A761

Ore analyzer

The A761 Ore Analyzer is a high-end analytical instrument developed by Jiapu Instruments for many years and customized for ore analysis, limestone (CaO) analysis, mineral processing and smelting, geological industry, non-ferrous metals, and ferrous metals.

Performance characteristics

Appearance design: elegant and beautiful, sturdy and durable, multiple safety protection modes

Collimation filter system: collimator + multi-combination filters, software automatic switching, to meet various testing applications

The self-developed SES signal processing system (digital multi-channel) is adopted to effectively improve the peak-to-background ratio and make the measurement more accurate.

Multi-dimensional heat dissipation system: Optimize the integrated heat dissipation design to further improve the heat dissipation performance of the entire machine and ensure the safe operation of the X-ray source

Radiation safety system: Multiple anti-radiation leakage design, the radiation protection level is the highest among similar products

Vacuum system: Choose a vacuum system to optimize the test environment, improve the analysis accuracy of light elements such as magnesium, aluminum, silicon, phosphorus and sulfur, and greatly expand the analytical capabilities of the A650 analyzer.

Unique movement temperature monitoring technology ensures the safe and reliable operation of the radiation source, effectively extending its service life and reducing usage costs.

Technical specifications

Measuring element range:From Sodium (Na) to Uranium (U)
Measuring concentration range:ppm—99.99% (different elements have different analysis ranges)
Measurement object status:powder, solid, liquid
Elemental analysis capabilities:Dozens of elements from sodium (Na) to uranium (U) can be measur
Best resolution:129±5eV
Best analytical accuracy:RSD≤0.1% (national standard sample)
Analysis time:Single test time is adjustable Electric refrigeration, no consumables required
Refrigeration methodz： 390×270×100mm
Sample chamber size： 610×488×377mm
physical dimension： Indoor temperature 15 ~ 35℃
Working power supply： Relative
working environment： Humidity ≤80% (no condensation)

A761 can analyze the following samples and elements (oxides):

Sample Category	Element Category		
Sinter/pellets	TFe、Si、Ca、Mg、Al、Mn、Ti、P、S、K、V etc.	Mine	Mn、Si、P、S、Al、Ti、K、Zn、Ca、Mg etc.
Blast furnace slag/ converter slag	TFe、Si、Ca、Mg、Al、Mn、Ti、P、S、K、V etc.	Qin Mine	Ti、Mn、Fe、Si、P、S、Al、K、Zn、Ca、V、Cu、Mg etc.
Refining slag	Al、Ca、Si、Mg、Fe、Ti etc.	Copper mine	Mn、Fe、S、Cu、Pb、As、Au、Cd、Zn、Ag、Mg etc.
Pre-melted slag	Ca、Mg、Al、Si、Fe、P、S etc.	Chromite	Fe、P、S、Al、Cr、Ca、Mg、Si etc.
Calcium aluminate	Si、Al、Fe、Ca、Mg etc.	Refractory materials	High silica clay Si、Al、Fe、Ca、Mg、K、Na、S、P etc. Alumina bauxite Al、Fe、Ti、Na、K、Mn、Ca、Mg、Si、P High magnesite magnesite Mg、Ca、Si、Al、Fe etc.
Calcium ferrite	Fe、Al、Ca、Si、S、P etc.		
Manganese-rich slag	Mn、Fe、P、S、Si、Al、Ca etc.		
Iron concentrate powder/iron ore	TFe、Si、Ca、Mg、Al、Mn、Ti、P、S、K、V etc.	Corundum	Si Ti, Fe, etc. Black corundum Al, Si, Ti, Fe, etc.; Chrome corundum A, Na, Cr, Fe, etc.; White corundum Al, Na, Si, Ca, Fe, etc.; Wrapped corundum Zr, Si, Al , Na, Fe, TiCa, Mg, K, etc.
Hematite/magnetite	TFe、K、Na、S、P、Al、Si、Mg、Ca、Mn、Zn、Cu、Ti etc.		
Lead-zinc ore	Pb、Zn、Ag、Cu、Sn、Fe、S、Cd、Mo、As etc.		

Limestone Sample Repeatability Test

Sample name	Maximum value	Minimum value	Average value	Standard deviation	Standard deviation
Fe_2O_3	0.5795	0.5660	0.5660	0.0041	0.0072
Al_2O_3	0.9605	0.9605	0.9526	0.0025	0.0027
SiO_2	4.2093	4.2093	4.1752	0.0118	0.0028
MnO	0.0277	0.0277	0.0088	0.0051	0.2860
P_4O_{10}	0.0355	0.0355	0.0350	0.0002	0.0047
MgO	1.9955	1.9955	1.8585	0.0482	0.0251
TiO_2	0.0578	0.0578	0.0524	0.0016	0.0286
SO_3	0.0564	0.0564	0.0530	0.0011	0.0208
CaO	51.5983	51.5983	51.5318	0.0266	0.0005
K_2O	0.4323	0.4323	0.4300	0.0007	0.0017
Na_2O	0.0279	0.0279	0.0271	0.0002	0.0090