

Hand held Ex Photometer WCM 1

for colour check of fluids
(preliminary version)

The new portable photometer unit WCM1 was developed by tec5 AG in cooperation with Hellma GmbH & Co KG and the DIAGEO Global Supply Brand Technical Centre, Glenochil to check the colour of Whisky. This instrument is also suitable for colour measurements of other spirits, wines, fruit juices and other liquids.

Taking samples and measuring in the laboratory belongs to the past. This portable instrument, with its in-built special design of fibre-optic immersion probe from Hellma allows for direct, easy measurement of the colour of fluids directly in a bottle, drum (or similar container), sample tube etc.



Photometer unit WCM 1

- Moves analysis out of the laboratory
- Easy to use
- Short measurement time (2 s)
- Stores up to 2700 data sets
- EX Protection
- Battery powered, >8 hours operating time
- Compact and robust
- Splash-Water proofed (IP 53)

Technical description (short form)

HandySpec WCM ("Whisky Colour Meter") is a battery powered Ex-proofed hand-held device for colour measurements of fluids. An integrated Hellma probe is directly immersed into the media without the time consuming procedure of taking samples followed by measurements in the lab. The measurement is activated by the single press of a button.


The probe length, the optical path length and the number of optical measurement channels (max. 4) can be adapted to the application.

The operating time of the rechargeable battery is > 8 hours. The measurement data can be displayed as extinction, EBC units or as arbitrary units which can be easily matched to other colour check instruments

(e.g. Dr. Lange or Alcolyser) by using programmable calibration and/or display factor.

Ex protection

Basis for examination Annex II of Directive 94/9/EC
Standards basis EN 1127-1:1997 Explosion prevention and protection
- Basic concepts
EN 60079-0:2004
General requirements IEC 60079-11:2004 (31G/159/FDIS) Intrinsic safety
prEN 60079-28:2005
Optical radiation

Marking  II 1/2G [Ex op is] Ex ib IIB 4

Ambient Temperature: -20°C to +40°C
IP 53 (Splash-water up to 60°C)



Preliminary technical data

Explosion protection: II 1/2G [Ex op is] Ex ib IIB T4
Ambient temperature: -20°C ... +40°C

Probe: Ultra-mini immersion probe:
(Hellma type 661.656 – UV),
Probe length: 400 mm, other
available

Optical path length: 10mm (2*5mm), other avail-
able

Optical channels: 2 (standard: measurement
and reference channel).
optional: up to 4 channels

Light sources: LED's (or LD's)

Detector: Single chip detector

Measurement time: approx. 2 s

Operating time: > 8h (fresh battery pack,
charged, 6 measure-
ments/minute)

Extinction range: 0 – xx (depends on the optical
path length)

Repeatability: approx. 0.001 Extinction units

Long term stability: approx. 0.002 Extinction units
per hour (without new refer-
encing)

Power supply: Changeable battery module
(also in EX area), recharge-
able

Power consumption: Idle: approx. 90mA
Active (with LCD light on):
approx. 130mA

Display: 2*12 character LCD-display
Edge Illumination

Result buffer: Prototype: 2700 result data
sets (consecutive number,
data set index,
extinction, intensities λ_1 and
 λ_2 , calibration factor, display
factor)

EIA-485-interface: Serial computer interface for
measurement data transfer
and unit setup



Contents of Delivery

- HandySpec WCM (with battery pack)
- Battery charger
- EIA-485-USB communication cable with
driver CD (D-Sub9-pin-connector – USB) (2-
wire EIA-485)
- CD with WCM administration and application
software, manual and data sheets



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