



PANalytical
get insight



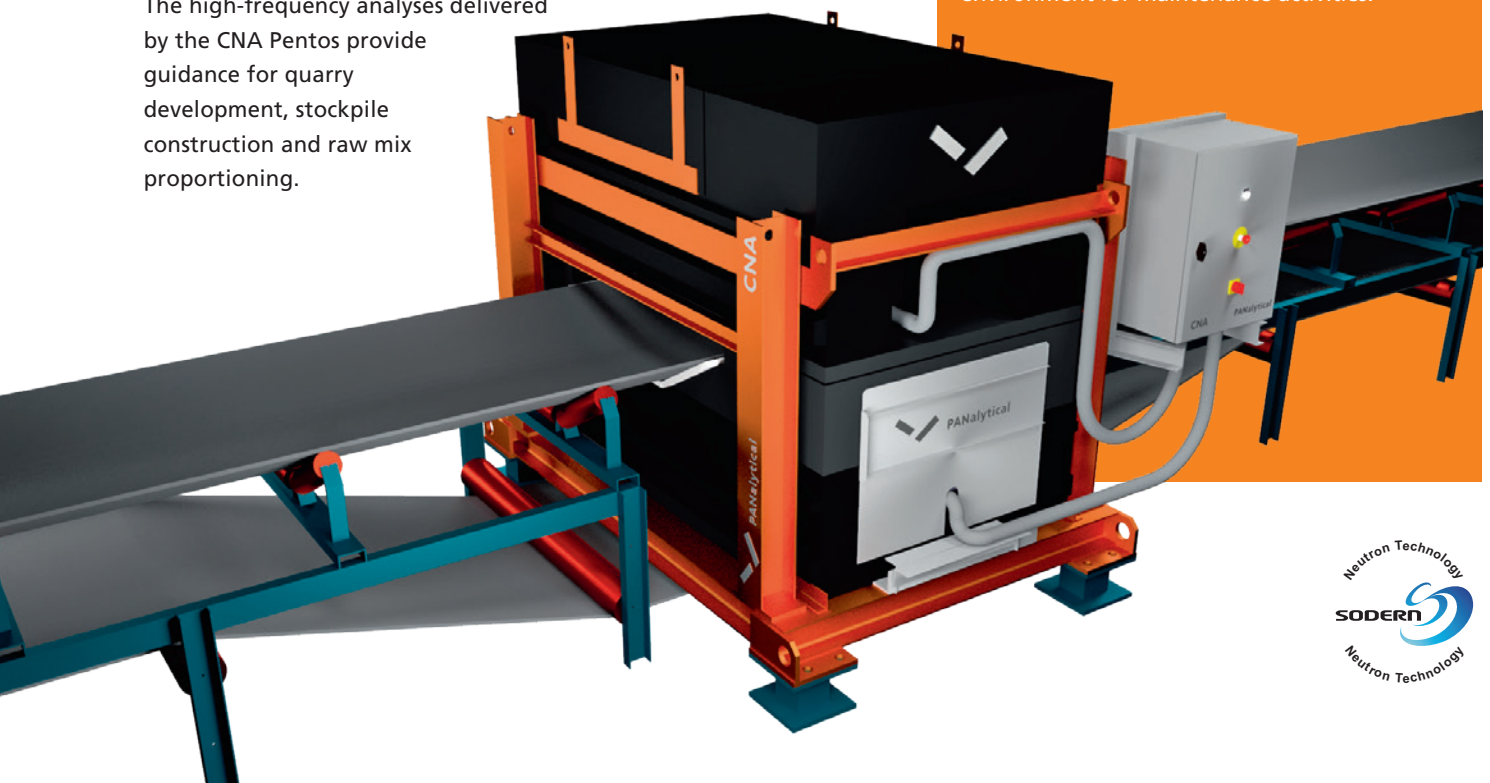
CNA Pentos

5th generation online elemental analyzer

Bulk material analysis is a cost-effective way to optimize and stabilize cement raw meal. The CNA Pentos features many improvements and enhancements making it our most reliable and flexible instrument. The CNA Pentos provides all the benefits of high-frequency bulk material analysis with the additional benefit and safety of controlled neutrons.

The high-frequency analyses delivered by the CNA Pentos provide guidance for quarry development, stockpile construction and raw mix proportioning.

With more than 100 systems in operation world- wide, the CNA family is a popular analyzer in the cement industry. The CNA Pentos, the 5th generation of our popular CNA, features Sodern neutron technology (pulsed fast and thermal neutron activation). At the heart of the instrument is an electric neutron tube that provides a controlled stream of neutrons when analyses are required that can be turned off to provide a completely safe environment for maintenance activities.



CNA Pentos – what's new ?

CNA Manager – a new user interface

A new user interface for the CNA Pentos has been created to provide 'status at a glance' information and more flexible display of concentrations, trends, and pile compositions

Belt load flexibility

The amount of material on the belt (belt load) is a key parameter for analyzer performance. The CNA units are factory calibrated to support a wide range of belt loading. The CNA Pentos has been enhanced to cover a wider range of belt loads, particularly the lower loads found in smaller plants.

Calibration flexibility

The CNA Pentos calibration can support a wider range of materials, with secondary calibrations for new or non-standard material measurements.

Reliability

The CNA Pentos features enhanced electronics to improve reliability and minimize component failures.

Improved detector design

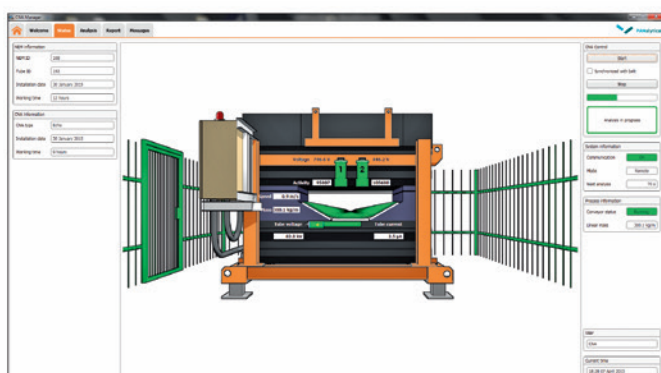
The detector design has been improved to increase the long-term stability of the detectors and eliminate the effects of stray neutrons.

Improved neutron flux regulation

A significant benefit of an electrical neutron source is the ability to regulate the neutron flux and therefore the instrument stability. An improved neutron control algorithm is included with the 5th generation instrument providing better long-term instrument stability.

Improved maintenance tools

With the new release, the maintenance software toolbox has been enhanced. The new 'expert service tool' is provided to simplify instrument performance testing by advanced clients and service engineers. In addition, the service engineer configuration tool has been enhanced to simplify and expedite setting and checking of key operational parameters.



CNA manager interface - status at a glance view

Specifications

Analysis	
Methods	Pulsed fast & thermal neutron activation analysis
Generator	Electrical neutron generator (On/Off)
Quantified elements	Si, Al, Fe, Ca, Mg, S, Na, K Ti, Mn, Cl
Moisture	Yes
Features	Non-material specific Unaffected by varying belt loading Stable analytical performance (SAP) system
Environment	
Temperature	From -35 °C (-31°F) to 50 °C (122°F)
Humidity	1 - 100%
Operational	
Conveyor width	600 to 2000 mm
Material top size	Up to 450 mm
Belt speed	Up to 4 m/s, faster speed upon request
Belt inclination	0 - 20°
Installation	
Standard version	W = 2 m, L - 1.1 m and H = 1.8 m Weight - about 2.9 t
Extended shielding	W = 2.2 m, L = 1.3 m and H = 2.1 m Weight = about 5.3 t
Electronics	
Electrical cabinet	H = 800 mm, W = 600 mm, D = 400 mm
Power requirement	Single phase 230 V, 47 to 63 Hz, less than 2 kW
Dry contact inputs	Belt status, safety loop
4 - 20 mA inputs	Weight feeder, speed feeder
User interface	
CNA control software	CNA data collector, trending application and basic pile building function
System interface	OPC (industry standard for communication) Other interfaces upon request
Communication	
Connection	Ethernet or fiber optic Suitable interface with many plant control networks
Off-site communication	Network link
Safety	
Safety loop	ARP System (automatic radiation protections system)
Radiation levels	Compliant with European Council Directive 96/29/ EURATOM No radiation when the CNA is not in operation
Maintenance	
Customer support	PANalytical customer support service with PANassist. Wide range of maintenance contracts upon request

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