

AA-D

Ash Analyzer



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1. Product Overview

Ash Analyzer(AA-D) is a kind of online coal ash measuring instrument developed by our company to meet the demands of clients and make up the shortcomings in traditional ash analysis, which can conduct rapid and accurate measurement on ash content of coal on the entire conveyer belt. It has such advantages as excellent stability, high measurement accuracy, easiness for installation and maintenance, etc. It saves the trivial processes of sampling, sample preparation, laboratory testing, etc., and no extra investment on factory building, etc. shall be input. It can be directly installed on the belt rack, without the need to make any alteration on the belt rack.



2. Operating Principle

AA-D adopts the currently most rational double-energy γ -ray transmission scheme: in which the attenuation coefficient of low-energy γ -ray varies greatly with the atomic number of material, thus it can be used to reflect the level of ash content; and the mass attenuation coefficient of medium-energy γ -ray does not vary appreciably with the atomic number of material, therefore, it can be used to reflect the mass thickness of a material. Data processing is conducted to the two counts attenuated by coal and the ash value of coal can be calculated.

3. Technical Parameters

- Measurement range: 5%~50%
- In case of clean coal, the error is $\leq 0.5\%$, 1σ ;
- In case of low-ash raw coal, the error is $\leq 1.0\%$, 1σ ;
- In case of high-ash raw coal, the error is $\leq 2.0\%$, 1σ ;
- Long-term stability: Measure a standard block continuously for 24 hours, the deviation of any “ten-minute ash content” measurement value from the average value is not beyond 0.5%;
- Field ambient temperature range: $-20^{\circ}\text{C}\sim 45^{\circ}\text{C}$;
- Field ambient humidity range: $\leq 95\%$, free from condensation;
- Radiation safety: The dose equivalent rate at 1m from the instrument surface is $\leq 2.5\mu\text{Sv/h}$. In case of normal use of this instrument, it won't causes any damage to the operators.

4. Product Application

AA-D can be widely used in coal mines, coal washery, coal blending, coking plant, coal- fired power plants, steelworks, coal wharfs, etc. for on-line measurement; it can also be used to automatically adjust and control the production process in coal preparation and coal blending processes.



Application picture for a coal preparation plant of Fushun Mining Group



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