



SW-561

Solid Waste Analyzer

Application Fields

- Minerals and Alloy Composition Analysis
- Electroplating Industry
- Banks, Jewelry Sales, and Testing Institutions
- Thickness Measurement of Metal Coatings, Determination of Electroplating Solution and Coating Content
- Solid Waste Industry, Precious Metal Processing, and Jewelry Manufacturing Industry
- Content Testing of Precious Metals such as Gold, Platinum, Silver, and Various Jewelry



Chemical Titration Colorimetry

In terms of detecting constant elements, high precision is achieved through chemical titration colorimetry. However, it requires analysts with high professional skills, has low sensitivity to trace elements, takes a long testing time, involves high human error, and is no longer used in complex laboratory settings.

Destructive Analysis Spectroscopy

Atomic Absorption Spectroscopy (AAS), Inductively Coupled Plasma (ICP), and Atomic Emission Spectroscopy (AES) are similar to chemical titration in terms of sample preparation, requiring the conversion of samples into solutions. They exhibit high precision in the analysis of trace elements, demanding analysts with strong professional skills, shorter testing times, and reduced human errors. These methods are suitable for laboratory environments.

Non-destructive Analysis Spectroscopy

X-ray Fluorescence (XRF) has clear advantages and characteristics when applied in the solid waste industry. It features fast analysis speed, simple sample preparation, non-destructive testing, minimal human error, a wide analysis range, and a low detection limit reaching ppm levels. It can analyze liquid, solid, and powder samples.

Advantages and characteristics

The characteristics of X-ray fluorescence method applied in the solid waste industry are also very obvious, with fast analysis speed, simple pre-treatment, non-destructive samples, small human error, wide analysis range, and a minimum detection limit of ppm level. Can measure liquid, solid, and powder samples. It can quickly detect P/S/Cl/Br and more than ten heavy metals (Ti/V/Cr/Mn/Fe/Co/Ni/Cu/Zn/As/Se) in solid waste samples, and the content of the above elements in the samples can be analyzed in just a few minutes.

Technical Parameters

- Phosphorus (P) ~ Uranium (U)
- Elemental Content Analysis Range: ppm ~ 99.99%
- Measurement Time: 100-300 seconds
- Minimum Detection Limit: 1ppm
- Operating Power Supply: AC 220V ± 5V, recommended to configure AC purified stable power supply
- Simultaneous Analysis of Elements: Rapid detection of P/S/Cl/Br and over a dozen heavy metals (Ti/V/Cr/Mn/Fe/Co/Ni/Cu/Zn/As/Se, etc.) in solid waste samples
- Sample Chamber Size: 439mm × 300mm × 150mm
- Dimensions: 550mm × 410mm × 320mm
- Rated Power: 100W
- Overall Weight: 45Kg

1# Solution Samples (ppm)															
Measurement Times	Br	Cd	Hg	Pb	Cr	Cl	Sb	Ba	Ni	Zn	Sn	S	P	Fe	Cu
1	6339.12	ND	ND	ND	10.01	3536.06	29.87	686.17	51.51	30.43	26.01	26119.76	3423.38	39.34	4.91
2	6301.64	ND	ND	ND	9.97	3495.15	30.38	700.48	50.9	29.43	26.91	25891.72	3456.24	39.73	5.02
3	6359.66	ND	ND	ND	10.1	3516.18	29.56	727.78	49.86	30.33	26.87	25741.34	3478.34	41.03	4.96
4	6346.89	ND	ND	ND	10.1	3523.76	29.38	709.93	50.56	30.57	25.99	26030.73	3398.72	41.1	4.87
5	6359.23	ND	ND	ND	9.75	3527.66	31.06	713.75	50.38	29.54	26.68	25886.45	3454.17	40.73	4.99
6	6306.01	ND	ND	ND	10.14	3515.23	29.65	706.89	51.43	29.89	25.35	26321.33	3412.9	39.26	5.01
7	6346.78	ND	ND	ND	10.08	3531.26	30.11	716.78	51.11	29.98	26.33	25883.56	3397.42	40.71	5.09
8	6357.16	ND	ND	ND	9.59	3513.68	29.45	698.12	49.7	30.32	25.99	25993.5	3415.67	40.13	4.97
9	6323.76	ND	ND	ND	9.88	3529.98	31.01	715.94	51.32	29.91	26.13	25784.12	3421.3	39.95	5.11
10	6333.92	ND	ND	ND	10.25	3478.26	30.68	712.31	49.78	30.67	26.12	25943.6	3408.32	41.21	5.04
11	6321.68	ND	ND	ND	10.01	3543.42	29.74	701.27	52.33	29.33	25.89	26207.32	3390.51	39.76	5.13
Mean	6335.99	/	/	/	9.99	3519.15	30.08	708.13	50.81	30.04	26.21	25982.13	3423.36	40.27	5.01
Maximum	6359.66	/	/	/	10.25	3543.42	31.06	717.35	52.33	30.67	27.01	26321.33	3478.34	41.21	5.13
Minimum	6301.64	/	/	/	9.86	3478.26	29.38	686.17	49.7	29.33	25.35	25741.34	3390.51	39.26	4.87
Standard Deviation (SD)	20.569	/	/	/	0.188	18.801	0.615	11.242	0.836	0.465	0.464	176.895	27.949	0.715	0.081
Relative Standard Deviation (RSD)	0.32%	/	/	/	1.88%	0.53%	2.04%	1.59%	1.65%	1.55%	1.77%	0.68%	0.82%	1.78%	1.62%

Instrument Standard Configuration

- SDD Detector
- High-Low Voltage Power Supply
- Signal Detection Electronic Circuit
- High-Power X-ray Tube
- Collimator and Filter System
- 4096-channel Digital Multichannel Analyzer
- Computer and Inkjet Printer