

## HACA-2000 高精度分光测色仪

### HACA-2000 high precision spectrophotometer

- HACA-2000高精度颜色分析仪是采用先进的光学系统，具有业界一流测量精度，可实现颜色、色差、白度、黄度、光谱反射率、反光率等参数的高精度测量，参考CIE、ISO、ASTM、DIN、JIS等国际标准 and GB/T等国家标准要求设计，是非透明材料颜色高精度测量的优选方案。

HACA-2000 high-precision color analyzer is an advanced optical system with first-class measurement accuracy in the industry. It can achieve high-precision measurement of color, chromatic aberration, whiteness, yellowness, spectral reflectance, reflectance and other parameters. It is designed according to international standards such as CIE, ISO, ASTM, DIN, JIS and national standards such as GB/T, and is the preferred scheme for high-precision color measurement of non transparent materials.



### 特点与优势 Characteristics and advantage

- 测量重复性小于 $0.02 \Delta E^*ab$ ，器间一致性达 $0.15 \Delta E^*ab$ ；  
Measurement repeatability is less than  $0.02 \Delta E^*ab$ , consistency between devices up to  $0.15 \Delta E^*ab$ ;
- 双光束反馈系统，实时监控和补偿光源波动；  
Double beam feedback system, real-time monitoring and compensation of light source fluctuation;
- 3孔径反射测量，自动变焦；  
3 Aperture reflection measurement, automatic zoom;
- SCI 和 SCE 两种测试模式可选；  
Two test modes, SCI and SCE, are optional;
- 采用亮度高、寿命长、稳定性好的优质光源；  
High quality light source with high brightness, long service life and good stability shall be adopted;
- 优异的深色域测量表现，在测量深色材料时，仍具有较高的精度和重复性；  
Excellent performance in dark color measurement, with high accuracy and repeatability when measuring dark materials;
- 具备UV校正功能，适用荧光色测量；  
UV correction function, suitable for fluorescent color measurement;
- 多功能管理分析软件：包含颜色、反射率、色力度、遮盖率测量以及统计分析功能。  
Multifunctional management and analysis software: including color, reflectivity, color strength, coverage measurement and statistical analysis functions.

### 技术参数 Specifications

型号	HACA-2000
测量几何	d/8(漫射照明/8°接收);
测量功能	颜色、色差、光谱反射率曲线等
色空间 及颜色参数	L*a*b、L*C*h、Yxy、Luv、Hunter Lab、XYZ、RGB、 $\Delta E^*ab$ 、 $\Delta E^*94$ 、 $\Delta E^*00$ 、CMC (2: 1)、CMC (1: 1)、同色异谱指数 MI、白度 WI (ASTM313/CIE)、黄度 YI (ASTM 313/ASTM D1925) 等
波长范围	380-780nm
反射率范围	0-200%，分辨率 0.01%
重复性	色度值标准偏差 $\Delta E^*ab$ 小于 0.02 (白板校正后，以 10 秒间隔测量白色校正板 30 次)
器间差	色板的平均 $\Delta E^*ab$ 值小于 0.15