QCX® CUBE X10
Online Elemental Analyser

The QCX CUBE X10 fully-automated online elemental analyser for powdery materials delivers accurate and efficient results – even in the toughest applications. Based on energy dispersive x-ray fluorescence (EDXRF) technology, it offers analysis of Ca, Si, Al, and Fe, as standard, and Na and Mg with an optional helium purge. Other elements are available on request.

Key benefits

- Achieve very tight chemical quality control.
- Quick and reliable results.
- Fast and trouble-free installation and start-up.
- Compliant with international safety standards.
- Remote serviceability.

Aimed primarily at cement raw meal analysis, the QCX CUBE X10 is designed for seamless integration with our market-leading QCX/BlendExpert-Mill blend optimisation software. This allows the frequency of online analysis to be combined with precision data from an automated sampling system and central laboratory to establish very tight chemical quality control of the raw meal mix.

Built to industrial-quality standards, QCX CUBE X10 integrates proven sampling components with a state-of-the-art EDXRF analyser unit. It is supplied with a local control system and operator panel, all self-contained in an air-conditioned container. It can also operate autonomously, simply delivering data to a connected communications partner.
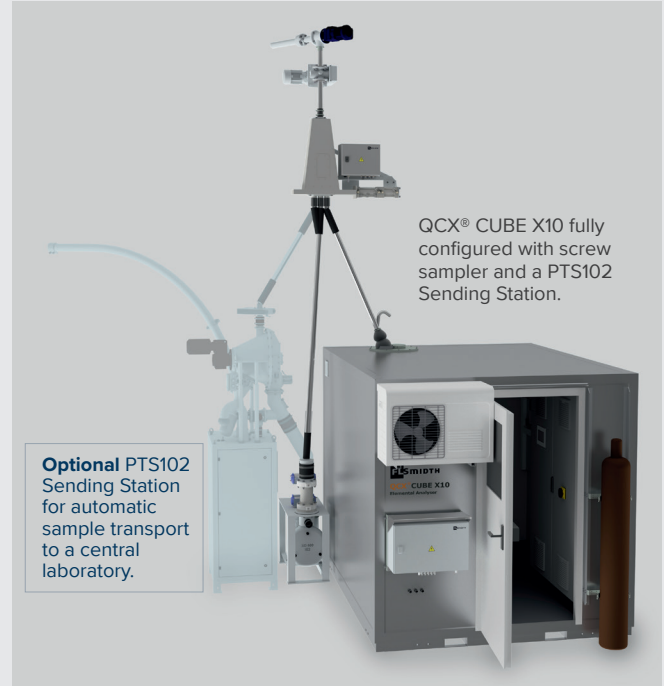
The entire system is CE certified as standard, ensuring a high level of operator safety in compliance with a range of international safety standards. It is delivered fully configured, programmed, and dry tested for plug-and-play installation, while remote connectivity provides access to remote assistance and diagnostics from our global service organisation.

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WE DISCOVER POTENTIAL

A reliable and flexible online analysis solution

The QCX CUBE X10 is available with either a screw or airslide sampler. Horizontal or inclined transport screws are also available for sites where vertical screws cannot be used due to limited space directly under the sampler.

At the start of process, the sampler extracts a continuous or semi-continuous sample stream, which is then split between the analyser, a reference sample collection, and excess material return system. Material for analysis is fed continuously through the analyser unit at a high flowrate, typically of 2-3 L/hr. This ensures representative and accurate results, as it reduces errors associated with online analysis of small sample volumes.

QCX CUBE X10 can be delivered with a homogenising mixer for manual reference sample collection, or fully integrated with a QCX PTS102 Automatic Sending Station for automatic transport of reference samples to a central laboratory.

QCX® CUBE X10 fully configured with screw sampler and a PTS102 Sending Station.

Optional PTS102 Sending Station for automatic sample transport to a central laboratory.

Sample material	Raw meal or cement, max. 120°C, >50% passing 45µm Max. particle size 1.5 mm
Sample frequency	Continuous sample stream; up to 60 result sets per hour
Sample input	30-50 cm³/min (through analyser unit)
Analysis items	Ca, Si, Al, Fe; Additionally Na, Mg with helium purge Other elements on request
Accuracy (Dry basis; w/ He-purge; RMSD%)	SiO_2: 0.38% Al_2O_3: 0.18% Fe_2O_3: 0.11% CaO: 0.39%
Repeatability (10 minute basis; w/ He-purge; SD%)	SiO_2: 0.06% Al_2O_3: 0.03% Fe_2O_3: 0.03% CaO: 0.08%
Helium consumption	Approx. 5 cm³/sec
Power supply	3 x 380 – 500 V; 50 Hz; 6 kW
Compressed air supply	0.6 – 1.0 MPa (Quality 2.4.2 as per ISO 8573-1)
Operating conditions	Temperature: -20°C to 55°C
Weight	Approx. 2,400 kg
Dimensions (H x W x D)	2,200 x 2,200 x 2,700 mm

Contact us

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