

The Thermo Scientific Coal Quality Manager (CQM) provides minute-by-minute quality analysis of your most critical coal streams. The CQM is the ultimate analyzer with the best accuracy available, which allows you to minimize variations in coal quality, ensure contract compliance, and improve your efficiency. The CQM is designed to improve your bottom line.

Thermo Scientific CQM™

PGNAA Coal Quality Manager



The CQM Measures and Reports

- Ash
- Sulfur
- Moisture
- SiO₂
- Al₂O₃
- Fe₂O₃
- Na₂O (in some cases)
- CaO
- TiO₂
- K₂O
- N
- Cl

The CQM Calculates and Reports

- Heating Value (kcal/kg, kJ/kg or BTU/lb)
- Lbs SO₂ per million BTU
- Ash Fusion Temperature (based on customer specified empirical relations)

The Thermo Scientific CQM is a full-featured Prompt Gamma Neutron Activation Analyzer (PGNAA) with an integrated microwave moisture meter. The CQM is designed to accept feed from a sample system, control the flow through the analyzer and measure the major coal quality parameters of interest to coal producers and coal-fired power generators.

The CQM is used to control sorting and blending of coals to maximize coal resources, meet quality specifications, reduce shipment variability, control ash fusion, and control preparation plant performance. It is the product of choice for coal producers and utilities where real-time knowledge of coal quality is critical, including load-outs, auger samplers and power plant bunker feed systems.

The analyzer's operator interface is a comprehensive, easy-to-use Windows®-based package that comes standard with

current analyses, rolling averages, cumulative averages, product tracking, extensive data graphing capabilities, alarm information, and advanced OPC data linking to the customer's PLC or other control system.

The optional Automated Report Generator software package allows data from the analyzer to be reported to the customer in a spreadsheet compatible format.

The CQM provides the ultimate performance in online coal quality measurement to improve your bottom line.

Thermo Scientific CQM — PGNAA Coal Quality Manager

Physical Dimensions

Channel Support Frame	3,657.6 mm (144 in) long x 1,524 mm (60 in) wide
Total Length of the Unit	4,950.5 mm (194.9 in)
Clearance Height Required	2,007 mm (79 in) facing the analyzer from the head pulley discharge chute looking back at the inlet hopper
Clearance Width Required	1,524 mm (60 in) right from belt center line
	2,083 mm (82 in) left from belt center line
Unit Weight	2,500 kg (5,500 lb)
Hopper Capacity	635 kg (1,400 lb)
Motor Control Box	406.4 mm (16 in) wide x 508 mm (20 in) tall x 254 mm (10 in) deep

Electrical Specifications

Electronics Enclosure	NEMA 4X stainless steel box with cooling tubes
Motor Control Box	NEMA 4X stainless steel box

Power Needs

Electronics Enclosure	230 VAC 50 or 60 Hz, 5 Amps 4 wire (L1, L2, N, GND)
Motor Control Box	460 VAC 50 or 60 Hz, 10 Amps 4 wire (L1, L2, L3, 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)	RS-422 twisted-shielded pair cable (Belden #8104) 2000 m (6,500 ft) max. or Fiber Optic 62.5/125 multimode (minimum of 2 fibers) 4000 m (13,000 ft) max.
Operator Console to Customer	OPC client/server link
Control System (customer supplied)	
Off-Site Communication	One data quality phone line or internet link required

Isotope Sources

Cf 252	Neutron source
Cs 137	Gamma source

Software

Thermo Scientific <i>Base Coal</i> TM (standard)	Comprehensive software that provides analysis data on minute-by-minute, rolling averages 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
Thermo Scientific <i>pcAnywhere</i> TM (standard)	Allows for remote troubleshooting by supplier or remote user access to data
Automated Report Generator (optional)	Allows custom spreadsheet output of analyzer data to the user

Physical Overview of CQM

