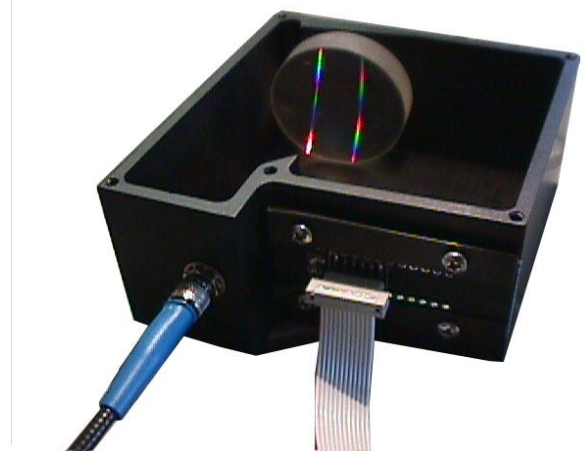# Color Measurement Systems

➢ BLACK-*C*omet CXR SpectroColorimeter

- Reliably measure CIELAB & Delta E* values
- Fiber optic Interface for sampling accessories
- Concave grating provides high sensitivity and
- Consistent resolution throughout 280-900nm range
- No mirrors for lowest possible stray light
- Extremely rugged with no moving parts
- Shock-proof durability and permanent alignment
- Miniature size, low cost, portable instrumentation
- Battery pack options for field measurements
- Simple USB2 interface to notebook & desktop PCs

High performance spectrocolorimeter has internal concave grating spectrograph optics with no mirrors or adjustments
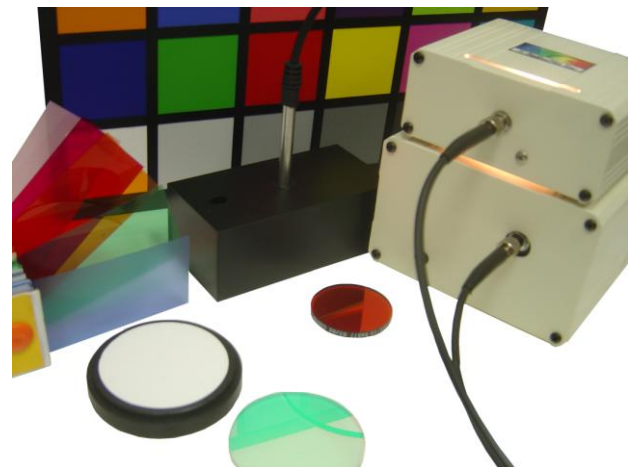
➢ Color Measurement Accessories

- **Liquid samples** - cuvette holder or dip probe
  - o Food & Beverage
  - o Industrial & Home liquids

- **Solid samples** - reflectance probe or fixture
  - o Textiles
  - o Plastics

- **Powder samples** - reflectance fixture
  - o Pharmaceuticals
  - o Raw materials

RFX-3D Reflectance fixtures have integrated halogen light source to make color measurement easy by placing samples on top

➢ Versatility with Fiber Optics

- **For use** in the lab, in the field, on-line, or at-line on the production floor

- **Color monitoring** and measurement

- **Quality Control** of incoming raw materials or finished products

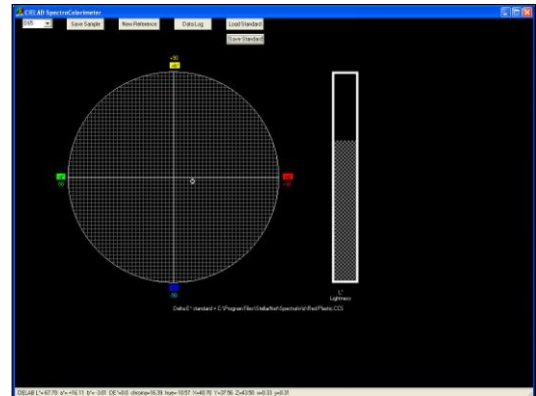- **Little to no sample prep needed!**

Reflectance Probe & Light source

Color Measurement Systems
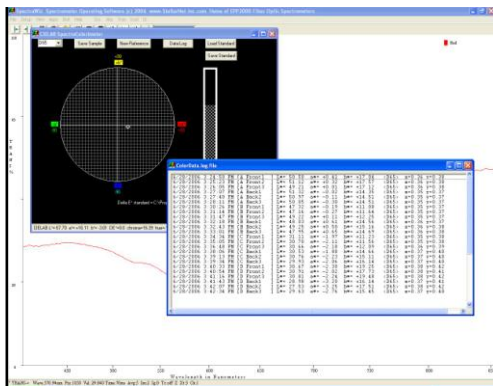
- ➢ **SpectraWiz Software included free**

- • **CIELAB color app measurements**

  - o **L*:** Brightness (0 to 100)
  - o **a***: Green (-a) to Red (+a)
  - o **b***: Blue (-b) to Yellow (+b)
  - o **Delta E*** color difference
  - o **X Y Z** tristimulus
  - o **xy** chromaticity
  - o **chroma**
  - o **hue**

- • **Select any illuminant (A-C,D50-D75,F1-F12)**
- • **Compare samples to saved color standards**
- • **Sample color values can be saved to text file**

CIELAB color measurement application

Color App and Data log work with live Spectra

- ➢ **Measure Delta E* color difference**

- • Compare sample colors quickly & accurately
- • Color variation displayed as numerical value
- • Identify variations better than your eyes

- ➢ **Save your own** color standards for comparison
- • Open color standard file for Delta E* value measured against target sample

- ➢ **Easily save color data** into text log file
- • Import log into Word or Excel for data management and QC reporting

Item	Description SpectroColorimeters include SpectraWiz software free	Price
BLACK-*C*XR	SpectroColorimeter -best quality concave optics with fiber optic & USB2 interface	$2950
BLUE-Wave-VIS	SpectroColorimeter -compact miniature optics with fiber optic & USB2 interface	$2700
GREEN-Wave-VIS	SpectroColorimeter -lowest cost miniature optics with fiber optic & USB interface	$1948
	Accessories for solids or powders using a reflectance stand – samples placed o top	
RS50	Reflectance standard to set white reference, 50mm diameter	$225
RFX-3D	Reflectance fixture with integrated light source & F600-VIS-NIR fiber optic cable	$650
	Accessories for solids or powders using a reflectance probe – samples place under	
RS50	Reflectance standard to set white reference, 50mm diameter	$225
R600-8-VISNIR	Reflectance probe VIS-NIR, 600um fiber optic cable, 7 illuminate around 1 read	$495
RPH2	Reflectance probe holder. Maintains 45 or 90 degree angle variable distance (0-3/4")	$125
RTIP45	Black tip has 45 degree angle and slides onto reflectance probe and locks to set position	$125
SL1	Light source to illuminate fiber optic probe with 10,000 hour Tungsten-Krypton bulb	$425
SL1-Filter	Option instead of SL has color equalization filter in 0.5 inch diameter nose cone	$595
	Accessories for liquids – samples placed in cuvette or dip probe placed in beaker	
SL1-CUV	Integrated light source with standard 10 mm cuvette holder and F600 fiber	$655
DP400	Dip probe with 400um armored fiber, includes 10mm path length tip (requires SL1 light)	$1825
DP400-TIP	Additional tips for dip probe. Specify 2, 5, 10, or 20mm path lengths	$410