

FRU®

威福光电

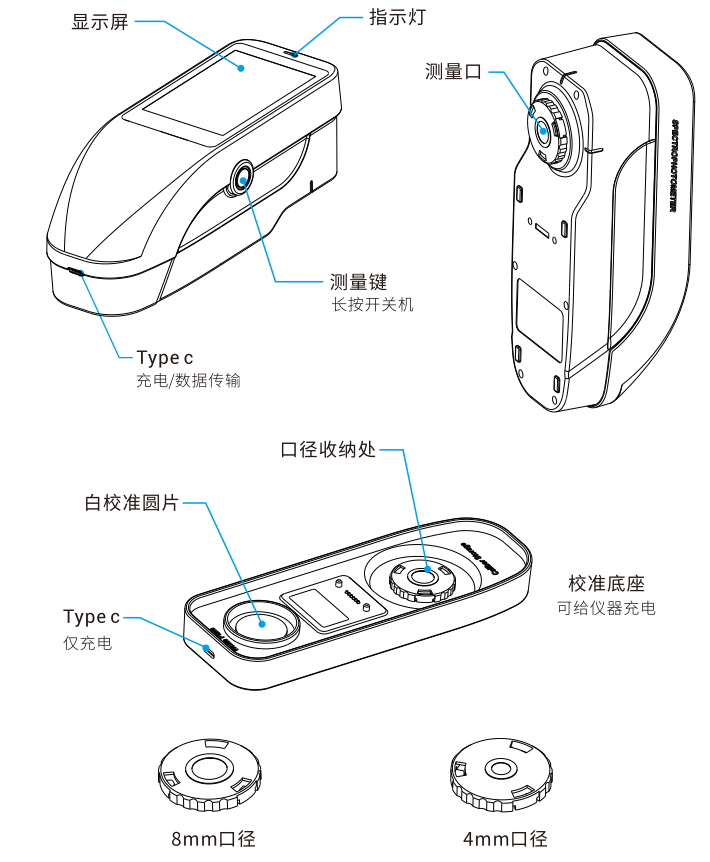
SY系列

分光测色仪说明书

Spectrophotometer User Manual

感谢您购买本产品,使用前请仔细阅读此说明并妥善保管以备随时查阅.由于产品更新,如说明书内容与实际不符,请以实际为准。

了解仪器



仪器操作

仪器开机即进入测量界面,如下图:



- 1 状态栏
从左到右依次为:时间、电量、连接状况、平均测量提示、测量条件
- 2 试样/标样切换按钮
- 3 标样名称, 点击弹出标样菜单
- 4 试样名称, 点击弹出试样菜单
- 5 标样颜色仿真, 点击测量标样
- 6 试样颜色仿真, 点击测量试样
- 7 左边为光源/观察者角度切换按钮、右边为SCI/SCE切换按钮 (如配备)
- 8 导航栏 (专业版), 从左到右依次为:
仪器设置、删除 (或保存)、摄像头取景、查看记录、标样列表
- 9 两端箭头切换选项卡, 中间显示当前选项卡名称
- 10 选项卡显示区
共4种选项卡可切换:测量数据、反射率、颜色坐标、颜色偏向
- 11 色差值显示和结果判定

导航栏 (入门版), 从左到右依次为:
仪器设置、删除 (或保存)、标样列表、查看记录、查看记录

导航栏 (记录查看界面), 从左到右依次为:
返回测量、删除、设为标样 (调出当前查看的标样测试样)、前翻页、后翻页

特别注意

- 仪器不同型号, 所配备的口径种类和数量不同, 详见规格说明。
- 说明书中标记“如配备”处, 表示此功能只有特定型号具备, 详见规格说明。
- 保持白校准圆片的清洁并定期擦拭以免数据异常。
- 切换测量口径 (如配备) 后, 必须在“测量口径设置”调整口径设置, 使其与实际口径保持一致, 并重新进行黑白校准。
- 切换UV光源设置后 (如配备), 必须进行黑白校准以免数据异常。

下载APP

Android/iOS/Windows Support
扫描左侧二维码下载色彩猫APP获取更多功能

联系方式

深圳市威福光电科技有限公司
深圳市龙岗区布吉储运路38号深龙投东湾科技
创新中心40栋4楼
联系电话:0755-23023660
www.wavegd.com

类型	入门版	专业版
型号	SY3020	SY3060
测量口径	单口径 $\phi 8\text{mm}/\phi 4\text{mm}$ 可选	双口径 $\phi 8\text{mm}/\phi 4\text{mm}$ 可切换
含光方式	SCI (包含镜面反射光)	SCI (包含镜面反射光) / SCE (排除镜面反射光) 可同时进行测量
测量光源	全光谱LED	全光谱LED+双UV灯
测量定位	目视	摄像头定位
重复精度	$\Delta E^*ab \leq 0.07$ (校准后以5秒间隔测白板30次取平均)	$\Delta E^*ab \leq 0.03$ (校准后以5秒间隔测白板30次取平均)
颜色空间	CIE-Lab、CIE-LCh、Luv、Hunter-Lab、XYZ、Yxy、sRGB、DIN LAB99、DENSITY(A)C,M,Y,K、DENSITY(T)C,M,Y,K、DENSITY(E)C,M,Y,K、DENSITY(M)C,M,Y,K、DENSITY(I)C,M,Y,K、Munsell、反射率(明视觉)、黑度、YI黄度、同色异谱(跳灯)、遮盖力、着色力/力度/染料强度、色牢度、Taube白度、Berger白度、Tappi白度、Cros白度、Stephansen白度、甘茨白度 (Ganz)、Hunter白度、白度 (ASTM)、白度 (CIE)、AATCC白度、R457/ISO2470白度、GB/T17644白度	
色差公式	ΔE^*ab 、 ΔE^*ch 、 ΔE^*uv 、 ΔE^* HunterLab、 ΔE^* CMC(l:c)、 ΔE^*94 、 ΔE^*00 、 ΔE^*sR_{GB} 、 ΔE^*BFD 、 ΔE^*FCMII 、 ΔE^* DIN99	
标准光源	A、C、D50、D55、D65、D75、F1、F2、F3、F4、F5、F6、F7、F8、F9、F10、F11、F12、CWF、U30、U35、DLF、NBF、TL83、TL84	
观察者	10° (CIE1964) / 2° (CIE1931)	
波长	间隔:10nm、范围:400nm-700nm	
反射率	范围: 0-200%、分辨率: 0.01%	
感应器	CMOS感应器	
几何条件	d/8、直径40mm积分球	
校准	自动	
准确性	过量量	
显示精度	0.01	
台间差	$\Delta E^*ab \leq 0.4$ (RAL 12色块测量平均值)	
测量速度	1.0s、2.0s (SCI/SCE 同时)	
操作方式	电容触屏	
屏幕	3.5寸全彩液晶屏	
电池容量	聚合物电池、充满电连续测量10000次	
接口	Type C / 蓝牙	
语言	简体中文、繁体中文、English	
APP平台	Android/IOS/Windows	
存储	机身存储8000条数据, 另支持App海量存储	
体积	181x67x67mm (不含底座)	
重量	330g (不含底座)	
物品清单	仪器机身、校准底座、TYPE C数据线、充电器、说明书、保修卡、测量口径1个 (入门版) / 测量口径2个 (专业版)	



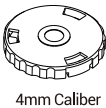
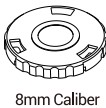
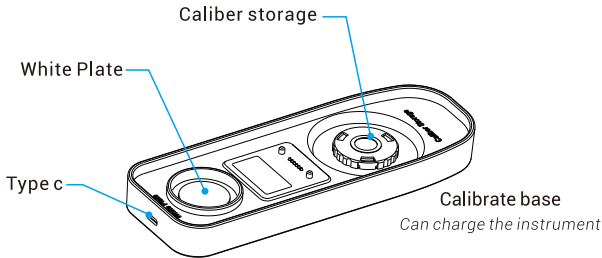
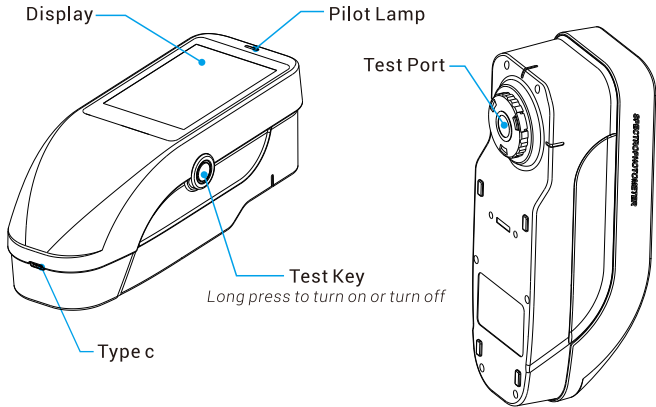
SY Series

Spectrophotometer User Manual

Thank you for purchasing our product. Please read this manual carefully before use and keep it well. Due to product update, please prevail according to the actual situation if discrepancy between the user's manual and the reality.

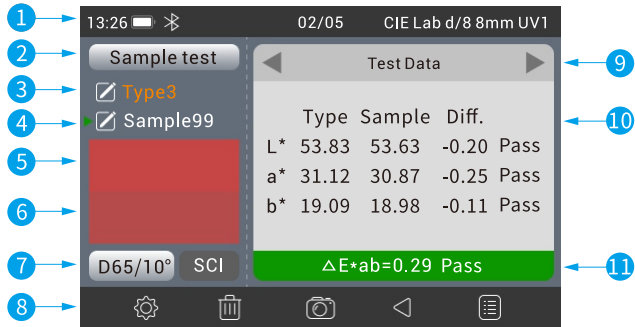


Structure



Operation

The instrument will enter the test interface when turned on, as shown in the figure below



- 1 Status bar from left to right:
Time, Battery, Connection status, Average test, Test conditions
- 2 Type/Sample switch button
- 3 Type name, click to Type menu
- 4 Sample name, click to Sample menu
- 5 Type color simulation, click to test Type
- 6 Sample color simulation, click to test Sample
- 7 Left side: Light source/observer angle switch button
Right side: SCI/SCE switch button (if equipped)
- 8 Navigation bar (Professional version), from left to right:
Settings, Delete (or Save), Camera, Records, Type list
- 9 Two arrows switch tabs, and the middle shows the current Tab name
- 10 Tab display area, 4 types of tabs can be switched:
Test data, reflectivity, color coordinates, color bias
- 11 Color difference value and result judgment



Navigation bar (Basic version), from left to right:

Settings, Delete (or Save), Type list, Records, Records



Navigation bar (Records interface), from left to right:

Return to Test interface, Delete, Set Type, Page forward, Page backward



Pay Attention

- Different types of instruments have different types and numbers of calibers. Please refer to the specifications for details.
- The mark "if equipped" in the manual indicates that this function is only available for specific models, see the specifications.
- Keep the white calibration plate clean and wipe it regularly to avoid abnormal data.

APP



Android/iOS/Windows Support

Scan the QR code to download the ColorCat APP for more functions.

Contact



Shenzhen Wave Optoelectronics Technology Co., Ltd
4F, Building 40, Shenlongtou Dongwan Technology
Center, Chuyun Road No. 38, Buji Street, Longgang District,
Shenzhen, China 518112.
TEL: 0755-23023660
Mob: +86-18938072212
www.colorinstrument.cn
Email: sales@fruglobal.com

Specifications

Item	Basic version	Professional version
Model	SY3020	SY3060
Caliber	Single caliber Φ8mm/Φ4mm Optional	Double caliber Φ8mm/Φ4mm Switchable
SCI/SCE	SCI (Include specular light)	SCI (Include specular light) / SCE (Exclude specular light) Can test at the same time
Light type	Full spectrum LED	Full spectrum LED / Dual UV
Fix position	Visual	Camera positioning
Repeated accuracy	$\Delta E^*ab \leq 0.07$	$\Delta E^*ab \leq 0.03$
Color space	CIE-Lab, CIE-LCh, Luv, Hunter-Lab, XYZ, Yxy, sRGB, DIN LAB99, DENSITY(A)C,M,Y,K, DENSITY(T)C,M,Y,K, DENSITY(E)C,M,Y,K, DENSITY(M)C,M,Y,K, DENSITY(I)C,M,Y, K, Munsell, Reflectance, Blackness, Yi yellowness, Metamerism, Covering power, Coloring power / strength / dye strength, Color fastness, Taube whiteness, Berger whiteness, TAPPI whiteness, Cross whiteness, Stephens whiteness, Ganz whiteness, Hunter whiteness, ASTM whiteness, CIE whiteness, AATCC whiteness, R457 / iso2470 whiteness, GB / t17644 whiteness	
Color difference formula	ΔE^*ab , ΔE^*ch , ΔE^*uv , ΔE^* HunterLab, ΔE^* CMC(l:c), ΔE^*94 , ΔE^*00 , ΔE^*sR GB, ΔE^*BFD , ΔE^* FCMII, ΔE^* DIN99	
Light source	A, C, D50, D55, D65, D75, F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, CWF, U30, U35, DLF, NBF, TL83, TL84	
Observer angle	10° (CIE1964) / 2° (CIE1931)	
Wavelength	Interval: 10nm, Range: 400nm-700nm	
Reflectivity	Range: 0-200%, Accuracy: 0.01%	
Sensor	CMOS Sensor	
Geometric	d/8, 40mm Integrating sphere	
Calibration	Automatic	
Certificate	Pass the certificate	
Display Solution	0.01	
IIA	$\Delta E^*ab \leq 0.4$ (RAL 12 Average for 12 Color blocks)	
Test speed	1.0s, 2.0s (SCI/SCE test at the same time)	
Operation	Capacitive touch screen	
Display	3.5 inch Full color LCD	
Battery	Polymer battery, Continuous test for 10000 times with fully charged	
Interface	Type C / Bluetooth	
Language	简体中文、繁体中文、English	
APP support	Android/iOS/Windows	
Storage	The fuselage stores 8000 pieces of data, and supports app mass storage	
Dimension	181x67x67mm (Without base)	
Weight	330g (Without base)	
Packing List	Instrument, Calibrate base, Type c cable, Charger, User's manual, Warranty card 1 calibers (Basic version) / 2 calibers (Professional version)	