BYK-mac i COLOR

Multi-angle color measurement

In order to control the lightness and / or color flop of an effect finish, the color needs to be measured under different viewing angles.
BYK-mac i COLOR spectrophotometer offers an attractive solution by measuring

- Traditional 5-angle color at 15°/25°/45°/75°/110°
- An additional angle at -15° "behind the gloss" for color travel of interference pigments

Ergonomic design and easy operation

The shape of the instrument is designed to ensure easy handling and true portability. With an intuitive menu quality control of metallic finishes has never been easier.

- Menu guided operation according to your own sampling procedure
- Designated buttons for standard and sample readings
- Scroll wheel to select menu functions
- Large color display - easy-to-read inside and outside
- Storage of up to 1000 readings in selectable memories
- 4 trigger pins on the bottom plate guarantee stable positioning even on curved surfaces

New! Plug-in WiFi adapter for flexible and flawless data transfer (see BYK-mac i).

Reliable readings at any time

The BYK-mac i COLOR uses a light source with long term stability and patented illumination control which provide superior accuracy and low maintenance for many years.

- Stable, long-term calibration – needed only every three months
- Temperature independent measurement results between 10 - 40°C - without calibration
- Excellent agreement between instruments allowing usage of digital standards among the supply chain
- 10 year warranty on the light source – no lamp changes needed

Quantification of Fluorescent Light

The BYK-mac i COLOR spectrophotometer is equipped with additional sensors to detect fluorescent light excited in the visible range. The Intensity Emission value quantifies the fluorescent light and can be used as a preliminary indicator for light fastness.

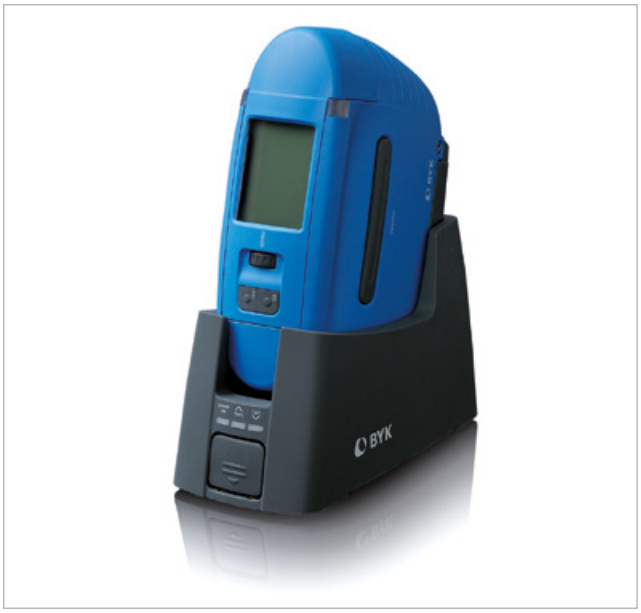
Always ready

The instrument is operated with a rechargeable battery pack (Li-Ion). The docking station automatically charges the battery pack in the instrument as well as a spare pack located in the docking station.
Optionally the instrument can be operated with 4 standard mignon alkaline or rechargeable batteries.
The docking station also transfers the measured data to a PC. For professional analysis, documentation and data management smart-chart software is included.

In compliance with:

Standards

ASTM	D 2244, E 308, E 1164, E 2194
DIN	5033, 5036, 6174, 6175-2
DIN EN ISO	11664
SAE	J 1545



Ordering Information

Cat. No.	Description
7032	BYK-mac i COLOR
7033	BYK-mac i COLOR Sensor

Comes complete with:
Multi-angle spectrophotometer
Black calibration standard
White calibration standard with certificate
Color checking reference
Protective cap
Cleaning set for bottom plate
2 light protection covers
Seal replacement kit
Docking station with USB cable for memory transfer
Instrument interface cable for online data transfer
2 rechargeable Li-ion battery packs
Battery holder; 4 x AA batteries
Short instructions; Operating manual on CD
Carrying case; Training
Software for download (7032 only):
smart-lab Color or smart-process with 2 licenses

Note: After software download both software packages can be used for 30 days free trial.
Thereafter, the user needs to decide and register for one software package

System Requirements:
Operating system: Windows 7 SP1, 8.1 or 10
Microsoft® .NET Framework 4.5.2
Hardware: Core 2 Duo, 2.2 GHz; i7, 2.5 GHz recommended, or equivalent
Memory: 4 GB RAM, 8 GB recommended
Hard-disk capacity: 2 GB during installation
Monitor resolution: 1280 x 1024 pixel or higher
Interface: free USB-port

Technical Specifications

Measuring Geometry	45° illumination -15°, 15°, 25°, 45°, 75°, 110° aspecular viewing
Measuring Area	23 mm diameter
Spectral Range	400 - 700 nm, 10 nm resolution
Measurement Range	0 to 600 % reflectance
Repeatability	0.01 ΔE* (10 consecutive measurements on white)
Reproducibility	Grey BCRA tiles: avg. ΔE* < 0.10 Chromatic BCRA tiles: avg. ΔE* < 0.25
Color Scales	ΔE*; ΔE CMC; ΔE 94; ΔE 2000; ΔE 99; ΔE DIN6175
Index	Flop, Int-Em
Illuminants	A; C; D50; D65; F2; F7; F11; F12
Observer	2°; 10°
Measuring Time	< 4 seconds
Memory	1000 standards / samples
Display	2.7 in. TFT color LCD display
Language	English, German, French, Italian, Japanese, Spanish
Power Supply	Rechargeable battery pack or 4 mignon AA batteries (alkaline or rechargeable)
Operating Temperature	10 to 42° C (50 to 110 ° F)
Relative Humidity	up to 85%, 35° C (95° F); non-condensing
Dimensions	21.8 x 8.1 x 14.7 cm (8.6 x 3.2 x 5.8 in.)
Weight	approx. 1.3 kg (approx. 2.86 lbs)

BYK-mac i COLOR Training

BYK-Gardner offers you more than just an instrument. We assist you in analyzing your color readings to enable you to use the BYK-mac i COLOR to save time and money, while at the same time improving quality. Therefore, the instrument comes with a one day training course including:

1. Color Theory

- Parameters influencing color impression of effect finishes
- Color differences for trouble shooting

2. Operation and Software training *smart-process*

- Standard management
- Set-up an "organizer" to create a routine measurement procedure
- Programming of the instrument with "organizer" and measurement of several samples
- Data transfer to smart-chart software and saving in a database for routine QC
- Data analysis using standard reports:
  - Test Report: Shows measurement data for a single test series – ideal for color harmony reviews
  - Scorecard (Management Summary Report): Quick overview how production is running over the selected time range
  - Trend Report: Typical process control chart showing the data over time or by individual.
- Create your own reports in Excel®
  - Transfer data from the database to Excel®

2. Operation and Software training *smart-lab*

- Standard management
- Measure standards and samples by single and average readings
- Save, recall and delete measurements
- Change illuminants, observers, color equations
- Data analysis using standard reports:
  - Scatter graph per angle to show at one glance whether all parts are within specification
  - Color Travel to show how individual samples perform per measurement angle
  - Spectral curves for detailed analysis
- Create your own reports in Excel®:
  - Transfer data from the database to Excel®

The training can be performed in one day or two half days. It is recommended to split the training into two half days:

Day 1: Theory and basic operation (set-up organizer, taking readings and saving in a database)

Day 2: 3-4 weeks later to ensure readings were taken and saved in a database. Data analysis and standard QC report can be explained using custom specific data.

Ordering Information

Cat. No.	Description
7044	Black Standard, BYK-mac i
6336	Protective Cap, BYK-mac 23 mm
6360	Docking Station, BYK-mac
6337	USB Interface Cable
7052	WiFi Adapter BYK-mac i
6359	Battery Pack, BYK-mac
6364	Cleaning Set, BYK-mac
6348	Seal Set, BYK-mac
6414	Light Protection Cover, BYK-mac
4831	Software smart-process
4862	Software smart-lab Color, BYK-mac i

Accessories

To perform zero calibration
Snap on cover to protect optics and interior components
Incl. USB interface cable and charger 100 - 240 V self adapting
To connect the docking station to the PC, USB-A plug, 3 m length
Plug-in connector to set-up wireless data transfer to a PC
Rechargeable battery pack for automatic charge in docking station
To clean instrument aperture and pin covers from dust and grease
Including 3 light protection rubber seals and 8 rubber pin covers
To measure very bright colors; 10 pieces included
Process QC software for BYK-mac i, cloud-runner and wave-scan
Lab QC software for online color & effect control with BYK-mac i

Note: For replacement of white and color standard, please contact your local service department.