



**CHEMICAL ANALYSIS**  
PROCESS & QUALITY CONTROL

# 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.

Why waste time waiting for sample analyses to finish when CEM can provide technologies that will significantly streamline your process?

## See where CEM can help you:

	SMART 6	SAM-255	Phoenix
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 <sub>2</sub>	x		x
Zinc Acrylate			x

And many more...



## SMART 6

*for moisture/solids/volatiles*

The SMART 6 is the newest Moisture/Solids/Volatiles analyzer from CEM Corporation. Improving upon the SMART Turbo, which is used in production factories around the world for the analysis of water-based products, the SMART 6 uses the proprietary new iPower technology to heat samples. This breakthrough technology allows the system to now 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.

Recently 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 various 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



## SAM-255

*for drying*

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 & press start



## Phoenix

*for ashing*

Since the introduction of the Phoenix muffle furnace to the ashing market, it has revolutionized muffle furnace use by supplying users with a safer, more rapid technique for ashing samples. Using microwave technology to quickly and efficiently generate heat, the Phoenix can reach optimal ashing temperature in less than 30 minutes, and ash samples in 10 minutes, when they typically take 1-2 hours in other muffle furnaces. With programmable methods that can set ramps and dwell times, the only steps the user has to take is weighing the sample and placing it in the muffle furnace. The Phoenix will ash the sample, and calculate the results, ensuring the right 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 can offer the Phoenix AirWave option. The only muffle furnace that has no moving parts in the exhaust system, the AirWave is a safer option with less maintenance for certain customers. With ISO, ASTM, and USP approvals, the Phoenix and Phoenix AirWave are the premium Ashing analyzers available.



- ☑ Up to 80% 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





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



IQ/OQ/PQ Validation  
by certified CEM  
Technicians

“

*Our commitment to you  
doesn't end when your  
system is shipped;  
it begins.*

~Michael J. Collins  
President & CEO, CEM

”

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Worldwide patents issued and pending

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