

SPRINT

RAPID PROTEIN ANALYZER

Revolutionary technology for the rapid,
safe and direct determination of protein



Measure protein, not nitrogen.



Sprint
RAPID PROTEIN ANALYZER

CEM

Discovering the Future

SPRINT™ Rapid Protein Analyzer with iTAG™ Technology

- Direct! Measures only protein, not total nitrogen
- Remarkably easy to use
- Better accuracy than Kjeldahl & combustion techniques
- Fast analysis of all types of food
- Convenient, disposable sample cups & filters
- Automates methods approved by AOAC and AACC

*Worldwide Patents Pending



For the **first time** in more than a century, there is a **revolutionary new technology** that can **replace Kjeldahl** and combustion techniques for protein analysis.

Measure Protein, Not Nitrogen

Protein tagging is a proven technique in bioscience applications. Now, CEM brings this valuable tool to the food industry. SPRINT utilizes CEM's proprietary iTAG technology, which attaches to the protein itself for an accurate, direct measurement. With SPRINT, you can be certain your results are not affected by naturally occurring nitrogen or adulterants, because only the protein is tagged and measured, not the nitrogen.



SPRINT Paks

SPRINT uses disposable sample cups and filters which are packaged conveniently with iTAG solutions. Each SPRINT Pak contains:

- 50 disposable cups with lids
- 50 disposable filters
- iTAG solutions for 50 tests



CLEAN UP IS EASY

SPRINT self-cleans its internal components. At the conclusion of every analysis, all non-toxic sample waste as well as the disposable filter and cup are removed and discarded.



The most revolutionary protein test available makes accurate results easy as 1,2,3!



1. Choose your method.



2. Weigh your sample into the disposable cup.



3. Place it in the SPRINT with a filter and press "Start."



It's that easy!
Accurate protein determinations in just a few minutes!

- Convenient, disposable sample cups & filters
- No hazardous chemicals
- Safer than Kjeldahl

IMETHODS FOR EASY SET UP

SPRINT comes pre-programmed with a broad selection of methods ready for use in your laboratory. With its truly innovative software, loading a method and analyzing samples on your SPRINT is no more complicated than finding a number and calling a friend on your cell phone. SPRINT stores hundreds of methods and tens of thousands of sample results.

DON'T HAVE A METHOD?

ANALYZING A NEW SAMPLE TYPE?

If you have a new sample to run and you don't have a method, simply visit us at www.cem.com to download a method to your SPRINT. It's incredibly easy because *every* SPRINT with iTAG Technology is designed to produce identical results.

A FEW EXAMPLES OF THE METHOD TYPES AVAILABLE FOR SPRINT

FOOD PRODUCTS			
Caseinate-Pwd.	Beef	Alfalfa	Rice
Cheese-Natural	Beef liver	Barley	Rye
Cheese - Processed	Chicken	Beans	Soybean Meal
Beverages	Chicken liver	Corn	Soybeans
Eggs, whole, yolk, white	Fishmeal	Lentils	Triticale
Milk - Fluid Product	Gelatin	Malted Barley	Wheat
Milk - Whole Milk Powder	Ham	Oats	Wheat-Flour
Milk - Non Fat Dry	Hot Dogs	Peanut Meal	Wheat Germ Meal
Milk Powder	Pork	Peas	Wheat Gluten
Whey -Rennet	Processed meats	Potatoes	
Whey -Acid	Sausage		
Yogurt	Turkey		

OTHER FOOD PRODUCTS	
Dry Pet Food	Soy Beverage
Wet Pet Food	Yeast
Nutritional Drinks	

SPRINT does not detect nitrogen. SPRINT's iTAG™ technology only tags the amino acids commonly found in proteins: histidine, lysine and arginine. Total nitrogen techniques based on Kjeldahl and Dumas measure all sources of nitrogen, which contributes to protein measurement errors.

ALWAYS TRUE PROTEIN AT THE TOUCH OF A BUTTON

- Incentive to adulterate ingredients is removed
- Security of food supply is improved
- More samples can be tested easily
- Raw material pricing is more accurate
- Process control is improved with rapid test
- Least cost formulations are more easily achieved



DON'T BE FOOLED BY ADULTERANTS

Melamine is not an obstacle for SPRINT, as the system simply ignores all sources of non-protein nitrogen (NPN). As seen in the chart below, SPRINT displays the true protein results for samples containing melamine. With SPRINT, you can be confident that you are measuring protein and nothing else.

	KJELDAHL	SPRINT
Wheat Gluten	75	75
Wheat Gluten with 5% Melamine	87	75
Fluid Milk	3.3	3.3
Fluid Milk with 0.1% added Melamine	3.7	3.3
Fluid Milk with 0.5 % added Melamine	5.1	3.3
Fluid Milk with 1.0 % added Melamine	8.6	3.4
SPRINT always gives accurate protein results no matter how much non-protein nitrogen is present.		



AUTOMATES EXISTING AOAC & AACC METHODS

AOAC Official Methods 967.12, 930.33 and 930.29

Protein in Milk, Fluid Milk, Buttermilk, Half and Half, Chocolate Drink, Non-Fat Dry Milk, Ice Cream, Frozen Desserts.

AACC Method 46-14B

Grains, Pet Foods, Animal Feeds, Cereal grains, oilseeds, legumes, forages, animal products, dairy products, and formulated feeds or foods.

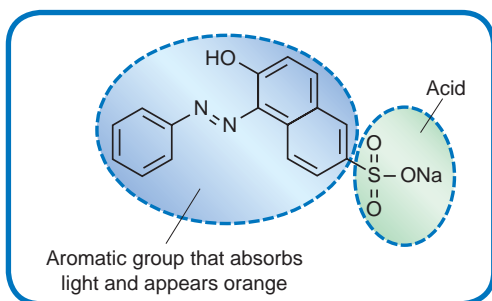


HOW DOES SPRINT WORK?

All proteins contain amino acids. The basic amino acids that are found in foods are Arginine, Histidine and Lysine.



CEM's proprietary iTAG solution binds to these three amino acids using an acid group. The aromatic portion of the molecule absorbs light and is easily detected with a colorimeter.



A pre-determined amount of iTAG solution is added to a sample and homogenized to release the proteins. The iTAG molecules bind to the proteins and are removed from solution. The remaining iTAG is drawn up through a disposable filter into the built-in colorimeter. The amount of iTAG bound to the protein is determined and the results displayed. The entire process takes only 2-3 minutes for most samples and yields results that are more accurate than Kjeldahl or combustion techniques.



GREEN TECHNOLOGY

NO HAZARDOUS WASTE FOR DISPOSAL

The sample and SPRINT's non-toxic iTAG solutions are environmentally friendly. SPRINT generates no hazardous waste at all. So, not only do you enjoy better results, you help make your workplace safer for your team and the environment.

System Specifications

Protein Range 0.01% to 99.99% in liquids, solids and slurries

0.01% resolution

Data Entry Keypad with menu-driven software

Optional USB mouse, keypad or keyboard

Display: Color VGA screen (800 x 640)

Accessory ports: 2 serial, RS 232, 9 pin ports for external balance or computer, and 4 USB ports

Interfaces to computer networks

Standard internal thermal printer

Barcode reader

INSTRUMENT DIMENSIONS:

Analyzer 15.5 in (w) x 17 in (d) x 16.5 in (h)
39.4 cm (w) x 43 cm (d) x 42 cm (h)

Reagent holder 13.5 in (w) x 5.5 in (d) x 2.7 in (h)
35 cm (w) x 14 cm (d) x 7 cm (h)

WEIGHT:

Analyzer 22 lbs (10 kg)
Reagent holder 2.5 lbs (1.1 kg)

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CEM North America World Headquarters

3100 Smith Farm Road
PO Box 200
Matthews, NC 28104

Toll-free[US & Canada]: 800-726-3331
Tel: 704-821-7015
E-mail: info@cem.com
www.cem.com

United Kingdom

CEM Microwave Technology Ltd.
2 Middle Slade
Buckingham Industrial Park
Buckingham MK18 1WA
Tel: +44 (0) 1280 822873
E-mail: info.uk@cem.com

Germany

CEM GmbH
Carl-Friedrich-GauB-Str.9
47475 Kamp-Lintfort
Tel: +49 (0) 2842 9644
E-mail: info@cem.de
www.cem.de

France

CEM µWave S.A.S
Immeuble Ariane
Domaine Technologique de Saclay
4, rue Rene' Razel
91892 ORSAY Cedex
Tel: +33 01 69 35 57 80
E-mail: info.fr@cem.com
www.cemfrance.fr

Italy

CEM S.R.L.
Via Dell Artigianato, 6/8
24055 COLOGNO AL SERIO
Tel: +39 035 896224
E-mail: info.srl@cem.com



ISO 9001:2000 certifies that the CEM quality management system meets internationally accepted standards.