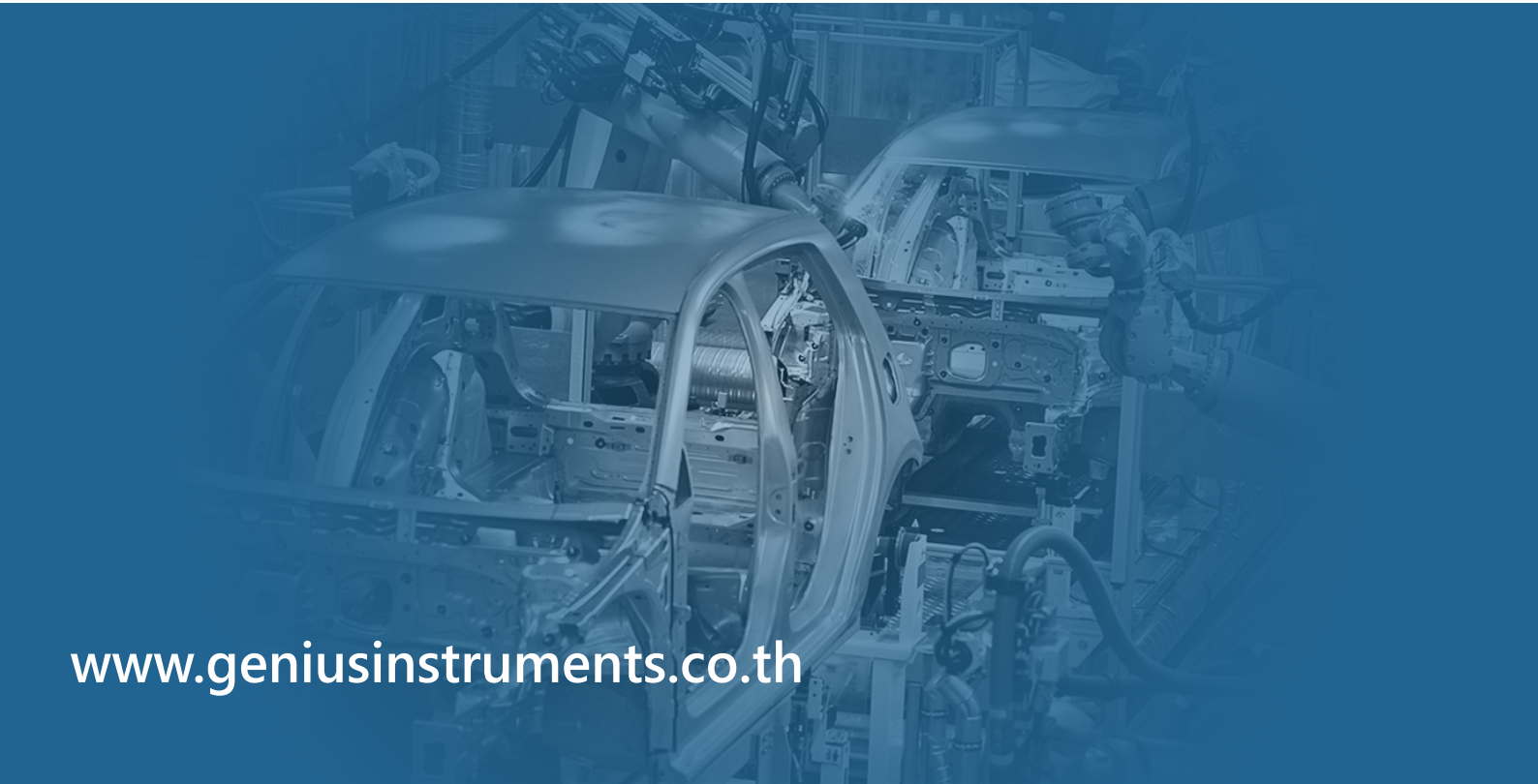


Genius
Instruments Co., Ltd.
Innovative Products Supplies



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เมธาสิทธิ์ พูลสวัสดิ์
Managing Director

Established in January 2012, Genius Instruments Co. Ltd. supplies innovative measurement instrument products. These are mainly used in Automotive manufacturing, electronics manufacturing, and other related manufacturing industries in Thailand and in South East Asia. Our product and services can meet the needs of customers requiring modernization and quality control of manufactured product. We are fully supported by our principals in USA, Canada, Germany, Japan, China, and Thailand.

In addition, we also supply and design of special tools to meet the requirement of our client. Our goal is to provide customer satisfaction in our product and services.

บริษัทจีเนียส อินสตรูमेंท์ จำกัด ได้ก่อตั้งขึ้นเมื่อวันที่ 6 มกราคม 2555 ด้วยความมุ่งมั่นที่จะเป็นผู้นำเทคโนโลยีที่ล้ำสมัยด้านเครื่องมือวัดและทดสอบแบบไม่ทำลายชิ้นงาน เพื่อให้เกิดความคุ้มค่าต่อลูกค้ามากที่สุดทั้งในแง่ของประสิทธิภาพและราคา โดยมุ่งเป้าหลักไปที่อุตสาหกรรมยานยนต์ รวมถึงอุตสาหกรรมอื่นๆ ที่เกี่ยวเนื่องทั้งในประเทศไทยและภูมิภาคเอเชียตะวันออกเฉียงใต้ ทางบริษัทฯ เป็นตัวแทนจำหน่ายสินค้าคุณภาพสูงจากหลากหลายประเทศชั้นนำ เช่น Portable CMM Arm จากประเทศสหรัฐอเมริกา เครื่อง Resistance Spot Weld Analyzer (RSWA) จากประเทศแคนาดา เครื่อง Leica Laser Tracker จากประเทศสวิตเซอร์แลนด์ และเครื่อง 3D Scanning System จากประเทศเยอรมนี นอกจากนี้เครื่องมือที่กล่าวมาแล้ว ทางบริษัทฯ ยังมีเครื่องมือที่ผลิตในประเทศไทยโดยคนไทย จัดจำหน่ายตามความต้องการของลูกค้าอีกด้วย

ด้วยความตระหนักถึงคุณภาพของสินค้าและบริการ ดังนั้นทางบริษัทฯ จึงทุ่มเทในเรื่องของการบริการและความพึงพอใจของลูกค้าเป็นอันดับแรก และจะทำให้ดียิ่งขึ้น

PRODUCTS



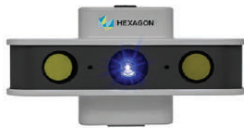
Resistance Spot Weld Analyzer
RSWA-F2



Resistance Spot Weld Analyzer
RSWA-F1



Universal Testing Machine



Prime Scan



Smart Scan



Stereo Scan Neo



AS1 Blue Laser Scanner



RS5 Red Laser Scanner



RS-Squared Scanner



HP-L 8.9 Laser Scanner



Compact Arm



Absolute Arm, 6 Axis



Absolute Arm, 7 Axis



Tube Inspection Arm



Leica Laser Tracker AT960



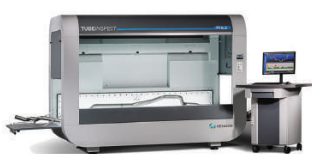
Leica Laser Tracker ATS600



Leica Laser Tracker AT403



Cleaning Laser



TubeInspect



DPA Photogrammetry



Bridge CMM



Optical CMM

Tessonics



F2 Platform (Ultrasonic Quality Inspection Platform)

RSWA F2 is an ultrasonic device designed for NDE and quality control for various applications, including resistance spot welds, and adhesive joints. Using the unique technology of multi-channel ultrasonic matrix arrays, this portable and simple-in-operation device can produce internal ultrasonic C-scan images of defects and structures.

Specification

Processor

- o Apollo Lake Intel Pentium N4200
- o Quad Core, 1.1 GHz, up to 2.5 GHz

Display

- o 10.1" IPS panel, 1920 × 1200
- o Resistive touch screen
- o Replaceable screen protector

Memory

- o 4 GB DDR3L

Storage

- o 256 GB SSD

Power

- o 2 × Smart Li-ion batteries, 14.4 V, 49 Wh
- o Average battery run time: 9–12 hours.
- o DC adapter: 100–240 V, 65 W

Operating System

- o Windows 10 IoT 64-bit

Communication

- o WLAN 802.11 a/b/g/n/ac
- o Bluetooth®

External Ports

- o 2 × USB 2.0, 1 x HDMI, 1 x DC-In

Temperature Range

- o Operational: 5° – 40° C (41° – 104° F)
- o Storage: -20° – 60° C (-4° – 140° F)

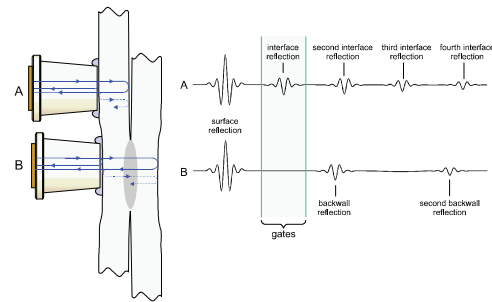
Mechanical

- o Weight with batteries: 2.3 kg (5 lb.)
- o Dimensions: 27.6 × 22 × 5.7cm
- o Adjustable stand
- o Machined aluminum enclosure

Application

- o RSWA Mode: 2T and 3T welded stacks
- o ABIS Mode: Adhesion bonded stacks
- o Materials: Steel and Aluminum; 0.6 – 2.4 mm plate thicknesses
- o Coatings: Bare, coated, and painted

How does this apply to spot weld?



Transducer Probes

Option I: Standard 52 element probe, 15 MHz

Option II: Enlarge 120 element probe, 15 MHz



Standard Probe 52 element



Enlarge Probe 120 element

Tessonics



F1 Platform (Ultrasonic Quality Inspection Platform)

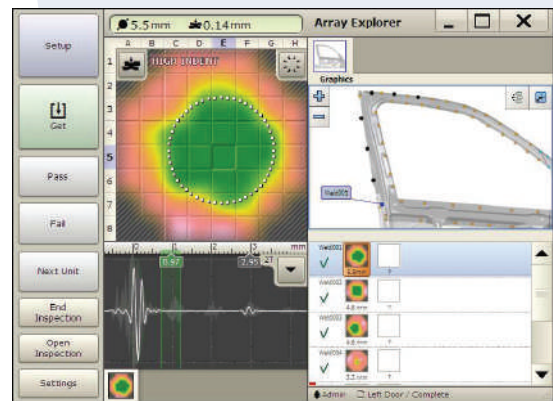
RSWA F1 is an ultrasonic device designed for NDE and quality control for various applications, including resistance spot welds, and adhesive joints. Using the unique technology of multi-channel ultrasonic matrix arrays, this portable and simple-in-operation device can produce internal ultrasonic C-scan images of defects and structures.

Features

- o single-frame and continuous data acquisition modes
- o automatic and manual nugget size estimation
- o automatic detection of scanning depth inside the metal
- o two levels of user interface complexity depending on operator skills.
- o built-in reporting system and file storage

Application

Metal stacks: 2T and 3T; 0.6 – 2.4 mm plate thicknesses
Types of materials: mild steel, high strength steel, dual phase ultra-high strength steel
Coatings: bare, zinc coating (galvanized, galvaneal), e-coating, paint



Specifications

Processor

- o Intel® Atom N270 1.6GHz RAM
- o 2 GB DDRII SODIMM

Hard Disk

- o 2.5" 60 GB Solid State SATA

Display

- o 10.2" TFT LCD display with LED
- o backlight, Sunlight readable 500 nit
- o Resolution 1024 × 600
- o Resistive touch screen
- o Replaceable screen protector

Communications

- o Gigabit Ethernet 10/100/1000Mbps
- o WLAN 802.11 b/g
- o Bluetooth 2.0 EDR Class 1 Module (optional)

External Ports

- o Two USB 2.0, one Mini USB
- o Audio in/out
- o RJ45 Ethernet jack
- o PCMCIA, CompactFlash slots
- o 15 pin D-sub-VGA port

Power

- o Two 9-cell smart Li-ion batteries
- o (7800 mAh)
- o Average battery run time: 9 – 12 hours.
- o External power adapter: 100 – 240 V, 50 – 60 Hz, 65 W

Temperature Range

- o 5° – 40° C (41° – 104° F)

Storage Temperature

- o -20° – 60° C (-4° – 140° F)

Dimensions

- o 27×26×11.5 cm
- o 10.6×10.2×4.5 in

Weight with Batteries

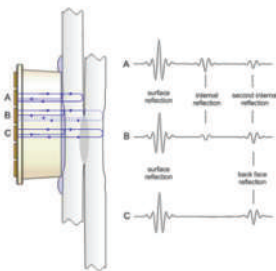
- o 4.5 kg (10 lb.)

Transducer

- o 52 channels
- o Matrix diameter: 10 mm
- o Frequency: 15 MHz
- o Stainless steel housing
- o Rexolite hard delay line

Cable

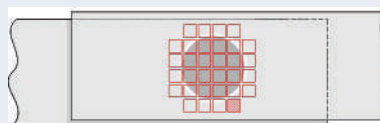
- o Length: 2 m
- o 52 coaxial channels
- o Fiberglass protective shell



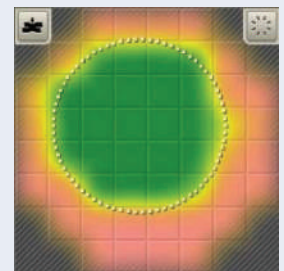
A-Scan



52-element probe



Matrix probe



C-Scan



ABSOLUTE ARM 7-AXIS

ACCURACY AND SIZE SPECIFICATION

	MODEL	E_{UNI}^1	P_{SIZE}^2	L_{DIA}^3	P_{FORM}^4	AS1 SSA ⁵	RS5 SSA ⁵	RS-SQUARED	Weight ⁶	Max. reach
83 series	8320-7	0.043 mm	0.016 mm	0.054 mm	0.033 mm	0.059 mm	0.062 mm	NA	8.8 kg	2.48 m
	8325-7	0.048 mm	0.023 mm	0.060 mm	0.043 mm	0.065 mm	0.068 mm	0.164 mm	9.1 kg	2.98 m
	8330-7	0.078 mm	0.034 mm	0.090 mm	0.058 mm	0.082 mm	0.092 mm	0.204 mm	9.4 kg	3.48 m
	8335-7	0.092 mm	0.042 mm	0.115 mm	0.067 mm	0.099 mm	0.105 mm	0.242 mm	9.7 kg	3.98 m
	8340-7	0.114 mm	0.051 mm	0.140 mm	0.084 mm	0.118 mm	0.122 mm	0.283 mm	10.0 kg	4.48 m
	8345-7	0.158 mm	0.078 mm	0.168 mm	0.106 mm	0.163 mm	0.172 mm	0.338 mm	10.3 kg	4.98 m
85 series	8520-7	0.029 mm	0.010 mm	0.038 mm	0.021 mm	0.041 mm	0.045 mm	NA	9.0 kg	2.48 m
	8525-7	0.031 mm	0.012 mm	0.048 mm	0.025 mm	0.047 mm	0.048 mm	0.138 mm	9.3 kg	2.98 m
	8530-7	0.057 mm	0.020 mm	0.083 mm	0.083 mm	0.064 mm	0.066 mm	0.168 mm	9.6 kg	3.48 m
	8535-7	0.069 mm	0.024 mm	0.099 mm	0.045 mm	0.078 mm	0.080 mm	0.196 mm	9.9 kg	3.98 m
	8540-7	0.084 mm	0.030 mm	0.120 mm	0.050 mm	0.089 mm	0.091 mm	0.228 mm	10.2 kg	4.48 m
	8545-7	0.113 mm	0.048 mm	0.140 mm	0.065 mm	0.141 mm	0.148 mm	0.271 mm	10.5 kg	4.98 m
87 series	8725-7	0.029 mm	0.011 mm	0.044 mm	0.023 mm	0.043 mm	0.044 mm	0.123 mm	9.3 kg	2.98 m
	8730-7	0.053 mm	0.018 mm	0.076 mm	0.035 mm	0.056 mm	0.058 mm	0.148 mm	9.6 kg	3.48 m
	8735-7	0.064 mm	0.022 mm	0.092 mm	0.041 mm	0.068 mm	0.071 mm	0.173 mm	9.9 kg	3.98 m
	8740-7	0.078 mm	0.028 mm	0.110 mm	0.046 mm	0.080 mm	0.082 mm	0.198 mm	10.2 kg	4.48 m
	8745-7	0.104 mm	0.044 mm	0.125 mm	0.060 mm	0.121 mm	0.127 mm	0.222 mm	10.5 kg	4.98 m

LASER SCANNERS SPECIFICATION



Feature	RS6	RS5	RS-SQUARED
Accuracy	0.026 mm	0.028 mm	0.06 mm
Point Acquisition Rate	Up to 1.2 million points/s	752 000 points/s	Up to 4 million points/s
Points per Line	Max. 4000	Max. 7520	1 million / frame
Line Rate	Max. 300 Hz	Max. 100 Hz	Max. 4 Hz
Line Width (Mid)	150 mm	115 mm	300 x 300 mm
Standoff	165 ± 50 mm	165 ± 50 mm	300 ± 50 mm
Minimum Point Spacing	0.027 mm	0.011 mm	0.21 mm
System Scanning Cert.	Yes	Yes	Yes
Laser Class	2	2M	2
Operating Temperature	5-40°C	5-40°C	5-40°C
Weight	0.4 Kg	0.4 Kg	1.4 Kg



AS1 Blue Laser Scanner



RS5 Red Laser Scanner



RS Squared Scanner



Absolute Arm 6-Axis

ABSOLUTE ARM 6 -AXIS

ACCURACY AND SIZE SPECIFICATION



	MODEL	E_{UNI}^1	P_{SIZE}^2	L_{DIA}^3	P_{FORM}^4	Weight	Max. reach
83 series	8312-6	0.024 mm	0.010 mm	0.021 mm	0.018 mm	12.1 kg	1.49 m
	8320-6	0.040 mm	0.013 mm	0.042 mm	0.026 mm	7.8 kg	2.23 m
	8325-6	0.046 mm	0.020 mm	0.053 mm	0.038 mm	8.1 kg	2.73 m
	8330-6	0.067 mm	0.029 mm	0.071 mm	0.054 mm	8.4 kg	3.23 m
	8335-6	0.085 mm	0.038 mm	0.090 mm	0.063 mm	8.7 kg	3.73 m
	8340-6	0.100 mm	0.046 mm	0.105 mm	0.077 mm	9.0 kg	4.23 m
	8345-6	0.120 mm	0.052 mm	0.110 mm	0.086 mm	9.3 kg	4.73 m
85 series	8512-6	0.019 mm	0.006 mm	0.016 mm	0.012 mm	12.2 kg	1.49 m
	8520-6	0.023 mm	0.008 mm	0.030 mm	0.017 mm	8.0 kg	2.23 m
	8525-6	0.028 mm	0.010 mm	0.035 mm	0.020 mm	8.3 kg	2.73 m
	8530-6	0.042 mm	0.015 mm	0.053 mm	0.030 mm	8.6 kg	3.23 m
	8535-6	0.055 mm	0.020 mm	0.069 mm	0.040 mm	8.9 kg	3.73 m
	8540-6	0.067 mm	0.024 mm	0.085 mm	0.045 mm	9.2 kg	4.23 m
	8545-6	0.080 mm	0.028 mm	0.102 mm	0.050 mm	9.5 kg	4.73 m
87 series	8725-6	0.026 mm	0.009 mm	0.032 mm	0.018 mm	8.3 kg	2.73 m
	8730-6	0.039 mm	0.014 mm	0.048 mm	0.028 mm	8.6 kg	3.23 m
	8735-6	0.052 mm	0.018 mm	0.064 mm	0.037 mm	8.9 kg	3.73 m
	8740-6	0.063 mm	0.022 mm	0.079 mm	0.041 mm	9.2 kg	4.23 m
	8745-6	0.074 mm	0.026 mm	0.094 mm	0.046 mm	9.5 Kg	4.73 m

ABSOLUTE ARM COMPACT

ISO 10360-2 Accuracy specifications

MODEL	MPE_p	MPE_e
8312	0.008 mm	5+L/40<0.018 mm
8512	0.006 mm	5+L/65<0.015 mm



HP-L-8.9 Laser Scanner specifications

Accuracy	0.04 mm (2 σ)
Point Acquisition Rate	45000 points/sec
Points per Line	750
Line Rate	60 Hz
Line Width (Mid)	80 mm
Standoff	135 $\pm$ 45 mm
System Scanning Cert.	no
Laser Class	2
Weight	5-40°C





Technical specifications

Measurement ranges

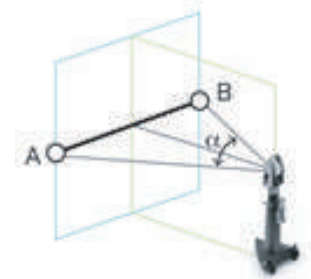


Tracker Model	3D	6D
AT960-XR	0 to 80 m	1.2 to 30 m
AT960-LR	0 to 80 m	1.2 to 20 m
AT960-MR	0 to 20 m	1.2 to 10 m
AT960-SR	0 to 6 m	1.2 to 5 m
AT930	0 to 80 m	-
ATS600	0.8 to 80 m 1.5 to 60m (direct scanning)	-
AT403	0.8 to 160 m	2.5 to 10 m

Accuracy specifications

Angular performance (Location test)

Measurement Distance	AT960 / AT930 / AT403 / ATS600	
	Typical	MPE
5 m	±23µm	±45µm
10 m	±38µm	±75µm
20 m	±68µm	±135µm



Length measurement (length test)

Measurement Distance	AT960/930/403		ATS600		T-Probe		T-scan5/LAS		LAS-XL	
	Typical	MPE	Typical	MPE	Typical	MPE	Typical	MPE	Typical	MPE
5 m	±32 µm	±64 µm	±40 µm	±81 µm	±40 µm	±81 µm	±30 µm	±60 µm	±75 µm	±150 µm
10 m	±53 µm	±106 µm	±53 µm	±106 µm	±60 µm	±119 µm	±33 µm	±66 µm	±75 µm	±150 µm
20 m	±96 µm	±191 µm	±96 µm	±191 µm	±98 µm	±196 µm	±58 µm	±106 µm	±75 µm	±150 µm

Other accuracies

Absolute angular performance	±15µm + 6 µm/m
AIFM absolute distance performance	±0.5µm/m
Dynamic lock-on	±10µm
Inclination sensor	±1.0 arcsec
Orient to gravity U_z	±15µm + 6 µm/m
Timestamp accuracy	< 5 µsec
Length measurement 1.5" RRR	±21µm + 8.5µm/m
Length measurement T-Probe	±42µm + 7.7 µm/m
Length measurement AS1	±60µm
Length measurement LAS	±60µm ±26µm + 4µm/m (>8.5m)
Length measurement LAS-XL	±150µm
Length measurement B-Probe	±300µm
T-Mac positional accuracy	±15µm + 6 µm/m



Leica Laser Tracker integration system



LASER TRACKER COMPARED

FEATURE		AT960 / AT930	ATS600	AT403
General information	Tracker size / weight	477x258x258 mm/14.2 Kg	477x258x258 mm/14.2 Kg	403x221x188 mm/7.3 Kg
	Controller size / weight	249x148x59 mm/1.65 Kg	249x148x59 mm/1.65 Kg	250x112x63 mm/0.84 Kg
	Laser class	Class 2 Laser	Class 2 Laser	Class 2
	Overview Camera	5 MP/10-degree FOV	5 MP/10-degree FOV	VGA/10-degree FOV
	PowerLock range	60 m	60 m	160 m
	ISO 17025 certified	✓	✓	✓
	Warranty	2 years/extension possible with Customer Care Packages	2 years/extension possible with Customer Care Packages	2 years/extension possible with Customer Care Packages
Environmental	Operating temperature	0°C to +40°C	0°C to +40°C	-15°C to +45°C
	Relative humidity	Max.95% non-condensing	Max.95% non-condensing	Max.95% non-condensing
	Operating elevation	-700 m to +5500 m	-700 m to +5500 m	-700 m to +5500 m
	Dust / water	IP54	IP54	IP54
Power manage	Battery type	Lithium-ion battery/swappable	Lithium-ion battery/swappable	Lithium-ion battery/swappable
	Typical battery runtime (single charge)	6 hours	6 hours	8 hours
	Data output	1000 Hz	1000 Hz	Up to 10 Hz
	Mains	AC power supply	AC power supply	AC power supply



SFx Asset management



AT960 / AT930



ATS600

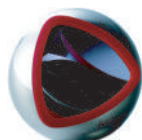


AT403

Laser Tracker's Accessories



RRR 1.5"



BRR 1.5"



T-Probe



3D Scanner



Measurement cart



LASER SCANNER COMPARED

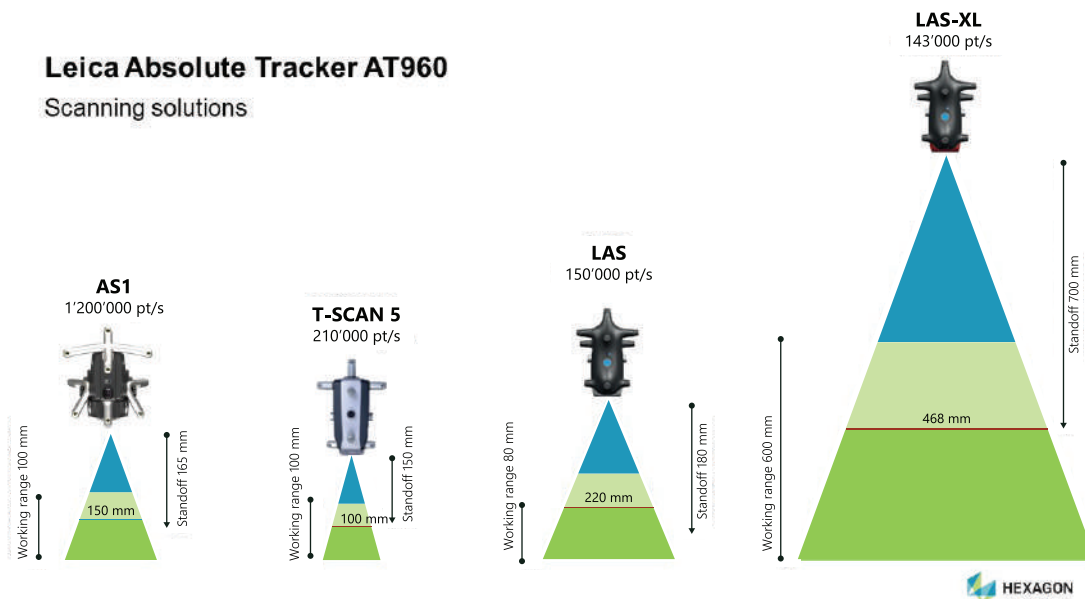
FEATURE	AS1	LAS	LAS-XL
Scanner size/weight	347x147x172 mm/1.19 kg	300x201x140 mm/0.94 kg	300x201x140 mm/0.96 kg
Controller size/weight	145x63x38 mm/0.95 kg	226x201x140 mm/1.9kg	226x146x91 mm/1.9 kg
Standoff	165 mm	180 mm	700 mm
Working range	± 50 mm	±40 mm	±300 mm
Maximum scan width (at standoff)	150 mm	220 mm	468 mm
Maximum sampling rate	1.2 million pts/sec	150 000 pts/sec	143 000 pts/sec
Maximum line frequency	300 Hz	100 Hz	100 Hz
Minimum point density (at standoff)	0.037 mm	0.013 mm	0.045 mm



Laser scanner working ranges.

Leica Absolute Tracker AT960

Scanning solutions





SPECIFICATIONS

FIELDS OF VIEW R8

Outer camera position	Triangulation angle: 30 ° / Base length: 450 mm / Working distance: 840 mm			
Field of view ⁽¹⁾	L-350 mm	L-550 mm	L-850 mm	L-1100 mm
Field of view size ⁽²⁾	280x210 mm	420x320 mm	700x560 mm	850x700 mm
Measuring depth ⁽³⁾	176 mm	270 mm	430 mm	550 mm
X, Y resolution ⁽⁴⁾	86 µm	128 µm	211 µm	256 µm
Sphere Spacing Error	10 µm	16 µm	30 µm	42 µm
Length Measuring Error	20 µm	28 µm	60 µm	84 µm
Probing Error Size	6 µm	12 µm	16 µm	21 µm
Probing Error Form	7 µm	12 µm	16 µm	18 µm

Inner camera position	Triangulation angle: 30 ° / Base length: 150 mm / Working distance: 350 mm			
Field of view ⁽¹⁾	S-75 mm	S-125 mm	S-200 mm	
Field of view size ⁽²⁾	65x70 mm	100x75 mm	160x125 mm	
Measuring depth ⁽³⁾	36 mm	60 mm	100 mm	
X, Y resolution ⁽⁴⁾	20 µm	30 µm	49 µm	
Sphere Spacing Error	5 µm	6 µm	8 µm	
Length Measuring Error	10 µm	15 µm	18 µm	

FIELDS OF VIEW R16

Outer camera position	Triangulation angle: 30 ° / Base length: 450 mm / Working distance: 840 mm			
Field of view ⁽¹⁾	L-350 mm	L-550 mm	L-850 mm	L-1100 mm
Field of view size ⁽²⁾	285x190 mm	460x310 mm	710x500 mm	940x700 mm
Measuring depth ⁽³⁾	176 mm	280 mm	430 mm	550 mm
X, Y resolution ⁽⁴⁾	58 µm	94 µm	146 µm	193 µm
Sphere Spacing Error	10 µm	16 µm	30 µm	32 µm
Length Measuring Error	20 µm	28 µm	60 µm	64 µm
Probing Error Size	6 µm	12 µm	16 µm	18 µm
Probing Error Form	7 µm	12 µm	16 µm	18 µm

Inner camera position	Triangulation angle: 30 ° / Base length: 150 mm / Working distance: 350 mm			
Field of view ⁽¹⁾	S-75 mm	S-125 mm	S-200 mm	
Field of view size ⁽²⁾	70x50 mm	90x60 mm	160x110 mm	
Measuring depth ⁽³⁾	20 mm	54 mm	100 mm	
X, Y resolution ⁽⁴⁾	15 µm	19 µm	33 µm	
Sphere Spacing Error	5 µm	6 µm	8 µm	
Length Measuring Error	8 µm	15 µm	18 µm	
Probing Error Size	4 µm	6 µm	6 µm	
Probing Error Form	5 µm	6 µm	6 µm	

All fields of view (FOV) can be realized by using the same fundamental components, i.e., the system base, cameras, and projection unit, through a simple change of the objectives (and of the CRP base, if necessary). To simplify the setup and calibration of the standard measuring ranges, they will only be provided with an individually prepared and tested set of lenses for each FOV. The lenses are delivered with a predefined factory setting for the aperture and focal depth, which are optimized for the corresponding FOV and do not need to be altered by the user.



SPECIFICATIONS

FIELDS OF VIEW R5

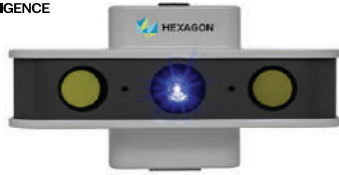
	Triangulation angle: 30° / Base length: 470 mm / Working distance: 1000 mm			
Field of view ⁽¹⁾	M-125 mm	M-200 mm	M-500 mm	M-850 mm
Field of view size ⁽²⁾	105x85 mm	160x130 mm	380x310 mm	650x565 mm
Measuring depth ⁽³⁾	66 mm	100 mm	244 mm	420 mm
X, Y resolution ⁽⁴⁾	43 µm	64 µm	153 µm	266 µm
Sphere Spacing Error	10 µm	11 µm	22 µm	44 µm
Length Measuring Error	20 µm	22 µm	44 µm	88 µm
Probing Error Size	7 µm	9 µm	11 µm	22 µm
Probing Error Form	7 µm	8 µm	11 µm	22 µm

	Triangulation angle: 30° Base length: 240 mm Working distance: 370 mm		Triangulation angle: 30° Base length: 470 mm Working distance: 1500 mm	
Field of view ⁽¹⁾	M-350 mm	M-450 mm	M-750 mm	M-1000 mm
Field of view size ⁽²⁾	285x205 mm	380x275 mm	590x435 mm	825x630 mm
Measuring depth ⁽³⁾	180 mm	240 mm	370 mm	500 mm
X, Y resolution ⁽⁴⁾	69 µm	92 µm	143 µm	201 µm
Sphere Spacing Error	16 µm	20 µm	30 µm	44 µm
Length Measuring Error	36 µm	40 µm	60 µm	88 µm
Probing Error Size	9 µm	10 µm	15 µm	22 µm
Probing Error Form	9 µm	10 µm	15 µm	22 µm

FIELDS OF VIEW R12

	Triangulation angle: 27° / Base length : 470 mm / Working distance: 1000 mm			
Field of view ⁽¹⁾	M-350 mm	M-450 mm	M-750 mm	M-1000 mm
Field of view size ⁽²⁾	285x205 mm	380x275 mm	590x435 mm	825x630 mm
Measuring depth ⁽³⁾	180 mm	240 mm	370 mm	500 mm
X, Y resolution ⁽⁴⁾	69 µm	92 µm	143 µm	201 µm
Sphere Spacing Error	16 µm	20 µm	30 µm	44 µm
Length Measuring Error	36 µm	40 µm	60 µm	88 µm
Probing Error Size	9 µm	10 µm	15 µm	22 µm
Probing Error Form	9 µm	10 µm	15 µm	22 µm

	Triangulation angle: 29° / Base length: 260 mm / Working distance: 500 mm			
Field of view ⁽¹⁾	SL-90 mm	SL-200 mm	SL-300 mm	SL-500 mm
Field of view size ⁽²⁾	70x55 mm	145x105 mm	240x160 mm	420x325 mm
Measuring depth ⁽³⁾	44 mm	90 mm	144 mm	250 mm
X, Y resolution ⁽⁴⁾	17 µm	35 µm	57 µm	102 µm
Sphere Spacing Error	6 µm	9 µm	12 µm	21 µm
Length Measuring Error	15 µm	18 µm	24 µm	42 µm
Probing Error Size	6 µm	6 µm	8 µm	15 µm



SPECIFICATIONS

FIELDS OF VIEW R5

	Triangulation angle: 26° Working distance: 370 mm				Distance Triangulation angle: 18° Working distance: 540 mm
Field of view ⁽¹⁾	50 mm	125 mm	200 mm	400 mm	700 mm
Field of view size ⁽²⁾	40x30 mm	100x80 mm	150x125 mm	300x275 mm	500x450 mm
Measuring depth ⁽³⁾	24 mm	64 mm	100 mm	200 mm	350 mm
X, Y resolution ⁽⁴⁾	16 µm	40 µm	63 µm	125 µm	208 µm
Sphere Spacing Error	4 µm	7 µm	12 µm	20 µm	56 µm
Length Measuring Error	10 µm	16 µm	24 µm	40 µm	112 µm
Probing Error Size	6 µm	6 µm	6 µm	10 µm	28 µm
Probing Error Form	4 µm	6 µm	7 µm	10 µm	28 µm

FIELDS OF VIEW R8

	Small Working Distance Triangulation angle: 26° Working distance: 370 mm		Large Working Distance Triangulation angle: 18° Working distance: 540 mm
Field of view ⁽¹⁾	100 mm	450 mm	650 mm
Field of view size ⁽²⁾	80x60 mm	350x290 mm	500x400 mm
Measuring depth ⁽³⁾	50 mm	222 mm	320 mm
X, Y resolution ⁽⁴⁾	27 µm	109 µm	155 µm
Sphere Spacing Error	6 µm	25 µm	52 µm
Length Measuring Error	14 µm	50 µm	104 µm
Probing Error Size	8 µm	13 µm	26 µm
Probing Error Form	6 µm	13 µm	26 µm

All PrimeScan fields of view (FOV) are an integral part of the system: their configuration cannot be changed. Each field of view is delivered as a separate device.

(1) Designation of the scanner bases (S, L) and the diagonal in the center of the measuring volume.

(2) Lateral expansion (X x Y) in the center of the measuring volume.

(3) Depth of the measuring volume (Z).

(4) The values for the lateral resolution have been calculated theoretically (ratio of the size of the FOV and number of pixels of the camera chip)



HARDWARE CONFIGURATION



SPECIFICATIONS

Accuracy Specifications

	DPA INDUSTRIAL	DPA PROFESSIONAL	DPA ENTRY
LENGTH MEASUREMENT ACCURACY / MPE ¹	15 μm +15 μm * Length _{diagonal} [M]	15 μm +15 μm * Length _{diagonal} [M]	25 μm +25 μm * Length _{diagonal} [M]
POINT-BASE MEASUREMENT ACCURACY	2 μm +5 $\mu\text{m}/\text{m}$ (RMS) 3 μm +7 $\mu\text{m}/\text{m}$ (3 sigma)	2 μm +5 $\mu\text{m}/\text{m}$ (RMS) 3 μm +7 $\mu\text{m}/\text{m}$ (3 sigma)	4 μm +6 $\mu\text{m}/\text{m}$ (RMS) 5 μm +9 $\mu\text{m}/\text{m}$ (3 sigma)

MPE (Maximum Permissible Error) of length measurement error, based on VDI/VDE 2634 part1: defined as maximum permissible deviation of a measured length, which is located between two measuring point, signaled with photogrammetric targets, in the entire measuring volume of the measuring object, regardless of the position and orientation.

Software Specifications

PHOTOGRAMMETRY PROCESSING	DPA/DPA Pilot	DPA/DPA Pilot	DPA/DPA Pilot
CONTROL SOFTWARE INTERFACES FOR POST-PROCESSING AND REPORTING	AICON 3D Studio, PolyWorks. Optional; SpatialAnalyzer, Geometric Control X	Optional. AICON 3D Studio, SpatialAnalyzer, PolyWorks, Geometric Control X	
AUTOMATIC ON-THE-JOB CALIBRATION	Yes	Optional	Yes
ONLINE CALCULATION	Yes	Optional	Not supported
DEFORMATION ANALYSIS	Yes		Optional
ADAPTER CORRECTION	Yes		Optional
FEATURE MEASUREMENT	Yes		Optional
SENSOR UNIT	C1 Camera	Canon EOS 5DS	Canon EOS 6D
LENS	28 mm AICON Metric wide-angle lens		
CAMERA RESOLUTION	50.6 megapixels (8688x5792)		
FIELD OF VIEW (FOV)	65x46 °		
ILLUMINATION	White-light flash		
SPEED	Up to 5 images per second	Up to 5 images per second	Up to 4 images per second
VIEWFINDER	Laser pattern, laser safety class 1M Diopter	Diopter	
WIRELESS DATA TRANSFER	Integrated Wi-Fi 802.11 n/ 2.4 GHz/WPA2/PSK	Optional	Not supported



A turnkey solution for instant high-end tube measurement

TubeInspect is the leading solution for high-speed tube measurement and bender program correction. Based on a multiple-camera optical scanning system built into a turnkey single-piece cell format, TubeInspect represents the state of the art of what is possible with optical scanning in the tube and wire production industry.



Model: P8.2



Model: P16.2

Solution specifications

	P8.2	P8.2 HRC	P16.2	P16.2 HRC
Measurement technology	High-resolution camera array			
Software	Bending studio			
Measurable tube diameter	2-125 mm	0.8-125 mm	3-200 mm	1.5-200 mm
Measuring volume	1000x580x400 mm		2600x1250x700 mm	
Max. tube length	Unlimited (with repositioning)			
Bending angle	1-340°			
Min. push between bends	Bend-in-bend and freeform possible			
Measurement accuracy (tube sheath deviation)	0.035 mm (1σ)		0.085 mm (1σ)	
CAD-adaptors	no	yes	no	yes
Rectangle-section tube measurement	no			
Automation compatibility	no	yes	no	yes

System specifications

	P8.2	P8.2 HRC	P16.2	P16.2 HRC
Measurement speed	>3 sec/measurement			
Camera array	8 high-resolution digital cameras with GigE technology		16 high-resolution digital cameras with GigE technology	
Resolution	3 MP	12 MP	3 MP	12 MP
Reference field	Three-dimensional glass reference surface			
System dimensions (W x D x H)	1140 mm x 746 mm x 1140 mm		2980 mm x 1640 mm x 2300 mm	
Weight	240 kg		1200 kg	
Power requirement	100-240 v 50-60 Hz AC 400 VA		100-240 v 50-60 Hz AC 400 VA	
Working temperature	5-40 °C			
Relative humidity	10-90% not condensing			
Marks of conformity	CE			



Absolute Arm with TubeShaper

Complete portable tube and fixture analysis through touch and infrared probing

- Non-contact infrared tube probes
- Six tube probes available for tube diameters from 4 to 130 mm
- Measure geometric features
- Automatic probe recognition
- Full WiFi and hot-swappable battery-powered



Solution specifications

Absolute Arm

Measurement Technology	Infrared tube probe (for tube measurement) Touch probe (for feature measurement)
Software	TubeShaper
Measurable tube diameter	4-130 mm (large using touch probe)
Measuring volume	102-4.5 mm diameter
Max tube length	Unlimited (with repositioning)
Bending angle	3-180°
Min. push between bends	n/a
Measurement accuracy	E_{UNI} accuracy of arm (to ISO 10360-12) +0.1mm
CAD-adaptors	no
Rectangle-section tube measurement	yes
Automation compatibility	no



Tube probe specifications



Tube probe size 1	Tube probe size 2	Tube probe size 3	Tube probe size 4	Tube probe size 5	Tube probe size 6
Tube diameters of 4-13 mm	Tube diameters of 10-20 mm	Tube diameters of 16-40 mm	Tube diameters of 30-65 mm	Tube diameters of 50-85 mm	Tube diameters of 70-130 mm

Absolute Arm Tube Model accuracy and size specifications

Model	E_{UNI}	P_{SIZE}	L_{DIA}	P_{FORM}	Weight	Max. reach
8325T	0.058 mm	0.025 mm	0.066 mm	0.048 mm	8.1 kg	2.73 m
8330T	0.083 mm	0.036 mm	0.089 mm	0.068 mm	8.4 kg	3.23 m

E_{UNI}	Maximum permissible longitudinal error of measurement-according to ISO 10306-12:2016
P_{SIZE}	Maximum permissible probe deviation, size-according to ISO 10360-12:2016
L_{DIA}	Maximum permissible probe deviation, position-according to ISO 10360-12:2016
P_{FORM}	Maximum permissible probe deviation, shape-according to ISO 10360-12:2016
Weight	Weight without probe



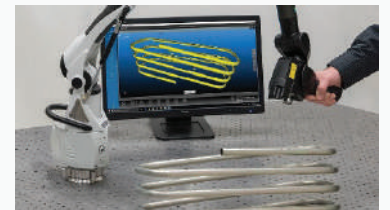
Absolute Arm with BendingStudio

Combining the established laser scanning technology of the Absolute Arm range with the leading tube and wire analysis capabilities of BendingStudio, the Absolute Arm with BendingStudio solution is the perfect portable complement to the TubeInspect series.



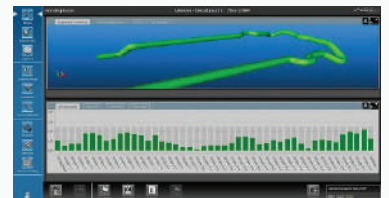
Solution specifications

	RS6	RS5
Measurement Technology	Blue laser scanner	Red laser scanner
Software	BendingStudio	
Measurable tube diameter	3-300 mm	
Measuring volume	2-4.5 m diameter	
Max tube length	Unlimited (with repositioning)	
Bending angle	1-340°	
Min. push between bends	Bend-in-bend and freeform possible	
Measurement accuracy (tube sheath deviation)	0.05 mm (1 σ)	
CAD-adaptors	yes	no
Rectangle-section tube measurement		no
Automation compatibility		no



Laser scanner specifications

Accuracy	0.026 mm (2 σ)	0.028 mm (2 σ)
Point acquisition rate	Up to 1.2 million points/sec	752000 points/sec
Point per frame	Max. 4000	Max. 7520
Frame rate	Max. 300 Hz	Max. 100 Hz
Line width (mid)	150 mm	115 mm
Standoff	165 $\pm$ 50 mm	
Minimum point spacing	0.027 mm	0.011 mm
System scanning certification	yes	
Laser class	2	2M
Operating temperature	5-40°C	
Weight	0.4 kg	





EXPLORER Performance

Invest Small, Save Big

EXPLORER Performance is a coordinate measuring machine (CMM) that combines reliable, accurate dimensional inspection with cost reduction throughout the quality process.

EXPLORER Performance is not just a small investment. It is a compact solution offering a small footprint to optimize your floorspace, design to perform in higher temperature and humidity ranges.

Models	MPE(μm), L(mm)										Max.3D Speed (mm/s)	Max.3D Accel (mm/s ²)
	HP-T/HP-TM		HP-THD		HP-S-X1S/X1C*			HP-S-X1S/X1C* + X.μ kit				
	MPEE ⁽¹⁾	MPEP ⁽²⁾	MPEE ⁽¹⁾	MPEP ⁽²⁾	MPEE ⁽¹⁾	MPEP ⁽²⁾	MPETHP ⁽³⁾	MPEE ⁽¹⁾	MPEP ⁽²⁾	MPETHP ⁽³⁾		
05.07.05	2.4+3.3L/1000	2.4	2.2+3.3L/1000	2.2	1.9+3.3L/1000	1.9	2.9/50	1.7+3.3L/1000	1.7	2.9/50	520	1100
06.XX.06	2.4+3.3L/1000	2.4	2.2+3.3L/1000	2.2	1.9+3.3L/1000	1.9	3.0/68	1.7+3.3L/1000	1.7	3.0/68	520	1730
08.XX.06	2.5+3.3L/1000	2.5	2.3+3.3L/1000	2.3	2.0+3.3L/1000	2.0	3.5/68	1.8+3.3L/1000	1.8	3.5/68	520	1730
10.XX.08	2.7+3.3L/1000	2.7	2.5+3.3L/1000	2.5	2.3+3.3L/1000	2.3	4.0/68	2.0+3.3L/1000	2.0	4.0/68	520	1730
12.15.10	3.0+3.3L/1000	3.0	2.8+3.3L/1000	2.8	2.6+3.3L/1000	2.6	5.0/68	2.4+3.3L/1000	2.4	5.0/68	433	1000
12.22.10	3.0+3.3L/1000	3.0	2.8+3.3L/1000	2.8	2.6+3.3L/1000	2.6	5.0/68	2.4+3.3L/1000	2.4	5.0/68	433	1000
12.30.10	3.0+3.3L/1000	3.0	2.8+3.3L/1000	2.8	2.6+3.3L/1000	2.6	5.0/68	2.4+3.3L/1000	2.4	5.0/68	433	1000

Models	Strokes (mm)			Overall Dimension (mm)					Daylights (mm)			Max. Part Weight (kg)	CMM Weight (kg)
	X	Y	Z	Lx	Ly	Lz	Lx1	Lz1	Dx	Dz	Dz1		
05.07.05	500	700	500	999	1445	2562	1100	1890	633	130	680	227	655
06.08.06	600	800	600	1150	1623	2638	1250	1980	734	144	794	300	730
06.10.06	600	1000	600	1150	1823	2658	1250	1980	743	144	749	300	890
08.10.06	800	1000	600	1350	1823	2658	1450	2050	934	144	794	500	1074
08.12.06	800	1200	600	1350	2023	2658	1450	2050	934	144	794	500	1196
10.12.08	1000	1200	800	1600	2177	2936	1650	2103	1130	118	940	1300	1785
10.15.08	1000	1500	800	1600	2477	2946	1650	2103	1130	118	940	1500	2090
10.21.08	1000	2100	800	1600	3077	2946	1650	2103	1130	118	940	1800	2625
12.15.10	1200	1500	1000	1838	2896	3407	1900	2037	1339	150	1173	1800	3792
12.22.10	1200	2200	1000	1838	3596	3407	1900	2282	1339	150	1173	2250	5696
12.30.10	1200	3000	1000	1838	4396	3407	1900	2307	1339	150	1173	2250	7637

- (1) MPEE according to ISO 10360-2:2001
 (2) MPEP according to ISO 10360-2:2001
 (3) MPETHP/T according to ISO 10360-4:2000

Performance data are valid if the following specifications are met:

- ✓ Temperature range 18-22°C
- ✓ Max. air temperature variation: 1°C/h - 2°C/24h
- ✓ Max. gradient in space: 1°C/m
- ✓ Relative humidity: 25% - 75%

Probe configuration for performance test:

- HP-T/HP-TM: standard measuring force, stylus length 10mm, tip diameter 4.0mm
- HP-THD: standard measuring force, stylus length 10mm, tip diameter 4.0mm
- HP-S-X1/HP-S-X1S/HP-S-X1C: stylus length 50mm, tip diameter 5.0mm
- HP-S-X3: stylus length 60mm, tip diameter 4.0mm



Model: GLOBALS



Model: TIGO SF (Shop floor CMM)



Multi sensors CMM



เครื่องทดสอบแรงดึง
Universal Testing machine



เครื่องทดสอบแรงดึง
Universal Testing machine



เครื่องทดสอบแรงบิด
Torsion testing machine



เครื่องทดสอบความผ่อนคลาย
Relaxation testing Machine



เครื่องทดสอบคอนกรีต
Concrete compressive
strength tester

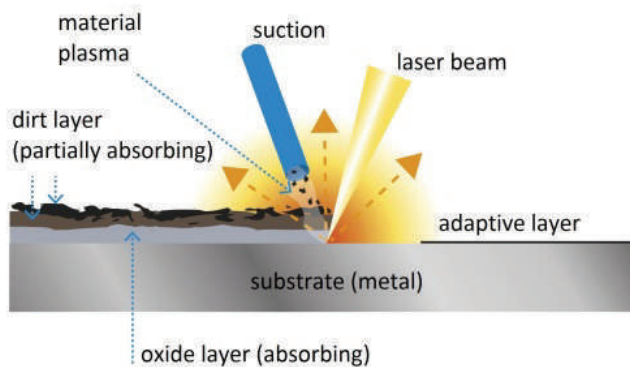


อุปกรณ์สำหรับเตรียม
ชิ้นทดสอบยาง พลาสติก



Laser Cleaning Machine

HEROLASER



HAND-HELD LASER CLEANING SYSTEM

ML-MF series is all the most compact Hand-Held laser cleaning system in middle power range. Using the remarkable high intensity of short fiber laser pulse to selective vaporizes different contaminations and removes them effectively from workpiece.

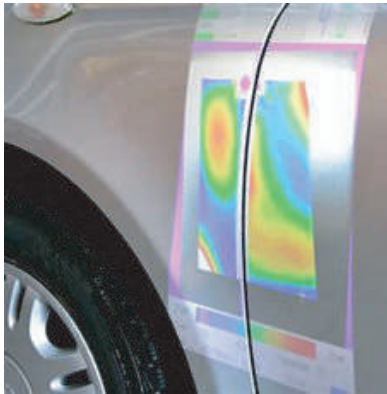
Laser cleaning specification

Optical Specification	100	200	500	1000
Laser Type	Fiber			
Wavelength (nm)	1070			
Output Power (Watt)	100	200	500	1000
Scan width (mm)	10-60			
Electrical (VA)	220			
Operation Power (Watt)	800	2200	5100	8000
Operating Temperature	5-40°C			
Cooling Type	Air-cooling type		Water-to-air cooling type	
Overall Dimension (mm)	500 x 500 x 750		1450 x 850 x 1400	
Weight (Kg)	52	225	275	325

Application

- ✓ Surface painted removal
- ✓ Plastic mold residue removal
- ✓ Metal surface rust removal
- ✓ Oil and stain removal
- ✓ Coating surface cleaning
- ✓ Pre-treatment for welding





dentCHECK is the only OEM-certified 'Go/No-Go' tool for 3D dent-mapping. Purpose built for airlines and MROs, the tool revolutionizes dent-mapping. Compared to traditional methods, dentCHECK delivers time savings more than 90% for damage mapping and reporting.

Zero Programming, Zero Post-Processing, Zero Surface Preparation

Summary of dentCHECK Capabilities:

- ✓ Measures dents, bumps, blend-outs, lightning strikes, multi-dents
- ✓ Works on metal, composite, rainy surfaces
- ✓ Actionable 'Go/No-Go' answers in seconds.
- ✓ Point & Click – designed for any skill level.
- ✓ Accuracy traceable to National Standards
- ✓ Handheld portability: work effortlessly in workshop, hangar, tarmac
- ✓ Fully self-contained tetherless: no external cables, computers, or power source
- ✓ Fully networked tool – built-in Wi-Fi, USB – real-time wireless transfer to Engineering

Performance Overview of dentCHECK

Field of view (FoV)		18 x 32cm / 7 x 12.5"	
Resolution	Diameter	250 μm	Continuous dent & bump inspection (Pixel by pixel basis)
	Depth	25 μm	
Accuracy	Diameter	±1.0 mm	(at 95% (2σ) confidence interval)
	Depth	±50 μm	
Acquisition Time		Approx. 0.1 sec	
Measurement Speed		As fast as 2 sec	
Battery life		Up to 4.5 hours (still usable while charging)	
Nominal Working distance		50 ± 5 cm	
Weight		4 kg (with integrated CPU and battery)	
Dimensions		35.4 x 30.0 x 9.0 cm	



TIMM Digital Step Gauge

Model: C1-10D
 Measuring range: $\pm 10\text{mm}$
 Resolution: 0.01mm
 Accuracy: $\pm 0.03\text{mm}$

(Model available: C1-10D, C1-15D, C1-20D, C1-25D)



TIMM Digital Step Gauge

Model: C1-10P
 Measuring range: $\pm 10\text{mm}$
 Resolution: 0.01mm
 Accuracy: $\pm 0.03\text{mm}$

(Model available: C1-10P, C1-15P, C1-20P, C1-25P, C1-30P)



TIMM Digital Step Gauge

Model: C1-10Q
 Measuring range: $\pm 10\text{mm}$
 Resolution: 0.01mm
 Accuracy: $\pm 0.03\text{mm}$

(Model available: C1-10Q, C1-20Q)



Weld Stud Test Tools (WSTT)

Torque range from 10 to 20 N.m

Key benefits

- ✓ Go & NoGo test for weld stud integrity can be carried out quickly and efficiently using the WSTT product range
- ✓ Versatile quality audit tools which cover a range of weld studs from M2.5 to M12

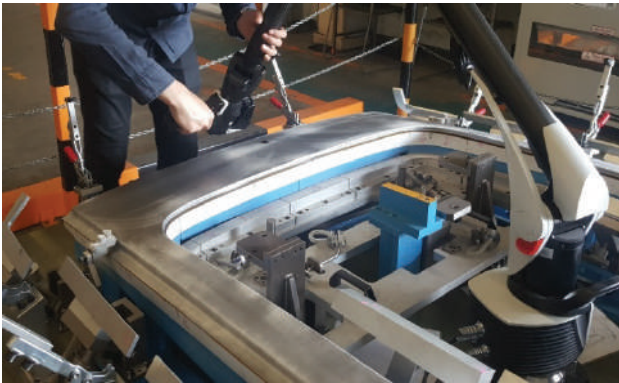
Torque Range

Model:	lbf.in	N.m	Kgf.cm
WSTT10	9-89	1-10	10-102
WSTT20	35-177	4-20	41-204

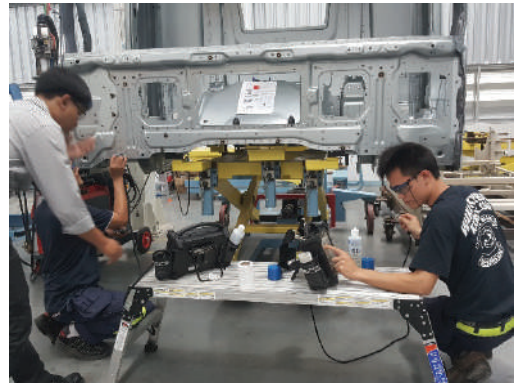
Matrix End Fittings

M2.5x25 / M3x50 / M4x50 / M5x50 / M6x50 / M8x50 / M10x75 / M12x75

3D Inspection Services



Resistance Spot Weld Inspection Services



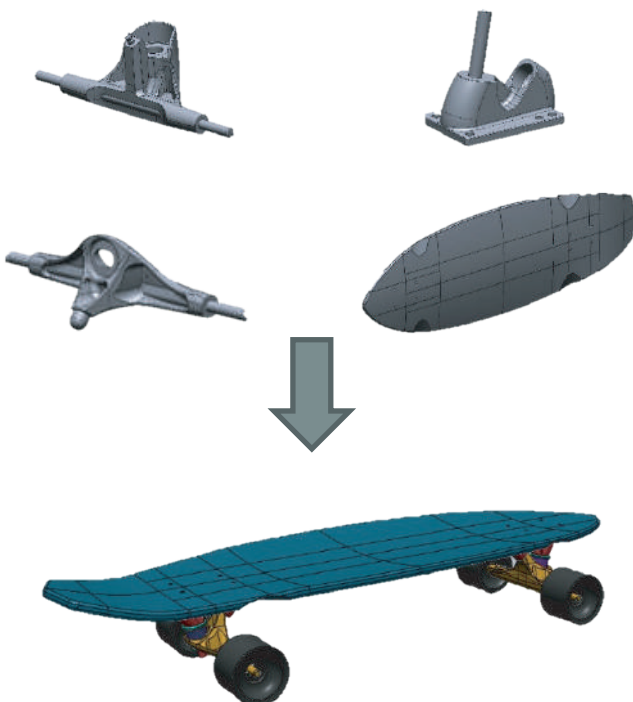
On Site Training Services



PCMM Rental Services



3D Reverse Engineering Services



Leica Laser Tracker Rental Services



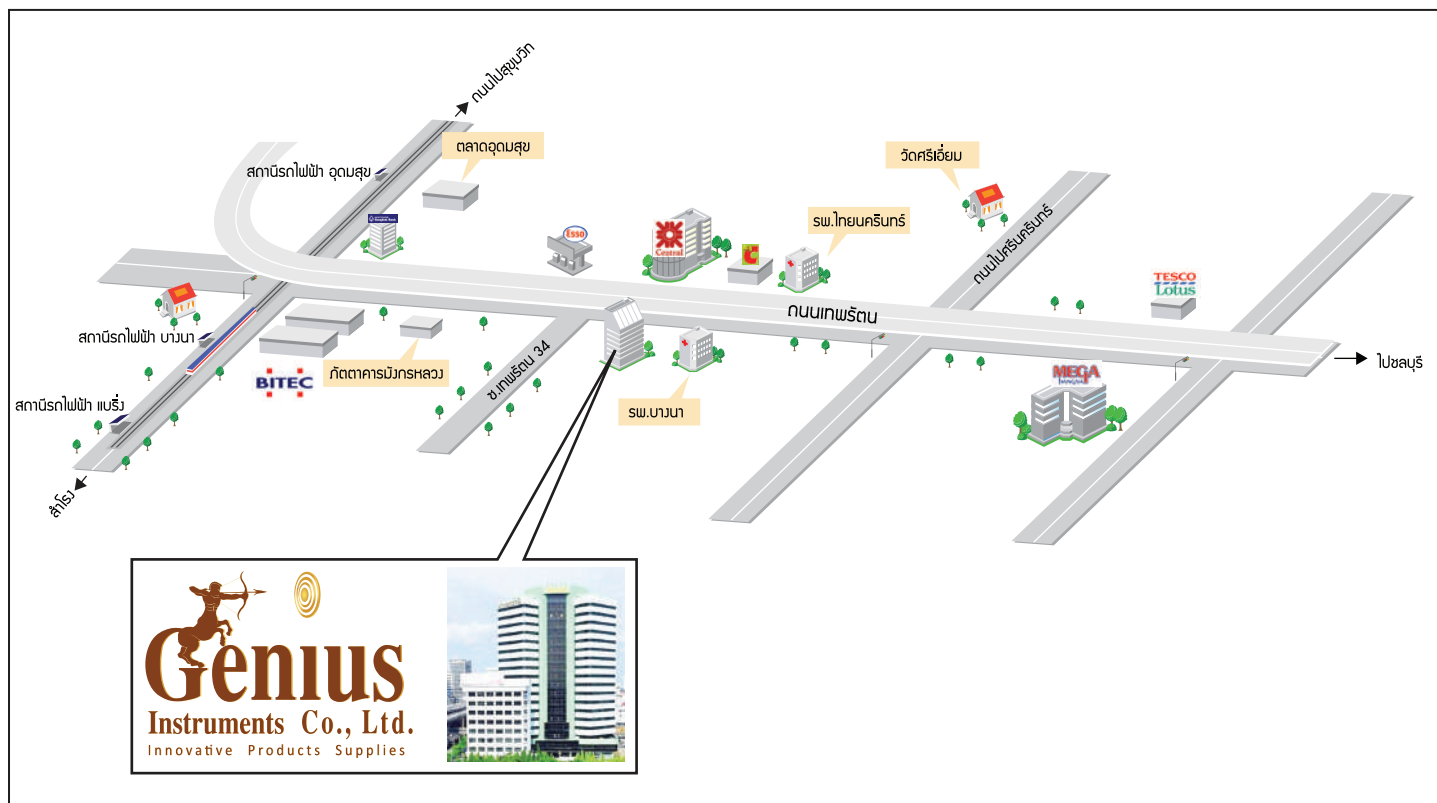
Bending Correction Data Services



Established in January 2012, Genius Instruments Co. Ltd, supplies innovative measurement instrument products. These are mainly used in Automotive manufacturing, electronics manufacturing and other related manufacturing industries in Thailand and in South East Asia.

Our product and services can meet the needs of customers requiring modernisation and quality control of manufactured product. We are fully supported by our principals in USA, Canada, Germany, Japan, China and Thailand. In addition, we also supply and design of special tools to meet the requirement of our client.

Our goal is to provide customer satisfaction in our product and services.



Genius Instruments Co., Ltd.

1/14 Bangna Thani Building, Room 7A3, 7A Floor, Soi Bangna-Trad34,
Bangna-Trad Road, South-Bangna, Bangna, Bangkok 10260

Tax ID : 0125555000242 (Head Office)

Mobile / Line : 098 535 1178

Tel : 089 927 3696, 065 426 2594

Email : methasit@geniusinstruments.co.th

Website : www.geniusinstruments.co.th

บริษัท จีเนียส อินสตรูเมนต์ จำกัด

1/14 อาคารบางนาธานี ห้อง7เอ3 ชั้น7เอ ซอยบางนา-ตราด34
ถนนบางนา-ตราด แขวงบางนาใต้ เขตบางนา กรุงเทพมหานคร 10260
เลขที่ผู้เสียภาษี 0125555000242 (สำนักงานใหญ่)

มือถือ/ไลน์ : 098 535 1178

โทรศัพท์ : 089 927 3696, 065 426 2594

อีเมล : methasit@geniusinstruments.co.th

เว็บไซต์ : www.geniusinstruments.co.th