

SERIES 9 COLOR MEASUREMENT

The powerful Series 9 non-contact food gauge is enriched with a new feature

Why Color Measurement?

Color and appearance are important quality attributes for many commercial industrial products. However, if measured by eye, results can be highly subjective and inconsistent results.

A spectrophotometer, however, provides repeatable numeric color readings, which when combined with other critical measurements such as moisture, oil and protein, can be confidently used as part of a process control strategy to deliver consistent product quality every time.

NDC Degree of Bake

NDC on-line gauges have been successfully delivering the simultaneous measurement of moisture, oil and degree of the surface bake or brownness to the snacks and baking industry for a number of years, enabling processors to achieve their targets for consistent product quality. The degree of bake measurement closely follows the change in brownness of the surface of a baked or fried product as a result of the Maillard reaction.

However, surface browning is not the only color measurement required by industry.

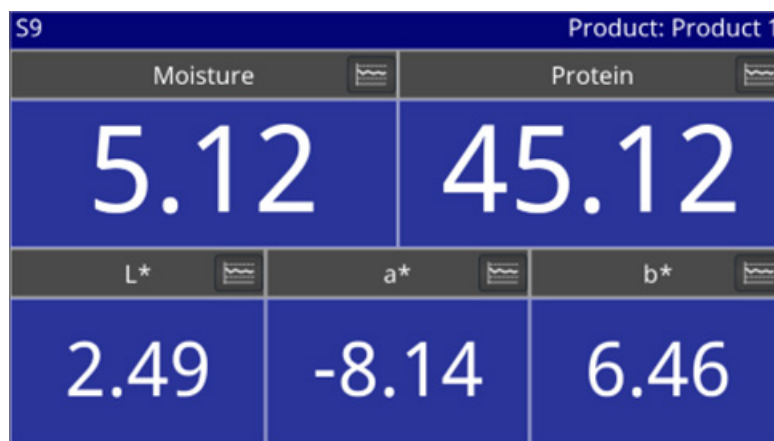
Color Measurement - Beyond DOB

To answer the needs of manufacturers, NDC has expanded the capability of the Series 9 gauge to create a system capable of simultaneously measuring the color and the key constituents of food products. The Series 9 gauges can be seamlessly integrated into your process control strategy eliminating time loss and expensive laboratory analysis.

Industry-standard color scales provided include:

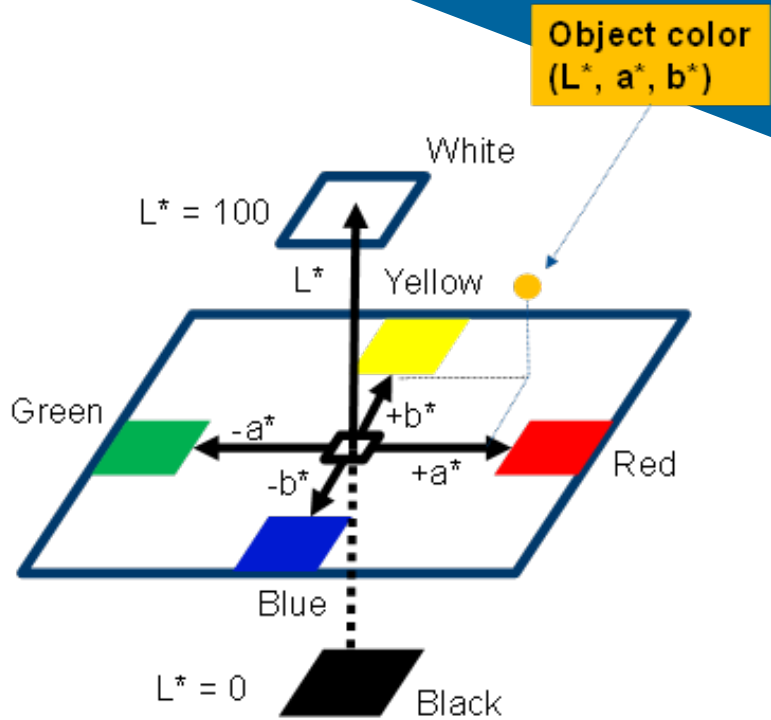
- ▶ CIE L*, a*, b*
- ▶ Tristimulus X, Y Z
- ▶ RGB
- ▶ CIELCH L*, C*, h
- ▶ ΔE^* & ΔE_{cmc}
- ▶ Degree of Roast (DOR) in Coffee

These can be selected for each product from the Series 9 simple user interface.



Colour Space	
✓	✗
L* a* b* ΔE*	
L* a* b* ΔEcmc	
L* C* h ΔE*	
L a b ΔE	
XYZ	

Measurements	
✓	✗
L* a* b* ΔE*	
ΔL* Δa* Δb* ΔE*	
L* a* b*	
ΔL* Δa* Δb*	
ΔE*	



Application Examples:

- Seasoned products
- Colored products such as cereals, vegetable snacks, sugar, etc.
- Coffee roasting
- Non-cooked products (including none - food based)
- Tobacco sheet products
- Sugar

Example color measurements of differently processed cashew nuts

Sample	Colour system	
	XYZ	L*a*b*
	X=26.5 Y=26.8 Z=12.5	L*=58.3 a*=4.7 b*=29.0
	X=23.0 Y=22.6 Z=9.7	L*=54.2 a*=7.8 b*=30.9
	X=19.6 Y=18.9 Z=8.2	L*=50.0 a*=9.3 b*=28.2

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