

Thermo Scientific CQM FLEX

PGNAA Coal Quality Manager

The Thermo Scientific Coal Quality Manager FLEX (CQM FLEX) provides minute-by-minute quality analysis of your most critical coal streams. The CQM FLEX 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 FLEX is designed to improve your bottom line.



The CQM Measures and Reports

- Ash
- Sulfur
- Moisture
- SiO₂
- Al₂O₃
- Fe₂O₃
- Na₂O (in some cases)
- CaO
- TiO₂
- K₂O
- Nitrogen
- Chlorine
- Carbon (with Neutron Generator Option)
- Hydrogen (with Neutron Generator Option)
- Oxygen (with Neutron Generator Option)

The CQM Calculates and Reports

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

The CQM FLEX is a second generation analyzer developed from the highly successful and accurate CQM. The CQM FLEX is a full-featured analyzer that can incorporate either Prompt Gamma Neutron Activation (PGNAA) technology or Pulsed Fast Thermal Neutron Activation (PFTNA). The CQM FLEX 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 FLEX provides the option of sourcing the neutrons from traditional Cf-252 radioactive sources or via an electrically driven neutron generator. The key aspect of this product is its flexibility to adapt to meet the needs of a particular application requirement. The end user decides which neutron source they wish to use at the time of purchase; however during the lifetime of the product, they can elect to switch to the other source

if so desired. Utilizing the neutron generator option allows for the measurement of carbon, hydrogen and oxygen to provide the ultimate analysis for minute-by-minute process control.

The CQM FLEX 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 applications such as load outs, truck and rail receipted coal using auger samplers, and at power plants for "as received" and "as fired" applications.

The analyzer's operating 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 CQM FLEX provides the ultimate performance in online coal quality measurement to improve your bottom line.



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Thermo Scientific QM FLEX – PGNA 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	5,555mm (219 in)
Clearance Height Required	2,065mm + 250-330mm (82 in + 10-13 inches)
Clearance Width Required	2285mm (90 in)
Unit Weight	6000 kg (13,230 lbs)
Hopper Capacity	1000 lbs of coal (assuming 55 lbs/ft ³)
Electrical Control Box	Part of the main assembly – does not need any additional mounting
Motor Control Box	355 x 406 x 254 mm (14 x 16 x 10in)

Electrical Specifications

Electronics Enclosure	NEMA 4X stainless steel box
Motor Control Box	NEMA 4X stainless steel box

Electronic Requirements

Electronics Enclosure	230VAC 50 or 60 Hz, 5 Amps 4 wire (L1, L2, N, GND)
Motor Control Box	460VAC 50 or 60 Hz, 10 Amps 4 wire (L1, L2, N, GND)

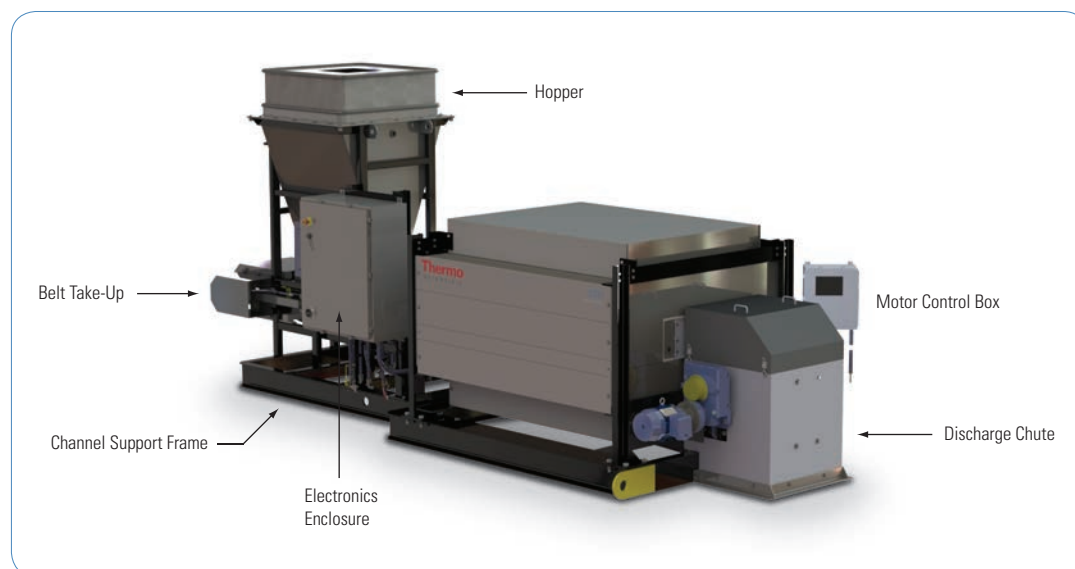
Communication Links

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

Neutron Source Options

Cf 252	Neutron source
Neutron Generator	Electrically driven neutron source
Operating Temperature:	-30 C to +50 C (-22 F to +122 F)

Physical Overview of the QM Flex



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