Datasheet

Thermo Scientific CB Omni Agile

Bulk online elemental analyzer for your process control needs

The Thermo Scientific™ CB Omni™ Agile online elemental analyzer provides unprecedented configuration flexibility that provides options to suit various applications. CB Omni Agile offers not only enhanced configurability through its modern modular industrial design to suit your application, but a lighter, easier to install analyzer, with the same industry leading performance that you have come to expect.

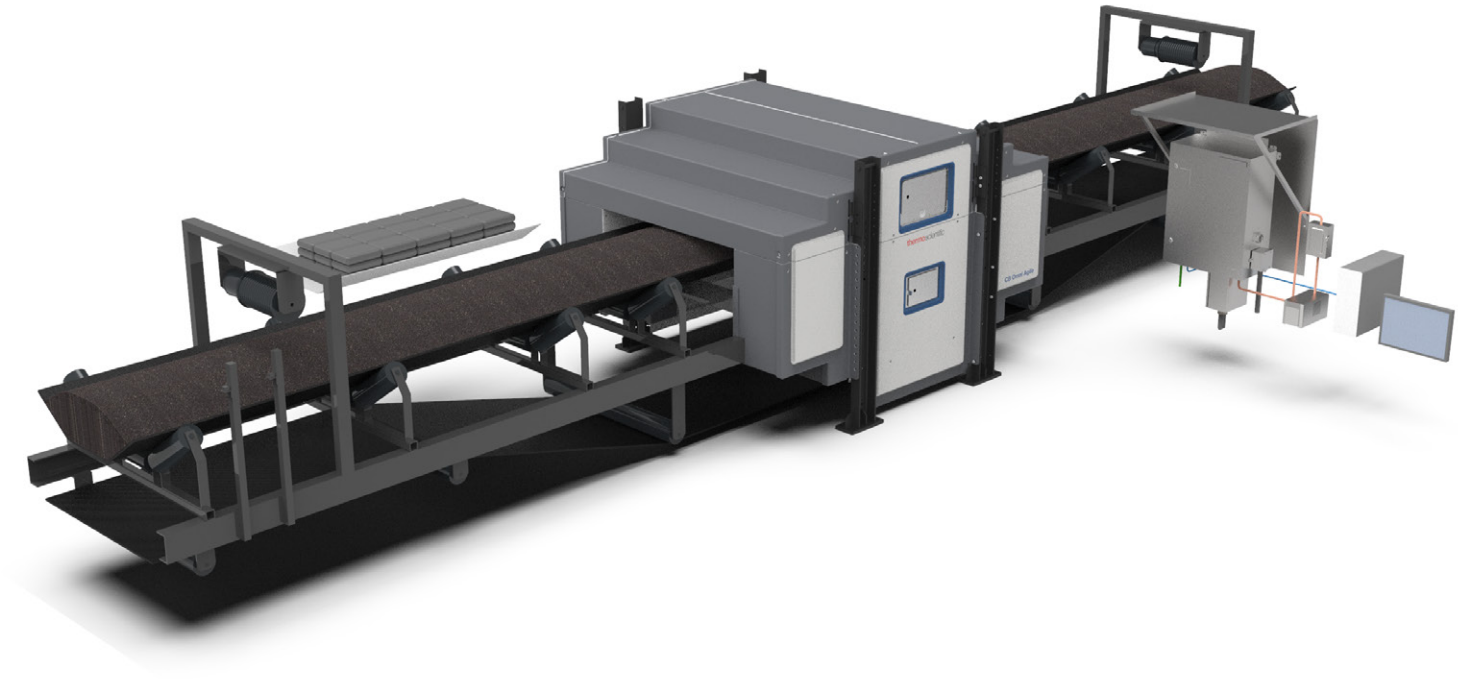
Benefits

- Delivers consistent product quality
- Blend, sort, monitor product quality in real time
- Removes need for continuous sampling
- Reduces process upsets and increased process throughput
- Reduces energy consumption
- Extends quarry/mine and refractory life
- Minimizes use of highest cost, expensive materials

Features

- Modular industrial design
- Configurations tailored to specific application needs
- Belt widths from 600 mm (23.6 in) to 1800 mm (70.8 in)
- Variable tunnel heights to accommodate process conditions
- Isotope OR Neutron Generator for excitation
- One to four large volume, NaI detectors
- Superior, robust accuracy (ABLC)
- State-of-the-art electronics
- Comprehensive, flexible user interface-Omni View
- Integrated process control software
- Flexible plant connectivity

CB Omni Agile



CB Omni Agile for the cement industry analysis capabilities

The CB Omni Agile system measures and reports:

- SiO_2
- MgO
- TiO_2
- Ag
- Al
- Au
- Ca
- Cd
- Cl
- Al_2O_3
- K_2O
- Mn_2O_3
- Co
- Cr
- Cu
- Fe
- Hg
- K
- Fe_2O_3
- Na_2O
- Cl
- Mg
- Mn
- Na
- Ni
- P
- S
- CaO
- SO_3
- Moisture (optional)
- Si
- Ti
- V
- Zn

The CB Omni Agile computes:

Lime saturation factor, silica ratio; alumina–iron ratio, loss on ignition, basicity, SiO_2:MgO, Ni:Fe C_3S, C_2S, C_3A, C_4AF, total alkali, percent liquid, burnability index, burnability factor, acid insoluble and custom quality formulas (customer defined).

CB Omni Agile

The CB Omni Agile integrates into a material conveyor and provides a minute-by-minute elemental analysis of raw materials. The system provides a reliable and accurate means for process control to achieve consistent stockpile and raw mix chemistry thus minimizing cost and improving process efficiency.

The CB Omni Agile gives you the option to choose Prompt Gamma Neutron Activation Analysis (PGNAA) or Pulsed Fast Neutron Activation Analysis (PFTNA) technology by selecting either an isotope, Cf-252, or a neutron generator, as its excitation source. The CB Omni Agile provides an unrivaled choice to adapt to changing market conditions and the ability to choose an alternate source option at any time if so desired.

The CB Omni Agile has a modern modular industrial design which is not only lighter and easier to install but incorporates greater configurability. Historically, analyzers have relied on additional detectors, or an increase in neutron source strength to achieve better precision. The CB Omni Agile introduces configuration flexibility which allows for the applications process control needs to select not only the best source option, but the amount of source and number of detectors required. Certain applications are now able to achieve enhanced blending precision while utilizing less neutron source which results in a lower cost of ownership.

The CB Omni Agile is tailored to optimize performance based on a site's process conditions. The tunnel opening of each analyzer is customized to the specifics of the site considering belt width, idler dimensions, surcharge angle, production rate, belt loading variation and material size. This practice ensures the highest possible neutron-gamma efficiency for each process which results in enhanced accuracy per a given neutron flux level.

The CB Omni Agile incorporates the proprietary Automatic Belt Load Compensation feature which ensures analyzer accuracy over a range of changing production rates and belt loading. As the material loading on the belt decreases, the background signal from elements in the conveyor itself grows accordingly. If not accommodated this would cause the analyzer to be inaccurate. The unique ABLC feature ensures that the system stays accurate no matter what loading conditions are encountered.

An Operator Console is the user interface for the analyzer and runs highly configurable and flexible Omni View software. Omni View processes, displays and archives data from the analyzer and can be coupled with optional process control software to allow either automated or manual quality control.

Applications

Blending

The CB Omni Agile controls stockpile chemistry to consistently meet quality targets, with minimal variations within and between piles. Blending in this manner ensures smooth downstream processing and minimizes process upsets while at the same time providing flexibility to quarry/mine operations. Through optional software the analyzer tracks the chemistry of the stockpile compared to the target chemistry and determines the preferred proportions of the source raw materials.

Proportioning

When located downstream of the last component addition, a CB Omni Agile provides the high frequency control needed to minimize variability while minimizing material costs and satisfying multiple quality control targets. Chemical uniformity is achieved through precise control of the raw mix/fluxes/slag-builder resulting in improved process efficiency. Automated proportioning is accomplished with analyses triggering proportioning changes as frequently as each minute. The optional software accounts for varying time delays from the feeders to the analyzer and can accommodate multiple sources and control parameters. A cost minimization algorithm used in conjunction with operator defined quality priorities, provides optimized chemistry while minimizing material costs.

Sorting

A CB Omni Agile can also be used to sort materials based on composition. Sorting can be done based on the economic component of different materials or the concentration of impurities. Optional software automatically sends signals to flop gates or traveling overhead trippers to place materials in locations based on composition.

Thermo Scientific CB Omni Agile specifications

Physical specifications		^{252}Cf source configuration		Neutron generator configuration	
Belt size	**mm**	600-1200	1400-1800	600-1200	1400-1800
	in	24-48	54-72	24-48	54-72
Length of unit	**mm**	2450	3059	2450	3059
	in	96	120	96	120
Approximate width	**mm**	2165	2755	2165	2755
	in	85	108	85	108
Approximate height	**mm**	1685-1813	1838-1966	1716-1966	1838-2116
	in	66-71	72-77	68-77	72-83
Weight	**kg**	2833-3079	3944-4302	4076-4315	5463-5805
	lbs	6233-6774	8677-9464	8967-9493	12019-12771

Standard physical specifications	
Troughing angle	35°
Electronics enclosure	NEMA 4 enclosure 762 mm tall x 610 mm wide x 305 mm deep (30 in x 24 in x 12 in)
Electronics connection to analyzer	Standard 25-meter cable provided
Operating temperature	-30°C to +50°C (-22°F to +122°F)

Electrical specifications	
Electronics enclosure	230 VAC 50 or 60 Hz, 7 Amps 3 wire (L1, 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

Communications	
Electronics enclosure to operator console maximum (customer supplied)	Fiber Optic 62.5/125 multimode (minimum of 2 fibers) 2000 meters maximum (Customer Supplied) (longer distances optionally available)
Operator console to customer	OPC client/server link, major communication protocols, ODBC
Offsite (remote) communication	Ethernet connection to Internet
Neutron source	Either a neutron generator or Cf-252, with amounts determined by application and accuracy requirements

Neutron generator (optional)	
Power supply	Integrated high voltage power supply
Electronics enclosure dimensions	490 mm x 178 mm x 178 mm (19.3 in x 7.0 in x 7.0 in)
Electronics enclosure weight	Approximately 5 kg (11 lb)

Related products
Raw mix optimization software (RAMOS)
Pre-blending optimization software (PREBOS)
AccuLink – automatic calibration software

Learn more at **thermofisher.com/minerals**
or email us at **pgnaa@thermofisher.com**

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