



## **iDESIGN™ REFRACTIVE STUDIO**

SPECIFICATIONS FOR SITE PREPARATION/INSTALLATION

### Product description

The **iDESIGN™** Refractive Studio System measures the wavefront of the eye within a defined range using the Hartmann-Shack sensor. The sensor evaluates the deflection of rays emanating from a small beam of light projected onto the retina. The measurements determine regular (sphero-cylindrical) refractive errors and irregularities (aberrations) that cause reduced visual function. The **iDESIGN™** Refractive Studio also measures and displays corneal topography, pupil size, and keratometry. Wavefrontlaser assisted in situ keratomileusis (LASIK) treatments can be calculated using measurements obtained from the **iDESIGN™** Refractive Studio. Treatment calculations for wavefront-guided LASIK include full gradient topography for propagating the wavefront and compensating for the cosine effect (peripheral loss of laser energy due to corneal curvature).

**ATTENTION:** Reference the Operator's Manual for a complete listing of Contraindications, Warnings and Precautions as well as other Indications and Important Safety Information.

*Johnson & Johnson* **VISION**

## Recommended room requirements

- Do not place the unit near windows or in a room that cannot be sufficiently darkened to allow the patient's pupils to dilate naturally
- Ambient operational temperature range: 15° – 27°C
- Humidity: Relative humidity no less than 35% and no greater than 65% (non-condensing)
- Barometric pressure range: 11 – 16 psi (76 – 110 kPa)

## System specifications

### Optical Head

- Physical dimensions: (L, W, H) 50.8 cm, 45.7 cm, 68.6 cm, including base
- Weight: 36 kg
- Enclosure construction: Aluminum and plastic
- Class 1 Laser Product: 840 nm, 100uW max

### Table

- Physical dimensions: (L, W, H) (mix-max) 81.3 cm, 66.3 cm, 56 cm - 84.5 cm
- Weight: 46.4 kg
- Electrical ratings are 100-120/200-240 AC Voltage, 50/60 Hz, 750 VA

### Optical Specifications

- Measurable Range: Sphere and Cylinder measurements in 0.01 D increments. Spherical equivalent range (6 mm pupil) - 16 to +12 D. Cylinder range (6 mm pupil) 8 D
- Axis in 1° increments
- Pupil measurements 2.0 to 9.5 mm, with 0.1 mm resolution
- Maximum wavefront diameter 8.5 mm
- Zernike terms displayed through the sixth order
- Measurement spatial resolution 0.177 mm (approximately 1250 measurement points for a 7 mm pupil)
- Integrated corneal topographer 37 x 37 spot measurement grid
- Integrated pupilometer: Provides automatic acquisition of low mesopic and photopic image
- Topographer grid extent (X and Y) ±4.1 mm for eye with 8 mm radius of curvature
- Illumination ranging from 535 to 940 nm

## Storing requirements before installation

When storing the system before installation, adhere to the following storage requirements:

- Storage temperature must be between -10 to 60°C
- Relative humidity must be in the range 0 to 85% (non-condensing)

## Hardware components

The **iDESIGN™** Refractive Studio hardware components include power supply, computer, networking device, and monitor. The computer Central Processing Unit (CPU) is housed inside the **iDESIGN™** Refractive Studio. The USB port is located on the right-hand side of the computer case. The computer keyboard is not integrated into the table.

