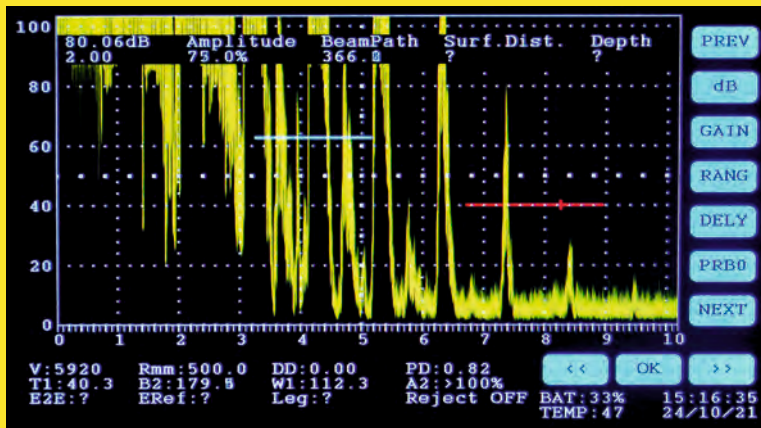


- State-of-the art gate movements
- Dynamic DAC/TCG/DGS
- Angle beam plot
- Curvature correction
- AWS D1.1 weld evaluation
- RF Wave
- Echo store
- Built in scientific calculator
- High penetrative power
- Two point Auto calibration
- Rapid save and reporting
- B scan
- Light weight
- Oil & grease friendly 7" (17.7cm) touchscreen display
- Pulse width control for better near surface resolution
- Use bare finger / gloves / stylus to work on touchscreen
- 16 hours Li-ion battery
- 16GB internal memory
- Made in India

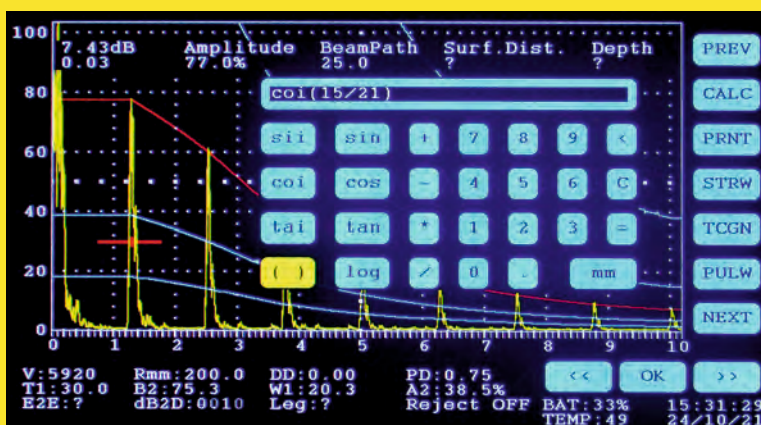
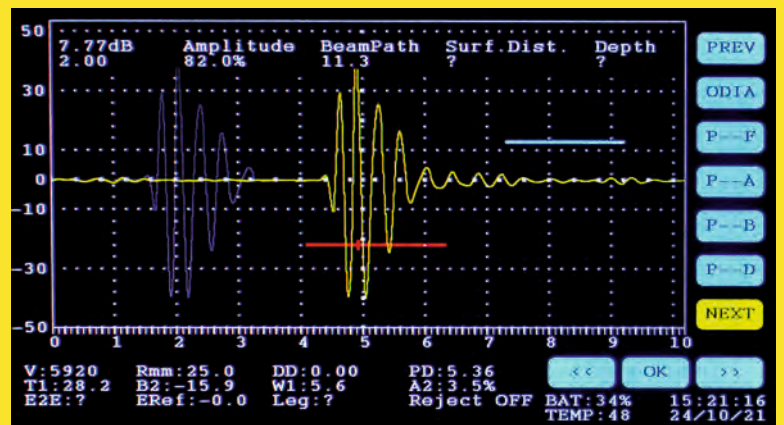


Ultrasonic flaw detector model K9



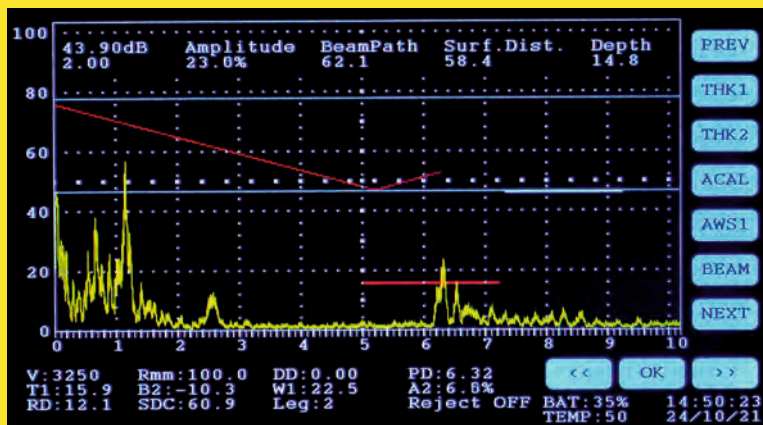
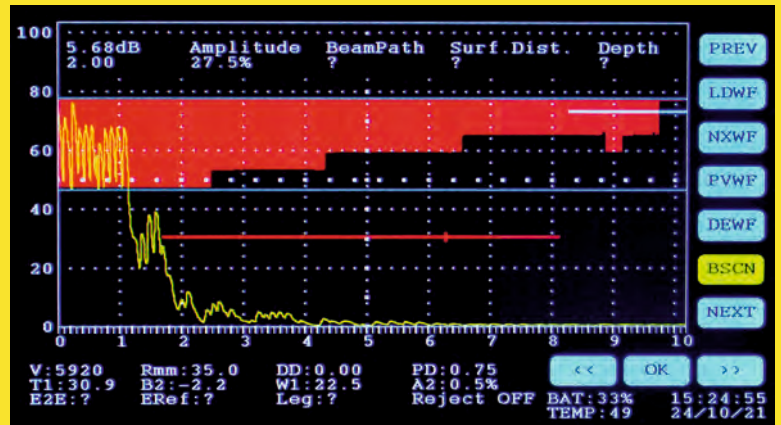
- 2 Energy steps
- 2nd step offers higher energy for testing coarse grained materials.
- Figure shows 7th BWE (Red Gate) from the perspex insert on V1 block at 80.06dB and 9th at 18% with noise <10%
- 2 gates for measurement and flaw detection
- State-of-the art gate movements
- Gate 1 provides:
 - (1) Amplitude (2) beam path (3) Surface distance (4) depth (5) Echo to Echo distance (6) Echo ref (7) dB to DAC (8) ERS (9) RD (10) SDC (11) Leg (12) reflector location in beam plot (13) Beam path background highlighter (14) AWS D value
- Second gate can be used independently to measure beam path and amplitude or if used with first gate, a buzzer to monitor amplitude drop or presence of flaw echo can be activated

- RF Wave and video display
- Offset control for sweep positioning.
- Echo fill and envelope options
- 16 hours of Li-ion battery for continuous use. LED for charge status & battery % on display
- 16 GB internal memory for saving several thousands of test files. These may be reviewed in the instrument or transferred to a computer for reporting.



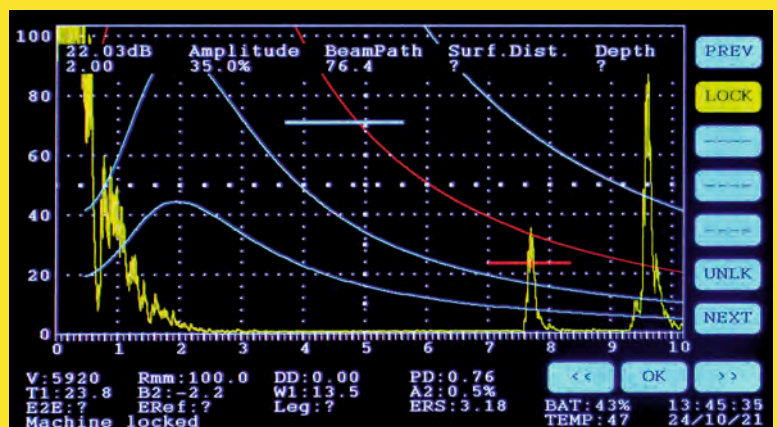
- Scientific calculator for use in ultrasonic testing with direct conversion from inch to mm.
- Metric and inch unit selection.
- No protruding knobs or buttons.
- State-of-the art touchscreen display for convenience.

- A and B Scan display.
- 7 display colour combinations for echo, gates and controls
- Selectable PRF (100Hz and 1KHz) useful for contact, immersion or semi-automated test applications.
- Calibrate range with single echo and velocity or use 2 point Auto calibration for narrow tolerance measurements. Measure thickness as low as 1mm with Normal beam probe and E2E control or use TR probes.
- Bright enough to see in any light conditions and option to Invert and echo fill for viewing if needed.

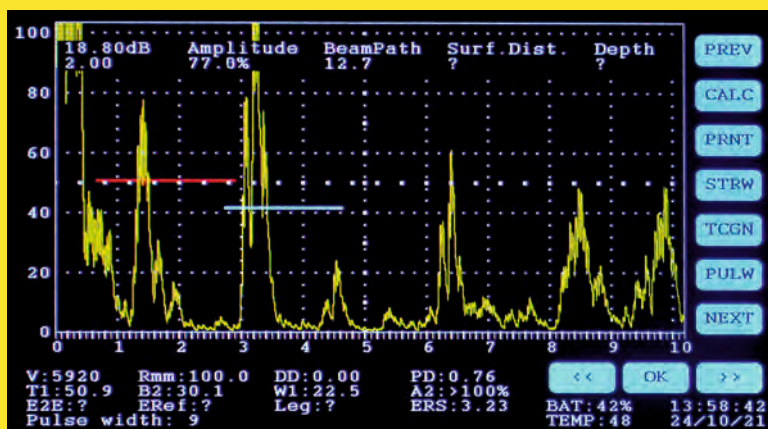
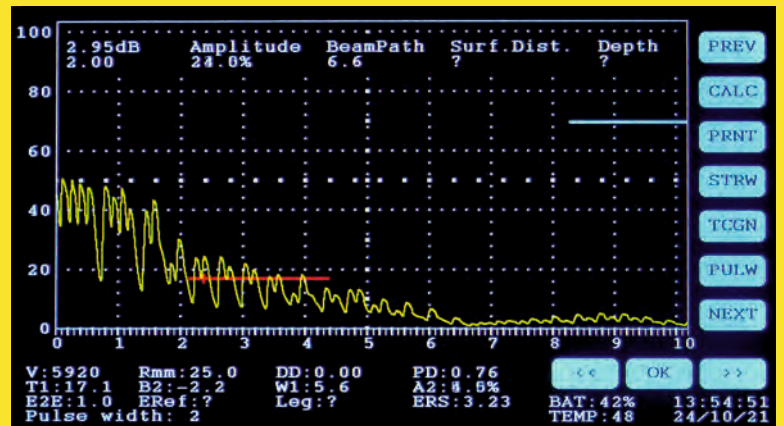
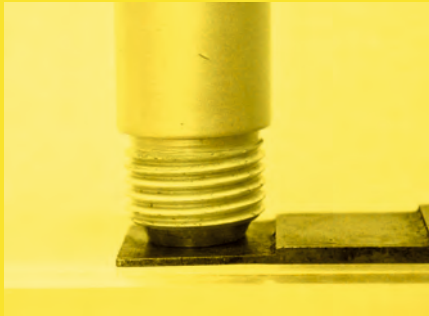


- Beam Plot function to help interpret location of a reflector with ease in angle beam examinations.
- Leg info is provided as a signal is gated. As the gate is placed on a signal, gray shaded background would help identify the leg.
- Enter test angle and thickness for depth to discontinuity and surface distance
- Curvature correction feature provides corrected surface distance and depth when curved products are examined.

- Change of colour on the last control used.
- VGA connectivity for large displays. Ideal for training of personnel in a classroom and very useful when you need to display the UFD display to a group of witnessing inspectors
- Save any number of calibration settings
- Easy to recall any saved settings.
- Dedicated Lock button to lock the display screen for work.

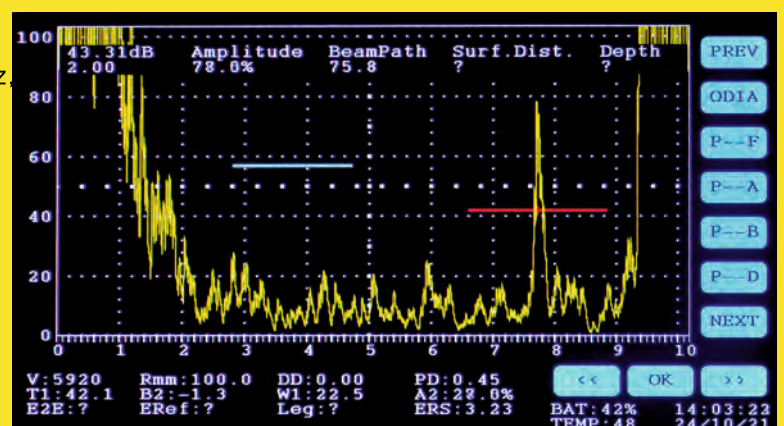


- Low thickness measurement ability using Normal beam transducer and Echo to Echo (E2E) control
- 1mm thickness being displayed in E2E mode using a Normal beam transducer of 4 MHz & 10mm diameter in a calibrated range of 50mm .

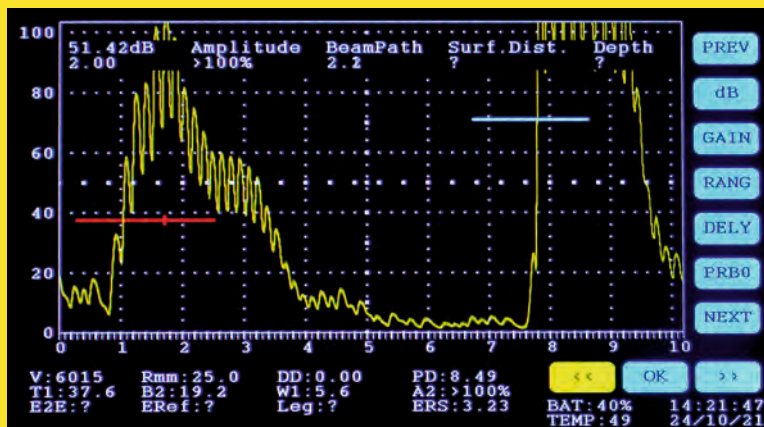
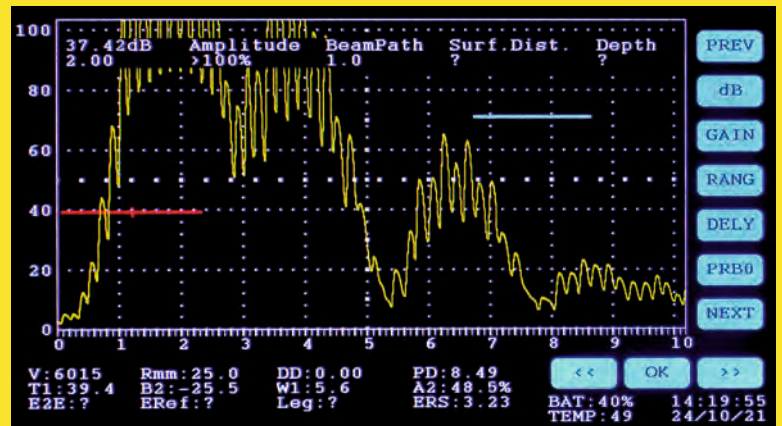
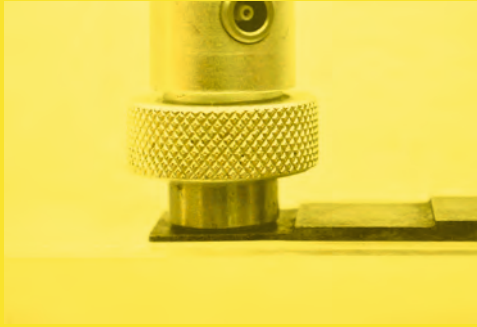


- Detection of 5/64 (1.98mm) FBH at a depth of 12.7mm with a 4MHz, 10mm dia Normal beam transducer.
- Use 2nd gate to measure Beam path (B2) and Amplitude (A2) for another echo.

- Detection of 1/64" (0.39mm) FBH with a 4MHz 10mm dia Normal beam transducer.

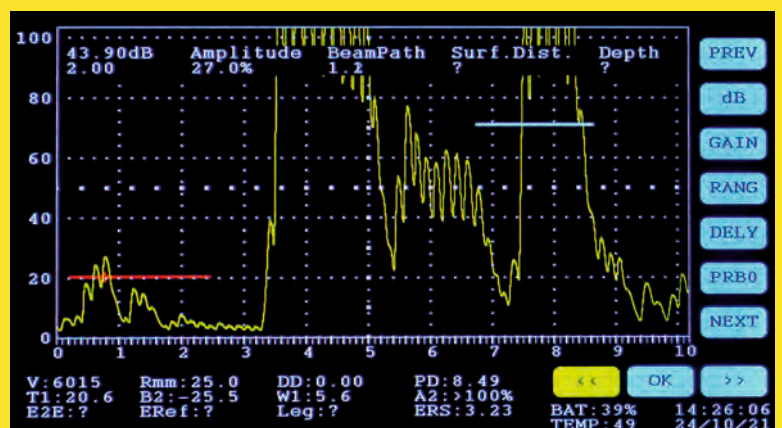
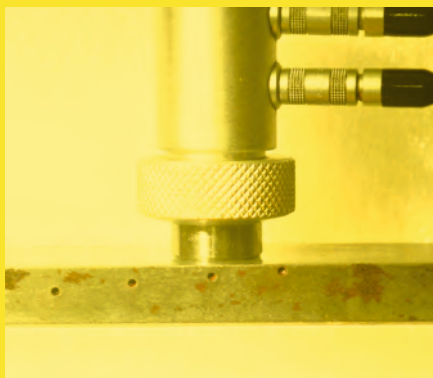


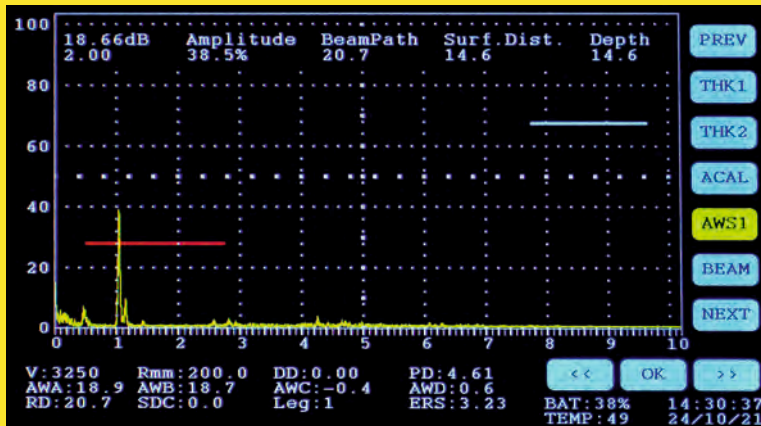
- Dual transducer for thickness checks.
- 1mm thickness being displayed using a dual transducer of 4 MHz & 10mm diameter in a calibrated range of 25mm.



- Detection of 8/64" (3.1mm) FBH with a 4MHz, 10mm dia dual transducer

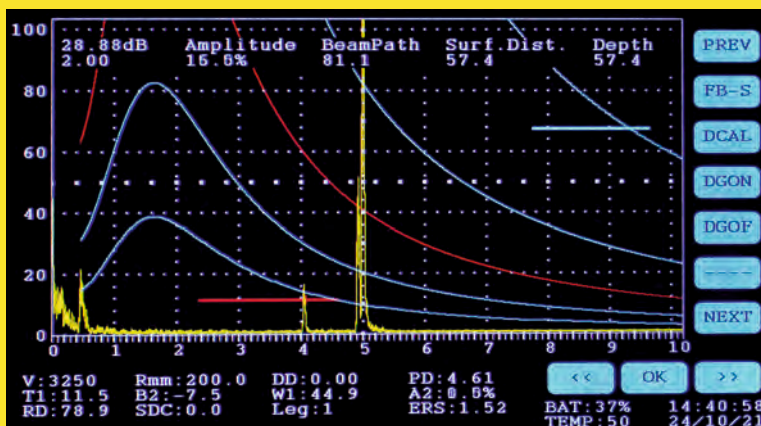
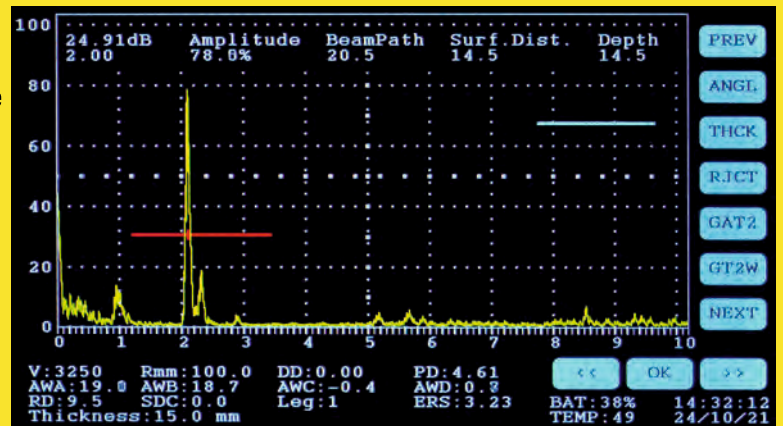
- Detection of 1.5mm dia SDH at 1.2mm depth with a 4MHz, 10mm dia dual transducer



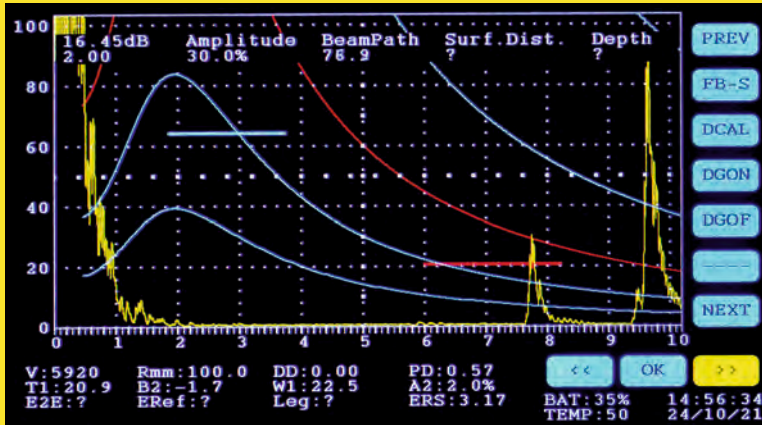


- AWS D1.1 Weld evaluation made easy. Just set 1.5mm dia SDH on V1 to 40% FSH & enter AWS for evaluations.
- Change amplitude as required
- Save settings in instrument and recall for work
- Print test result with AWS details

- Detection of 1.5mm SDH at 15mm depth on V1 block with a 4MHz,8x9mm, 45 degree angle beam transducer.

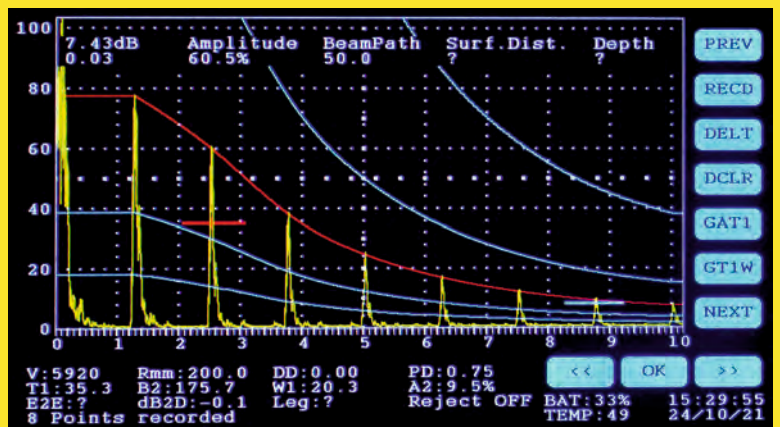


- Detection of 4/64" (1.58mm) FBH with a 4MHz,8x9mm, 45 degree angle beam transducer. Measurement shown with DGS

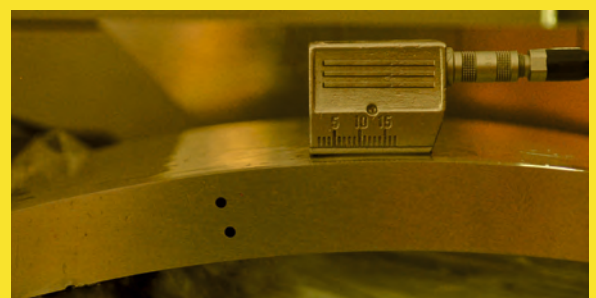
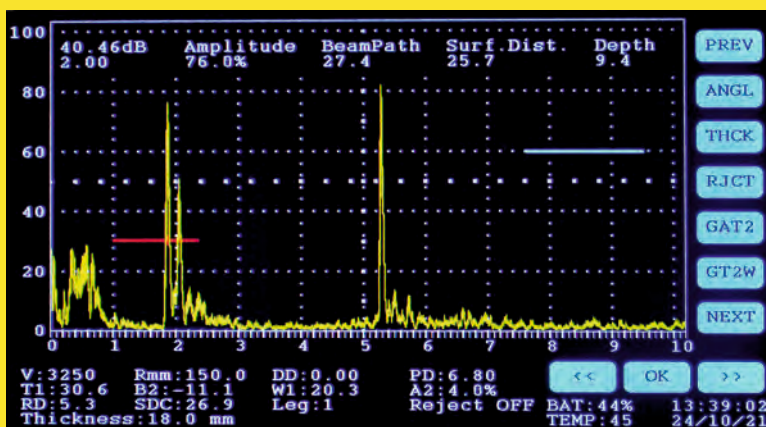


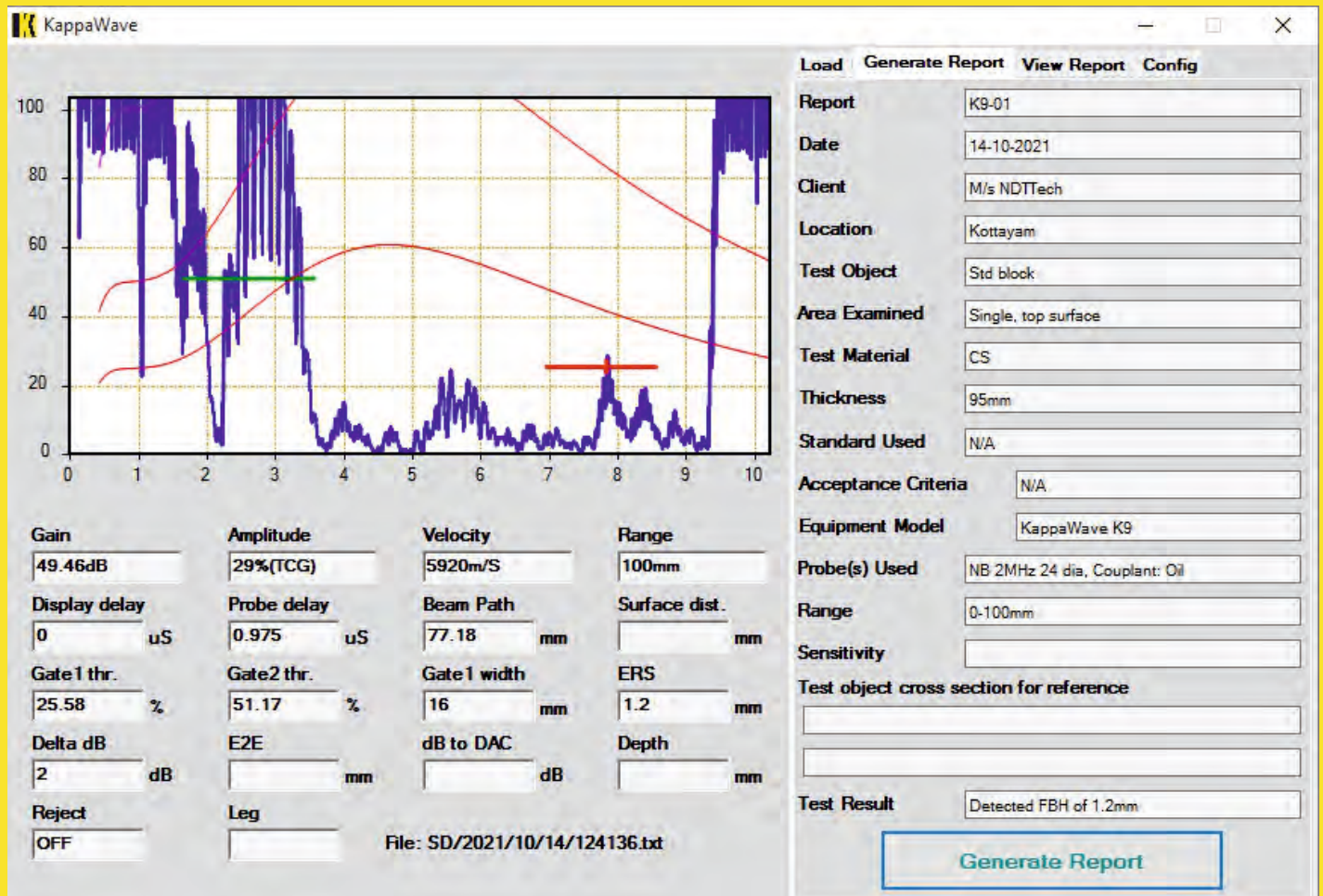
- Dynamic DGS curves
- Enter probe frequency, diameter, FBH size for calibration.
Change amplitude or range freely.
- Curves of -6, -12, +6 & +12dB by default
- ERS value is displayed when a signal is gated.
- Save settings & save test result with curves for your reports

- Construct 14 point Dynamic DAC with -6, 12 & +6, 12dB curves
- Set or measure amplitude to xx.0% or xx.5%
- Save unlimited calibration files



- Detection of 2mm dia SDH in a pipe section of 24 inch dia, 18mm thickness with curvature correction engaged. 4MHz, 8x9mm, 70 degree angle beam transducer. RD & SDC are the corrected depth and surface distance respectively.





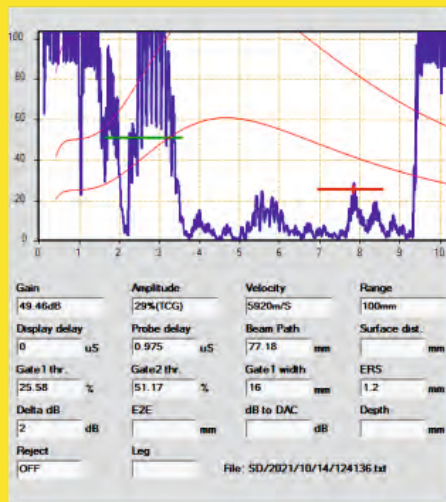
- Save test results in one click
- Transfer files to PC and prepare custom reports
- Files in UFD can't be manipulated.
- UFD offers added security when customers wants to verify the actual test file

ADD YOUR LOGO & ADDRESS HERE

ULTRASONIC TESTING REPORT

K9-01

Client: M/s NDTTech	Location: Kottayam	Date: 14-10-2021
Test Object: Std block	Area Examined: Single, top surface	
Test Material: CS	Thickness: 95mm	
Acceptance Criteria: N/A	Equipment Model: KappaWave K9	
Probe(s) Used: NB 2MHz 24 dia, Couplant: Oil	Standard Used: N/A	
Range: 0-100mm	Sensitivity: DGS curve of 3.17FBH	



Sample image only. You may add CAD, Excel data or drawings as required

Test file records as copied from the UT Machine

Test object cross section for reference.

Test result: Detected FBH of 1.2mm(ERS1.2)

Signature of Test Engineer

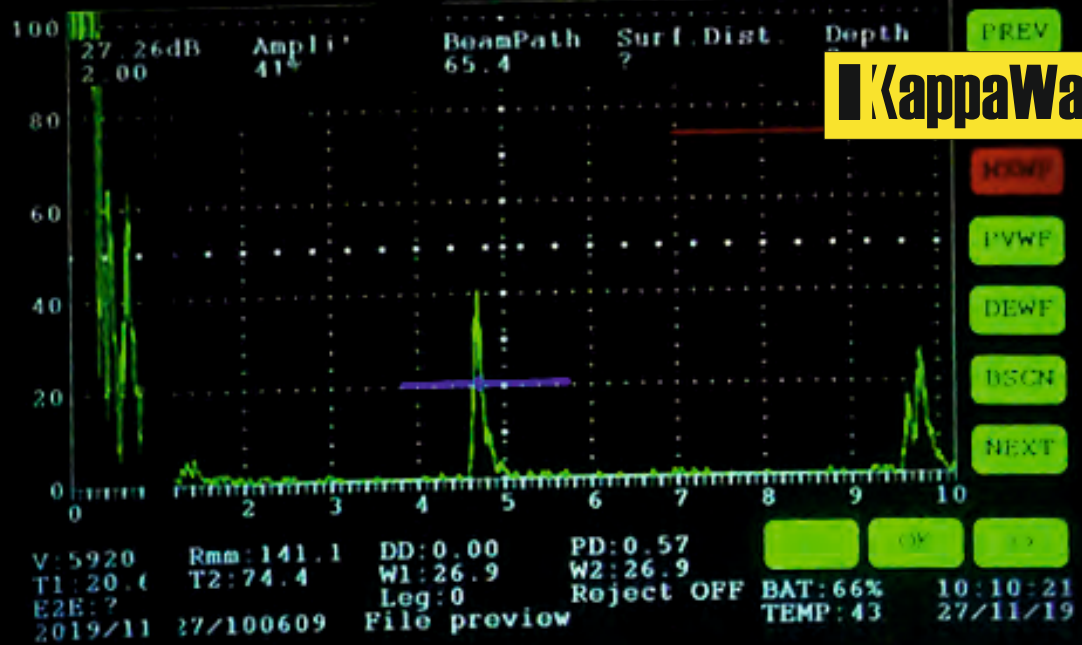
Date

Signature of Client

Date

KappaWave

- Customise your reports
- Construct simple or 3 dimension drawings with ease
- Files carry a unique ID that is traceable
- Save test reports to .svg, .png, .pdf and many other
- Short learning curve



KappaWave V1.2



- Single port for VGA & PC. Extend the display to external monitors or projectors
- Change of colour on the menu indicates the last action
- Instrument designed and manufactured in India to meet ASTM E 317, IS 12666 & BS 4331-II
- An android app for mobile users are available



- Hold in left hand for work
- Use thumb to rapidly change amplitude
- Low noise
- Lock the display during work



- Wrap onto your wrist to carry in plant
 - Oil and grease friendly touchscreen
 - Use bare finger / gloves / stylus on touchscreen
 - Large 7inch display
- 1.2Kg

- Specially made back pack to carry the UFD for daily work



Technical specifications for KappaWave Ultrasonic Flaw Detector K9

Test Range	25mm to 6m in steel
Velocity	Selectable in m/sec, 1400-8000 m/sec
Unit	Selectable: mm or inches for range
Delay	0-2812 μ sec
Zero offset	0-1000 μ sec
Range	Selectable with velocity & thickness
Range calibration	Single echo with velocity or 2 point Auto calibration
Screen	Touch screen 17.7cm (7") TFT
Resolution	800 (RGB) X 480
Active area	154 (W)X85 (H)mm
Last action	Colour on display button
Cancel function	Next key
A scan display area	127mm(W) X 63mm(H)
Display marks	100 divisions (Horizontal) 5 divisions (Vertical)
Measurement	Gate & display marks for distance and amplitude
Pulser	Negative spike
Pulse width	User variable
PRF	Selectable: 100Hz, 1 KHz
Gain select	2 levels: Low 0-96 dB, High upto 112dB* (on K9**)
Damping	Auto. Not user selectable.
Frequency	1-10MHz
Cross talk attenuation for TR	78 dB with 4MHz probe
Gain	0 to 96dB
Gain increment	0.03, 0.2, 1.0, 2.0, 6.0, 12.0dB
Rectification	RF, Positive half wave
Reject	Selectable: 0-44%FSH.
Modes	Pulse echo, through transmission or dual
Amplitude measurement	0-100% FSH
Horizontal Non linearity	< 1% FSW
Vertical Non linearity	<3% FSH
Measurement gates	Selectable: 2 independent gates
Echo measurement	Flank
Gate start	Selectable over entire displayed range
Gate width	Selectable from gate start to end of displayed range
Gate colour	User variable
Gate height	Selectable from 5% to 100% FSH
Alarms	Selectable Audio, colored visual
Echo to echo	Gate 1
Display locations	Transparent overlay on top of screen and below A scan display
Gate 1	Amplitude, beam path, Surface distance, depth, Echo to echo, Echo ref, dB difference, ERS, RD, SDC, Leg, depth in beam plot, Beam Path background highlighter, AWS D value
Gate 2	Amplitude, Alarm, Beam path
Amplitude measurement	Floating maximum amplitude locator on Gate 1
AWS D1.1	Auto calculation of D value
DAC / TCG	Dynamic DAC (changes with gain and range)
DAC / TCG Points	Max 14 points
DAC / TCG offset Default	+6, 12, -6, 12 dB
Dimensions (mm)	196(W)X127(H)X50(D)
DGS	Dynamic DGS curves with default +6, +12 & -6 & -12 dB curves & ERS
Weight	1.2 kg with Li-ion batteries for 16-18 hours
Keypad	Touch entries
Language	English
Probe connections	2 nos, Mini Lemo
Probe angle	0 - 90 degree
B Scan	Basic B scan display
Beam Plot	Cross sectional plot of the test material with angle beam path
Curvature correction	Corrected depth & surface distance when Angle, thickness & diameter given
Battery	3.6V, 23Ah, Lithium-ion, rechargeable
Battery life	16h
Battery charger	External 220V Ac mains, 50Hz
Charge & temperature indicator	For charge % during use and temperature
Battery charging max temp	40°C
Saving of Calibration files	Unlimited calibration settings in equipment (recommended: <100K)
Loading of settings	Selectable from any saved
Printing of test files	500K files can be saved, these may be transferred to a PC for report preparation, deleted or over written in instrument.
Interface software	For connecting instrument to PC and transfer and prepare test reports
File names	Auto naming with date & time, thus avoids duplicating
Echo Display	Fill, envelope
Display Lock	Dedicated screen lock & Unlock button
Echo store	Temporary Echo store for comparisons
Storage	SD card on board
Data interface	USB 2.0
VGA connector	1 no for additional display or projector
Recording of signals	SD card 16 GB
Operating Temperature	0° to 50°C
Enclosure	Dust and moisture resistant
Protective cover with handle	Provided with instrument
Warranty	1 Year

* All specifications are subject to change without notice. Copyright 2021 by KappaWave

Designed & Manufactured by:



KAPPAWAVE

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