



TAGARNO
seeing solutions

ELECTRONICS INDUSTRY

Visual inspection of printed circuit boards.

Quality Assurance

Prevent quality issues

First Article Inspection

Quality Control

Review the quality of production

Detect quality issues

Documentation

Provide high quality image documentation

Repair/rework

Soldering/desoldering defective assembled PCBs

Hand soldering of fine pitch components

Training/sparring

Facilitate training of new QA/QC employees



“The stand alone digital TAGARNO microscope enables us to manually inspect circuit boards in high image quality to see the smallest details and ensure the quality of our work”

Engineer at BB electronics,
Bo Aktor Nielsen





VISION

Our vision is to be a leading global niche player which, based on our users need, combines camera technology, high quality, design and applications into integrated magnification solutions for the users.





TAGARNO FHD PRESTIGE

660x magnification. Measurement. Validation. Focus stacking.



TAGARNO FHD TREND

Digital microscope. 330X magnification. Easily update firmware and get new apps.



TAGARNO FHD UNO

92X magnification. Cost-efficient. Optional XY table.



TAGARNO FHD ZAP

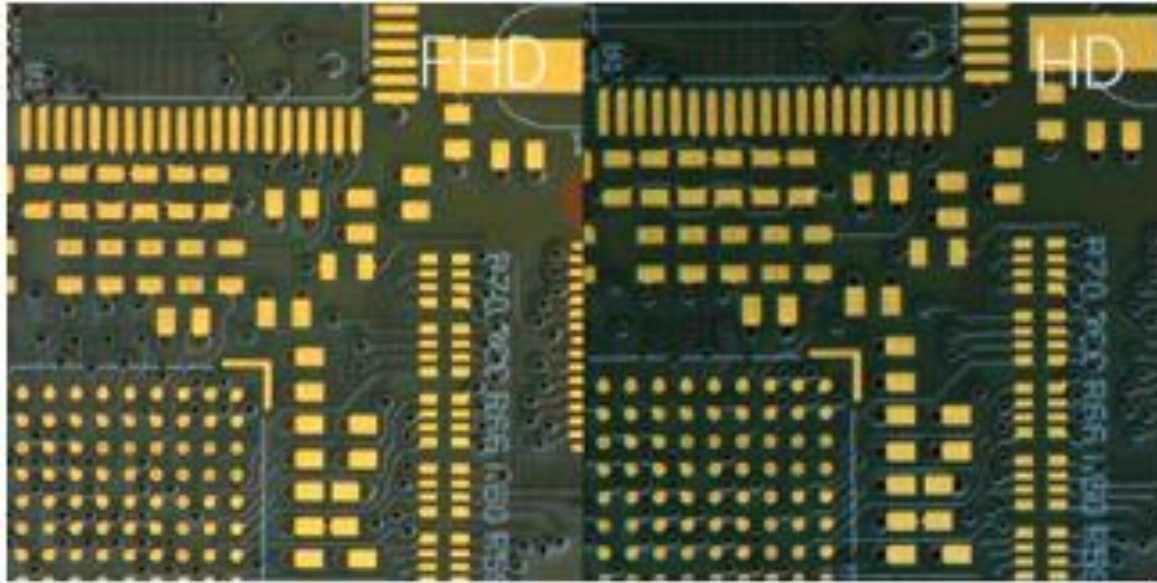
128x magnification. Flexible. Laser pointer. Easy image and video capturing.



TAGARNO FHD ZIP

53X magnification. Cost-efficient. Easy image and video capture.

Full HD Image (1980 x 1080p)



적용 분야



Quality Assurance



Repair & Rework



Document work



Training

	TAGARNO FHD ZAP	TAGARNO FHD ZIP	TAGARNO FHD UNO	TAGARNO FHD TREND	TAGARNO FHD PRESTIGE
Picture					
Camera resolution	FHD 1080p, 1920x1080p at 59,94/50/29,97/25Hz	FHD 1080p, 1920x1080p at 59,94/50/29,97/25Hz	FHD 1080p, 1920x1080p at 59,94/50/29,97/25Hz	FHD 1080p, 1920x1080p at 59,94/50/29,97/25Hz	FHD 1080p, 1920x1080p at 59,94/50/29,97/25Hz
Camera resolution	HD 720p, 1280x720p at 59,94/50Hz	HD 720p, 1280x720p at 59,94/50Hz			
Dimensions	H: 121mm/4.76" R: 100mm/3.94"	H: 350mm/13.78" W: 155mm/6.10" D: 386mm/15.20"	H: 464mm/18.3" W: 300mm/11.8" D: 499mm/19.6"	H: 460mm/18.11" W: 325mm/12.80" D: 530mm/20.87"	H: 464mm/18.27" W: 320mm/12.60" D: 325mm/12.80"
Weight	1,5 kg/3.31 lbs	2,0 kg/4.4 lbs	5,2 kg/11.46 lbs	6,8 kg/14.99 lbs	11,0 kg/24.25 lbs BACKLIGHT: 14,0 kg/30.86 lbs
Working height	Adjustable	Min: 250mm/9.84"	Min: 200mm/7.87" Max: 415mm/16.34"	Min: 100mm/3.94" Max: 335mm/13.2"	Min: 27mm/1.06" Max: 270mm/10.63"
Working depth	Adjustable	280mm/11.02"	370mm/14.57"	385mm/15.16"	150mm/5.91"
Zoom	30x optical	30x optical	20x optical	30x optical	30x optical
Auto & Manual focus	Yes	Yes	Yes	Yes	Yes
Control included	Control on top	XKEY control box	-	-	-
Applications, included			Ruler	Ruler, Focus Stacking	Ruler and Focus Stacking
Applications, optional	-	-	Focus Stacking, Measurement, Verification Lines, Watermark and image Comparison	Measurement, Verification Lines, Watermark and image Comparison	Measurement, Verification Lines, Watermark and image Comparison
Control options	XKEY control box, Foot switch	Foot switch	XKEY control box, XPLUS FHD control box, Foot switch	XKEY control box, XPLUS FHD control box, Foot switch	XKEY control box, XPLUS FHD control box, Foot switch
XY table	No	No	Optional	Optional	No
Image capture, stand alone	No	No	Yes, USB and internal storage	Yes, USB and internal storage	Yes, USB and internal storage
Image capture, PC	Yes (with third-party software)	Yes (with third-party software)	Yes (with third-party software)	Yes (with third-party software)	Yes (with third-party software)
Laser pointer (on/off)	Yes	No	No	Yes	No
Cable types included	HDMI, USB 3.0 & ESD	Mini-HDMI - HDMI & Micro-USB - USB 3.0	HDMI-HDMI, HDMI-DVI, USB 3.0	HDMI-HDMI, HDMI-DVI, USB 3.0	HDMI-HDMI, HDMI-DVI, USB 3.0
Output format	HDMI & USB 3.0 (fixed cables)	Mini-HDMI & Micro-USB 3.0	HDMI	HDMI	HDMI
Aspect ratio	16:9	16:9	16:9	16:9	16:9
Lens options	+2, +3, +4*, +5, +10	+4*	+3, +4*, +5, +10	+3, +4*, +5, +10, +25	+4*, +5, +10, +25, +50

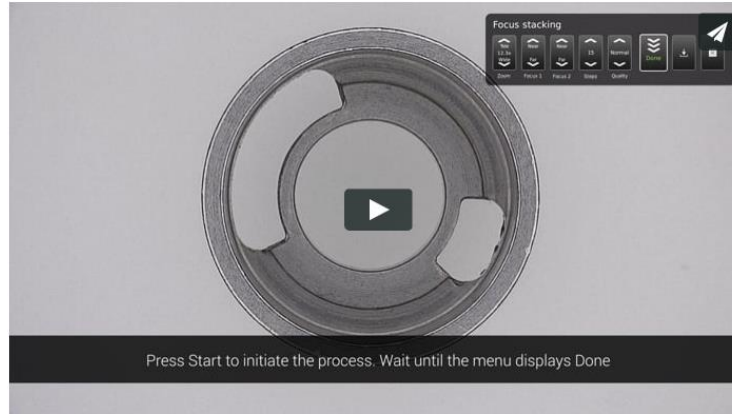
	TAGARNO FHD ZAP	TAGARNO FHD ZIP	TAGARNO FHD UNO	TAGARNO FHD TREND	TAGARNO FHD PRESTIGE
Picture					
Field of view (동일 배율이어도 모델별 사양이 다 름)	+2 lens Min zoom: 600.0mm/23.62" Max zoom: 21.0mm/0.83"				
	+3 lens Min zoom: 409.0mm/16.10" Max zoom: 13.4mm/0.53"		+3 lens Min zoom: 376.4mm/14.82" Max zoom: 18.6mm/0.73"	+3 lens Min zoom: 409.0mm/16.10" Max zoom: 13.4mm/0.53"	
	+4 lens Min zoom: 290mm/11.42" Max zoom: 11mm/0.43"	+4 lens Min zoom: 290mm/11.42" Max zoom: 11mm/0.43"	+4 lens Min zoom: 286.6mm/11.28 Max zoom: 14.2mm/0.56"	+4 lens Min zoom: 306.8mm/12.08" Max zoom: 10.1mm/0.40"	+4 lens Min zoom: 306.8mm/12.08" Max zoom: 10.1mm/0.40"
	+5 lens Min zoom: 244.6mm/9.63" Max zoom: 8.0mm/0.31"		+5 lens Min zoom: 228.9mm/9.01" Max zoom: 11.3mm/0.44"	+5 lens Min zoom: 244.6mm/9.63" Max zoom: 8.0mm/0.31"	
	+10 lens Min zoom: 125.1mm/4.93" Max zoom: 4.1mm/0.16"			+10 lens Min zoom: 125.1mm/4.93" Max zoom: 4.1mm/0.16"	+10 lens Min zoom: 116.7mm/4.59" Max zoom: 5.8mm/0.23"
				+25 lens Min zoom: 49.8mm/1.96" Max zoom: 1.6mm/0.063"	+25 lens Min zoom: 49.8mm/1.96" Max zoom: 1.6mm/0.063"
					+50 lens Min zoom: 25.0mm/0.98" Max zoom: 0.8mm/0.03"
Included lens	+4 (58mm)	+4 (58mm)	+4 (58mm)	+4 (58mm)	+4 (58mm)
Magnification on 24" monitor (동일 배율이어도 모델별 사양이 다 름)	+2 lens 0.8x - 26.2x				
	+3 lens 1.3x - 40.1x		+3 lens 1.4x - 28.9x	+3 lens 1.3x - 40.2x	
	+4 lens 1.7x - 52.7x	+4 lens 1.7x - 52.7x	+4 lens 1.9x - 38x	+4 lens 1.7x - 52.9x	+4 lens 1.7x - 52.9x
	+5 lens 2.3x - 66.1x		+5 lens 2.3x - 47.4x	+5 lens 2.2x - 65.9x	+5 lens 2.2x - 65.9x
	+10 lens 4.2x - 128.8x		+10 lens 4.6x - 93.1x	+10 lens 4.2x - 129x	+10 lens 4.2x - 129x
				+25 lens 10.7x - 330x	+25 lens 10.7x - 330x
					+50 lens 21x - 660x
Lens to object distance	+2 lens 500mm/19.67"				
	+3 lens 333mm/13.11"		+3 lens 333mm/13.11"	+3 lens 333mm/13.22"	
	+4 lens 250mm/9.84"	+4 lens 250mm/9.84"	+4 lens 250mm/9.84"	+4 lens 250mm/9.84"	+4 lens 250mm/9.84"
	+5 lens 200mm/7.87"		+5 lens 200mm/7.87"	+5 lens 200mm/7.87"	+5 lens 200mm/7.87"
	+10 lens 100mm/3.94"		+10 lens 100mm/3.94"	+10 lens 100mm/3.94"	+10 lens 100mm/3.94"
				+25 lens 34mm/1.34"	+25 lens 34mm/1.34"
					+50 lens 33.5mm/1.3"

Software function

FEATURES

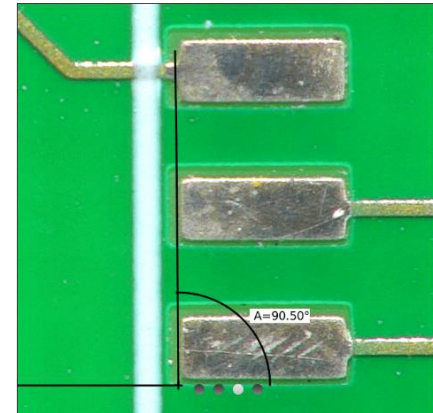
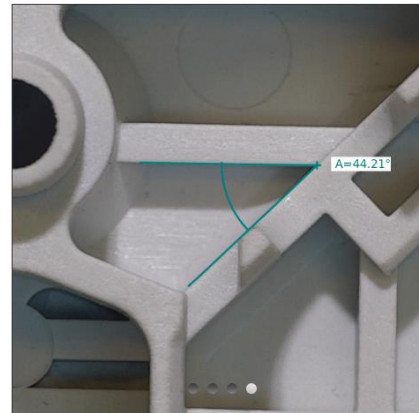
Image capture, Stand alone via USB	Yes
Image capture PC (via third-party software)	Yes
Auto & manual iris, gain & exposure time	Yes
Auto & manual focus	Yes
Source select function	Yes
Snapshot	Yes
Presets	Yes
White balance calibration	Yes
Turn light on/off	Yes
Picture flip	Yes
Start and lock magnification	Yes
Closeup Lenses	Yes
Date and time	Yes
Ruler on/off and choose ruler color	Yes
Monitor width or Monitor Readback	Yes
Focus stacking	Yes
Measurement Application (TMA)	Yes
Image format	Yes
Auto capture mode and interval	Yes
Choose system units	Yes
Laser pointer (on/off)	Yes
Control included	No

Focus Stacking



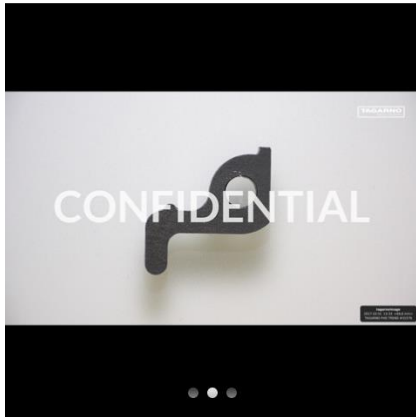
Focus application from TAGARNO allows you to easily create high quality documentation images by capturing images of the sample on different focus heights and then merging them into one final image documentation. By choosing the furthest and nearest point of focus, the microscope can capture up to 50 pictures of the sample and afterwards converting them into one single image file.

Measurement

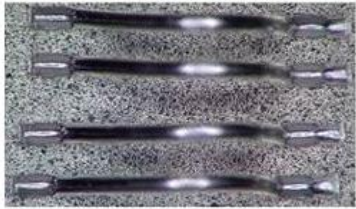


TAGARNO Measurement Application enables you to perform precise measurements directly from your FHD digital microscope. The application offers features such as point-to-point, circle, angle and area measurements as well as performing advanced calibrations, lens correction, text, arrow annotations and others. Read more about all the measurement application features below.

Focus Stacking



1) Foot focus (하단 focus)



2) Loop focus (상단 focus)



3) Focus stacking 적용시 이미지



- **Focus settings (far and near)**

Set up your furthest and nearest point of focus in your sample to ensure the best results for your documentation.

- **Steps**

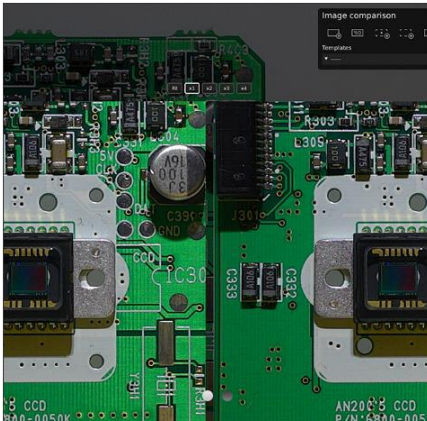
Determine the number of steps you want the application to perform.

Higher steps will capture more images and create the documentation in higher detail

- **Quality adjustment**

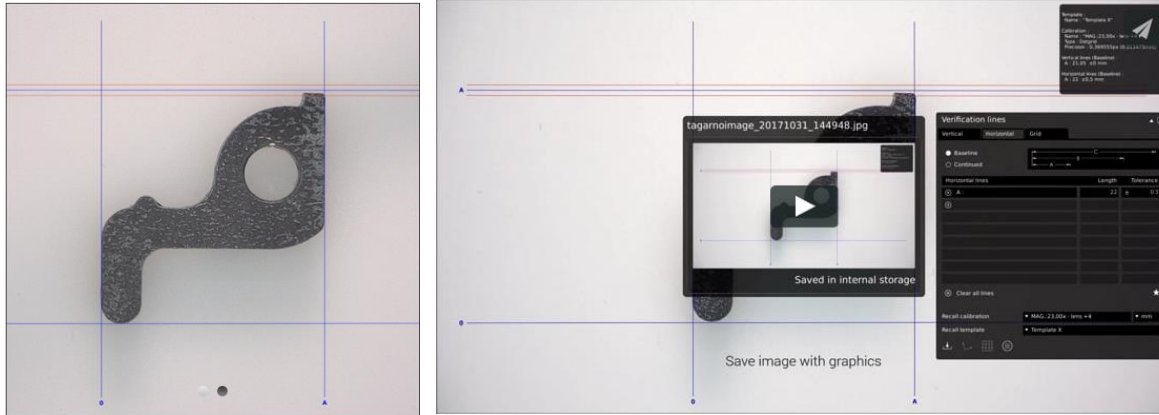
- **Magnification level**

Image comparison



- Capture reference image and place fix points
- Live view with superimposed reference image
- Capture sample image which will be auto-aligned to the reference image
- Capture sample image without aligning to reference image
- View reference image / View sample image
- Compare images by switching between them with a 1 second interval
- Compare images side-by-side
- Adjustable vertical split view
- Save reference image / Save sample image

Verification



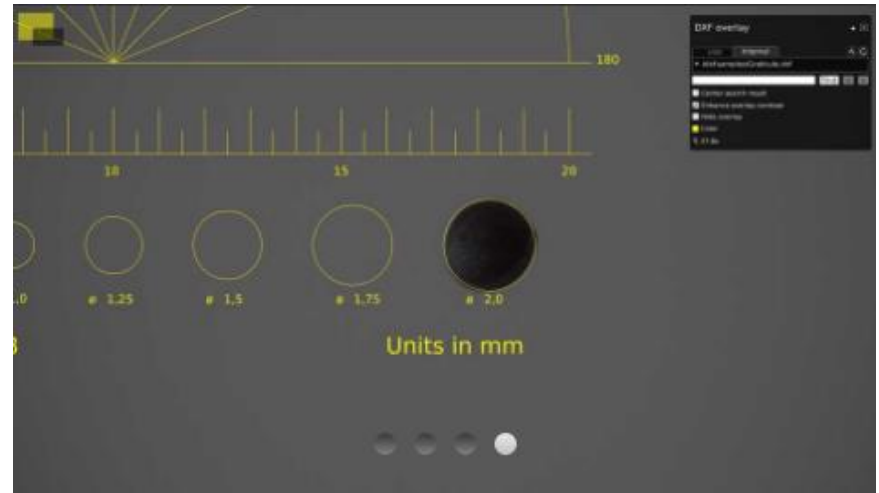
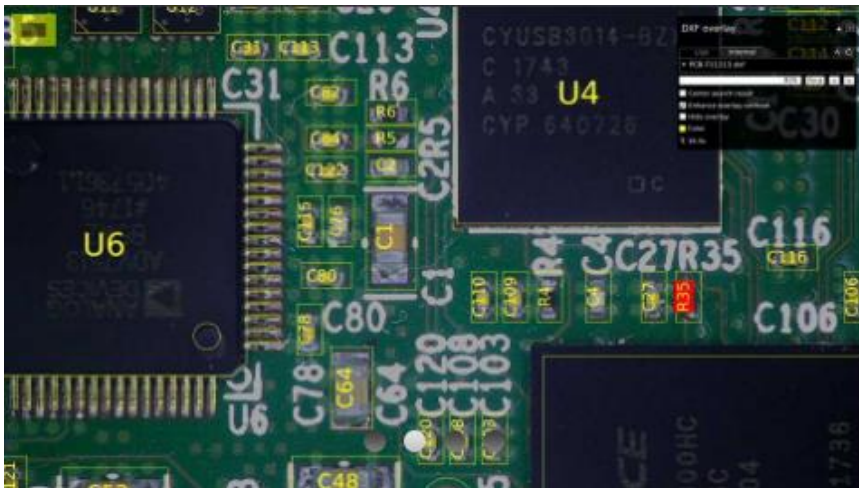
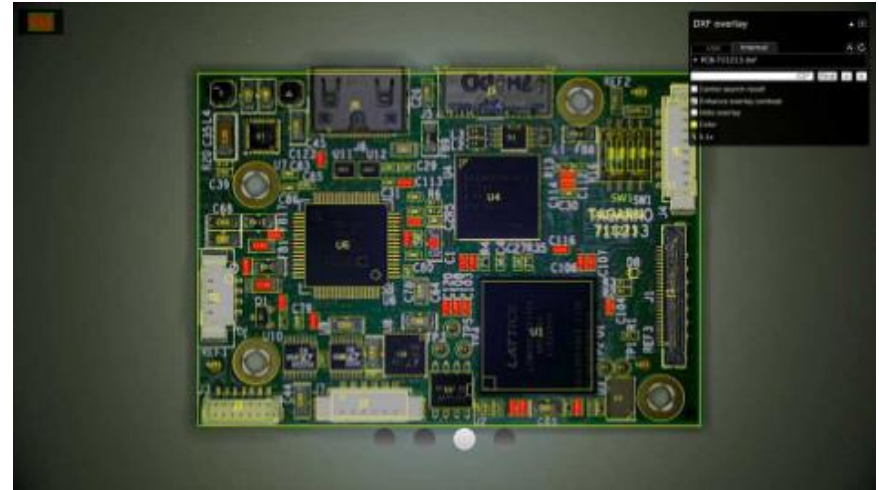
- Vertical lines / Horizontal lines
- Enable or disable the grid
- Choose unit type / Recall a template / Save image with graphics
- Control direction of the placed lines via an angle according to the enlarged object

Speck counter



- Main speck detector – adjust the main threshold between the background color and irregularities
- Speck minimum size – choose the minimum size of the speck for the analysis
- Lightness filter - adjust the lightness of the speck on a greyscale
- Color tone filter - set a threshold on a color scale for the speck observed
- Recall template - Recall a saved template for consistent inspections

DXF Overlay 기능



- Import DXF files to the microscope from USB or Internal storage
- Search for components with the search bar feature
- Enhance contrast between live image and DXF with overlay contrast feature
- Choose from 24 different colors for the overlay

Accessories



Circular tilting table

For seeing your displayed object from different angles, try our stable and flexible tilting table.

Measurements:

- Diameter: 200mm/7.87"
- Height: 85mm/3.35"

Movement:

- 0 - 40° vertically
- 360° horizontally

Art. no. 108271 | Table tilting

For: TAGARNO FHD PRESTIGE, TAGARNO FHD TREND, TAGARNO FHD UNO, TAGARNO FHD ZAP



Height adjustable table

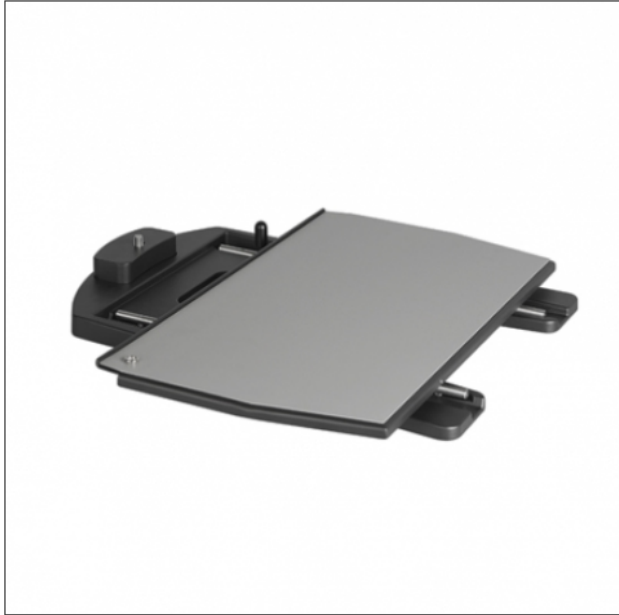
For easy and precise adjustment of the focus height under your microscope, try our height adjustable table.

Measures: D: 200mm./7.87" W: 200mm./7.87" H: 65mm./2.56" - 280mm./11.02"

Art. no. 108502 | Table height adjustable

For: TAGARNO FHD PRESTIGE, TAGARNO FHD TREND, TAGARNO FHD UNO, TAGARNO FHD ZAP

Accessories



Large built-in XY table

Large and steady XY tables for easy control of the magnified object. Mount your TAGARNO microscope securely to these XY tables.

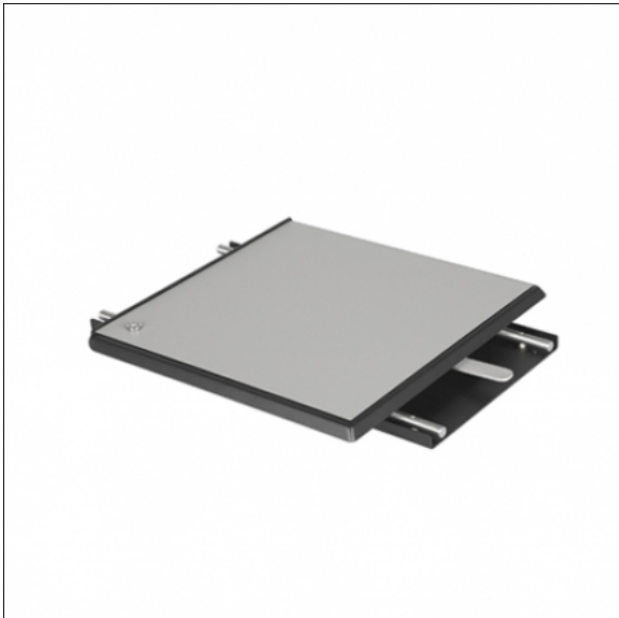
Measures: Table: D: 520mm/20.47" | W: 520mm/20.47" H: 50mm / XY table: D: 300mm/11.81" | W: 520mm/20.47"

Movement: X: 385mm/15.16" Y: 295mm/11.61"

Art. no. 108500 | Table integrated XY (FHD UNO)

Art. no. 303010 | Table integrated XY (FHD TREND)

For: TAGARNO FHD TREND, TAGARNO FHD UNO



Small separate XY table

Steady XY table for easy control of the magnified object. The separate XY table is small and easy to move.

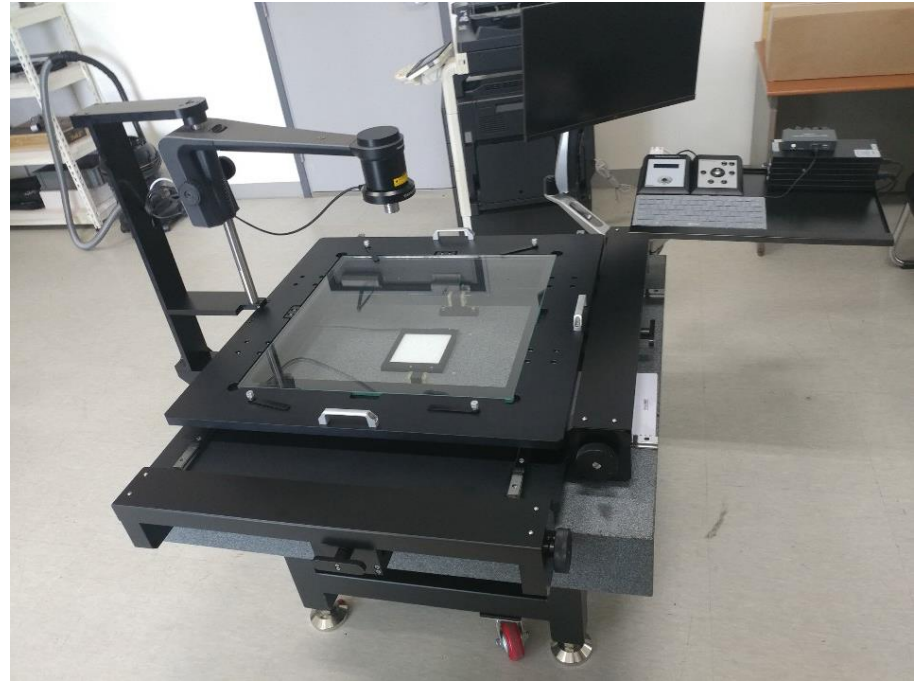
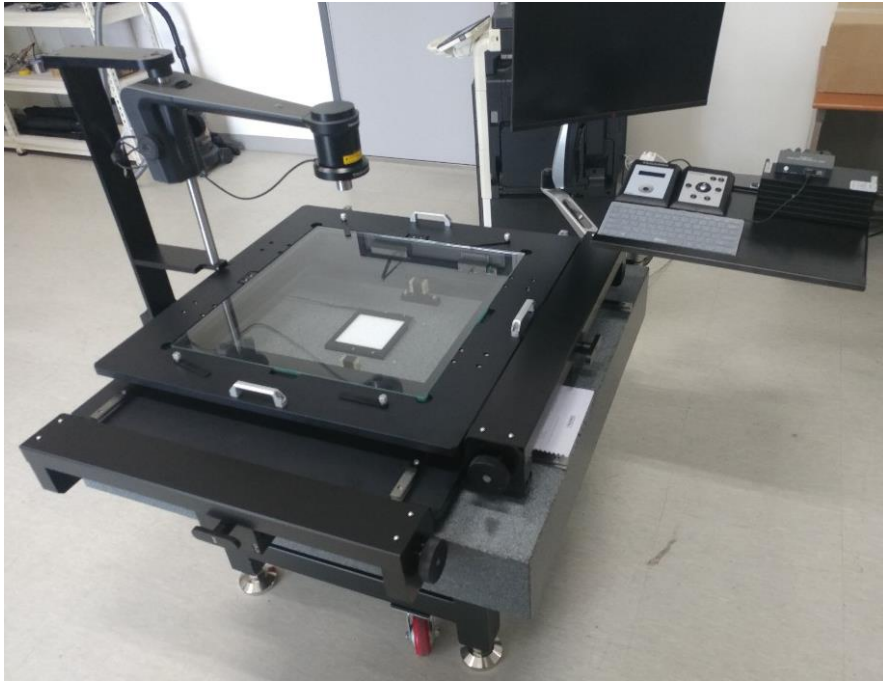
Measures: Table: D: 400mm/15.75 W: 320mm/12.60" H: 42mm/1.65" / XY table: D: 320mm/12.60" W: 320mm/12.60"

Movement: X: 175mm/6.89" Y: 250mm/9.84"

Art. no. 108501 | Table separate XY

For: TAGARNO FHD PRESTIGE, TAGARNO FHD TREND, TAGARNO FHD UNO, TAGARNO FHD ZAP

대형 Stage 적용

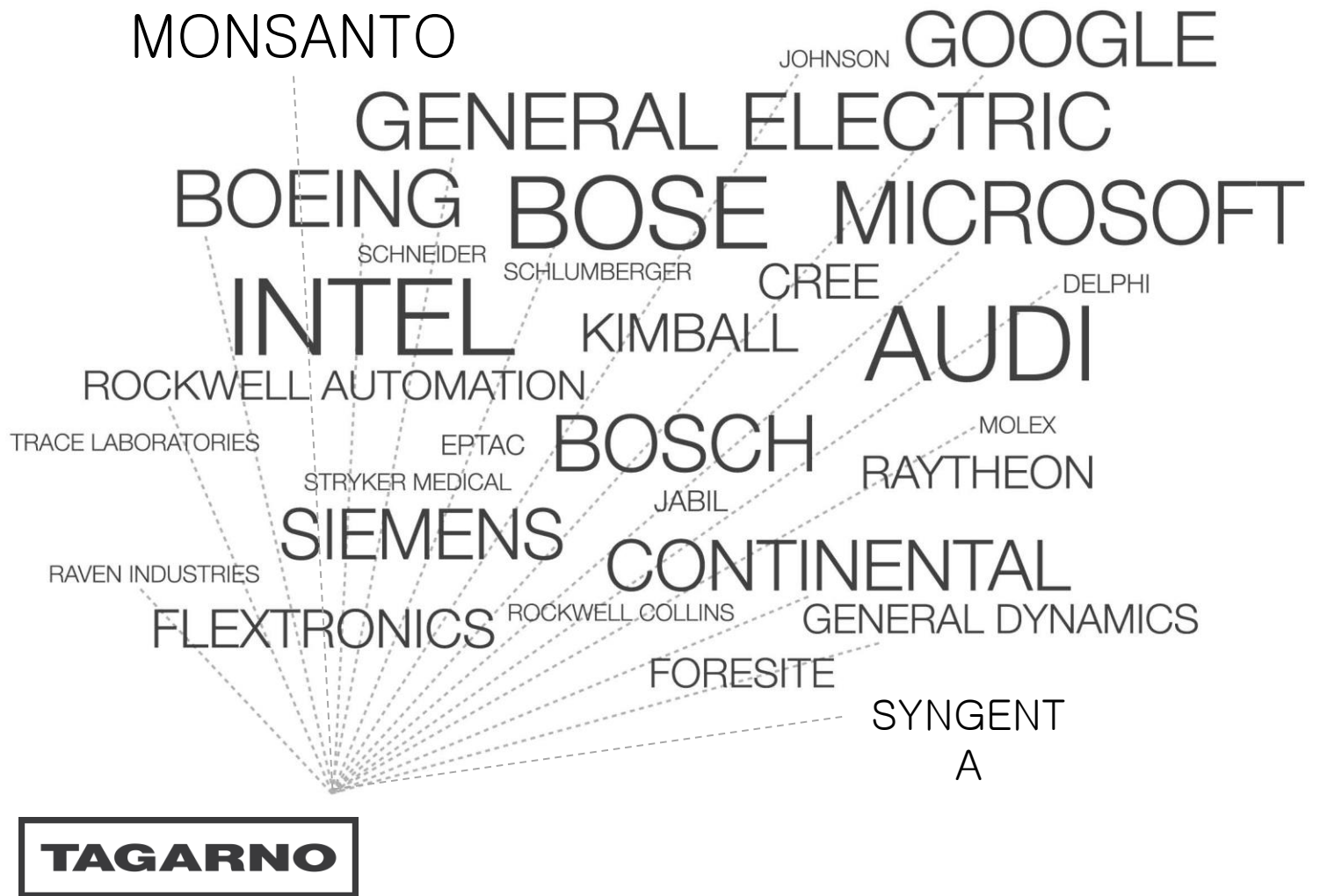


하드웨어 구성

- 대형 스테이지 500mm x 500mm
- Macro 슬라이딩 움직임 / 마이크로 회전 레버 움직임
- 상/하부 조명 구성
- PC 구성

기능

- 상/하부 조명을 통해서 필름 등의 pin hole 및 상부 표면의 손상 검사
- 원하는 위치에서 정밀 이미지 촬영 후 측정 가능
- PC와 연동해서 품질 자료 및 보고서 작성 가능



TAGARNO APPS

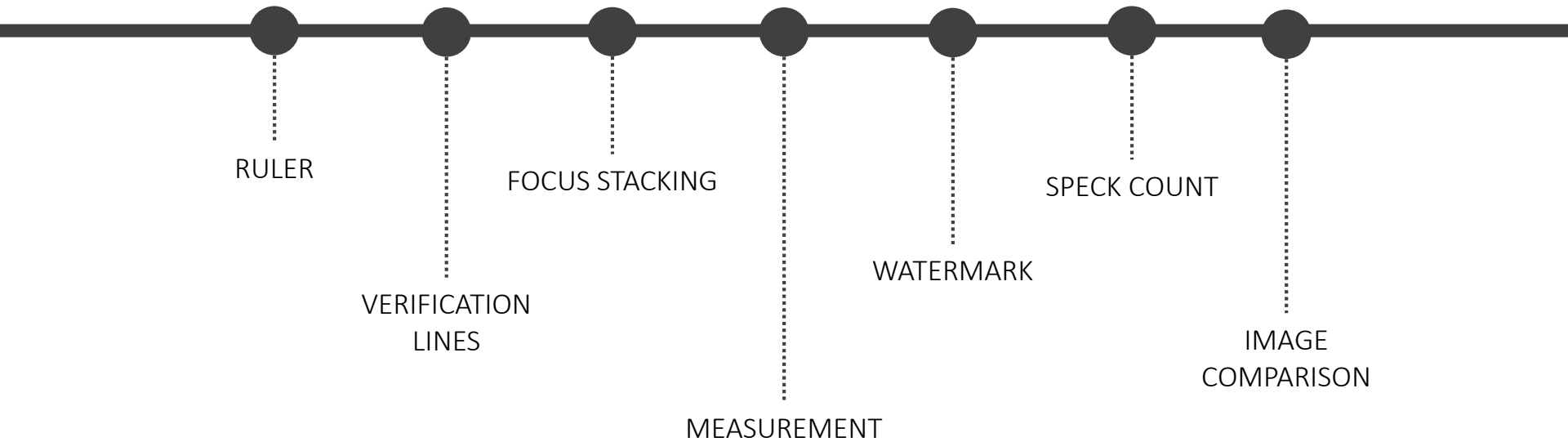


IMAGE COMPARISON APP



IMAGE
COMPARISON