

TMTECK

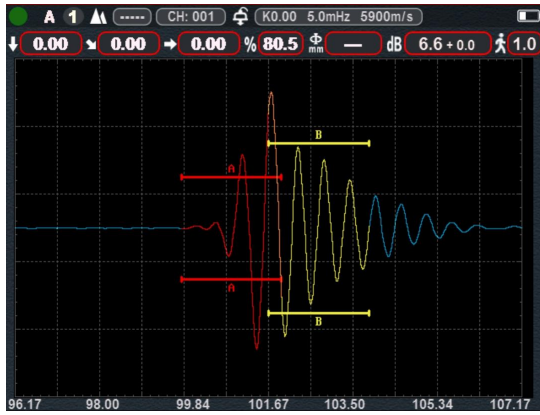
Ultrasonic Flaw Detector



Ultrasonic flow detector TFD320PLUS



- ★ User friendly dialog interactive helps operations like Calibration, making curves, etc.
- ★ All tools you need: DAC, AVG, TCG,color B scan, AWS, Spheroidization Rate, etc.
- ★ Pulse Repeation Frequency: 20-3000Hz precise adjust, high speed scan, no miss out.
- ★ High Signal to noise ratio, clear and stable echo, anti-noise design, perfect for tough working conditions.
- ★ 12-digit AD, high speed sampling leads to better echo diagram with all details. Sensitive and can detect even tiny flaws.
- ★ Can use probe frequency 25M perfectly .
- ★ High speed real-time flaw detection video recording. Unlimited USB data storage.
- ★ IP65 standard. Alloy + Silica gel case, water and dust proof, solid and lasts forever. Damping support makes it stands in any angle.
- ★ Battery lasts 15 hours for one charge. Each battery has own charging control so with two batteries it can work around the clock.



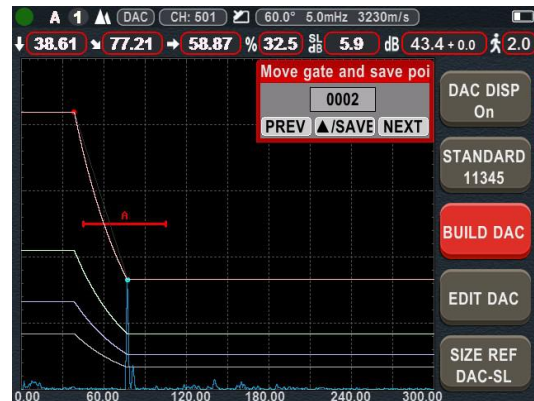
Main Interface

Name	RPT161230042017						
DateTime	2016.12.30 04:20:17						
ProbeName	Straight						
Test Result							
Soundpath	76.03 mm						
Depth	38.02 mm						
Horizontal	65.85 mm						
Height	55.8 %						
Ref dB	7.5 dB						
Ref mm							
Parameters							
ProbeType	Angle	Range	200.0 mm	Detection	Peak	Standard	11345
Angle	60.0 °	Velocity	3230 m/s	Base Gain	47.4 dB	SIZE REF	DAC-SL
P-Delay	8.00 us	Disp Delay	0.00 us	Scan Gain	0.0 dB	DAC-RL	0.0 dB
X-Freq	5.00 mHz	Thickness	100.0 mm	Correct	4.0 dB	DAC-SL	-6.0 dB
X-Value	8.00 mm	Diameter	----	Energy	350 V	DAC-EL	-10.0 dB
Damping	150 Ω	Scale	Sound Path	Pulse Width	250 nS	No.4	-14.0 dB
Rectify	Full Wave	Reject	Off	PRF	150 Hz	No.5	----
X-Size	90x90 mm	Gate Logic	GATE A	Curve Type	DAC	No.6	----

Report



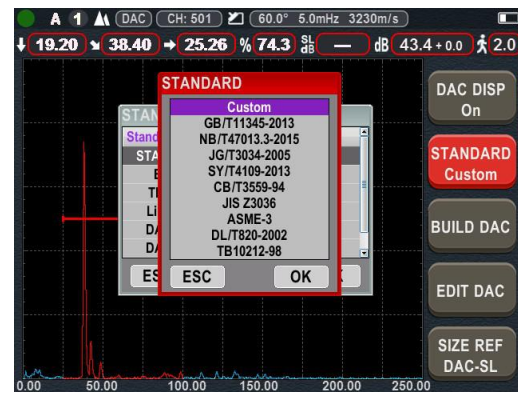
Menu



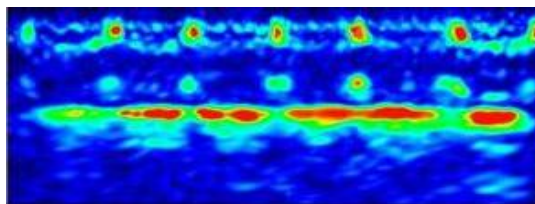
Making DAC



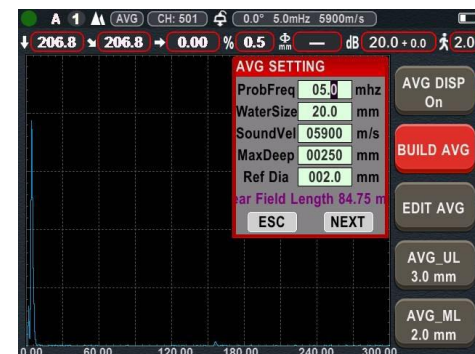
Coded echo



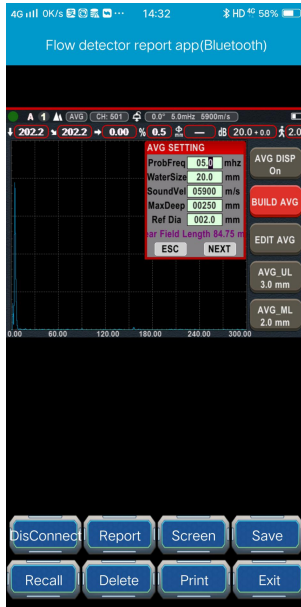
Standards



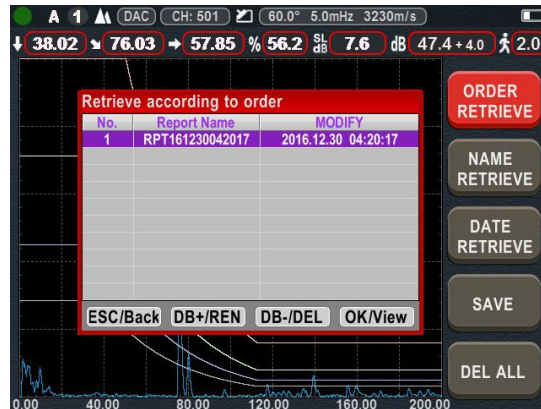
Color Bscan



AVG SET



App (Option)



Report list

Specifications

- Range: 0-10000 mm ,at steel velocity
- Material Velocity: 100~20000 m/s
- Pulse Repetition Frequency: 20-3000Hz
- Dynamic range: ≥38dB
- Linearity: Horizontal: +/-0.2%, Vertical: 2.5%, Amplifier Accuracy +/-1 dB.
- Resolving Power: >40dB (5P14)
- Sensitivity Leavings: >62dB
- Reject (suppression): 0 to 80% full screen height
- 500 independence setup, any criterion can be input freely, we can work in the scene without test block;
- Big memory of 1000 A graph
- Test Modes: Pulse echo, dual element and thru-transmission
- Probe Types: Single Straight, Single Angle,Daul Straight, Daul Anlge,Through,Creeping,Surface
- Gate Monitors: Two independent gates controllable over entire sweep range
- Units: Inch or millimeter
- Power Requirements: AC Mains 100-240 VAC, 50-60 Hz
- Display Delay: -20 to 3400 μs
- Probe Delay/Zero Offset : 0 to 99.99μs
- Internal rechargeable Li-ion battery pack rated 7.2V at 8000 mAh
- 15 hours nominal operating time depending on display brightness

- 4 hours typical recharge time
- H×W×D(mm): 240×150×50 (mm)
- Weight : 1.4kg
- Operating Temperature: -10°C to 50°C
- Storage Temperature: -30°C to 50°C
- Pulse Energy: 70V,100V,200V, 300V, 400V, 500V selectable
- Rectification: Positive half wave, negative half wave, full wave, RF System
- Bandwidth (amplifier bandpass): 0.2 to 35 MHz
- Gate Monitors: Two independent gates controllable over entire sweep range
- Sensitivity: 120 dB max in selectable resolution 0.1, 1.0, 2.0, 6.0 dB.
- Transducer Connections: LEMO 01

Functions

- Automated display precise flaw location(Depth d、 level p、 distance s、 amplitude、 sz dB、 ϕ).
- Flaw sizing: Automatic flaw sizing using AVG or DAC/TCG, speeds reporting of defect acceptance or rejection.
- Automated calibration of transducer Zero-point, Angles, Front edge and material Velocity . (V2 and two hole)
- Convenient to make and use DAC/TCG and AVG to evaluate the echo, the curve can be modified and compensated.
- Connecting U-Disk, the unit can get unlimited memory.
- Automated make video of test process and play; use upan, the length of video is unlimited.
- Color B scan.
- There are 15 standards of in the unit.
- Blue tooth connection to mobile device to generate and print detection reports on-site. AWS D1.1.
- Curved Surface Correction feature.
- Crack Height Measure function.
- Magnify gate: spreading of the gate range over the entire screen width.
- Auto-gain function.
- Envelope: Simultaneous display of live A-scan at 70 Hz update rate and envelope of A-scan display.
- Peak Hold: Compare frozen peak waveforms to live A-Scans to easily interpret test results.
- Scan Freeze: Display freeze holds waveform and sound path data.
- Spheroidization Rate test.
- Alarm: Beep and LED.



TMTECK INSTRUMENT CO.,LTD.

- Real Time Clock.
- Fill echo.
- Capture mark.
- Echo color within the Gate.

Base Instrument Package

1. Portable Ultrasonic Flaw Detector
 2. Straight Beam Transducer (2.5 MHz, $\Phi 20$)
 3. Angle Beam Transducer (4 MHz, 8 mm \times 9 mm, 60°)
 4. Interconnect Cable for the transducer (Q9-C9 and C9- C5)
 5. Rechargeable Li-Ion Battery Package, 8 amp hour
 6. Power supply/charger unit
- Operating Manual in English

TFD800C Ultrasonic Flaw Detector



Product Description:

USB memory knob digital ultrasonic flaw detector TFD800C mini total 1kg with battery
 Simple operation with fast rotary knob adjustments
 use in direct sunlight and operation at extreme temperatures...

Product Info

Automated calibration Automated gain

- Automated make video of test process and play
 - AWS D1.1,DAC (6dB DAC), AVG, TCG & B scan,28 DGS curves
- Pulse can be adjusted by customer

High-speed capture and very low noise

- Solid metal housing (IP65), rubber plastic dust cover included
- High contrast viewing of the waveform from bright
- Powerful pc software and reports can be export to excel

Small size, light weigh model, total 1kg with battery

Knob design, fast operation

USB memory stick for no limit data transmission

Features :

- Automated calibration of transducer, angle, Zero point and Velocity
- Automated gain, Peak Hold and Peak Memory
- Automated display precise flaw location (Depth d, level p, distance s, amplitude, sz dB, ϕ):
- Automated switch three staff gauge ((Depth d, level p, distance s)
- 100 independence setup, any criterion can be input freely, we can work in the scene without test block
- Big memory of 1000 A graph
- RS232/USB 2.0 port, communication with pc is easy
- The embeded software can be online updated
- Li battery, continue working time up to 10 hours

Other assistant function

- Display freeze
- Automated echo degree
- Angles and K-value
- Lock and unlock function of system parameters
- Dormancy and screen savers
- Electronic clock calendar
- Two gates setting and alarm indication
- High-speed capture and very low noise
- Automated make video of test process and play, USB memory disk, no limit for video time.

Main Technical Index:

Title	Parameter	Title	Parameter
Measuring Range(mm)	0 ~ 10000	Measurement Mode	Single, Dual, Thru
Vertical Linearity Error	$\leq 3\%$	Reject	0~80%
Horizontal Linearity Error	$\leq 0.1\%$	Pulse Displacement(μ s)	-20 ~ +3400
Sensitivity Leavings	≥ 62 dB	Zero(μ s)	0.0 ~ 99.99
Pulse Displacement	≥ 34 dB	Port Type	BNC
Resolving Power	≥ 36	Operating Temperature (°C)	-20~50
Frequency Range(MHz)	0.5 ~ 20	H×W×D(mm)	210×156×40
Gain(dB)	0 ~ 120	Weight(kg)	1.0 (with battery)

Material Velocity(m/s)	1000 ~ 15000		
------------------------	--------------	--	--

TFD800C Standard Configuration

No.	Item	Quantity
1	Main Body	1
2	Straight Beam Probe	1
3	Angle Probe	1
4	Machine-probe Cable	2
5	Battery Module	1
6	Power Adapter (Charger)	1
7	Manual	1
8	Instrument Case	1
9	Datapro Software	1
10	USB communication Cable	1

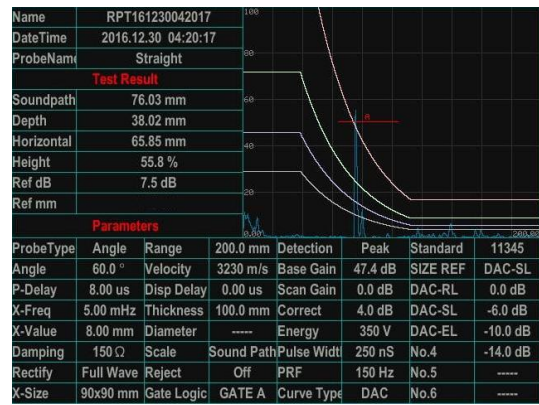
TFD810C ultrasonic Flaw detector



- ★ User friendly dialog interactive helps operations like Calibration, making curves, etc.
- ★ All tools you need: DAC, AVG, color Bscan, AWS, etc.
- ★ Pulse Repetition Frequency: 30-3000Hz precise adjust, high speed scan, no miss out.
- ★ High Signal to noise ratio, clear and stable echo, anti-noise design, perfect for tough working conditions.
- ★ 10-digit AD, high speed sampling leads to better echo diagram with all details. Sensitive and can detect even tiny flaws.
- ★ Crystal clear true-color display. Helpful user interface makes the operation much easier.
- ★ High speed real-time flaw detection video recording. Unlimited USB data storage.
- ★ Blue tooth connection to mobile device to generate and print detection reports on-site.
- ★ IP65 standard. Alloy + Silica gel case, water and dust proof, solid and lasts forever. Damping support makes it stands in any angle.
- ★ Battery lasts 15 hours for one charge. Each battery has own charging control so with two batteries it can work around the clock.



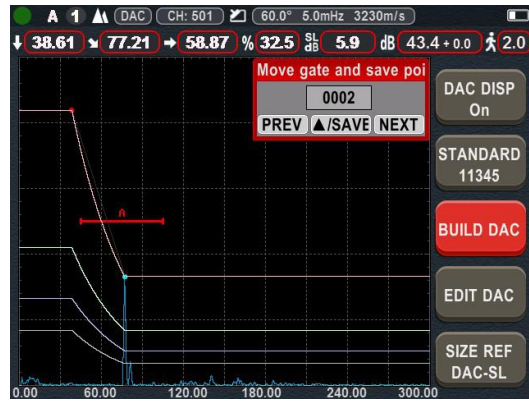
Home



Report



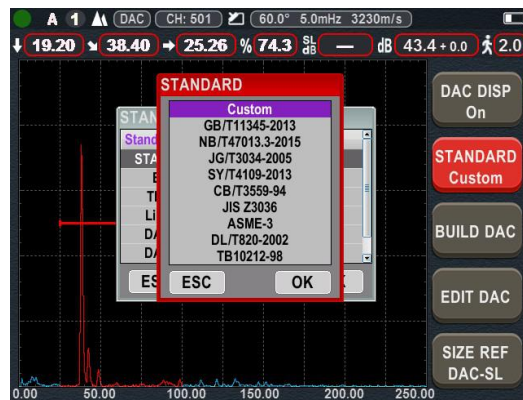
Menu



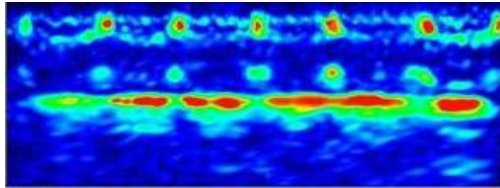
Making DAC



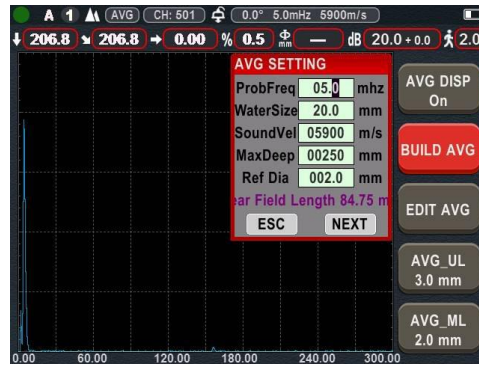
Coded echo



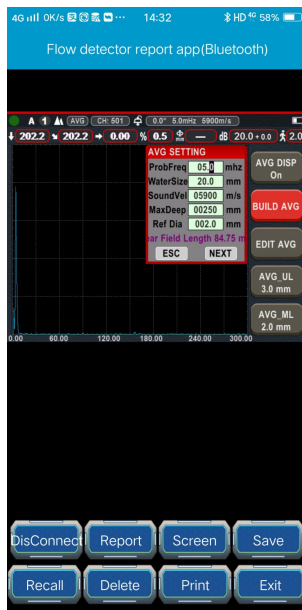
Standards



Color Bscan



AVG SET



App



Report list

TFD810C Specifications

Range: 0-15000 mm ,at steel velocity
Material Velocity: 100~20000 m/s
Pulse Repetition Frequency: 30-3000Hz
Dynamic range: ≥ 38 dB
Linearity: Horizontal: $\pm 0.2\%$ FSW, Vertical: 0.25% FSH, Amplifier
Accuracy ± 1 dB.
Resolving Power: >40 dB (5P14)
Sensitivity Leavings: >62 dB
Reject (suppression): 0 to 80% full screen height
500 independence setup, any criterion can be input freely, we can work
in the scene without test block;
Big memory of 1000 A graph
Test Modes: Pulse echo, dual element and thru-transmission
Probe Types: Single Straight, Single Angle,Daul Straight, Daul
Anlge,Through,Creeping,Surface
Gate Monitors: Two independent gates controllable over entire sweep
range
Units: Inch or millimeter
Power Requirements: AC Mains 100-240 VAC, 50-60 Hz
Display Delay: -20 to 3400 μ s
Probe Delay/Zero Offset : 0 to 99.99 μ s
Internal rechargeable Li-ion battery pack rated 7.2V at 8000 mAh
15 hours nominal operating time depending on display brightness
4 hours typical recharge time
H×W×D(mm): 260×175×60 (mm)
Weight : 1.2kg
Operating Temperature: -10°C to 50°C
Storage Temperature: -30°C to 50°C
Pulse Energy: 200V, 300V, 400V, 500V selectable
Rectification: Positive half wave, negative half wave, full wave, RF
System
Bandwidth (amplifier bandpass): 0.2 to 20 MHz
Gate Monitors: Two independent gates controllable over entire sweep
range
Sensitivity: 120 dB max in selectable resolution 0.1, 1.0, 2.0, 6.0 dB.
Transducer Connections: BNC or LEMO

Functions

Automated display precise flaw location (Depth d、 level p、 distance s、 amplitude、 sz dB、 ϕ).

Flaw sizing: Automatic flaw sizing using AVG/AVG or DAC, speeds reporting of defect acceptance or rejection.

Automated calibration of transducer Zero-point, Angles, Front edge and material Velocity . Convenient to make and use DAC and AVG to evaluate the echo, the curve can be modified and compensated.

Connecting upan, the unit can get unlimited memory.

Automated make video of test process and play; use upan, the length of video is unlimited.

Color Bscan.

There are 13 standards of in the unit.

Blue tooth connection to mobile device to generate and print detection reports on-site. AWS D1.1.

Curved Surface Correction feature.

Crack Height Measure function.

Magnify gate: spreading of the gate range over the entire screen width.

Auto-gain function.

Envelope: Simultaneous display of live A-scan at 60 Hz update rate and envelope of A-scan display.

Peak Hold: Compare frozen peak waveforms to live A-Scans to easily interpret test results.

Scan Freeze: Display freeze holds waveform and sound path data.

Alarm: Beep and LED.

Real Time Clock.

Fill echo.

Capture mark.

Echo color within the Gate.

Base Instrument Package

Portable Ultrasonic Flaw Detector

Straight Beam Transducer (4 MHz, $\Phi 10$)

Angle Beam Transducer (4 MHz, 8 mm \times 9 mm, 60°)

Interconnect Cable for the transducer (Q9-C5, or optional C9- C5)

Rechargeable Li-Ion Battery Package, 8 amp hour

Power supply/charger unit

Operating Manual in English

App Software

Strap

Ultrasonic Flaw Detector TFD900



The TFD900 is an ultra-light handy UT instrument of outstanding performance. Compatible with EN12668-1:2010, This instrument is mounted with TG TFT display of full WVGA (800×480) resolution for excelling visibility even used outdoors or in strong sunlight. Another amazing feature of this product is the “square wave drive” which realizes the user’s dream for best sensitivity and resolution. Moreover, it’s compatible with EN12668-1:2010, the popular instrumentation standards widely recognized in European and even the international market. Weighing only 0.9kg, this apparatus enables the user to carry it just like an on-hand tool for instant inspection task. All these distinct advantages make it superior as compared to its counterparts.

Highlights of TFD900

- ☆ Curved Surface Consideration
- ☆ DGS & DAC functional Curve
- ☆ RF Waveforming Mode
- ☆ Recording (1 Hour in Total)
- ☆ Echo Crest Tracking
- ☆ Enveloping (for Waveform Comparison)
- ☆ AWS D1.1 Evaluation Module
- ☆ API 5UE Evaluation Module
- ☆ Performance Indices Test
- ☆ 1000 Frames of A-scan Storage
- ☆ ComApp for PC Review and Report Print
- ☆ 0.9kg in Weight

Features:

- Circuitry of advanced design and sampling frequency up to 640MHz ensure instant and accurate display and analysis of flaw signals even when they're weak.
- State-of-the-art square wave drive technique
- Weighing only 0.9kg, convenient for operation and taking it along
- TG, full WVGA TFT display
- 8+ hour battery life promises consecutive working, inbuilt smart-type battery charger, auto-switching between the status of charging and that of powering.
- External USB port for software upgrading, data transferring and printing, graftable to mouse, keyboard and USB disc.
- EN12668:2000 compatible

Specification

Attenuator Error	Per 12dB \pm 1dB
Equivalent Input Noise	$<80 \times 10^{-9} \text{ V}/\sqrt{\text{HZ}^{\wedge}}$
Pulse Type	-ve square wave, Tv: 25~250V ; tunable with 25V per step
Working Modes	T\R ; T&R
Damping	400\80 Ohm
Working Frequency	WIN Band, W: 0.5~20MHz; N: 1.5~3MHz
Gain	0.0~110.0dB; 0.1\1.0\2.0\6.0 dB per step; smart speed-up at 0.1dB
Material Velocity	1000~15000m/s tunable; preset 30 frequently-used Vs optional
Display Reachable	0.0~10000mm LW at steel velocity tunable with min 0.1mm per step
Rectification	Positive, Negative, Full, RF (1002 ^{plus})
Gate & Alarm	Dual gates, hardware driving real-time alarming; Alarming condition: excess\loss\ DAC; Alarm mode: sound ;
	Spotting: peak
Display	TG, TFT 5.6 inch WVGA color display, resolution 800×480
Pulse Shift Range	-7.5~3000 μ s
Probe Delay Available	0~999.9 μ s
PRF	25~800Hz, auto adaptation
Vertical Linearity Error	\leq 3%
Horizontal Linearity Error	\leq 0.2%
Sensitivity Surplus	\geq 60dB (200 Φ 2 FBH)
Discernibility	\geq 36dB (mated with 5MHz Φ 14 transducer)
Dynamic Range	\geq 32dB
Rejection	(0~90) %, without any dent to linearity or gain
NL	$<$ 10%
Ports	BNC probe connector
	USB HOST
Power Supply	Large-capacity Li battery without memory effect; battery life: 8+ hrs;
	In-built battery charger (independent charger optional); AC: 220V
Dust\Splash\Water Proof	IP54
UT Standards	Compatible with EN12668-1
	Meets JB/T 10061-1999
Ambient Temperature	-30~50 $^{\circ}$ C
Relative Humidity	20%~95%
Weight	Around 0.9kg (with battery & in-built charger)
Dimension	Upper Part: 215mm×126mm×53mm
	Lower Part: 215mm×104mm×42mm