

INSIGHT IRONWARE APPLICATION PLANT



Compact Benchtop Micro XRF Analysis

INSIGHT Ironware Application Plant analyzer, characterized by high sensitivity, non-destructive testing, user-friendly operation, precise testing accuracy, and a compact design, serves as a top-notch solution.

The quality inspection of various coating products can vary depending on the specific part and type of coating. However, certain aspects such as appearance, thickness, resistance to corrosion, and bonding strength with the base metal must be assessed for all coatings. Among these factors, the thickness of the coating stands out as crucial for ensuring quality in plated parts.

Addressing the challenges of detecting and screening issues in surface treatment process control, product quality inspection, and other stages of ironware application, the INSIGHT Ironware Application Plant is an efficient and intelligent XRF analysis instrument.

INSIGHT Ironware Application Plant not only enables elemental analysis of samples with diverse shapes, including uneven and irregular ones, but also facilitates thickness measurement of coatings and coating systems. Widely used in quality control, incoming material inspection, and production process control across various industries, it aids customers in cutting down material costs and adhering to relevant industrial standards.

APPLICATIONS

INSIGHT Ironware – Bathroom Products

BATHROOM PRODUCTS

Bathroom ironware typically consists of three main components: the base (fixed parts), connecting parts, and functional parts. Electroplating, the primary process for bathroom ironware, is critical to product quality, service life, smoothness, and

wear resistance.

INSIGHT Ironware – Ironware Appliances

IRONWARE APPLIANCES

Ironware appliances are crafted from metals such as gold, silver, copper, iron, and tin. The coating process is widely applied, including zinc plating, copper plating, nickel plating, gold plating, silver plating, tin plating, rhodium plating, palladium plating, and alloy plating.

INSIGHT Ironware – Decorative Coating

DECORATIVE COATING

Decorative coatings enhance both aesthetics and durability. Examples include Au and Cu-Zn imitation gold plating, black chrome, and black nickel plating, which improve corrosion and wear resistance.

INSIGHT Ironware – Single Coating

SINGLE COATING

It is capable of detecting the thickness and elemental composition of individual plating layers, including iron nickel plating, copper nickel plating, iron chrome plating, copper tin plating, copper gold plating, copper silver plating, and more.

INSIGHT Ironware – ABS Electroplating Layer

ABS ELECTROPLATING LAYER

With the rapid growth of the industry, plastic electroplating—especially ABS—has become increasingly prevalent in the decorative electroplating of plastic components. In comparison to metal components, plastic electroplating offers the advantage of achieving a desirable metal texture while also reducing product weight. Additionally, it effectively enhances the appearance and decorative qualities of plastics while improving performance in terms of electrical conductivity, heat resistance, and corrosion resistance.

FEATURES

Multi-Collimator

INSIGHT's software automatically switches between multiple collimator options or combinations, enhancing its versatility significantly. This feature allows it to adapt flexibly to parts of various sizes, improving its overall performance.

One-Touch Measurement

The instrument comes with intuitive and intelligent analysis software that is user-friendly. Operating it is simple, requiring no specialized training. With just a click on "Start Test," anyone can analyze samples. Test results are then available within seconds.

Nondestructive Testing

X-ray fluorescence is a non-destructive analytical process that leaves no traces, making it very safe for measuring even on sensitive materials.

High-Performance Detector

We opt for Si-PIN detectors, which are ideal for multi-element coatings. Compared to traditional gas proportional counters, Si-PIN offers superior resolution, lower background noise (resulting in the highest signal-to-noise ratio), long-term stability, and an extended service life.

High-Precision Manual X-Y Platform

The system features a high-precision manual X-Y platform with a maximum accuracy of 25µm, facilitating more convenient micro-area measurements.

Auto Focus

Samples of diverse shapes can be swiftly and sharply focused, with the ability to zoom in on video images, incorporate crosshairs, and utilize autofocus.

Automatic Focusing

High and low-sized samples can be quickly and clearly focused, with the ability to enlarge video images, include a reticle, and utilize autofocus.

Large Measurement Room

The slotted design (C-slot) of the instrument shell widens the measurement space and facilitates easy placement of samples. This design allows for the measurement of large and flat items like printed circuit boards, as well as accommodating large samples with complex shapes.

TECHNICAL SPECIFICATIONS

The characteristics of	Top-down measurement structure, XYZ measurement platform, MUTI-FP multilayer algorithm
Scope of element	Na(11)—Fm(100)
Analysis of the layer number of	5 layers (4 layers + substrate) each layer can analyze 10 elements, composition analysis can analyze up to 25 elements
X-ray tube	50 W (50 kV, 1mA) micro-focused tungsten palladium ray tube (target material is optional)
The detector	Si-PIN large area detector
Collimator	φ0.5-φ5 is optional. Multi-standard is optional
The camera	High resolution CMOS color camera, 5 megapixels
Manual sample XY platform	Moving range□ 100 x 150 mm
Programmable XY platform	(Optional)
Z-axis range of movement	150 mm
Sample bin size	564×540×150mm(L x W x H)
Overall dimensions	664×761×757mm(L x W x H)

Weight	120KG
The power supply	AC 220V±5V 50Hz (110V also available)
Rated power	150W



Torontech Inc.

251 Consumers Road, Suite 1200
Toronto, Ontario, M2J 4R3, Canada 

Phone: +1 416 368 2721 | Fax: +1 416 981 7652
Email: info@torontech.com

Torontech, LLC

601 Brickell Key Drive, Suite 700
Miami, FL 33131, USA 

Toll-Free: 1-866-383-7919
Email: sales@torontech.com

Torontech ME FZE

Meydan Grandstand, 6th Floor,
Meydan Road, Nad Al Sheba,
Dubai-261440, UAE 

Phone: +971 488 19252
Email: me@torontech.com

