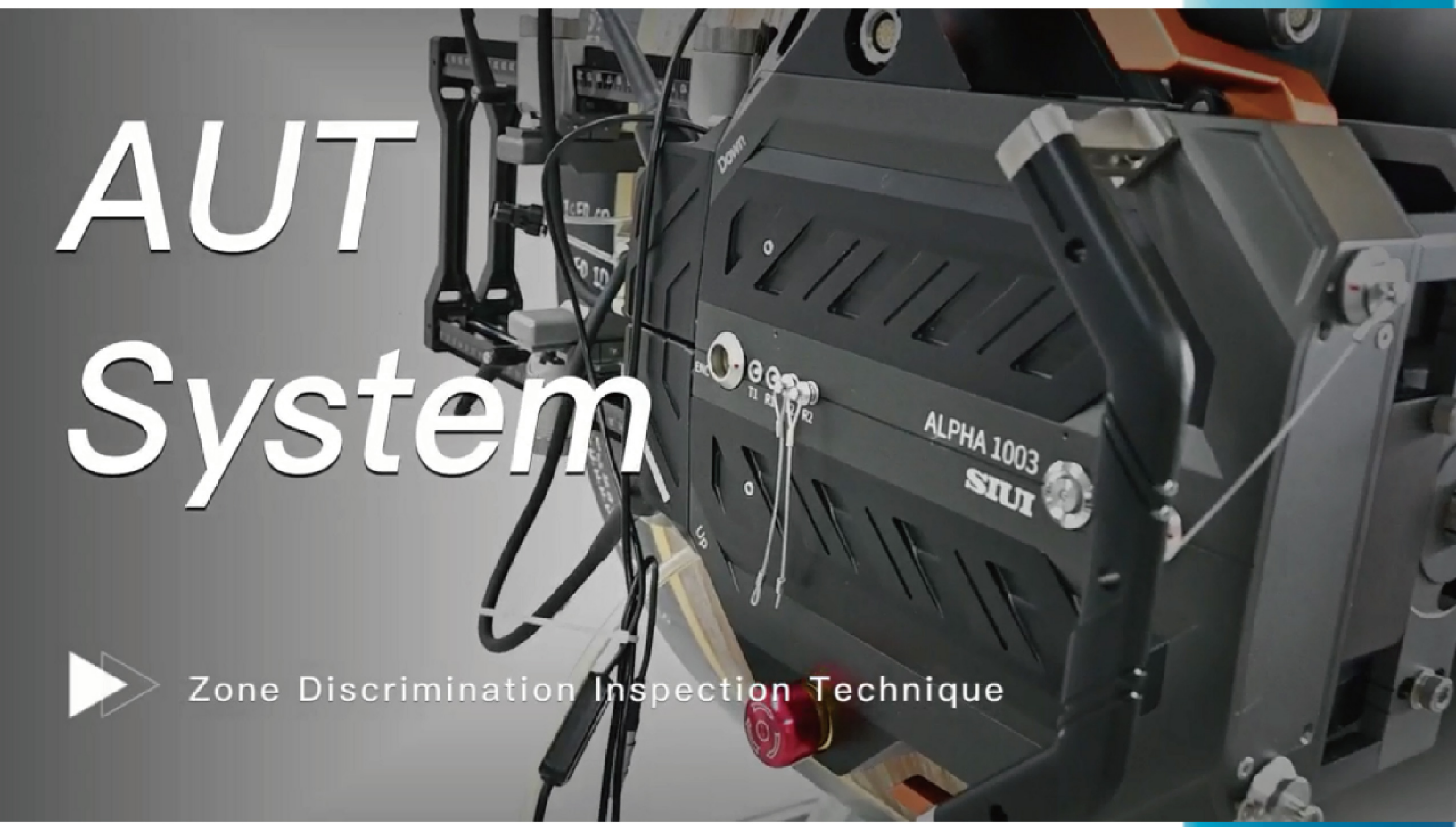
ALPHA 1003



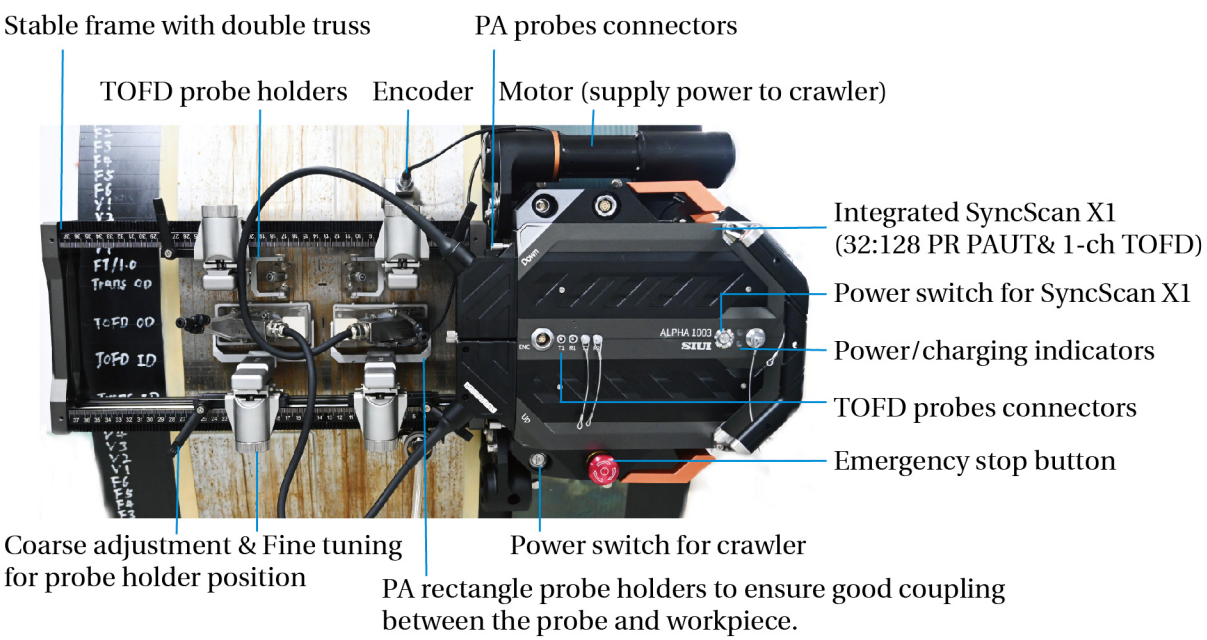
SIUI

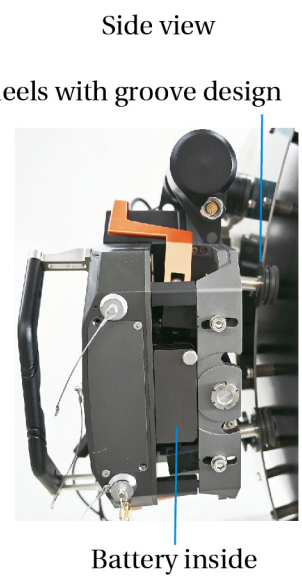
Integrated System for AUT

ALPHA 1003

Automated ultrasonic testing (AUT) to test pipeline girth welds during pipeline construction has been increasing substantially around the world. For girth-welded pipelines with auto welds, with AUT system, users can detect and analyze weld defects quickly.

- Suitable for pipe diameter⩾500mm(19.7in.), with recommended thickness⩾6mm(0.25in.)
- Suitable for compound U/ V and U weld groove, especially for automatic welding detection.

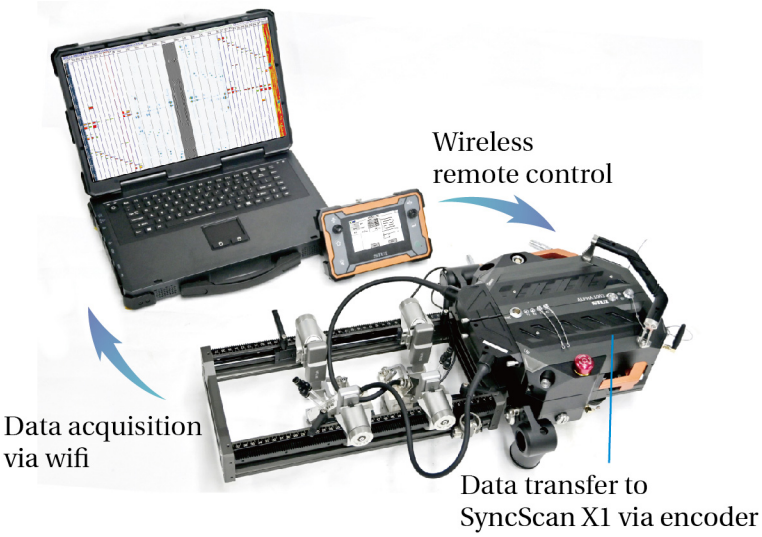


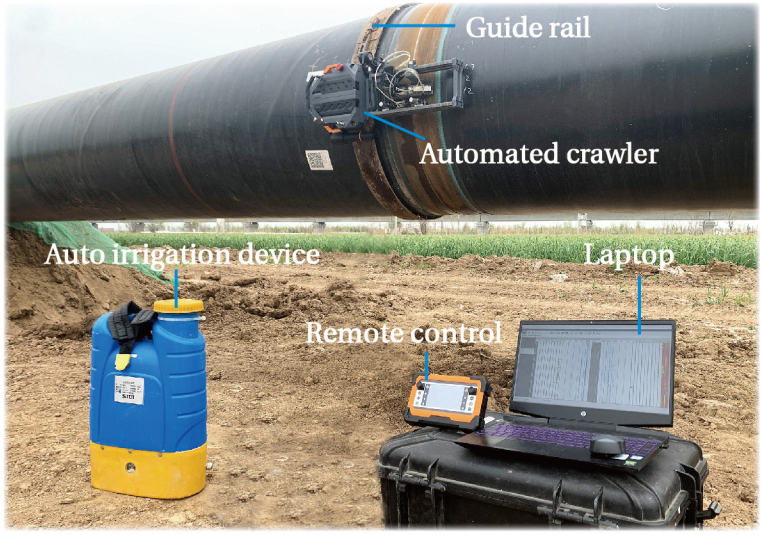


Superior Features

- Easy carrying, only 15kg for crawler.
- 10 scanning speeds for selection, up to 4.2 meters/minute.
- Supports wireless data acquisition in real-time for the whole scanning process.
- Wheels with groove design keeps crawler scanning on a straight line, with the offset ⩽1mm from the center of the weld to the probe flank.

Integrated design for easy carrying and fast assembling, improve testing efficiency.



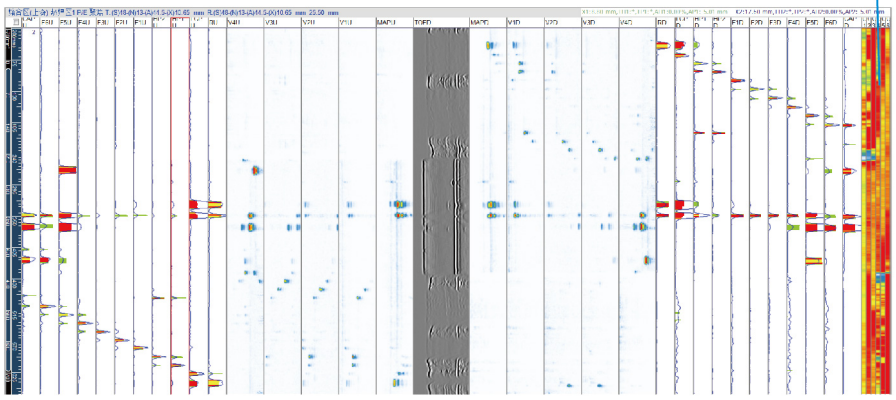


Integrated System for AUT

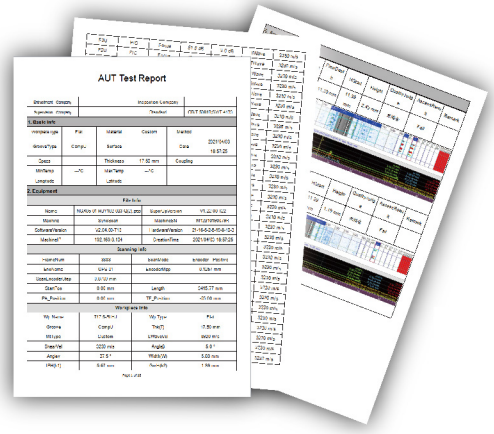
Zone Discrimination Inspection Technique

Weld is divided into different zones, and the AUT probe can emit thousands of focusing laws to inspect every areas without blind zones.
In the process of calibration and welds inspection, specific channels will be displayed on SuporUp to monitor the coupling of each PA probe.

Monitor coupling



Scanning image on AUT calibration block



Test report

AUT Low-profile PA Probes & Wedges

Using laterally focused arrays are suitable for discriminate small defects in automatic ultrasonic testing.

Temperature sensor for wedge:
Automatically transfer the surface temperature of the workpiece to laptop.



Probe Model	Frequency	Elements No.	Pitch	Elevation	Active Aperture	Corresponding Wedge
	MHz		mm	mm	mm	
7.5SL60-1.0-10-R100E-N-P-110-0.5-RSP	7.5	60	1.0	10	60	60N33.7I-IC2-AOD-XX

One-Key Calibration

The software can automatically measure the calibration image of multiple channels at the same time with one key, automatically obtain the main amplitude of each channel, its adjacent reflector amplitude and wedge delay, and determine whether they comply with the standard requirements.
According to the information obtained from automatic monitoring, the software realizes one-key correction for the deviation of all channels.

#	Chn	Position(mm)	UCover(%)	MAmp(%)	DCover(%)	Gain(dB)	Repair(dB)	GainOffset(dB)	DelayOffset(mm)	TransAng(°)	RecAng(°)
21	V3D	236.69	N/A	73.5	N/A	45.2	0.0	-2.7	-0.11	45.0	45.0
22	V4D	252.53	N/A	75.0	N/A	44.9	0.0	-2.5	-0.13	46.5	46.5
23	RD	52.79	N/A	77.5	N/A	33.1	0.0	-0.3	-0.05	52.5	52.5
24	LCPD	71.27	N/A	78.5	N/A	52.1	0.0	-0.2	-0.06	60.0	60.0
25	HP1D	84.47	51.0	78.5	N/A	41.2	0.0	-0.2	-0.07	45.0	45.0
26	HP2D	99.43	N/A	80.0	23.0	40.4	0.0	0.0	-0.02	45.0	45.0

DeleteSelected | DeleteAll | TxtExport | General Report | Calib

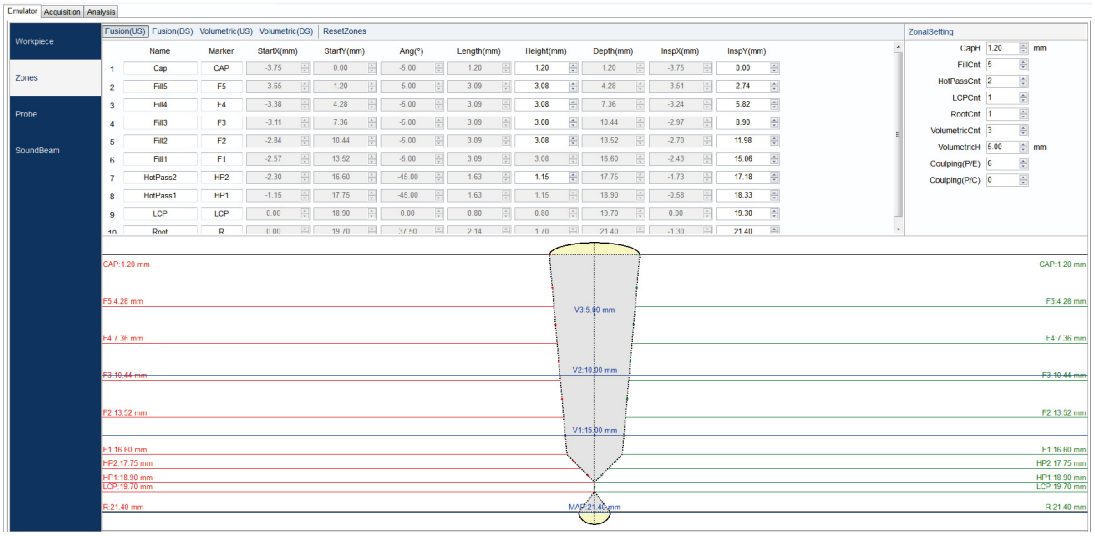
Zones | Meas.View | CalibrationCheck

Green for pass, and red for failed

Integrated System for AUT

Workpiece Automatic Partitioning

The software will automatically partition the workpiece in the weld height direction according to relevant standards.



Ordering Information

Item	Description	Quantity
Instrument & Laptop	SyncScan X1 module (with 32:128 PR PAUT& 1-ch TOFD)	1 unit
	Wireless network card Comfast CF-811AC	1 pc
	Three proofings laptop with SuporUp (AUT software)	1 pc
Automated module	Automated module AUS-03 with battery DC-A007, Frame F2-12	1 set
	Remote control HC-02	1 pc
	External Charger CD-A005 for Battery DC-A007	1 pc
	AUT PA probe holder HFL-35/ HFR-35	2 pcs
	TOFD probe holder HFL -36/ HFR-36	2 pcs
	Encoder EN-13C	1 pc
	Encoder cable 0.5m with Wedge temperature sensor	1 pc
Probes & Wedges	AUT PA probe 7.5SL60-1.0-10-R100E-N-P-110-0.5-RSP	2 pcs
	AUT PA wedge 60N33.7I-IC2-AOD-1422	2 pcs
	TOFD probe T7.5-3L-UN (recommended thickness≤17mm) T5-6L-UN (recommended thickness≥18mm)	4 pcs
	TOFD wedge TFB-45-UN-I-AOD-1219 TFB-60-UN-I–AOD-1219 TFB-70-UN-I–AOD-1219	6 pcs
	TOFD probe cable LEMO 00-LEMO 00-0.5M	4 pcs
Irrigation device & Accessories	Automatic irrigation device IA-02	1 pc
	DC-A007	2 pcs
	Pipe divider PI-13	1 pc
	Adapter TQ-A020 for two PA probes	1 pc
	Guide rail DX-1219	1 pc

Integrated System for AUT

Technical Speciation for Automated Crawler

IP Code	IP66
Dimension	38x36x19cm (cm)
Weight	15kg
Scan Method	Automated, single axis scanning
Encoder Precision	0.12 mm/step
Scanning Speed	8-70mm/s (0.48-4.2 m/min)
Suitable Tested Workpiece	Pipe OD≥500mm(19.7in)
Remote Control Distance	≤50m
Operation Temperature	0℃~45℃
Storage Temperature	-20℃~60℃

On-site Application





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CE

Specifications and appearance are subject to change without prior notice.

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