



HI96785 Honey Color Portable Analyzer

- Removes subjectivity
- CAL Check™
- BEPS (Battery Error Prevention System)
- GLP features

The HI96785 portable microprocessor analyzer measures the percent light transmittance of honey compared to analytical reagent grade glycerol. The transmittance value allows identification of the honey Pfund grade. The instrument directly displays the measurement result expressed in mm Pfund.

Measurements are made using matched square optical cuvettes having a 10 mm light path.

Specifications

Range	0 to 150 mm Pfund
Resolution	1 mm Pfund
Accuracy @ 25°C (77°F)	±2 mm Pfund @ 80mm Pfund
Method	direct measure

Ordering Information

HI96785 is supplied with sample cuvettes (5), 9V battery, light shield cap, cloth for cuvette wiping, rigid carrying case, instrument quality certificate and instruction manual.

Accessories

HI93703-56	consists of 82 matched square disposable cuvettes, 30 mL of glycerol and (2) 5 mL syringes (75 tests average)
HI70662	cleaning solution for honey portable analyzer (30 mL)

HI96785 for Honey Color Analysis

A research scientist was comparing the physiochemical and antioxidant properties of honey and needed an accurate way to report honey color. For his research, four different types of honey were compared; these included gelam, longan, rubber tree and sourwood honeys, all of which are named based on the plant which the nectar was collected from. These varieties of honey are commonly introduced to food products, as well as used in traditional medicines. Mānuka honey originates from New Zealand, and was chosen as the standard in the study because of its benefits and medicinal properties, specifically its antibacterial and antioxidant characteristics. By comparing the four honey types to Mānuka honey, the researcher hoped to determine antioxidant activity, ultimately promoting bee keeping and increasing the value of honey in the local market.

The research scientist looked at many different honey characteristics including pH, EC/ TDS and color. He was already using Hanna products for pH and EC/TDS to provide measurements for regulatory purposes, but for the purpose of this study he wished to establish a relationship between physical parameters and honey antioxidants. The method he was using involved a visual comparison of the honey sample to a set of standards; he concluded through inconsistent results that this method was too subjective and inaccurate. The researcher contacted Hanna about the HI96785 Honey Color Portable Photometer, which gives results in mm Pfund. The Pfund scale, ranging from 0 to 140 mm Pfund, was established by the US Department of Agriculture (USDA) as a color classification for extracted honey. The color scale includes the classifications water white, extra white, white, extra light amber, light amber, amber and dark; as the color of honey gets darker, the Pfund value increases, signifying a higher quality of honey. The researcher appreciated that the HI96785 came with a table that easily allowed him to determine the color classification based on the Pfund value. He also liked that the HI96785 was so easy to use and gave a direct measurement, which took away the subjectivity of comparing the samples to a set of standards. The HI96785 comes with a glycerol standard, but additional standards and cuvettes can be ordered for additional analysis. The HI93703-56 Kit includes 82 cuvettes, 30 mL of glycerol and two 5 mL syringes. The glycerol standard is used to calibrate the instrument before analysis, after which the honey sample is placed into a disposable cuvette, inserted into the instrument and covered with the light shield for analysis.

The Color of Honey

The natural color of honey presents many tonalities: from straw yellow to amber, from dark amber to almost black with a hint of red. The color of untreated honey originates from the botanical varieties used by the bees: for this reason, its coloration allows one to commercially identify the original floral type.

The color of honey tends to darken with age or change according to the method of conservation or production used by beekeepers, e.g., the use of old beehives, contact with metals, the temperature of conservation, exposure to light, etc. The classes of color are expressed in millimeters (mm) on the Pfund scale, compared to an analytical standard scale of reference on the graduation of glycerin.

USDA Color Standards Designations Color Range Pfund Scales (mm)

Water White	8 or less
Extra White	Over 8 to and including 17
White	Over 17 to and including 34
Extra Light Amber	Over 34 to and including 50
Light Amber	Over 50 to and including 85
Amber	Over 85 to and including 114
Dark Amber	Over 114