



All-in-One Ultra HD Digital Inverted Microscope

High-resolution, ergonomic optical inspection system designed for weld bead analysis and measurement. 4K inverted imaging system with motorised zoom,

auto-focus, built-in large aperture illumination, and dedicated software for weld bead measurements, analysis, documentation, and reporting.

Highlights:

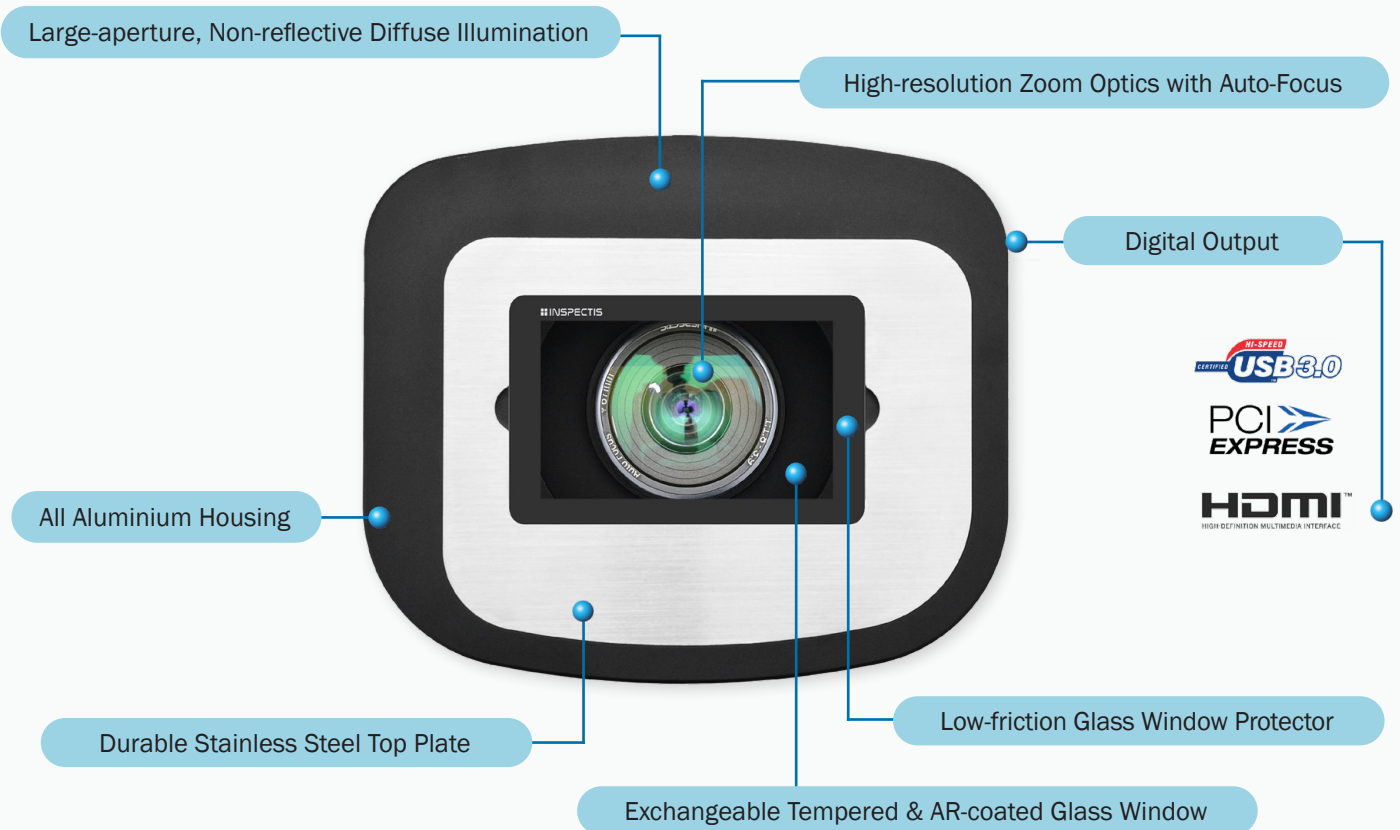
- Ultra HD, 8.3 megapixel camera with motorised zoom and large aperture, reflection free diffuse illumination.
- High resolution optical system with fast auto-focus and aperture control for outstanding image quality.
- Robust aluminium housing with steel base-plate and stainless-steel top-plate for maximum stability.
- Large aperture, exchangeable tempered Gorilla® Glass optical window with anti-reflective coating.

"Ultra Resolution, Fast and Reliable"

Superior Optical Performance

Dedicated inverted digital microscope with outstanding image quality. Large field of view range, ~ 84 to 3 mm (~3.3" to 0.12"), equivalent to ~2.5x - 70x optical magnification or ~200x on screen magnification.

High resolution and high measurement accuracy. Available in UHD (4k) or FHD (2k) configurations with standard 200x or optional 360x on-screen magnification optics.



Developed for Ease-of-Use

Turn on the WELDinspect, start INSPECTIS® software and place the prepared sample on top of the device. The inverted, pre-calibrated optical system ensures that the sample is imaged brightly and sharply without any effort.

Make simple weld bead geometry measurements, save and export the results using INSPECTIS® Basics or perform advanced analysis and measurements by dedicated NIS-Elements software.



INSPECTIS® Basics software

Data Export and Report

Export finished measurements as a group to a Report, Microsoft Excel, Clipboard or a File format. The report further allows to export all of its pages to a PDF on. The measurement definition itself including the report can be edited according to the specific customers needs.

The screenshot shows a software interface with a list of measurements on the left, a data table in the center, and a line graph on the right.

	Throat[mm]	FuseLeg1[mm]	FuseLeg2[mm]
9:50 on D:\LIM-SVN\trunk\LuciaG5\src\G5_Exec\...\bin_2015_64	0,208	0,299	0,261
9:48 on D:\LIM-SVN\trunk\LuciaG5\src\G5_Exec\...\bin_2015_64	0,211	0,304	0,274
9:42 on D:\LIM-SVN\trunk\LuciaG5\src\G5_Exec\...\bin_2015_64	0,203	0,298	0,256
8:52 on D:\LIM-SVN\trunk\LuciaG5\src\G5_Exec\...\bin_2015_64	0,208	0,306	0,262
8:51 on D:\LIM-SVN\trunk\LuciaG5\src\G5_Exec\...\bin_2015_64	0,210	0,275	0,259

The graph on the right plots measurement values in mm against time from 09:00:00 to 09:45:00 on 21.06.19. It shows three data series: Throat (red line), FuseLeg1 (green line), and FuseLeg2 (yellow line).

Lap Weld Measurement Report

Operator: **insaes**
Date and Time: **2021-09-30 15:48:44**

The 3D scan shows a lap weld with several measurement callouts: T1 = 0,580mm, T2 = 0,663mm, Throat = 0,697, GAP = 0,179mm, P = 0,216mm, FL1 = 0,855mm, and FL2 = 0,665mm.

Parameter	Value [mm]
T1	0,580
T2	0,663
Throat	0,697
Gap	0,179
FL1	0,855
P	0,216
FL2	0,665

Global Result	OK
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Sample lap weld measurement report with standard template

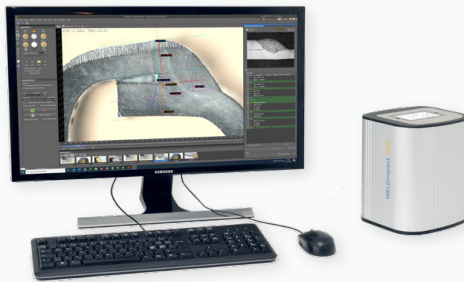
”Speeds up your projects and ensure their full traceability”

System Configurations and Accessories

HD-250, WELDinspect 8.3MP 4K Digital Inverted Microscope System*

Included items:

- DIM-U, Inspectis Digital Inverted Microscope 8.3MP Ultra HD with 7.5-196x On-screen magnification, 26x Zoom, Auto-focus and large aperture LED RingLight
- Inspectis 4K UHD USB3.0 Capture Pro Device
- INSPECTIS© Basics Image Capture software
- Inspectis USB communication Cable
- Inspectis Hardened glass windows (5 pcs kit)
- Inspectis Dust Cover for the instrument
- HDMI Cable and Power Supply
- Annual Service and Support for INSPECTIS© software (one year)



Monitor, keyboard, and NIS Elements D software are illustrative and shall be ordered separately

HD-240, WELDinspect 2.1MP FHD Digital Inverted Microscope System*

Included items:

- DIM-F, Inspectis Digital Inverted Microscope 2.1MP Full HD with 7.2-205x On-screen magnification, 26x Zoom, Auto-focus and large aperture LED RingLight
- Inspectis Full HD HDMI USB3.0 Capture Device
- INSPECTIS© Basics Image Capture software
- Inspectis USB communication Cable
- Inspectis Hardened glass windows (5 pcs kit)
- Inspectis Dust Cover for the instrument
- HDMI Cable and Power Supply
- Annual Service and Support for INSPECTIS© software (one year)



Monitor, keyboard, and NIS Elements D software are illustrative and shall be ordered separately

- Upgrade INSPECTIS© Basics to ProX software including USB dongle (* -BX)
- Upgrade with 35x zoom optics, 360x magnification (* -X)
- Upgrade with Crossed Polariser filter set (* -P)

Optional Accessories



HD-133, INSPECTIS© ProX Image Capture, Metrology, Utility and reporting software



HD-130, 4K UHD PCIe Capture Device



HD-241, Hardened glass windows (5 pcs kit)



HD-245, Low-friction screen protector for glass window (5 pcs kit)



HD-242, Metallic window plate with circular aperture



HD-243, Calibration Micrometer Scale, 50mm, Div 1.0mm



HD-244, Calibration Micrometer Scale, 50mm, Div 1.0mm with accredited certificate (UKAS)



HD-248, Flight Case with foam inlay for digital inverted microscopes

System Specifications

System:

Parameter	Value
Video Output	Ultra HD 2160p/30 fps DIM-U & -UX models / Full HD 1080p/60 fps DIM-F & -FX models
Imager	8.5 Mpixels. 3840(H)x2160(V) 16:9 format. Progressive scan CMOS image sensor DIM-U & -UX 2.3 Mpixels. 1920(H)x1080(V) 16:9 format. Progressive scan CMOS image sensor DIM-F & -FX
Pixel Size (resolution)	1.62 µm x 1.62 µm DIM-U & -UX models / 2.5 µm x 2.5 µm DIM-F & -FX
I/O Ports	HDMI video output, 5P MiniDin Power input, 8P MiniDin PC communication
Camera and Lens controls	Zoom, Iris, Manual/Auto Brightness, Manual/Auto Focus, Contrast, Clarity, White Balance
Illumination	Built-in large-aperture white LED RingLight with diffuser. (Crossed polariser filter set is ordered separately)
Storage / Operating Environment	-20° - +60°C, 20 - 95% RH, non-condensing / -5 ° - +40°C, 20 - 95% RH, non-condensing
Size / Weight	200 (W) x 170 (D)x 235 (H) mm / ~ 5.2 kg.

Optical Data:

Model	Video Output	Zoom Range	Magnification On-screen	Magnification Optical	Field of View H [mm]	Field of View V [mm]	Calibrated Pixel Size [µm]
DIM-U	4K	x1 (min)	7,5 x	2,6 x	81.8	46.0	21,3
DIM-U	4K	x26 (max)	196 x	68 x	3.08	1.73	0,8
DIM-UX	4K	x1 (min)	10,9 x	3,8 x	55,7	31,3	14.5
DIM-UX	4K	x35 (max)	368 x	127 x	1,65	0,93	0.43
DIM-F	Full HD	x1 (min)	7,2 x	2,5 x	84.0	47,3	43,7
DIM-F	Full HD	x26 (max)	205 x	71 x	2,96	1,66	1,54
DIM-FX	Full HD	x1 (min)	11,2 x	3,9 x	54,3	30,5	28,3
DIM-FX	Full HD	x35 (max)	367 x	126.9 x	1,66	0,93	0.86

Ordering information

Item no.	Product name
HD-250	WELDinspect, 8.0MP Ultra HD Digital Inverted Microscope system
HD-240	WELDinspect, 2.1MP Full HD Digital Inverted Microscope system
* -BX	Upgrade INSPECTIS© Basics to ProX software including USB dongle
* -P	Upgrade with Crossed Polariser filter set
* -X	Upgrade with 35x zoom optics, 360x magnification

 **INSPECTIS**

Quality of Inspection

Reseller



info@microscopeworld.com | 800-942-0528



Inspectis Optical Systems
Stockholm, Sweden

www.inspect-is.com
info@inspect-is.com