

Advanced 4k Digital Inspection System



Configurable, Ergonomic Optical Inspection System

4K Digital Microscope powered by INSPECTIS®

- Ultra HD 8.3 megapixel camera for careful inspection of fine detail
- Superior 30:1 zoom lens with fast auto-focus and iris control
- Wide range of magnification from 2x to 720x with high resolution optics
- Pre-calibrated optics with zoom tracking, direct camera control and memory pre-sets
- Options include ESD-protected housing and a built-in laser pointer



Developed for Productivity

Premium imaging quality at a wide zoom range and large working distance for fast and flexible optical inspection, non-contact geometrical measurement, analysis, reporting and documentation.

The Inspectis U30s Advanced Inspection System features the cutting edge technology 4K digital camera equipped with diffuse ring light illumination, track stand, large working area XY-floating stage and INSPECTIS© Pro software.



Inspectis 4K Advanced system can be fully adapted to your application and has a wide range of accessories. Options included:

- Transmitted brightfield white illumination
- Incident UV ring-light illumination
- +5, +10, +28 or +56 diopter extra lenses
- ESD protected housing
- Through focus laser pointer
- Motorised XY-stage with joystick control
- Cost-effective Full HD 1920(H) x 1080(V) 60fps camera version

1080p
FULL HD

"Robust and Durable Design according to Industry Standards"

Making Optical Inspection Enjoyable

Inspectis U30s digital microscope offers true ease of use with minimal interaction needed with controls and settings.

All camera and lens parameters such as zoom, aperture size, brightness, focus and colour levels can be controlled by the user through graphical interface of INSPECTIS© software or on-board buttons on top of the device.



- Outstanding 4K, 2160p image quality
- Superior optics with 1:30x zoom
- 2x to 720x magnification range
- Fast and precise auto focus
- 228mm working distance
- Incident diffuse ring-light illumination
- Incident UV ring-light option
- Transmitted brightfield illumination option
- Polarisation filter set option
- Wide range of other accessories
- Robust aluminium housing design
- Stable track stand with rack&pinion
- Large base with XY-floating stage
- Motorised XY-stage with joystick option
- Laser pointer option
- ESD protection option
- Powered by INSPECTIS© software

Through its unique ergonomic design, Inspectis Ultra HD digital microscope provides relief to eyes, neck and shoulders.

Large working area and long working distance let you examine a wide range of subjects.

Easy image capture and sharing options makes collaboration, reporting and training easy tasks.



"Ultra Resolution, Ergonomic, Endlessly Versatile"

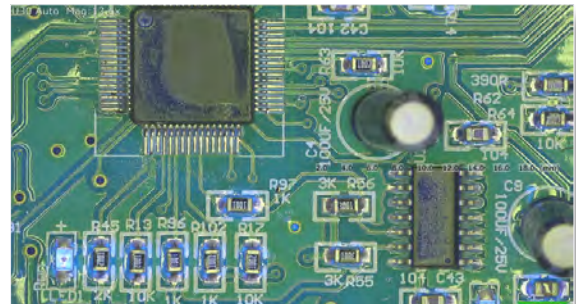
Superior Optical Performance

Inspectis U30s system produces astonishing images with high contrast and true colours at 1:30x zoom range in your optical inspection work.

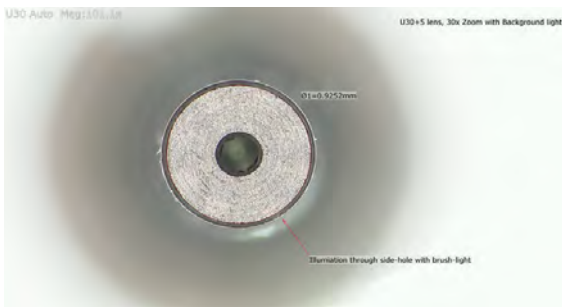
The video inspection system can significantly reduce the time you spend on inspecting parts compared with other optical visual systems.



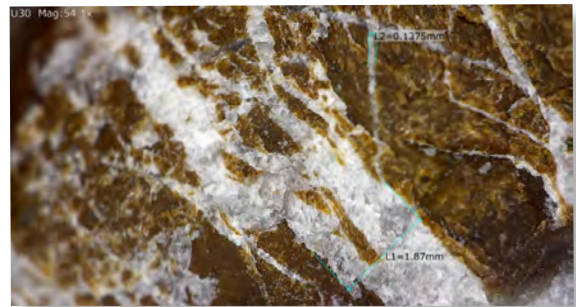
Electronics PCB, x10 Zoom, 16x Mag.
Ambient working place lighting



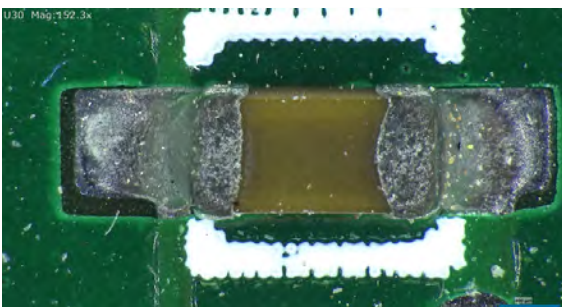
PCB with conformal coating, x7 Zoom, 12.9x Mag.
Incident UV ring-light



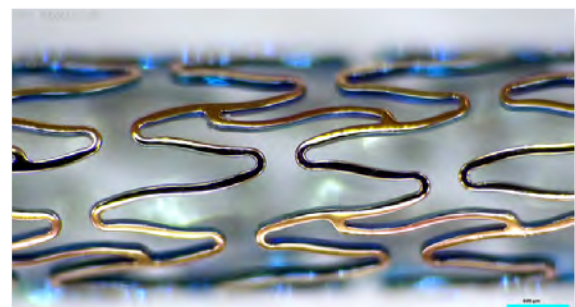
Micro mechanics, x30 Zoom +5 macro, 101x Mag.
Incident diffuse ring-light + bright-field transmitted



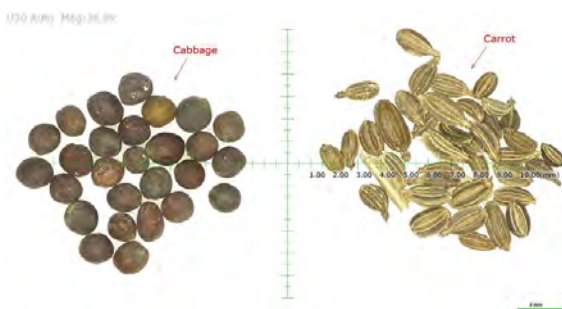
Rock, x26 Zoom, 54x Mag.
Incident white LED sharp ring-light



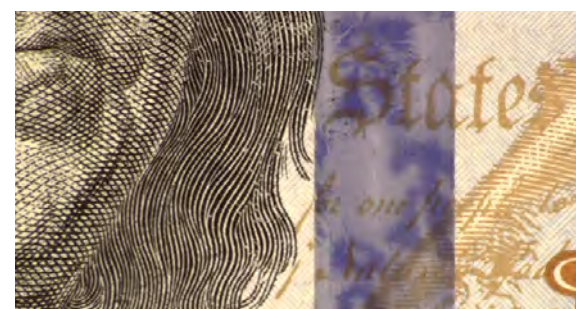
Capacitor, x30 Zoom with +5 macro, 152x Mag.
Incident white LED sharp ring-light + polarisation filter



Stent, x26 Zoom with +5 Macro, 103x Mag.
Incident diffuse ring-light + bright-field transmitted



Grains, x12 Zoom with +5 macro, 36.8x Mag.
Incident diffuse ring-light



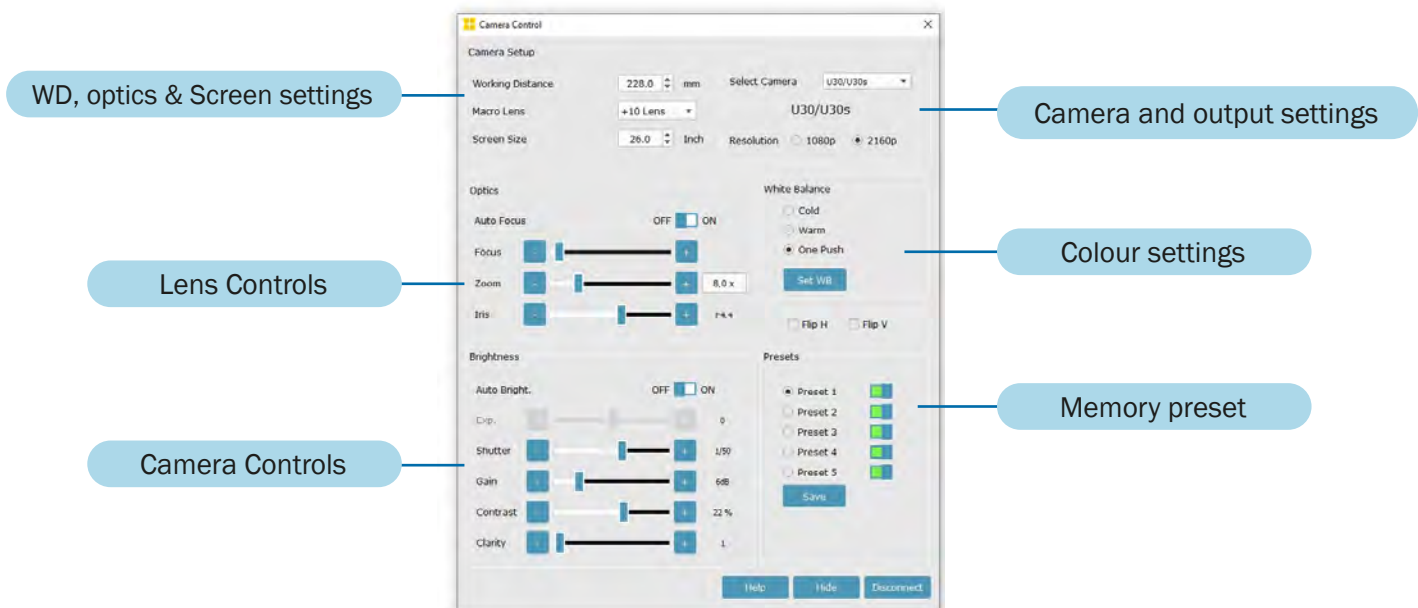
Forensic, x20 Zoom, 31x Mag.
Incident white LED sharp ring-light + polarisation filter

” Optimised for Accurate Inspection of Fine Details ”

Precise Camera and Lens Control

INSPECTIS® provides direct access to camera and lens attributes like optical zoom, aperture size, shutter speed, contrast, focus and colour balance.

1 to 5 camera and lens configurations can be saved in memory for quick recall through P1 to P5 icons on software.



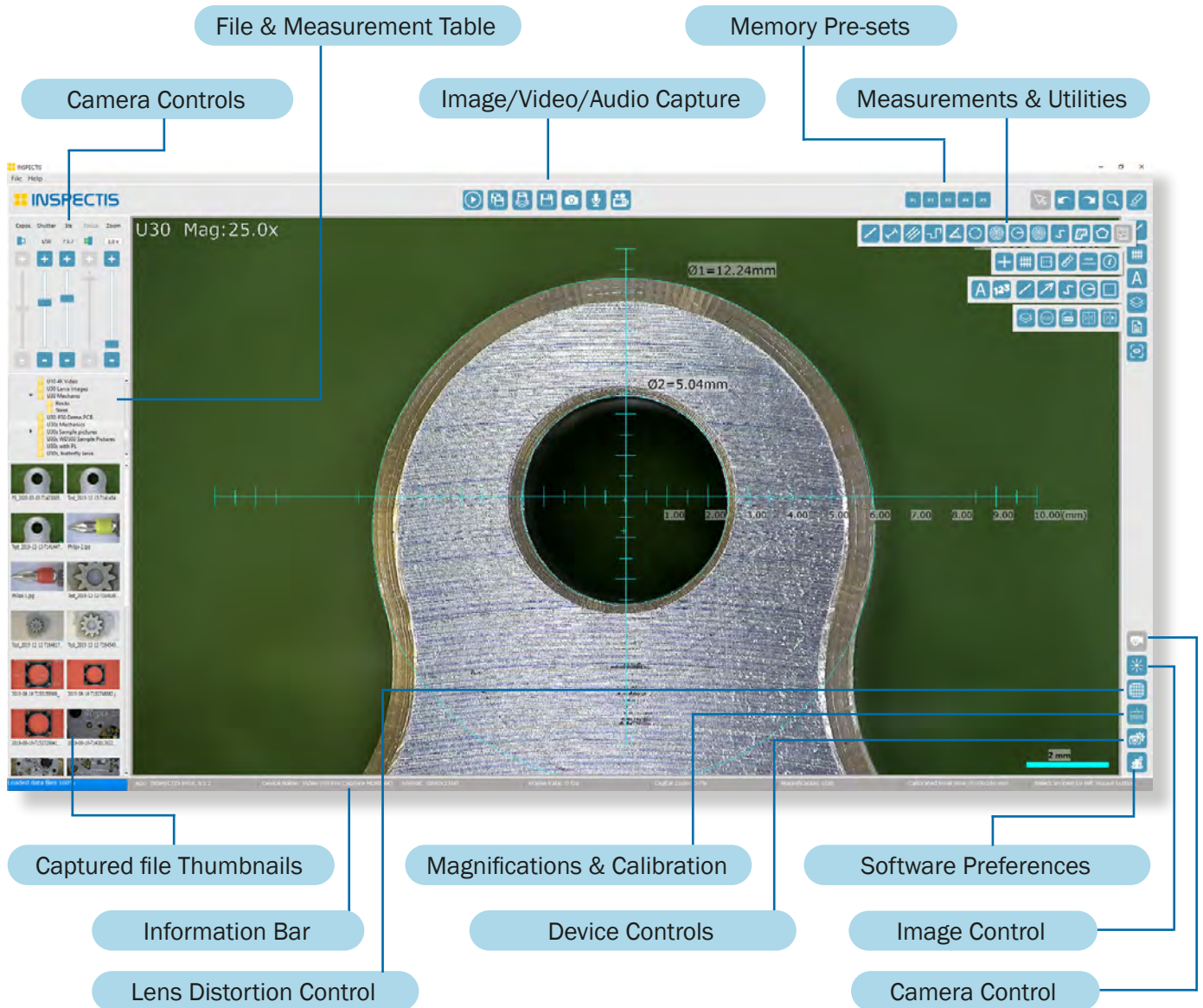
"Full control of camera and lens at your Fingertips"

Developed for Ease-of-Use

The system is powered by INSPECTIS® Pro software. Powerful yet easy-to-use live image view, capture, analysis, metrology and reporting software.

INSPECTIS® Pro provides tools for zoom tracking, measurements, image overlays, comparison, video recording, drawings, annotations and reporting.

Icon based graphical user interface of the INSPECTIS® makes it intuitive, quick and easy-to-use.



Easy image capture and sharing options makes collaboration, reporting and training easy tasks. Thanks to its powerful video processing engine, user-friendly interface and streamlined workflow, INSPECTIS® reduces time spent on capture, analysis, measurements and documentation of your inspection objects.

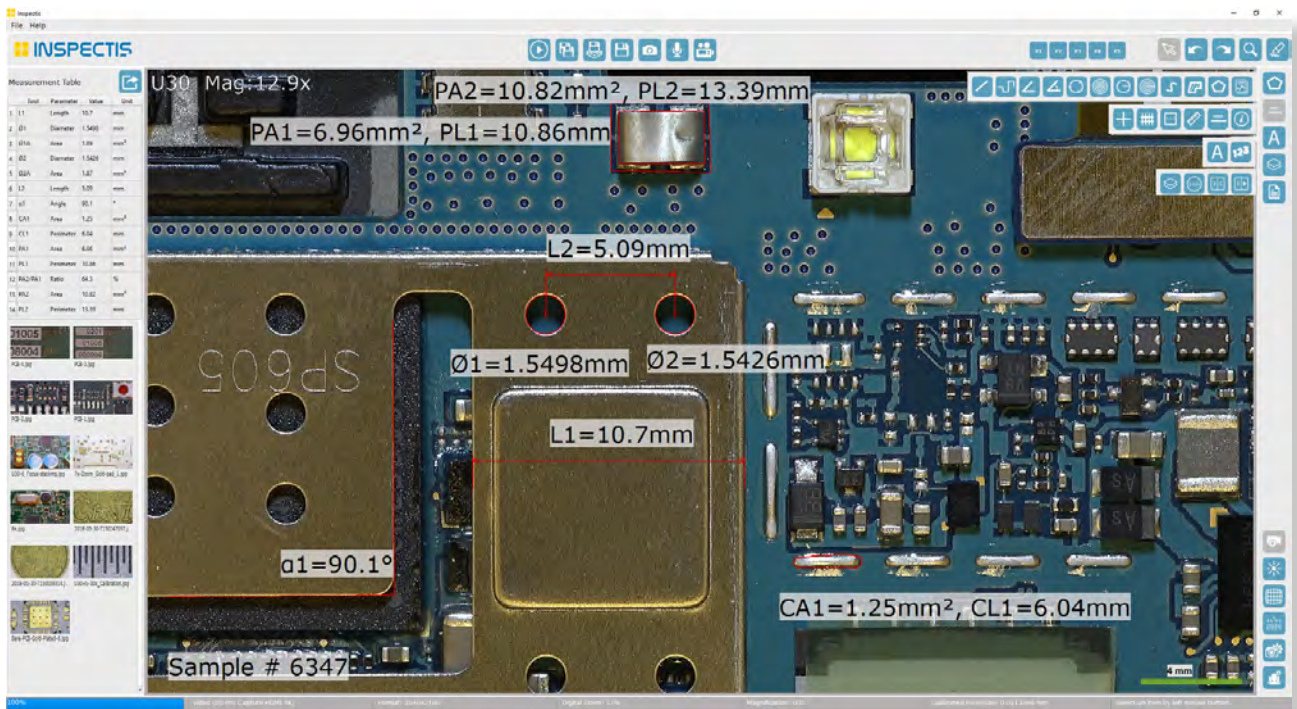
“Reduce the time spent on Inspection, Analysis and Measurements”

INSPECTIS[©] Pro Software

Powerful image view, capture and metrology software. Measure complex parts quickly and efficiently using point-to-point measurements or overlay functions.

Camera and its optics are pre-calibrated through the entire zoom range, enabling measurement of objects with different size details without need to recalibrate.

Live image comparison enables easy comparison of your parts with reference images or digital graticules.



Software available in higher functionality level INSPECTIS[©] ProX

INSPECTIS[©] Pro Highlights

- Direct camera and lens parameters controls
- Image, video, audio capture and record
- Compare live to still or still to still images
- Overlay crosshair, grid, scales, and rectangle on live image
- Overlay digital graticule on live image
- Overlay semi-transparent picture on live image
- Pre-calibrated cameras and lenses
- Automatic calibration tracking for entire zoom range
- Automatic lens distortion correction
- 5 memory pre-sets and recall for camera and lens configurations
- Powerful set of measurement tools
- Snap function for easy selection of geometry points
- Auto-creation of measurement table for data reporting
- Export measurement table data to Excel
- Annotations, feature markup and drawing tools
- Write comments and link to captured pictures
- Auto-creation of reports and certificates in PDF
- Password option for camera parameters control



Micro mechanics, x7.6 Zoom



Electronics PCB, x10 Zoom



Medtech, x12 Zoom

Advanced Features of INSPECTIS[©] ProX

Extra features are available in INSPECTIS[©] ProX version at your option:

Focus Stacking

Create images with extended depth of focus by taking 10-25 images at different focus depths to create one ultra-sharp image.

Automatic Focus Stack



Overlay Assisted Inspection

Overlay of live image on a reference picture with timer controlled interval display. An efficient tool for identifying missing components, wrong polarity, misplacements and other defects on assembled PCBs.

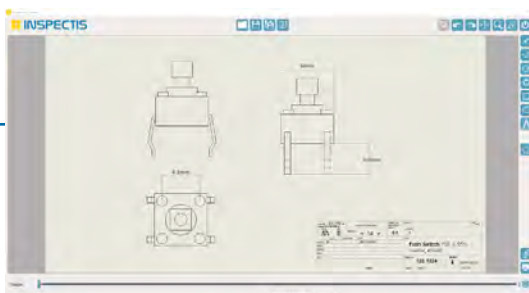
Overlay Assisted Inspection



DXF editor and Overlay

Create a DXF file from your object by optical edge detection. Open an existing DXF CAD file, edit, draw patterns, shapes, add text and overlay on live image. Save in DXF or PNG format and display as Digital Graticule on live image.

DXF Editor and Overlay



Time laps video

Time lapse is a technique where video frames are captured much slower than a normal rate. This allows to produce a video which is much faster than in reality.

Time lapse video



Report and Certificate Generator


Measurement Data:

Data table is generated automatically and linked to the measured image.

Measurement Data Table

	Tool	Parameter	Value	Unit
1	L1	Length	10.7	mm
2	Ø1	Diameter	1.5498	mm
3	Ø1A	Area	1.89	mm ²
4	Ø2	Diameter	1.5426	mm
5	Ø2A	Area	1.87	mm ²
6	L2	Length	5.09	mm
7	α1	Angle	90.1	°
8	CA1	Area	1.25	mm ²
9	CL1	Perimeter	6.04	mm
10	PA1	Area	6.96	mm ²
11	PL1	Perimeter	10.86	mm
12	PA2/PA1	Ratio	64.3	%
13	PA2	Area	10.82	mm ²

Data Export



Reporting:


Report and certificate generator with user-defined templates. Measurement data and comments are automatically imported with selected images.

Customised Templates

Cover Summary Page

Image Summary Thumbnails

Report Pages with Data

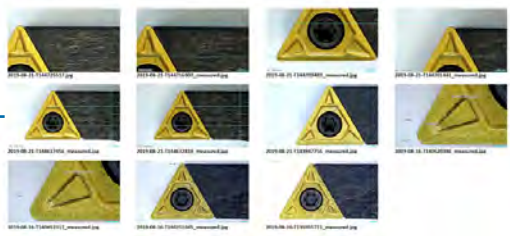



INSPECTION OF SINTERED TOOL
Sample Lot 23455



INSPECTIS AR
derbygatorövägen 5
SE-177 46, Solna
Sverige

ID: Lot 23455
Date: 2019-08-21
Name: Mark Bergkvist
Notes: Quality of edge of samples are tested at different magnification.

Test equipment:
U30s Advance Kit



Signature
Mark Bergkvist



System Configurations and Accessories

Inspection stations can be configured with either 4K or FHD digital camera.

HD-016-KIT-ADV, Inspectis U30s Advanced 4K Inspection System

Included items:

- Inspectis U30s, Ultra HD 2160p Modular Digital Inspection Macroscope, x30 Zoom
- Macro lens +10 diopter, 67mm (replaceable with other lenses on request)
- Track stand, Large Base with focusing WD 35-410mm, ESD-Protected base
- XY Floating Board with magnetic pegs (4x kit)
- RingLight White LED with detachable diffuser
- 4K HD USB3.0 Capture Pro with INSPECTIS® Pro software and USB communication cable
- Annual Service and Support for INSPECTIS® Pro (one year)



Monitor and keyboard are illustrative and not included

HD-013-KIT-ADV, Inspectis F30s Advanced FHD Inspection System

Included items:

- Inspectis F30s, Full HD 1080p Modular Digital Inspection Macroscope, x30 Zoom
- Macro lens +10 diopter, 67mm (replaceable with other lenses on request)
- Track stand, Large Base with focusing WD 35-410mm, ESD-Protected base
- XY Floating Board with magnetic pegs (4x kit)
- RingLight White LED with detachable diffuser
- Full HD USB3.0 Capture with INSPECTIS® Pro software and USB communication cable
- Annual Service and Support for INSPECTIS® Pro (one year)



Monitor and keyboard are illustrative and not included

Extra Accessories



- HD-039, Macro lens +5 diopter, 67mm
- HD-142, High Magnification lens +28 diopter
- HD-143, High Magnification lens +56 diopter



- PX, Upgrade INSPECTIS® Pro software to INSPECTIS® Pro-X



- HD-051, USB Foot switch for INSPECTIS® Software 1-pedal



- HD-052, USB Foot switch for INSPECTIS® Software 3-pedals



- HD-126, Double-Spot LED Matrix Light with Gooseneck



- HD-024-S, External power supply for RingLight and Matrix Lights



- HD-127-EU, Backlight, brightfield transmitted with intensity control (EU-cable)



- HD-24-P-U, Polarisation filter set for Ring Light, 67mm (for U and F models)



- HD-184, Precision XY stage 50x50mm with micrometer drives



- HD-187, Motorised XY stage Märzhäuser SCAN 150x150mm with Joystick



- HD-111, Flight Case, Trolley-type

Motorised XY stages with other travel ranges available on request.

Optical Data

A wide range of extra lenses ensure optimum results for any application. Select the right lens considering field of view (magnification), working distance and the resolution power your application requires.

Optical data for U30s, 4k 3840 x 2160 (8MP) digital microscope



Lens	Zoom Factor	Magnification On-screen*	Magnification Optical	Field of View [mm]	Working Distance [mm]	Resolving Power [LP/mm]
Standard	x1	2,1 x	0,7 x	290	> 228-178	4
Standard	x2	3,8 x	1,3 x	160	> 228-178	8
Standard	x5	9,4 x	3,3 x	64,5	> 228-178	22
Standard	x10	17,8 x	6,2 x	34,1	> 228-178	42
Standard	x15	27,5 x	9,5 x	22,1	> 228-178	57
Standard	x20	36,4 x	12,6 x	16,7	> 228-178	64
Standard	x25	45,4 x	15,7 x	13,4	> 228-178	72
Standard	x30	61,4 x	21 x	9,90	228-178	72
+1	x30	75,4 x	26 x	8,06	188-145	64
+2	x30	88 x	30 x	6,91	159-128	80
+3	x30	106 x	36 x	6,91	130-108	128
+5	x30	132 x	46 x	5,76	100-75	161
+10	x30	193 x	67 x	4,61	65-60	228
+28	x10	124 x	43 x	4,92	> 18-16.5	228
+28	x30	417 x	144 x	1,46	18-16.5	362
+56	x10	214 x	74 x	2,84	> 18-17.5	323
+56	x30	719 x	249 x	0,84	18-17.5	512

* On-screen magnifications are based on 28" monitor

Optical data for F30s, 2k 1920 x 1080 (2MP) digital microscope



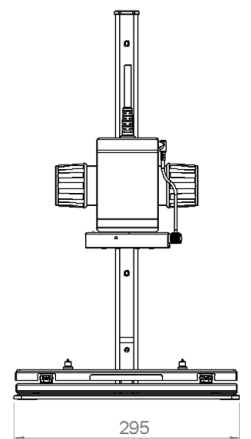
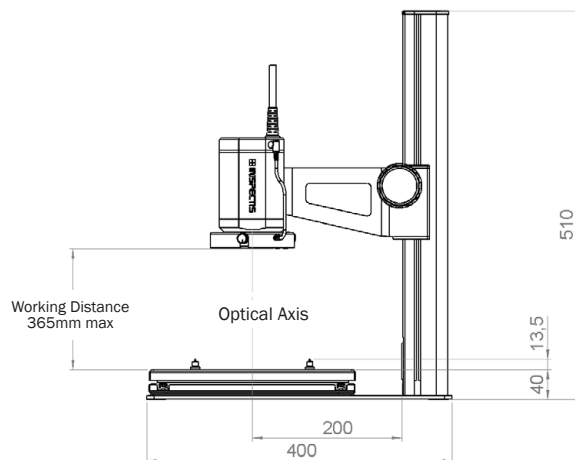
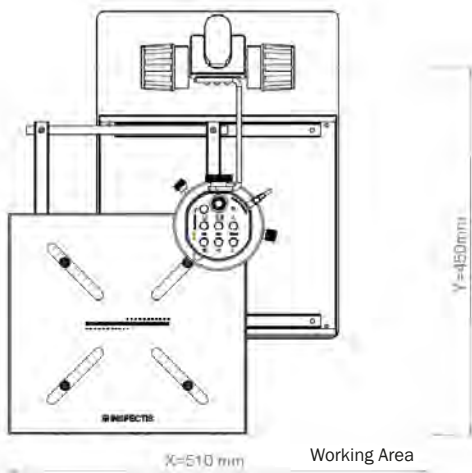
Lens	Zoom Factor	Magnification On-screen*	Magnification Optical	Field of View [mm]	Working Distance [mm]	Resolving Power [LP/mm]
Standard	x1	2,3 x	0,8 x	265	> 225-195	2,5
Standard	x2	4,8 x	1,7 x	127	> 225-195	4
Standard	x5	11,3 x	3,9 x	54	> 225-195	11
Standard	x10	22,3 x	7,7 x	27,3	> 225-195	22
Standard	x15	33,3 x	11,5 x	18,3	> 225-195	34
Standard	x20	44,3 x	15,3 x	13,7	> 225-195	42
Standard	x25	55,1 x	19,0 x	11,0	> 225-195	51
Standard	x30	66,1 x	22,8 x	9,2	225-195	57
+1	x30	80,8 x	27,9 x	7,5	180-145	64
+2	x30	94,5 x	32,6 x	6,4	159-128	72
+3	x30	112 x	38,8 x	5,4	120-108	114
+5	x30	147 x	50,6 x	4,1	98-75	128
+10	x30	179 x	61,8 x	3,4	60-57	203
+28	x10	152 x	52,5 x	4,0	> 18-16.5	144
+28	x30	413 x	142,9 x	1,47	18-16.5	362
+56	x10	253 x	87,5 x	2,40	> 18-17.5	203
+56	x30	769 x	265,8 x	0,79	18-17.5	456

* On-screen magnifications are based on 28" monitor

"Configurable with different incident and transmitted illumination options"

Specifications

Video Output	Ultra HD 2160p/30, switchable to Full HD 1080p/60
Imager	8.5 Mpixels. 3840(H) x 2160(V) 16:9 format. Progressive scan CMOS image sensor
Optical system	30x Zoom with Auto Focus and Iris Control
Pixel Size (resolution)	1.62 µm x 1.62 µm
I/O Ports	HDMI video output, 5P MiniDin Power input, 8P MiniDin External Remote Control
Camera Control	Zoom, Iris, Manual/Auto Brightness, Shutter Speed, Manual/Auto Focus, Gain, Contrast, Picture Clarity, White Balance, Video Output Format, Flip H/V. 5 Memory Pre-sets
Illumination	Ring-light white LED with detachable diffuser and electronic intensity control
Storage/Operating Environment	-20° - +60°C, 20 - 95% / -5° - +40°C, 20 - 95% RH, non-condensing
Size, Weight	510 x 400 x 295 mm, 9,8 kg.



Dimensions in mm

Ordering numbers inspection systems:

Item name	Order No.
Inspectis U30s Advanced 4K 2160p Digital Inspection System	HD-016-KIT ADV
Inspectis F30s Advanced FHD 1080p digital Inspection System	HD-013-KIT ADV
Upgrade with Antistatic housing	* -E
Upgrade with Laser pointer	* -L
Upgrade to INSPECTIS® ProX software	*- PX
Upgrade to XY floating board with Position Lock	HD-028-L

High magnification lens +56 diopter	HD-143
Lens protection filter, 67mm	HD-098
USB Foot switch for INSPECTIS® software 1-pedal	HD-051
USB Foot switch for INSPECTIS® software 3-pedals	HD-052
Backlight, brightfield transmitted with intensity control	HD-127
Double-spot incident matrix light with gooseneck	HD-126
Polarisation filter set for Ring-light, 67mm	HD-024-P-U
Polarisation filter set for Backlight	HD-127-P
Tilt Board, Antistatic	HD-029
Precision XY stage 50x50mm with micrometer drives	HD-184
Motorised XY stage, Scan 150x150mm with Joystick *	HD-187
Märzhäuser TANGO Desktop Control for XY stage, 2-axes	HD-187-D
Märzhäuser TANGO PCI2 Control for XY stage, 2-axes	HD-187-P
Flight Case, Trolley-type	HD-111

Ordering numbers optional accessories:

Macro lens +3 diopter, 67mm (Achromatic)	HD-038
Macro lens +5 diopter, 67mm (Achromatic)	HD-039
Macro lens +10 diopter, 67mm (Achromatic)	HD-123
High magnification lens +28 diopter	HD-142

* Stages with other XY-travel lengths available on request

Reseller: _____



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Quality of Inspection

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