

**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*

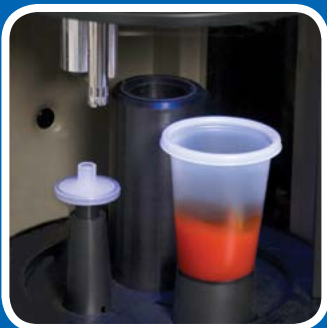
# The most revolutionary protein test available makes accurate results easy as 1,2,3!



**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.

## **DOWNLOADABLE METHODS**

Many Sprint methods are available on our website. Visit us at [www.cem.com](http://www.cem.com) to download a method to your Sprint. If your method is not listed, simply call us! Our applications chemists have experience with a variety of sample types.

## **A FEW EXAMPLES OF THE METHOD TYPES AVAILABLE FOR SPRINT**

FOOD & BEVERAGE PRODUCTS		
Beef	Beef Liver	Cheese-Natural
Cheese - Processed	Chicken	Chicken Liver
Chili	Cottage Cheese	Cream Cheese
Chocolate Milk	Condensed Skim Milk	Eggs, whole, yolk, white
Ham	Heavy Cream	Hummas
Hot Dogs	Infant Formula	Milk – Fluid Product
Milk – Non Fat Dry	Milk – Whole Milk Powder	Peanut Meal
Pork Sour Cream	Processed meats Soybeans	Sausage
Tofu	Wheat-Flour	Whey –Rennet
Whey –Acid	Turkey Yogurt	

OTHER FOOD PRODUCTS
Nutritional Drinks
Soy Beverage
Wet Pet Food

## 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

\*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.



*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
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 METHODS

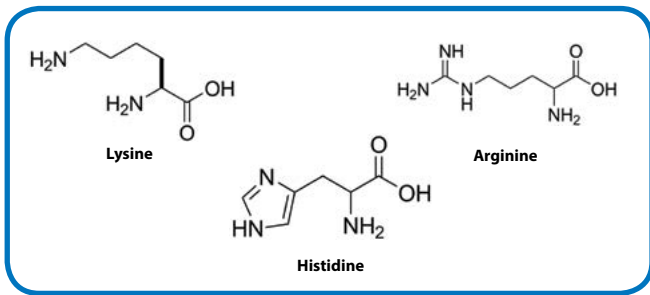
### AOAC Official Methods 967.12, 930.33 and 930.29

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

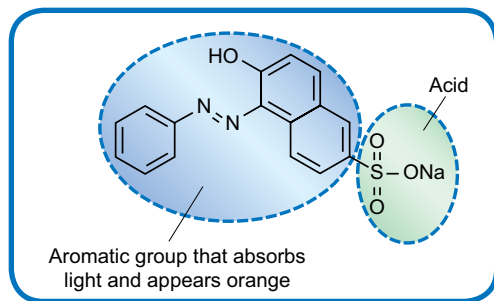


## HOW DOES SPRINT WORK?

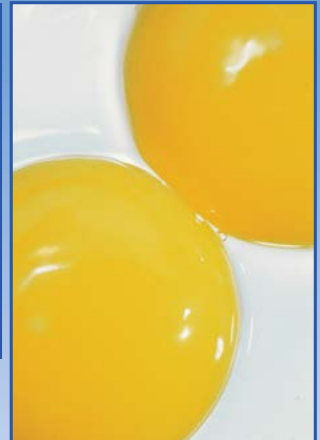
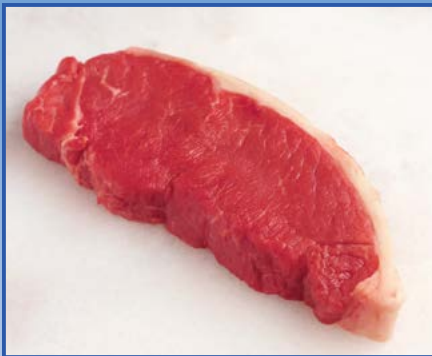
All proteins contain amino acids. The basic amino acids that are found in foods are Arginine, Histidine and Lysine.



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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Worldwide Patents Pending



CEM has been an ISO-certified facility since 1994.

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