Industrial Ultrasonic Flaw Detection

Industrial ultrasonic flaw detection is the oldest and the most common used instrument. The ultrasonic waves through solid materials have been used to detect hidden cracks, voids, porosity, and other internal discontinuities in metals, composites, plastics, and ceramics.

High frequency sound waves reflect from flaws in predictable ways, producing distinctive echo patterns that can be displayed and recorded by portable instruments.

Ultrasonic testing is completely nondestructive and safe, and it is a well established test method in many basic manufacturing, process, and service industries, especially in applications involving welds and structural metals.

Features:

► Full Screen Display Function-The echo display area covers the entire screen.

► The solid waveform can enhance the waveform visual contrast so the omission will hardly happen during the fast testing.

► Can save up to 1000 data, including waveform, curves and parameters, etc.

► Echo-echo thickness measurement, zero calibration can be avoided, and the net thickness of the base material can be directly measured through the coating.

► Wave Crest Memory-Real time envelopes show the highest wave of the flaws and record the maximum value of the flaws, it is helpful to exact positioning and fast testing of the flaws.

► Automatic gain: Automatically adjust the gain to the preset amplitude height.

► Alarming function: afferent echo/echo loss alarming.

► Real-time clock: automatically record the date and time of the stored waveforms.

► Display freezing: catching the waveform and sound path data at any moment.

► Flaw positioning: real-time display sound path S, horizontal X, depth Y, and wave height H.

► Real time display the dB difference value and sl quantitative value.

► Digital inhibition: 0-80%, increase by 1%, not affecting the linearity and gain.

► Two independent measurement gates, monitoring the echo amplitude and the sound path distance.

► When using transverse wave to detect flaws, the depths of the second and third waves are automatically calculated according to the slab thickness.

► Perfect DAC curve functions enable the curves to change along with the changes of the gain, sound path, and displacement.

► True color TFT LCD display, whose brightness is adjustable.

► Two operation interfaces: Chinese and English.

► Data communication: communicate with the computer via RS232 port to transmit waveforms and data.

Models Comparison:

Model	**UT260**	**UT262**	**UT280**	**UT282**
True Color TFT LCD	√	√	√	√
DAC Curve	√	√	√	√
AVG Curve	χ	√	χ	√
Φ Value Calculation	χ	√	χ	√
Distance Compensation	χ	√	χ	√
Changeable Squared Ultrasonic Pulse	χ	χ	√	√
Wide/Narrow Band Filters	χ	χ	√	√
Four Impedance Matching	χ	χ	√	√
Data Logger	√	√	√	√
UtView Software	√	√	√	√

Technical Specifications:

Item	Specifications	**Item**	Specifications
Working Frequency	(0.5-15)MHz	Sensitivity Excess	≥60dB (deep Φ2 Flat-bottom hole)
Material Sound Velocity	(1000-9999) m/s	Definition	≥32dB
Operation Mode	Pulse echo, double crystal	Dynamic Range	≥30dB
Pulse Shift	(0-1000)mm	Average Noise Level	≤10%
Probe Zero	(0-199.99)us	Battery Working Time	9 hours
Gain Control	(0-110)dB,(0.1,1-2,6)dB stepping	Power Supply	12V DC ,220V AC
Vertical Linearity Error	≤3%	Dimensions	270mm x190mm x 60mm
Horizontal Linearity Error	≤0.3%	Weight	2kg(including batteries)

Packing List:

NO.	**Item**	**Quantity**
1	Ultrasonic Flaw Detector	1
2	Lithium battery	1
3	Charger (with power line)	1
4	Communication Cable	1
5	Straight Beam Probe	1
6	Angle Probe	1
7	Probe Cable (BNC-BNC)	2
8	Instrument Case	1
9	Instrument Case Belt	1
10	User Manual, Packing List, Warranty Card	1
11	Data Communication Software (electronic-directions inside)	1
12	Demo Disc	1