

Thermo Scientific Elemental CrossBelt Analyzer (ECA-2)

Prompt Gamma Neutron Activation Analyzer

The Thermo Scientific™ Elemental CrossBelt Analyzer™ (ECA-2) provides minute-by-minute quality analysis of your critical process streams to facilitate sorting, blending and out-of-seam dilution control. With the ECA-2, you can control coal quality in real time, make pro-active control decisions and improve the efficiency of your operation. The ECA-2 is designed to improve your bottom line.

The ECA-2 Measures and Reports

- Ash
- Sulfur
- Moisture
- SiO_2
- Al_2O_3
- Fe_2O_3
- Na_2O
- CaO
- TiO_2
- K_2O
- N
- Cl

The ECA-2 Calculates and Reports

- Heating Value (kcal/kg, kJ/kg or BTU/lb)
- Lbs SO_2 per million BTU



The Thermo Scientific ECA-2 is a Prompt Gamma Neutron Activation Analyzer (PGNAA) designed to mount around an existing conveyor belt and analyze the composition of the total burden of coal on the belt in real-time.

The analyzer is designed for applications requiring process accuracy at a modest cost. An optional moisture analyzer provides additional reporting of heating value and Lbs SO_2 per million BTU.

The ECA-2 is used to control the sorting and blending of coals to maximize coal resources, reduce out-of-seam dilution and optimize coal preparation plant performance.

Online quality analysis improves efficiency leading to increased yield with less waste.

The analyzer's operator interface is a comprehensive, easy-to-use Microsoft® Windows®-based package that comes standard with current analyses, rolling averages, cumulative averages and product tracking. In addition, extensive data graphing capabilities, alarm information, and advanced OPC data linking to the customer's PLC or other control systems is standard on the ECA-2.

There is an optional Automated Report Generator software package available that allows data from the analyzer to be reported to the customer in a configurable spreadsheet format.

The ECA-2 provides the ultimate performance in cross-belt, online elemental analysis of coal. Instantaneous coal quality data enable operators to make pro-active control decisions to improve your bottom line.



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Thermo Scientific ECA-2 PGNA Elemental CrossBelt Analyzer

Specifications

Belt Size	800 mm (30 in)	1,000 mm (42 in)	1,200 mm (48 in)	1,400 mm (60 in)	1,800 mm (72 in)
Length of Unit	2,438 mm (96 in)	2,438 mm (96 in)	2,438 mm (96 in)	2,438 mm (96 in)	2,438 mm (96 in)
Width	1,600 mm (63 in)	1,600 mm (63 in)	1,753 mm (69 in)	2,032 mm (80 in)	2,337 mm (92 in)
Detector Installation Clearance	914 mm (36 in)	914 mm (36 in)	914 mm (36 in)	914 mm (36 in)	914 mm (36 in)
Approximate Height	1,475 mm (58 in)	1,546 mm (61 in)	1,596 mm (63 in)	1,696 mm (67 in)	1,771 mm (70 in)
Clearance b/w Belt and Bottom	660 mm (26 in)	660 mm (26 in)	660 mm (26 in)	660 mm (26 in)	660 mm (26 in)
Weight	3,765 kg (8,300 lb)	3,765 kg (8,300 lb)	4,135 kg (9,120 lb)	4,875 kg (10,750 lb)	5,985 kg (13,190 lb)

Note: Dimensions are meant to be used as information regarding the general dimension of the analyzers. Special site-specific tunnel height needs may affect these dimensions.

Physical Dimensions

Optional Frame	Thermo can supply a frame to support the analyzer as shown in the physical overview illustration below
Troughing Angle	35-degrees (standard) or 45-degrees (optional)
Electronics Enclosure	800 mm (31.50 in) tall x 600 mm (23.6 in) wide x 300 mm (11.80 in) deep, NEMA 4X stainless steel
Electronics Connection to Analyzer	Standard 25 m (82 ft) or 50 m (164 ft) cable lengths configurable on request

Electrical Specifications

Electronics Enclosure	230 VAC 50 or 60 Hz, 5 Amps 4 wire (L1, L2, N, GND)
Operator Console	120 VAC 50 or 60 Hz, 5 Amps 1 Phase or 230 VAC 50 or 60 Hz, 2.5 Amps 1 Phase

Communication Links

Electronics Enclosure to Operator Console (Customer Supplied)	Fiber Optic 62.5/125 multimode (minimum of 2 fibers) 4000 m (13,000 ft) max.
Operator Console to Customer Control System (Customer Supplied)	OPC client/server link
Offsite Communication	One data quality phone line or internet link required

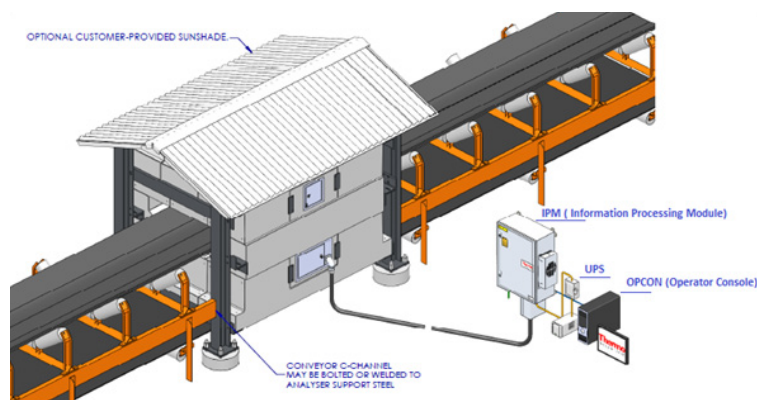
Isotope Sources

Cf 252	Neutron source
Cs 137	Gamma source (if the optional moisture meter is selected with no belt scale installed on same conveyor)

Software

Base Coal (standard)	Comprehensive software that provides analysis data on minute-by-minute, rolling average, cumulative average, and interval basis, product tracking capabilities, extensive graphic functionality, alarms, and the ability to transfer data to control systems over an OPC link or by .csv spreadsheet files
Automated Report Generator (optional)	Allows automated custom spreadsheet output generation
COBOS Blending (optional)	Provide real time data to blend coal from multiple sources to achieve a target blend

Physical Overview of ECA-2



9001 REGISTERED
Thermo Fisher Scientific,
Adelaide, Australia is ISO Certified.

thermoscientific.com/coal

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