

So ultra-compact in its size, yet so enormous in its performance.

The combination of a streamlined refractor had a user-friendly control console allows exceptionally precise and efficient examinations. Enhanced data communication functions strengthen the seamless network in diverse environments.



tSDR 3000

Digital Refractor



tSDR-3000

Digital Refractor

Specifications

• Measurement Range

Spherical Lenses	-29.00 ~ +26.75D (Regular) -19.00 ~ +16.75D (In case of XC or prism tests) (0.12 / 0.25 / 0.50 / 1 / 2 / 3D step)
Cylinder lenses	0.00 ~ ±8.75D (0.12 / 0.25 / 0.50 / 1 / 2 / 3D step)
Cylinder axis	1 ~ 180° (1 / 5 / 15° step)
Pupillary distance	48 ~ 80mm (0.5 / 1.0mm step) Near 50 ~ 74mm (0.5 / 1.0mm step) Near working distance 35 ~ 70cm
Rotary prism lens	0Δ ~ 20Δ (0.1 / 0.2 / 0.5 / 1 / 2Δ step)
Cross cylinder	±0.25D ±0.50D ±0.25D prism split lens (Dual cross cylinder)
Retinoscopic lens	+1.5D, +2.0D (Measurement distance 67cm, 50cm)

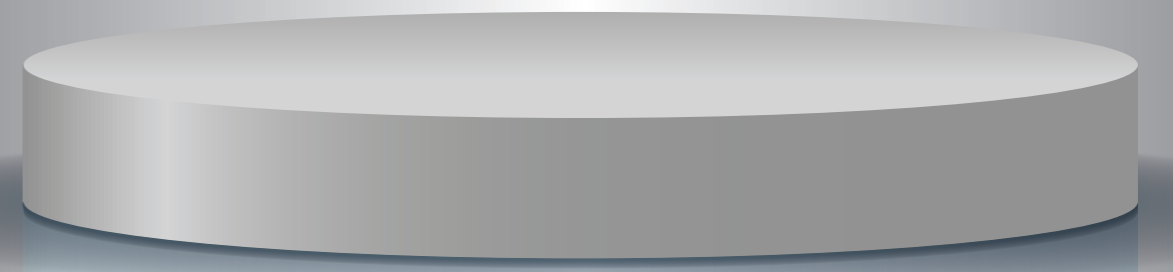
• Auxiliary Lenses

Occluding aperture	-
Pinhole lens	∅ 2mm
Maddox rod	Right eye (Red, Horizontal) / Left eye (Red, Vertical)
Red/Green filter	Right eye (Red) / Left eye (Green)
Polarizing filter	Right eye (135°, 45°) / Left eye (45°, 135°)
Split prism	Right eye (6Δ BU) Left eye (10Δ BI, 0 ~ 5Δ complement)
PD check lens	-
Fixed XC lens	(±0.50D, with the axis fixed at 90°)
Visual field	40 (At VD is 12mm)

• Hardware

Head unit	343(W) x 105(D) x 277(H)mm, 2.8kg
Junction box	142(W) x 180(D) x 51(H)mm, 0.8kg
Portable printer	75(W) x 105(D) x 45(H)mm, 0.2kg
Tablet PC	257(W) x 168(D) x 7(H)mm, 0.5kg / SAMSUNG Galaxy Tab
Power	AC 100-240V, 50/60Hz, 0.3A

Designs and details can be changed without prior notice for its improvements.



SCIENCETERA

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Single body concept - compactness



The TSDR-3000's single body concept provides more comprehensive interaction with the patient with more compact exterior design, providing comfort during optometry.

With the latest tablet PC, wireless control

SAMSUNG Galaxy Tab enables faster and more convenient eyesight test without any physical buttons. It controls not only the rotation of lens disc, but also the progress information of the test and the visual acuity chart with one device.



Bluetooth Mouse

Although the function can be implemented by directly touching or dragging the tablet's screen with a finger, it provides a Bluetooth mouse for optometrists who are familiar with conventional mechanical operation. The same effect can be achieved by simply operating the mouse wheel instead of the jog dial, and various additional functions such as occlusion can be easily used with button operation.

Portable thermal printer



The portable thermal printer with a built-in rechargeable battery can be connected via Bluetooth, so you can use it without any restrictions.

Low-noise, High-speed



The TSDR-3000's lens discs, which have been successfully lightened using special materials, reduce friction and increase rotation speed, enabling quite and fast lens loading.

This minimizes eye accommodation and fatigue that may intervene during the eyesight test, giving the patient a sense of psychological stability and increasing the accuracy of the test.

Tilting functions & built-in digital near chart

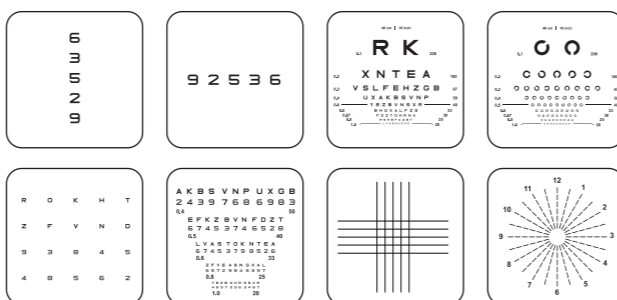


It is possible to tilt up to 45 degrees to measure the near vision of the patient. The built-in digital near chart on the tablet PC consists of numbers, alphabets, randolt-ring and E-snellen and can be measured from 35cm to 70cm.

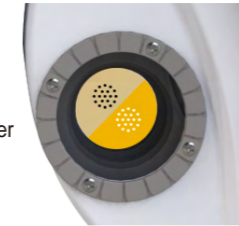
Presbyopia test (near vision)



Through the convergence function of the lens disc set and high-brightness LED lighting, you can quickly and easily conduct measurements without any other operations in presbyopia and near vision test.



Various Cross Cylinder



It provides $\pm 0.25D$ and $\pm 0.50D$ Jackson cross-cylinder lenses and Dual cross-cylinder lenses for obtaining fast and elaborate astigmatism and astigmatic axis.

Automatic occlusion

In order to exclude the patient's accommodation intervention, the occlusion function is automatically activated during function or lens rotating, enabling accurate and comfortable eyesight test.

Precise test with wide range of prism

It can be measured in detail up to 20Δ in units of at least 0.1Δ , providing a very precise phoria test with automatic occlusion function.

Various & useful phoria test

It provides a variety of phoria test methods to help operators with accurate prescriptions by enabling more convenient eyesight test.



Monocular PD adjustment



It is possible to adjust monocular PD by operating the left and right eyes independently. It enables more precise eyesight test and prescriptions depending on the shape and posture of the patient's face.



Patient posture alarm

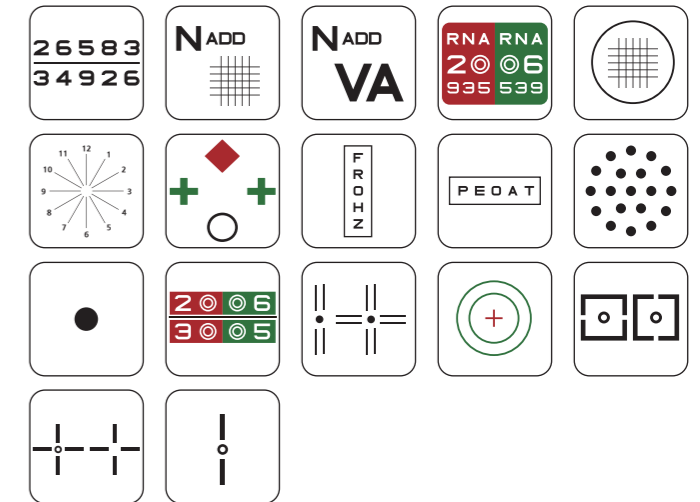
When the patient's forehead falls off the forehead-rest, it informs the operator through LEDs to help him conduct an eyesight test in more accurate and correct posture.

Convenient guide features

The tablet PC screen displays a description of the function and operation of each test mode, providing the operator with important information about that test.

Various test methods

It provides 40 visual acuity test charts, 30 monocular and binocular correction test chart to satisfy various test method of operators.



Unit test and test-program feature

In addition to the regular tests provided by the TSDR-3000, up to 99, operators can create their own unit tests and programs to use the tests for each situation.



Via Bluetooth Device connection



Various devices such as auto refractometers, lensmeters, and visual acuity charts can be easily connected through the Bluetooth wireless pairing function. In particular, multiple devices can be connected without separate settings, allowing more efficient eyesight test room space to be configured.

SCIENCETERA is increasing compatibility with third-party equipment through continuous updates. Please check with your local agency or distributor for information on the connection.