仙本科技

Optical properties Tester

RPD-1

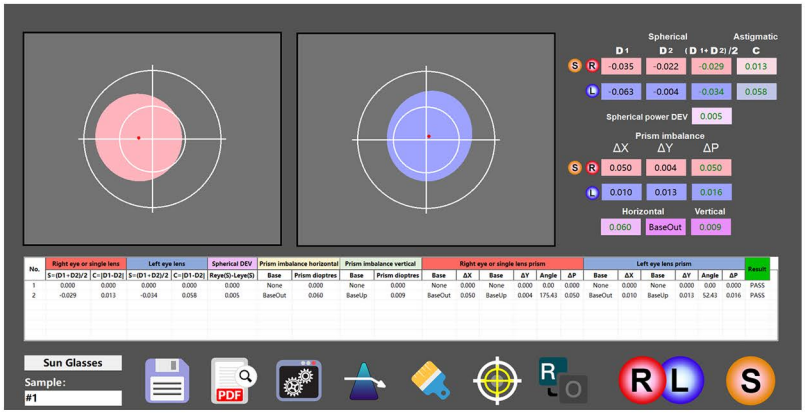
Simple...Fast...Precise...Powerful.....

RPD-1

Electronic recording of visual assessment

Automation software with rich functions

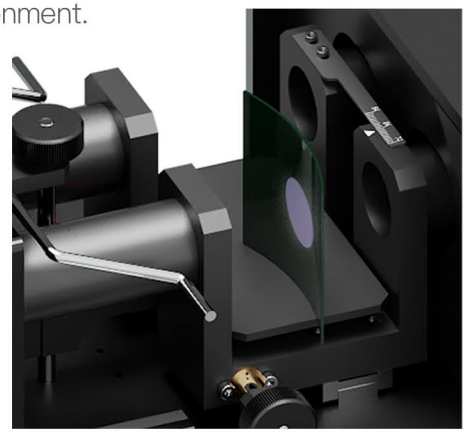
One click test for spherical, cylindrical, and prismatic lenses of binoculars or individual lenses; And automatically calculate and judge the mutual differences between spherical mirrors and prisms based on standards. Generate a report.
Batch testing list, which allows for testing and statistics of batch products. Generate Excel statistical data tables.



RPD-1 Software function	
Display data:	Spherical, cylindrical, prism mutual difference.
Control method:	Windows desktop operations.
Target display:	Digital electronic cross simulation target
Analog imaging:	Spherical、Cylindrical simulation Image deformation.
Real image display:	Directly display the test spot.
Diopter report:	Detailed optical parameter and simulation charts.
Prism report:	binocular and monocular prism degree reports.
Test List Export:	Excel list export for batch full inspection of factories.
Standard selection:	Automatically screen standards based on sample types.

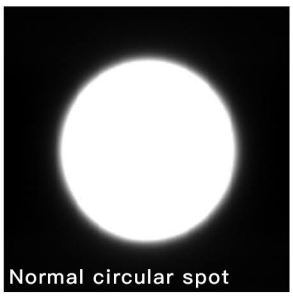
Adaptive detection light source

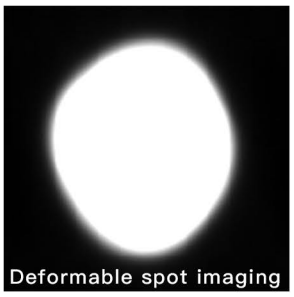
Fully automatic testing, without the need for manual input of lens transmittance. It can support open testing and improve the efficiency of batch testing work.
Millisecond level dynamic detection of light intensity, adaptive adjustment of different color code samples and usage environment.



Evaluation of Lens Optical Imaging

Support the display of raw images for lens imaging, used to evaluate the optical performance of lenses other than spherical and prismatic indicators.
For example, lens imaging distortion caused by spherical aberration and coma.


Normal circular spot


Deformable spot imaging

RPD-1 Specification parameters	
ISO target:	Virtual ISO12311 Infinite Cross Target.
Target size:	Cross target, inner ring 0.12cm/m, outer ring 0.25cm/m
Display switching:	Virtual target display and actual imaging display can be switched
Magnification:	12×
Objective aperture:	ϕ20mm
Image acquisition:	Low-light level industrial camera.
Auto calibration:	Adaptive ambient light and support for open testing.
Tv calibration:	V(λ) Filter has peak transmittance at green wavelength
Built in filter:	Automatic light source calibration without manual input Tv calculation.
Test speed:	⩽ 1.5 seconds (AI automatic calculation speed)
Indication error:	⩽ ± 0.01D/⩽ ± 0.003△
Test repeatability:	Repeat the test 100 times：⩽ 0.002D / ⩽ 0.001△
Test scope:	Spherical -0.50D~+0.35D/Cylindrical -0.25D~+0.25D/ Prism 0~0.3△
Prism deviation:	Horizontal deviation of 0~0.6△/ Vertical deviation of 0~0.5△
Auto measurement:	Spherical, cylindrical, prism, prism angle, prism mutual difference.
Report output:	Binocular, single lens PDF report, including prism report.
Test sample:	Sunglasses, Goggles, Ski-goggles, Faceshields
Overall dimensions:	552W * 194D * 140H (mm)
Power supply:	100~240V AC | 50/60Hz
Power:	10W (VA)

Compliant with standards

EN 166-2002	AS/NZS 1067.1-2016
ISO 12312-1:2022	ANSI Z87.1-2020
ISO 12312-3:2022	ANSI Z80.3-2018
ISO 18527-1:2021	CSA Z94.3:20
ISO 18527-2:2018	GB 39552.1-2020
ISO 18527-3:2020	GB 32166.1-2016
ISO 16321-1:2021	GB 14866-2006