

## Solutions for Special Equipment Inspection

# TIME<sup>®</sup> Testing Instruments



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# Special Equipment Inspection

## Special Equipment Inspection

According to Law on Safety of Special Equipment, special equipment products, parts or special equipment new products, new parts on trial production and new materials used for special equipment which is required for safety verification by type test according to the requirements of safety technical codes shall be subject to a type test by an inspection agency approved by the department in charge of special equipment safety supervision and administration.

## Special Equipment

As used in this law, the term “special equipment” refers to boilers, pressure vessels (including gas cylinders), pressure pipelines, elevators, lifting appliances, passenger ropeways, large-scale amusement devices and field (plant) special purpose motor vehicles.



# Special Equipment Inspection Agency

## Special Inspection Institute, Confined Press Institute, Electrical and Mechanical Institute, Pot Inspection Office, Special Inspection Office

As of the end of year 2016, there were a total of 495 special inspection institutions for special equipment across the country, including 300 inspection agencies for quality inspection departments, and 195 inspection agencies for industries and enterprises. In addition, there are 47 type test institutions, 452 non-destructive testing institutions, 1,935 gas cylinder testing institutions, 408 safety valve inspection institutions, and 209 inspection and inspection institutions for housing construction sites and municipal engineering sites.

### Devices needed for Special Equipment Inspection

| First Level  | Second Level  |
|--|---|
| Pressure Equipment Inspection  | Thickness Gauge<br>Ultrasonic Flaw Detector<br>X-ray Instrument<br>Magnetic Particle Flaw Detection<br>Borescope<br>Spectrometer<br>Hardness Tester<br>Metallographic Equipment |
| Total Station /Theodolite/Level Series                                 | Basic Pressure Equipment Inspection<br>Products、 High Temperature Thickness Gauge、 Spectrometer、 Metallographic Equipment<br>Creep Testing Machine<br>Force Testing Machine     |
| Pressure Vessel Inspection Project(Import Inspection project included) | TOFD & Phased Array Flaw Detector   |
| Cylinder Testing Equipment   | Natural Gas Cylinder Testing Equipment<br>Liquid Gas Cylinder Testing Equipment   |

# Portable Hardness Tester

## 1. Leeb Dynamic Rebound Testing Method

Leeb hardness tester is suitable to test large and hard parts.



TIME®5120 (Impact device D)



TIME®5106 (Impact device G)

Integrated mini hardness tester. High accuracy. Easy to operate. Wide testing range. It can be extended for group net testing, that is, it can communicate with other accessories simultaneously with the selected host.



TIME®5310 Hardness Tester

Equipped with digital impact devices. Separated design to flexibly work with different impact devices. Small size, light and easy to operate. High testing efficiency and small indentation.

## Applications



Pressure Pipeline Hardness Measurement (HB)

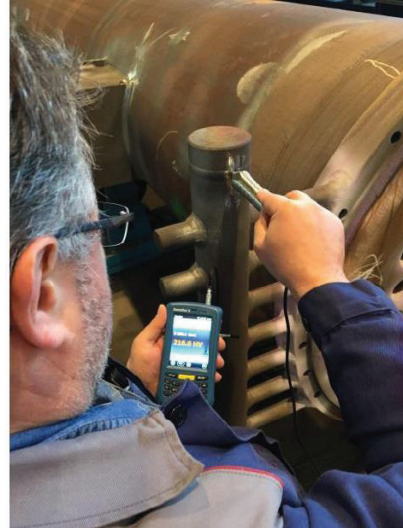


Module Hardness Test (HRC)

Elevator Traction Sheave Hardness Test (HB)

## 2. Ultrasonic Contact Impedance Testing Method

To test on thin parts (pipe and sheet), hollow pieces, thin rods and surface of hardened layer.



Hardness Measurement of Pipeline Welding HAZ



Hardness Testing of Welding

# Portable Ultrasonic Testing

## 1. Ultrasonic Thickness Gauge

- 1.1 Regular thickness measurement with Echo-Echo, high resolutions (0.001 mm), dual crystal probe and digital reading.



TIME®2136 Ultrasonic Thickness Gauge

- 1.2 Measure through coated surface, anti high temperature, dual crystal probe, digital reading.



Measuring Through Coated Surface  
(Boat Body)



High Temperature Thickness Testing  
(Refinery Can)



Measuring Through Painted Gas Pipelines



Fire Hydrant Thickness Inspection



Thickness Measurement of Tanker



Thickness Measurement of Boiler s

- 1.3** Regular thickness testing with coating, super high temperature(500 °C), non metallic material and composite layer thickness testing. Dural crystal probe with A scan.



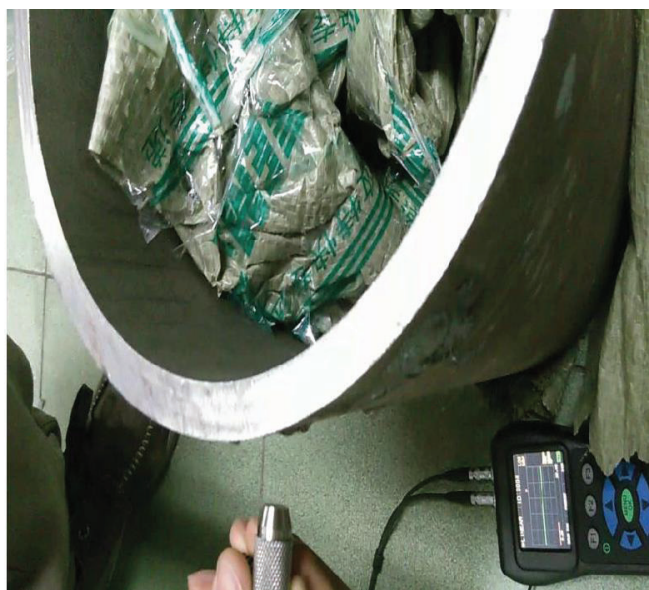
450℃ Steam Pipeline



450℃ Reaction Kettle



Thickness Check of PTFE



Measure Steel/Stainless Pipeline

## 1.4 Standard thickness measurement on almost any material with high resolutions (0.001mm) and wide measuring range (0.15mm~635mm)

(Fully meet the requirements of NB/T 47013 NDT of Pressure Equipments: A scan, single crystal probe, accuracy up to 0.005mm)



Nuclear Power Stainless Steel Pipeline Measurement



Nuclear Power FRP Pipeline Checking



Test Zinc Sulphide



PE Measurement



Test Cast Iron



Wind Power FRP Blade Measurement  
(Measurement of Thickness, Curing Agent, Adhesiveness)



FRP Vessel

## 2. Ultrasonic Flaw Detector



Plug Welding Inspection



Municipal Pipeline Detection



Oil Drill Pipe Inspection



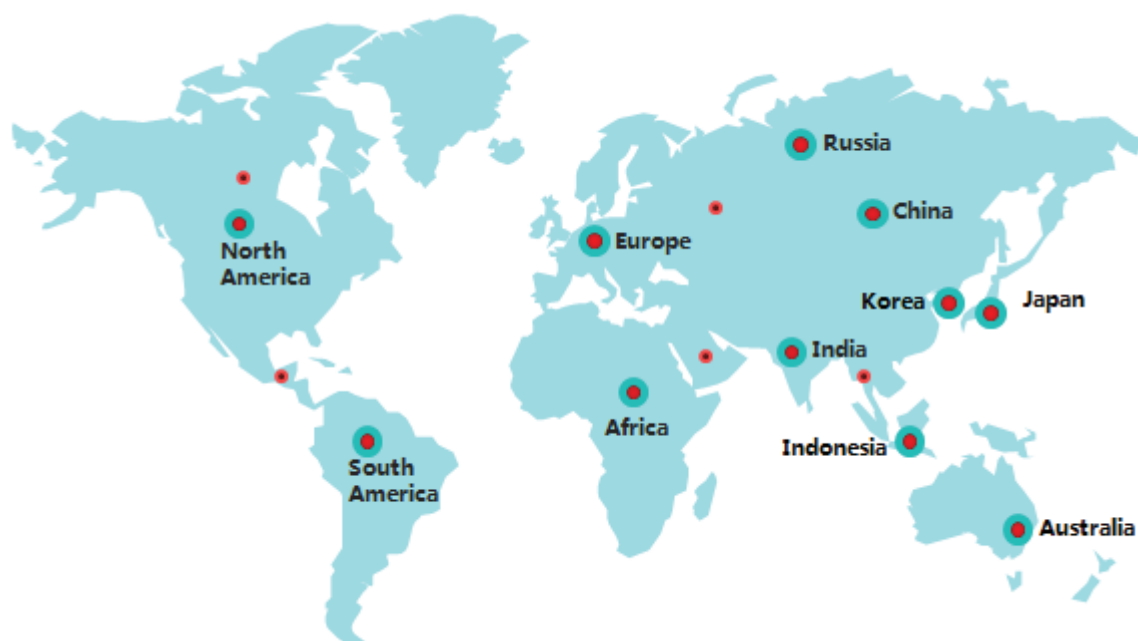
TOFD Flaw Detection of Welding



Welding Detection



Pipe Thread Inspection



**TAHARICA**  
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