

Two Standard Methods in one Unit

The haze-gard *dual* objectively measures Total Transmittance and Transmission Haze according to two international specifications:

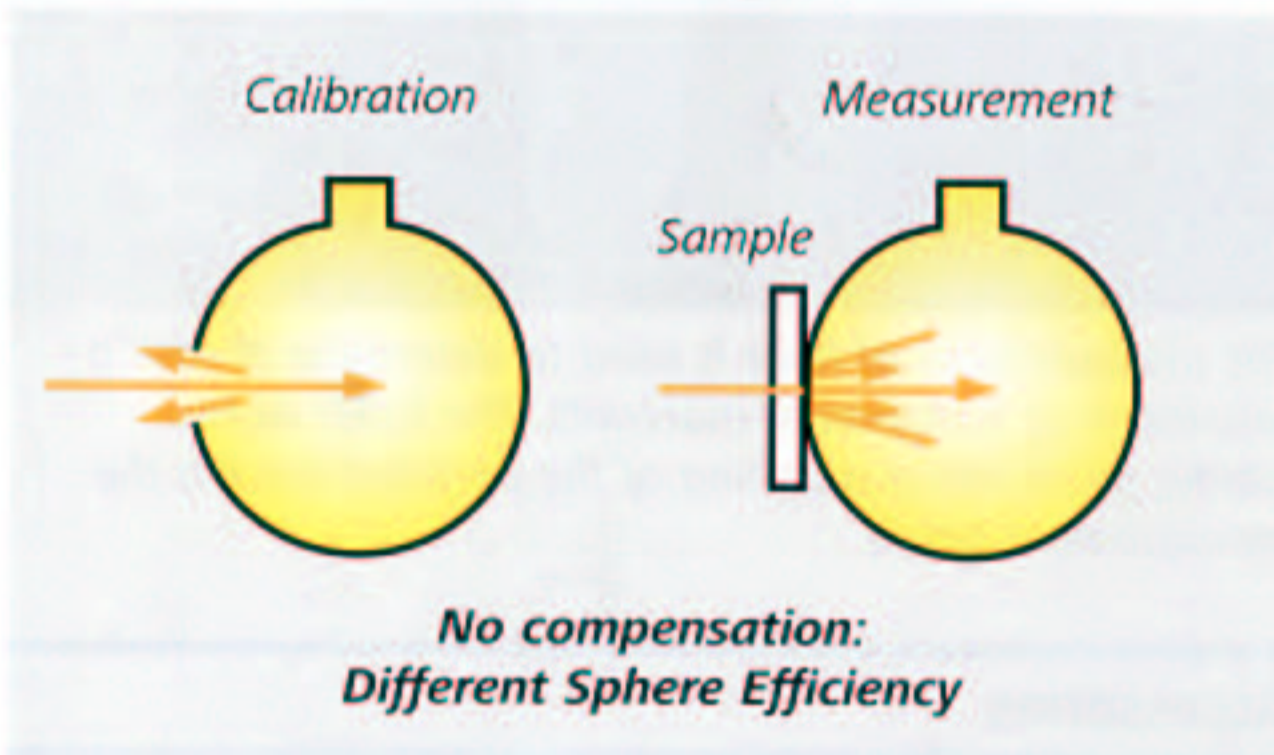
- ISO 13468 Compensation method
- ASTM D 1003 Non-compensated method

Fast Measurement of a Variety of Samples

- Open sample area for small and large specimens
- Foot switch and automatic measurement allow hands-free operation
- Built-in statistics with average, standard deviation, coefficient of variance, and min/max
- Large storage capacity and data transfer to a printer or PC for professional documentation
- Operation in English, German, French, Spanish, and Italian - switchable

Precise and Reliable Readings – Any time

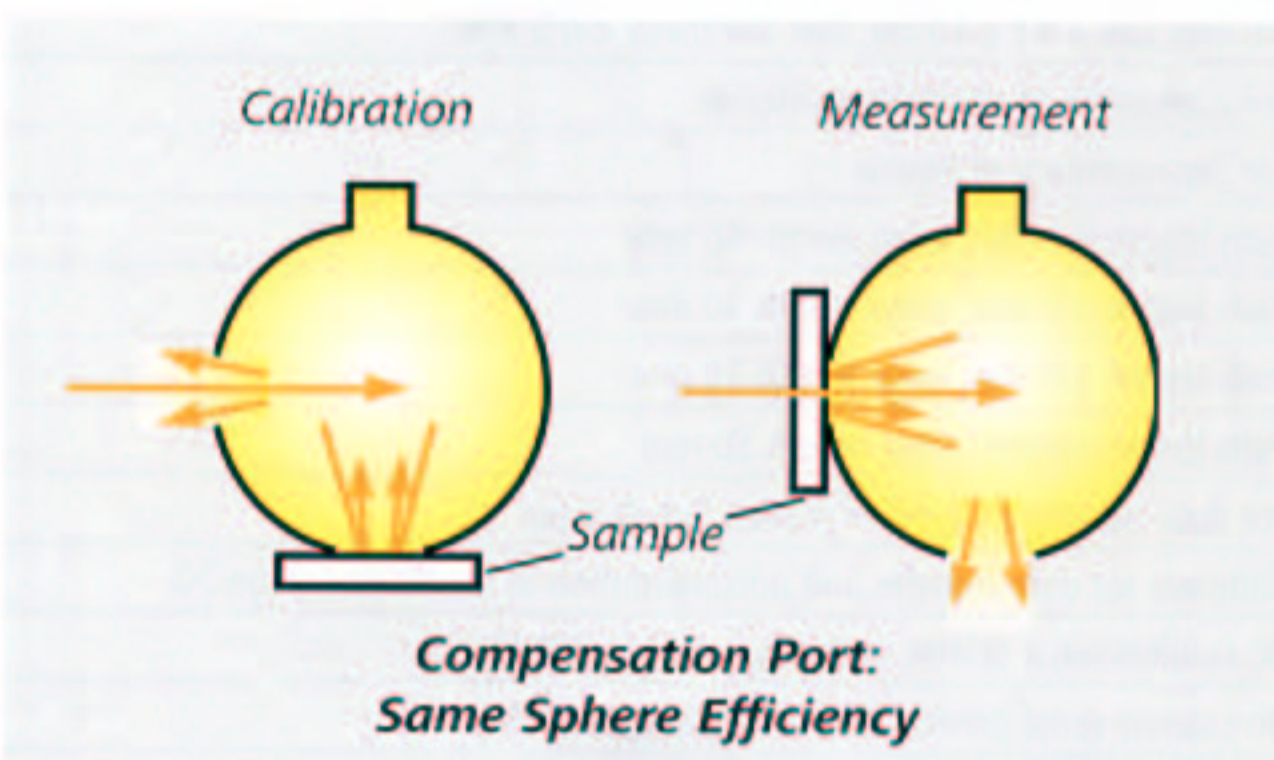
- Total Transmittance and Transmission Haze in one unit
- Reference beam, self-diagnosis and enclosed optics guarantee accurate readings
- Ready for measurement without warm-up time
- Automatic and long-term calibration guarantee reliable readings



ASTM D 1003

Measurement conditions are different during calibration and actual measurement.

During calibration, part of the light escapes through the open entrance port. While taking a measurement, the entrance port is covered with the sample. Thus, the amount of light in the sphere is increased by the light reflected at the sample surface.



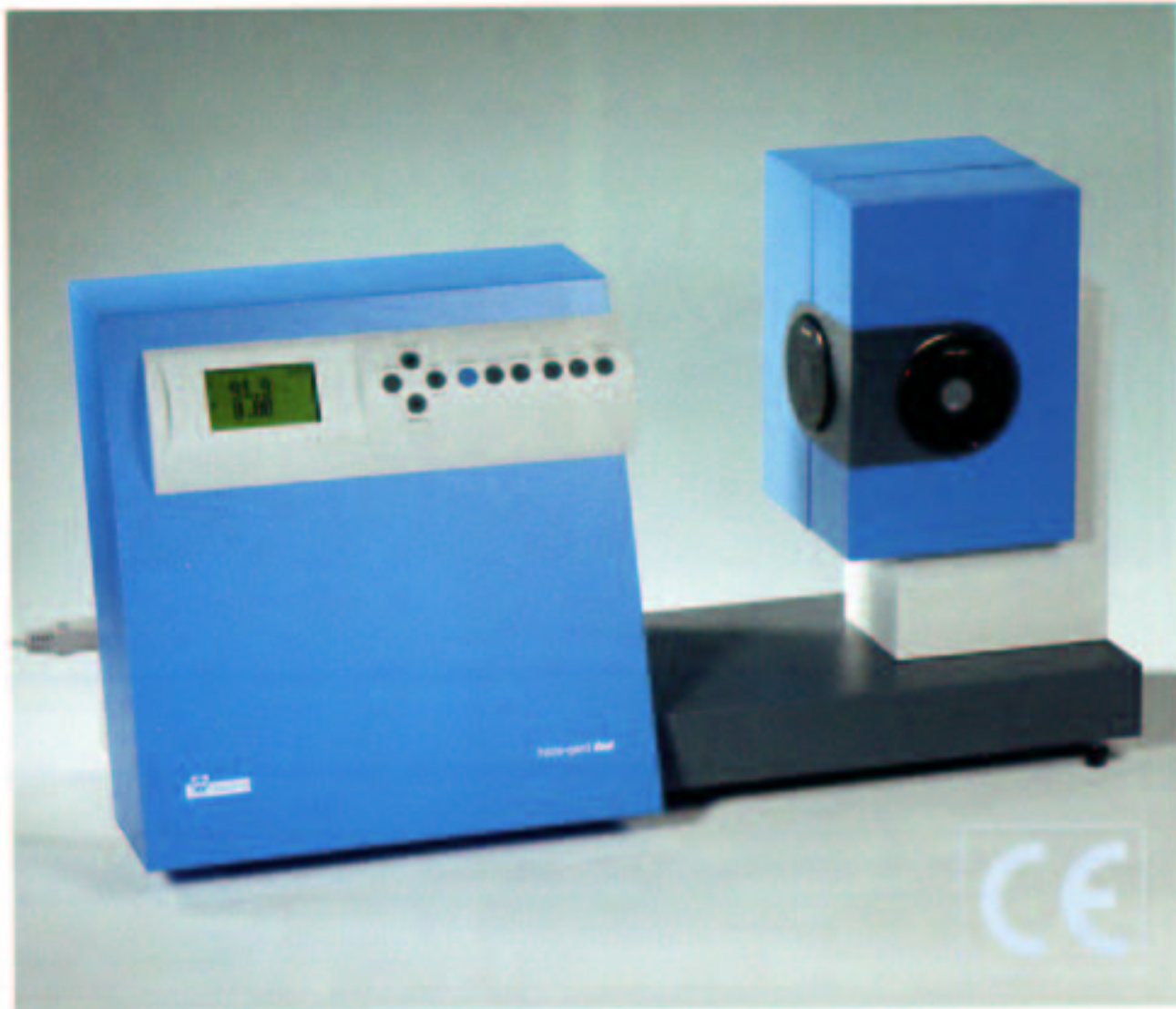
ISO 13468

Measurement conditions are kept equal during calibration and measurement due to an additional opening in the sphere.

During calibration the sample is placed at the compensation port. For the actual measurement, the sample is changed to the entrance port. Thus, the so-called sphere efficiency is independent of the reflection properties of the sample.

Note:

Differences between the two methods can be approximately 2 % Total Transmittance on clear, glossy samples.



Ordering Information

Cat. No.	Description
E-4727	haze-gard <i>dual</i>
EE-4700	Extended Warranty one year additional

Comes complete with:

haze-gard dual
Foot switch
Zero standard
Software easy-link
Interface cable
Power cord
Operating manual
Training



For Recertification
and Calibration
Services
see page 172

Standards

ASTM	D 1003	D 1044
ISO	13468	14782

Technical Specifications

Measurement Area	16,5 mm (0.65 in)
Sample Port	21 mm (0.83 in)
Measurement Range	0 to 100 %
Repeatability	± 0.1 units (standard deviation)
Reproducibility	± 0.4 units (standard deviation)
Geometry	0° / diffuse
Spectral Response	CIE luminosity function y
Illuminants	CIE - D65
Memory	3 x 999 values
Interface	serial RS-232
Power Supply	230 V / 50 Hz, 115 V / 60 Hz, 200 VA max.
Operating Temperature	+10 to 40 °C (+50 to 104 °F)
Storage Temperature	0 to 50 °C (+32 to 122 °F)
Dimensions	67 x 39 x 24 cm (26 x 15 x 10 in)
Weight	18 kg (40 lbs)

Training haze-gard *dual*

BYK-Gardner offers you more than just an instrument. We assist you in operation of the haze-gard *dual* and understanding your appearance readings. As a result you will be able to use the system to save time and money and at the same time improve your quality. Therefore, the instrument comes with a half day training course including:

Haze and Clarity Theory

- Visual perception, Transparency, Scattering, Haze, and Clarity
- Instrumental measurement, Standards and Application

Operation and Software Training

- Handling, Statistics, Maintenance
- Direct data transfer to Excel® and documentation



Ordering Information

Cat. No.	Description
E-4760	Haze Test Standard 1
E-4761	Haze Test Standard 5
E-4762	Haze Test Standard 10
E-4763	Haze Test Standard 20
E-4764	Haze Test Standard 30
E-4765	Haze Test Set
E-4750	Transmittance Standard 30
E-4751	Transmittance Standard 50
E-4752	Transmittance Standard 70
E-4753	Transmittance Standard 90
E-4754	Transmittance Standard Set
E-4735	Taber Abrasion Holder
E-4739	Cuvette Table
E-6180	Cuvette for Liquids, 2.5 mm
E-6181	Cuvette for Liquids, 4.0 mm
E-6182	Cuvette for Liquids, 5.0 mm
E-6183	Cuvette for Liquids, 10 mm
E-4613	Interface Cable
E-4545	BYKWARE easy-link
E-6650	Portable Printer
E-6649	Portable Printer
E-6648	Printer Paper
E-4731	Foot Switch
E-4736	Lamp

Accessories

Approx. 1% haze, for checking purposes, certificate included
Approx. 5% haze, for checking purposes, certificate included
Approx. 10% haze, for checking purposes, certificate included
Approx. 20% haze, for checking purposes, certificate included
Approx. 30% haze, for checking purposes, certificate included
Set of 5 pieces in hard box, certificate included
Approx. 30% total transmittance, for checking purposes, certificate included
Approx. 50% total transmittance, for checking purposes, certificate included
Approx. 70% total transmittance, for checking purposes, certificate included
Approx. 90% total transmittance, for checking purposes, certificate included
Set of 4 pieces in hard box, certificate included
For evaluation of abrasion resistance
For measurement of liquids
Path length 2.5 mm, edge length 50 mm
Path length 4.0 mm, edge length 50 mm
Path length 5.0 mm, edge length 50 mm
Path length 10 mm, edge length 50 mm
For data transfer to a PC or printer, Sub-D 9-pin
Software for data transfer and documentation in Excel®
40 column serial printer, including charger 230 V
40 column serial printer, including charger 115 V
For portable printer Cat. No. CB-6649 and CB-6650
Replacement
For haze-gard dual



For Recertification
and Calibration
Services
see page 170