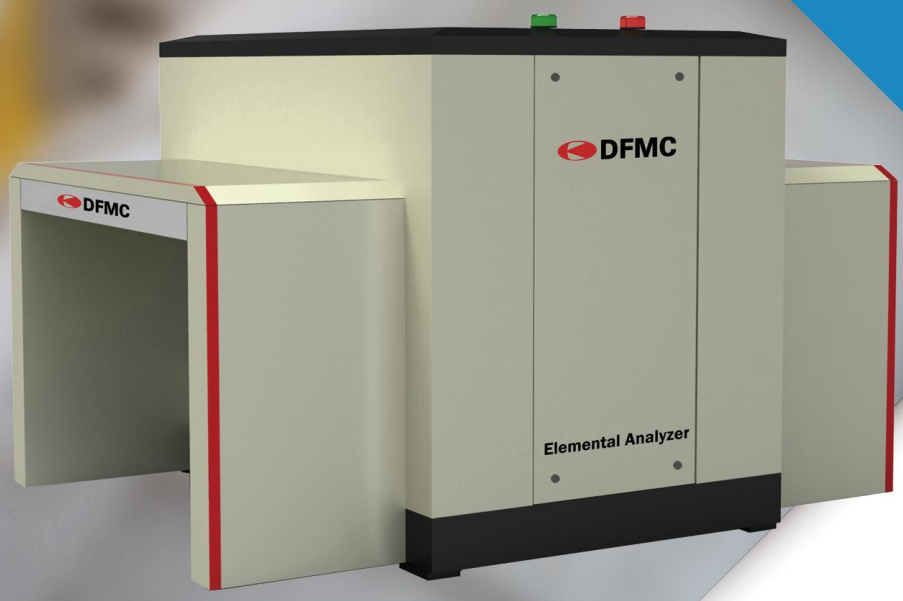
DFMC

EA-coal

Elemental Analyzer



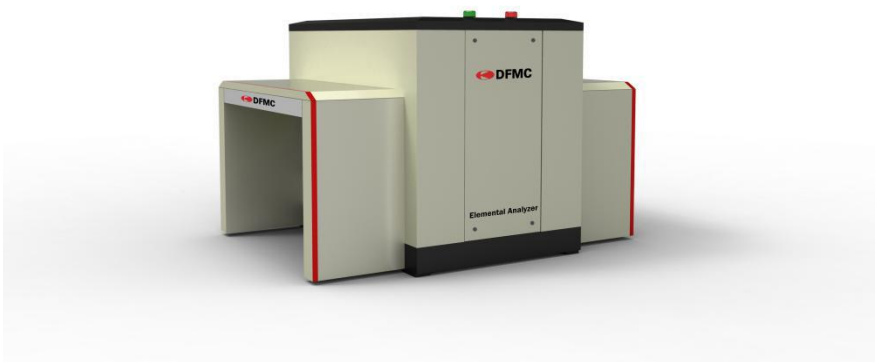
http://en.dfmc.cc

Elemental Analyzer (EA-coal)

1.Product Overview

Elemental Analyzer (EA-coal) is one kind of online cross-belt coal material detection equipment, with momentous significance in coal mining, coal washing, coal blending, blending of coal putting into the furnace, production process control, etc.

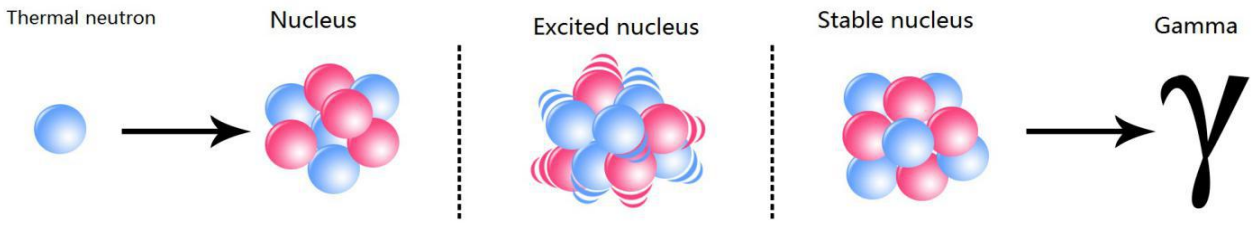
EA-coal is of modular structure, which can be installed around the belt without cutting the belt. When EA-coal runs, the belt will slide on the inner support groove of the measuring unit and all the materials passing through it will be tested. Without contacting with such materials during the whole testing process, it has no influence on belt running. EA-coal can present the testing results every minute, so that the content of each element as well as relevant industrial indexes can be analyzed accurately. It carries effective supervision and control on coal quality, with such features as no need to take samples, full material analysis, high analysis accuracy, etc., which has efficaciously solved such problems as lagging coal testing data, etc. By the real-time detection information of the analyzer, it can conduct effective control on the production process, improve production technology, reduce production costs and raise product quality.



2. Operating Principle

EA-coal adopts prompt gamma neutron activation analysis (PGNAA) technology. The neutron source emits fast neutrons with an average energy of 2.35 MeV. The fast neutrons are moderated by the measuring device as thermal neutrons. The thermal neutron irradiates materials and generates

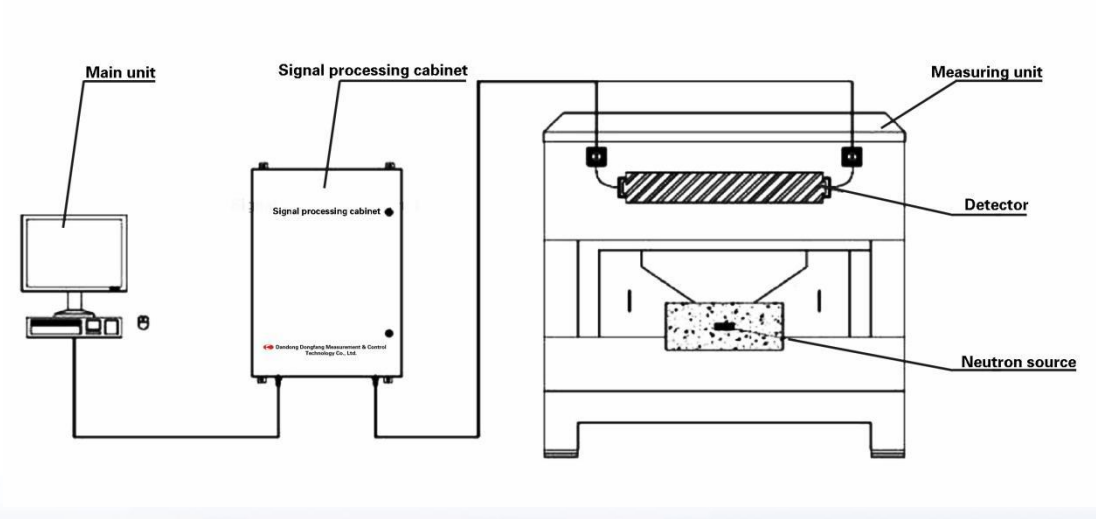
capture reaction with each nucleus within materials, which emits characteristic γ rays with different energy and intensity. Then identify the element type in the material by detecting the energy of the characteristic γ ray and determine the elemental content by detecting the intensity of a specific energy γ ray.



PGNAA Schematic Diagram

3. Product Structure

EA-coal consists of five parts, i.e. measuring unit, neutron source, detector, signal processing cabinet and main unit.



Structure Diagram of EA-coal

4. Technical Parameters

Width of the belt (mm)	650	800	1000	1200	1400	1600	1800	2000	other sizes
Length (mm)	2200	2200	2200	2200	2200	2100	2100	2100	customized
Width (mm)	1900	1900	1900	2100	2100	2300	2500	2700	customized
Height (mm)	1600	1600	1600	1650	1650	1700	1750	1800	customized
Weight（kg）	2800	2800	2800	3000	3100	3300	3500	3700	customized
Angle of Support Groove	30°～ 45°								
Neutron Source	$^{252}C_f$								
Normal Running Temperature	－30℃～50℃(if the temperature is below -10℃, a separate signal processing room is required)								
Power Source	230VAC，50HZ，6A，3 lines（L、N、GND）								
Signal Processing Cabinet to Main Unit	Optical fiber communication is adopted								
Analysis Time	1 minute, can be set by the user								
Measuring Parameter	Ash content, moisture (microwave technology), sulfur content, SiO2, Al2O3, Fe2o3, CaO, TiO2, Na2O, K2O, etc.								
Calculation Parameter	Calorific value, and any possible parameters that can use empirical equation								

EA-coal will report parameters as follows:

Industrial index:

Ash content, Moisture, GCV, Sulfur content, etc.

Composition of ash:

SiO_2, Al_2O_3, Fe_2o_3, CaO, TiO_2, Na_2O, K_2O

5. Application

In the domain of coal quality analysis, EA-coal is mainly used in coal mining, coal washing, coal blending, online detection of mixed coal quality into the furnace and control of the technical process of production. Based on the analyzer real-time detection of coal quality, combined with the process control system, to achieve the classification and piling on of different coal quality. By controlling the amount of feeding coal to achieve the coal blending function.

Huadian Jinshan Thermal Power Company Analyzer Application of Coal into the Furnace

Fushun Ore Zhongji Thermal Power Co., Ltd.

Add.: No.136 Binjiang Middle Road, Yanjiang Development Zone, Dandong,Liaoning, China

Tel.: +86 415 3862214

Fax: +86 415 3862272

E-mail: intersales@dfmc.cc

http://en.dfmc.cc/