

# UDY PROTEIN SYSTEMS



Low Cost Protein Test Colorimeters

**Proven Technology Since 1960**

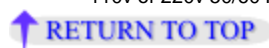
**Quick, Easy, Affordable Total Protein Analysis with Non Hazardous Chemicals**



**UDY Advantages:**

- High Correlation with Kjeldahl, Combustion 99+%
- Direct Protein Readout (%)
- Easy Operation
- System can be Customized to your Needs, Budgets, etc.
- Non Hazardous Chemicals
- Modest Cost Per Test
- Precise, Accurate and Reproducible
- State of the Art Electronics and Optic System
- Optional UDY "Assist" Software
- Uses Proven Dye Binding Technology
- Applicable to Many Different Commodities
- 110v or 220v 50/60 Hz Available

**Milk Protein System (MKP)**



**Some Typical Applications:**

Alfalfa  
Alfalfa Haylage  
Barley  
Beans  
Bermuda Grass  
Blue Grass  
Caseinate-Pwd.  
Cheese-Hard  
Chickpeas  
Corn  
Corn Silage  
Cottonseed Meal  
Cowpeas  
Eggs  
Fishmeal

Gainesburger  
Graham Cracker  
Grass Peas  
Lentils  
Linseed Meal  
Malted Barley  
Meat - Hi Lean  
Meat - Lo Lean  
Milk - Fluid Prod.  
Milk - Powders  
Mungbeans  
Mustard Meal  
Mustard Seed  
Oats

Oat Groats  
Orange Juice  
Peanut Meal  
Peas  
Pigeon Peas  
Rape Seed/Meal  
Rice  
Roman Meal Bread  
Rye  
Safflower Meal  
Sesame Meal  
Sorghum (Milo)  
Soy Beverage  
Soybean Hulls  
Soybean Meal

Soybeans  
Sunflower Meal  
Triticale  
Urd Beans  
Waste Water  
Wheat  
Wheat-Flour  
Wheat Germ Meal  
Wheat Gluten  
Whey/Milk Based Beverages  
Whey-Delactose  
Whey-Fresh Pwd.  
Whey-Fresh Vat  
Whey-Prot. Conc.  
Yeast (Torula)

Model	Application	Instruments & Main Accessories Needed	Accuracy & Speed
MKP	Protein in milk, soy, OJ & other liquids.	UDY Colorimeter, Syringe Pipet, Electronic Balance.	0.02% Protein accuracy; 30 second analysis*.
MT-	Protein in all meats & dairy	UDY Colorimeter, Reagent Dye Dispenser, Electronic	0.2% Protein accuracy typical; 30 second

DP	products.	Balance, Blender & Syringe Pipet.	analysis*.
SSP	Protein in grains, forages, etc. Single sample fast test.	UDY Colorimeter, React-R-Mill, Reagent dye Dispenser, Electronic Balance, Cyclone Sample Mill.	0.2% Protein accuracy typical; 2 minute analysis*.
MSP	Protein in legumes, oilseeds, etc. Multiple sample testing.	UDY Colorimeter, React-R-Shaker, Reagent Dye Dispenser, Electronic Balance, Cyclone Sample Mill.	0.2% Protein accuracy typical; Average time per sample, 1 minute*. *excluding sample preparation

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**Main Accessories:**



Mills



UDY Pol Preservative



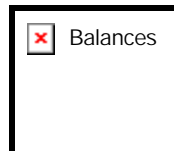
React-R-Shaker  
React-R-Mill



Reagent



Dispensers



Balances & Blenders



Optional "Assist" Software

**Principle of Protein Measurement**

Protein measurements are made by mixing weighed samples with known volume of Reagent Dye Solution containing an excess of Acid Orange 12 dye. Proteins in the sample react with the dye to form a precipitate. The remaining unreacted dye concentration is inversely proportional to the protein content of the sample.

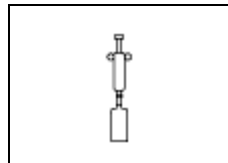
The UDY Colorimeter is used to measure the dye concentration and display the percent protein in samples directly. Because a flow-thru cuvet is used, the cuvet does not require washing or rinsing. Sample bottles may be reused without cleaning between samples This measurement does not require calibration with standard samples because Acid Orange 12 dye is easily purified and serves as its own primary standard.

Milk and meat homogenates react in seconds with simple shaking. Dry samples, such as grains, react slowly, but use of the patented React-R-Mill enables a complete reaction to be achieved within one minute. Total analysis time can be as short as 30 seconds for milk and 2 minutes for wheat.

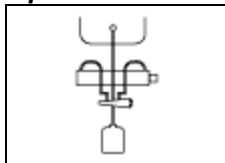
U.S. Patent numbers 3010666, 3010614 / \* U.S. Patent number 3754715

**Basic Steps: Fluid Milk & Other Liquids**

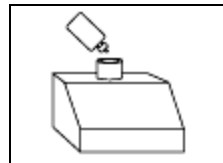
**Protein Measurement, 3 Easy Steps**



1. Aspirate or weigh an aliquot of milk & transfer into sample bottle.



2. Dispense Reagent dye into sample bottle. Shake 10 seconds.



3. Squeeze-filter 25-30 drops into colorimeter cuvet and read % Protein Directly.

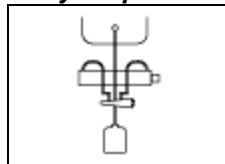
**All Meat & Dairy Products Protein Measurement, 4 Easy Steps**



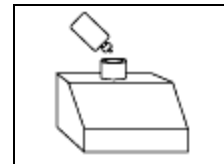
1. Homogenize sample as needed using blender.



2. Remove an aliquot of homogenate with Syringe Pipet, or Weigh into Bottle.

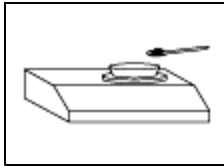


3. Add Reagent Dye Solution to Aliquot. Shake 10-15 seconds.

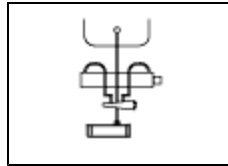


4. Filter into colorimeter cuvet and read % Protein directly.

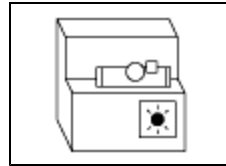
**All Commodities Protein Measurement, 4 Easy Steps**



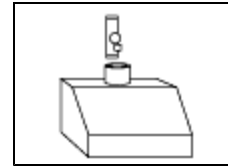
1. Weigh out specified amount of finely ground sample.



2. Dispense Reagent Dye into React-R-Tube. Add sample.



3. Shake for specified time using React-R-Mill.



4. Filter directly from React-R-Tube and read % Protein.

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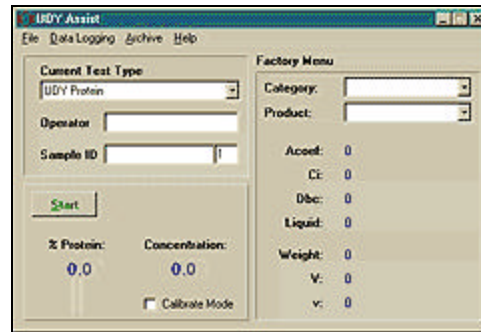


### UDY "Assist" Software

"Assist" software package (optional) allows an operator (needs optional RS 232 port) to monitor protein tests via a computer while test is being performed on UDY's Dairy Tester/Colorimeter units.

The software also helps the operator to generate calibration settings for new product protein testing as well as capture/plot protein data from the instrument.

Can be used as a stand alone unit if RS232 is not available.



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