



Process Control

Chemical Analysis Industry



Rapid Moisture/Solids Analysis

Rapid Volatile Analysis

Faster, Safer Process and Quality Control

Nearly 40 years ago, CEM Corporation was the first to bring professional-grade microwave technology into the laboratory as a safer and more rapid method for generating heat. Today, CEM instrumentation can be found in laboratories and production lines all over the world, helping chemists conduct tests and perform procedures in far less time than that required by conventional methods. CEM instrumentation can provide accelerated throughput for any chemical production facility, permitting more rapid approval of product batches and therefore faster packaging.

CEM can provide technologies that will significantly streamline your sample analyses process.

Sample	SMART 6	SAM-255	Phoenix BLACK
Adhesive	X		X
Black Liquor	X		X
Carbon Black			X
Coating (solvent-based)	X	X	X
Coating (water-based)	X	X	X
Emulsions	X		X
Fiberglass		X	X
Film	X		X
Floor Sealant	X		X
Fuel Oil			X
Nylon		X	X
Paint (solvent-based)	X	X	X
Paint (water-based)	X	X	X
Phenolite	X		X
Polyethylene	X		X
Polypropylene	X		X
Printer Ink	X		X
Resin	X	X	X
Rubber	X		X
Synthetic Latex	X		X
TiO ₂	X		X
Zinc Acrylate			X

SMART 6™ | Microwave + Infrared Moisture & Solids Analyzer



The SMART 6 uses the proprietary new dual-frequency drying technology to heat samples. This breakthrough technology allows the system to analyze any product, regardless of whether it is water or solvent-based, non-polar, or even in powder form. Most analyses are complete in less than 3 minutes, with results that will compare to the precision previously only obtainable by ASTM oven methods, which can take hours to perform. With a number of safety protocols such as adjustable airflow to quickly remove hazardous volatiles, and a standard flame detection or extinguishing option, the SMART 6 guarantees good results as well as the safety of its operators.

Named one of the top 3 new products at Pittcon® by Instrument Business Outlook, the SMART 6 system is a revolutionary system that will tackle the needs of any chemical production facility.

- As accurate as ASTM reference methods
- Most results available in under 3 minutes
- Multiple safety benefits for a safer analysis
- Results can be stored internally and sent to LIMS
- Downloadable methods for plug and play ease of use

Phoenix BLACK™ | Microwave Muffle Furnace



The Phoenix BLACK has revolutionized ash analysis by supplying users with a safer, more rapid technique for ashing samples. Its the world's fastest muffle furnace, able to reach optimal ashing temperature in less than 30 minutes, and ash samples in 10 minutes, when it typically takes 1 – 2 hours in other muffle furnaces. With programmable methods that can set ramp and dwell times, the only steps the user has to take is weighing the sample and placing it in the muffle furnace. The Phoenix BLACK will ash the sample and calculate the correct result every time.

For users that require high volumes of product to be analyzed, such as petrochemicals, or samples that produce large amounts of hazardous volatiles, such as plastics, CEM offers the Phoenix BLACK AirWave option. The only muffle furnace that has no moving parts in the exhaust system, the AirWave is a safer option with less maintenance and higher air flow. With ISO, ASTM, and USP approvals, the Phoenix BLACK and Phoenix BLACK AirWave are the world's best ash analyzers available.

- 97% faster than traditional muffle furnaces
- Approved for use with ISO, ASTM, USP, and DIN methods
- AirWave option for safer analysis of Fuel Oils and Plastics
- Balance or printer connection options
- Set stages for an easier analysis with no Bunsen Burner

SAM-255™ | Microwave Drying System



The SAM-255 has been used for draw-down analysis for almost 20 years, and is the preferred method of drying for the largest paint and coatings manufacturers in the world. With the ability to run either a single or multiple draw-down cards, the SAM-255 can meet the throughput needs of any production facility. By reducing dry times from 60+ minutes to just 6 minutes, any user can easily remove the bottleneck of all spectral analyses and release batches faster, without compromising results. Faster tests allow product batches to be approved and packaged more quickly, giving users the capability of producing 2 – 3 more batches, per line, every day, without expensive production upgrades or expansions.

The SAM-255 comes with accessory card holders to easily run any size draw-down card, and each analysis is run from start to finish at the touch of a button. There is no longer any reason to waste time waiting for color matches and hiding power using the SAM-255.

- 5-minute method for drying drawdown cards
- Trusted by the world's largest paint manufacturers
- IR temperature control for optimal heating
- Release batches faster to increase production potential
- Easy-to-use — Just add the drawdown card and press Start



We Simplify Science

cem.com



Over 50,000 systems sold worldwide



CEM has been an ISO-certified facility since 1994



All systems serviced & supported by experts with an average of 15 years of experience



CEM invests 12% of annual revenue into R&D, the result... 11 R&D 100 awards



IQ/OQ/PQ Validation by certified CEM Technicians

United States (Headquarters)

800-726-3331
704-821-7015
info@cem.com

France

33 (01) 69 35 57 80
info.fr@cem.com

Germany, Austria, Switzerland

(49) 2842-9644-0
info@cem.de

Ireland

+353 (0) 1 885 1752
info.ireland@cem.com

Italy

(+39)035896224
info.srl@cem.com

Japan

+81-3-5793-8542
info@cemjapan.co.jp

United Kingdom

(44) 1280-822873
info.uk@cem.com

For distributors in other regions, visit cem.com/contact