many life science applications. Paired with the contrast-enhancing base, it produces a pseudo-darkfield effect, highlighting edges and contours in translucent and transparent subjects. This makes it particularly effective for cell and bio-science research.

### Plastics and 3D printing

When inspecting mould tools, moulded parts, or 3D prints pre- or post-sintering, a clear view with the right lighting is essential. HALO’s wide-area panel lighting highlights surface defects effectively, while polarisation and filters help in analysing internal stresses.

### Medical device

Consistency of inspection and clarity of the finest detail are essential in medical device manufacture. HALO’s presets deliver one-press recall of settings. Intelligent features ensure accurate display of magnification and lighting for subjects and limit the zoom range to the defined level for inspection.

### Micro mechanics

Precision engineering demands a clear,detailed view and the ability to verify quality specifications with confidence. HALO’s optimised illumination, combined with ViPlus software, enables accurate and efficient reporting of components and assemblies.

### Jewellery and watchmaking

Jewellery and watchmaking demand precision and refinement. Accurate colour, sharp clarity, and detailed imaging are essential to achieve the demanding high standards required for intricate designs and mechanisms.

# TECHNICAL INFORMATION

| **Specification** | |
|---|---|
| Features | |
| Focus control | AutoFull, AutoSpot or Manual Focus |
| Exposure control | AutoFull, AutoSpot, Aperture Priority, Shutter Priority, Manual |
| Lighting control | Quadrant, White/UV and Brightness |
| Image control | Image Freeze, White Balance, Noise Reduction, Visibility Enhancer, Highlight Correction, Gamma, Mirror-Flip, Cross-hair |
| Frequency | 30-25Hz (switchable) |
| Monitor size | 7" - 100" |
| Zoom | Zoom-In, Zoom-Out, Zoom-To, Zoom-Limit |
| Information display | On, On When Changing, Magnification Only, Off |
| Languages | English, French, German, Italian, Portuguese, Spanish |
| Presets | 3 User-settable Presets |
| Image Capture | Optional capture box or Via PC connection |
| **Camera - Hardware** | |
| Sensor | CMOS 1/2.5" 8.51 mega pixels |
| Image | Ultra HD 2160p (3840 x 2160) |
| Camera output | 4K 2160p/30fps |
| Camera output on computer | 4K 2160p/30fps on the PCI Express card |
| Zoom | 20:1 |
| Digital zoom | X12, X2, Off (selectable) |
| Lens mount | Auto-detect Bayonet |
| Interface | 4K HDMI |
| Front Panel control | Image freeze, Zoom-In, Zoom-Out, Exposure Mode, Focus Mode, Menu, Ring-light Brightness, Sub-stage Brightness, Preset 1-3 |
| Remote Control | Optional |
| Optics | 11 AutoDetect Bayonet Mount Objective Lenses (see separate table) |
| Lighting Connection | Clip-on Intelligent Mount |
| Lighting | Intelligent 8-point Quadrant, Intelligent Wide-area Panel, Intelligent White/UV Quadrant, Sub-stage. External EPI, and Contrast-enhancing Illuminator |
| Lighting Filters | Polarisation, Colour Temperature Change |
| **PC requirements** | |
| Operating system | Windows 10 & 11 |
| Processor | i7 or later version, 3GHz |
| Graphics | Graphics card with HDMI 2.0 or higher |
| Memory | 8GB of RAM or more |
| Scalability | Slot for additional x4 or x8 PCI express card |

| Objective lens | Magnification range* | Working distance | Horizontal field of view at low magnification | Field of view at max. magnification | |
|---|---|---|---|---|---|
| | | | | Optical zoom only | Digital zoom (x2) |
| X0.45 | 2.16 - 43.2 x | 172 mm | 295 mm | 16.5 mm | 8.3 mm |
| X0.62 | 2.97 - 59.4 x | 120 mm | 230 mm | 12.0 mm | 6.0 mm |
| X1.0 | 4.8 - 96.0 x | 84 mm | 95 mm | 7.5 mm | 3.8 mm |
| X1.5 | 7.2 - 144 x | 43 mm | 47 mm | 5.0 mm | 2.5 mm |
| X2.0 | 9.6 - 192 x | 30 mm | 29 mm | 3.5 mm | 1.8 mm |
| 2D | 0.84 - 16.8 x | 500 mm | 455 mm | 36.5 mm | 18.3 mm |
| 3D | 1.26 - 25.2 x | 333 mm | 417 mm | 24 mm | 12.0 mm |
| 4D | 1.68 - 33.6 x | 250 mm | 315 mm | 18 mm | 9.0 mm |
| 5D | 2.11 - 42.2 x | 200 mm | 235 mm | 14.5 mm | 7.3 mm |

* Based on 27" screen

For more information and sales support, please contact your Vision Engineering branch, local authorised distributor, or visit our website: visioneng.com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