Keeler

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Keeler

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Keeler – A Century of Innovation

When you buy a Keeler instrument – what are you buying? A century of experience in optics! Keeler has been manufacturing ophthalmic instruments since 1917. We continue to lead the market with our innovative instruments. This has been achieved through our continuous program of customer involvement in the design process to ensure our instruments meet the rigorous demands of daily practice.

UK manufacturer

We still manufacture and assemble our instruments in the UK. Keeler combines optical precision, high-quality illumination, ergonomic design, and lightweight, durable materials to provide you with the best possible choice of equipment.

Reliability

To confirm our commitment to quality, Keeler manufactured devices carry up to three years warranty; please see our website or individual user instructions for full details.

Service

Keeler Technical Services and our authorized distributors will carry out repairs and routine maintenance to your equipment. We offer a Service Exchange plan covering most direct and indirect ophthalmoscopes. This is a quick and economic way of keeping your instruments in top working order.

Quotations can be supplied upon request.

Keeler Slit Lamps

For over 100 years, Keeler has been creating innovative products in their Windsor, UK, factory. The Keeler Slit Lamp has emerged as the newest product in Keeler's ophthalmic family, designed with you and your patients in mind. The Keeler Slit Lamp delivers a visually pleasing, customizable device using Keeler's tried-and-tested optics and everything that the Keeler name stands for.

KSL-H   KSL-Z

Keeler optics

Keeler has spent decades perfecting their optics design to produce some of the clearest and sharpest images on the market today. Manufactured in-house, every Keeler Slit Lamp (KSL) comes equipped with Keeler's world-class optics to produce stunning images for clearer and more accurate examination results.

Product configurability

Keeler aims to be flexible with your needs, therefore each slit lamp can be configured to your liking. From number of magnification settings to digital or traditional systems, you can adjust many different features. Along with this, third-party accessories provide even more options for digital solutions in order to get the most out of your slit lamp.

Visual aesthetics

Line up different brands of slit lamps side-by-side, and you will immediately be able to pick the KSL out of the bunch. With its silver-gray paint, the KSL stands out among most of the white equipment in the clinic.

Value for money

The KSL is a top-quality product that won't break the bank. With mid-range pricing, stunning optics, unique design, and quality performance, the Keeler Slit Lamp provides a cut above the rest in its price range.

Market adaptability

Keeler has worked hard to create a product that can adapt to fit the market and consumer needs through design, configurability, and digital solutions. Keeler has recently partnered with Advanced Ophthalmic Systems (AOS) as their exclusive global distributor for their Anterior analysis software to enhance the digital slit lamp functionality.

Other third-party accessories, ranging from imaging adaptors to software, are constantly being added to the portfolio to give end users one of the most adaptable slit lamps on the market. Not only do we sell slit lamps under the Keeler name but we also provide OEM solutions using engineering expertise.

KSL Naming Scheme

The KSL naming scheme has been developed to provide a description of the product configuration within the name itself. The following section provides the naming scheme as well as tables containing the part numbers associated with each code.

Slit Lamp Naming Codes

Product range name	Slit lamp style	Slit lamp drum type	Slit lamp configuration
KSL (Keeler Slit Lamp)	**H** H-Style	**5** 5-Step Drum	Traditional – No Code
	Z Z-Style	**3** 3-Step Drum	**DR** Digital Ready
			D Digital

Description	Product name
H-STYLE // TRADITIONAL // 5-STEP DRUM	KSL-H5
H-STYLE // DIGITAL READY // 5-STEP DRUM	KSL-H5-DR
H-STYLE // DIGITAL // 5-STEP DRUM	KSL-H5-D
H-STYLE // TRADITIONAL // 3-STEP DRUM	KSL-H3
H-STYLE // DIGITAL READY // 3-STEP DRUM	KSL-H3-DR
H-STYLE // DIGITAL // 3-STEP DRUM	KSL-H3-D
Z-STYLE // TRADITIONAL // 5-STEP DRUM	KSL-Z5
Z-STYLE // DIGITAL READY // 5-STEP DRUM	KSL-Z5-DR
Z-STYLE // DIGITAL // 5-STEP DRUM	KSL-Z5-D
Z-STYLE // TRADITIONAL // 3-STEP DRUM	KSL-Z3
Z-STYLE // DIGITAL READY // 3-STEP DRUM	KSL-Z3-DR
Z-STYLE // DIGITAL // 3-STEP DRUM	KSL-Z3-D

H-Style Traditional, 5-Step or 3-Step

H-Style Digital, 5-Step or 3-Step

Z-Style Traditional, 5-Step or 3-Step

Image Capture Options

Kapture Lite Video

This is a stand-alone system including still capture with live preview, video capture, patient database, image processing, import, and export. Kapture Lite is included with the digital camera upgrade package and the complete KSL digital system.

Kapture Digital

This includes all of the features of Lite plus video capture, measurements, network connectivity, and multiple image printing and saving.

Upgrade Options

Digital

Upgrade from Lite to Digital to have network connectivity (essential if you require a review station), measuring, and multiple image printing and saving.

Kapture View

Allows patient data and images to be viewed over the network – this requires the Kapture station to be networked.

Kapture View Plus

Includes file import and measure – the Kapture station must be networked.

Kapture Features

- Freeze and freeze-frame review.
- Still capture and optional upgrade to video capture.
- Image import and export, compare.
- Color balance, crop, zoom, split RGB, and more.
- Annotate, flip, draw, invert color.
- Sharpen, contrast/brightness, and Gamma control.

Slit Lamps

Keeler Certified Third-Party Accessories

In order to enhance the user experience to the best of our ability, we offer different third-party "Keeler Certified" Slit Lamp accessories to improve image quality, capture methods, and analysis.

TTI beam splitter adaptor with Canon SLR camera

The TTI beam splitter and camera adaptor will allow users to connect a Canon EOS camera directly to their slit lamps. The camera, combined with the connected beam splitter, gives strikingly clear images from the slit lamp. Cameras range in resolution from 18.1 to 24.1 megapixels (depending on the camera) with a removable prism in the beam splitter to have 100% of the light transmitted. An optional foot switch is included for image capture.

For more information or to order, visit ttimedical.com or email Ross Howes at rhowes@ttimedical.com.

AOS slit software

Keeler has partnered with Advanced Ophthalmic Systems (AOS) to give customers an image-analysis software option to use as a diagnostic tool. The software allows users to analyze images from the KSL to automatically measure bulbar redness, conjunctivitis, corneal staining, and lid redness.

For more information about this software, see page 90.

PART NUMBER
- 3020-P-7104

Eye Photo Systems

The Eye Photo Systems EasyCapture software is an image capture and management software that has an intuitive user interface. It allows users to capture high-quality slit lamp images with ease. With a software that automatically adjusts the camera setting based on the part of the eye selected, users can expect an image that looks good every time.

For more information or to order, visit eyephotosystems.com or email sales@eyephotosystems.com

Teaching tube and beam splitter

For use in university or teaching settings, this device allows an observer to look through the oculars from a side observation tube while someone else looks through the eyepieces and controls the slit lamp.

PART NUMBERS
- 10.02.03.613 – Observer tube
- 10.02.13.309 – Beam splitter

Slit lamp mounting plate

The mounting plate is recommended for any installation on a refraction unit. It removes the possibility of misalignment when mounting runners and chinrest assembly directly to a unit and reduces the amount of time required for the installation.

PART NUMBERS
- EP29-27118 – Stand alone plate (price separately; different part number with slit lamp included)
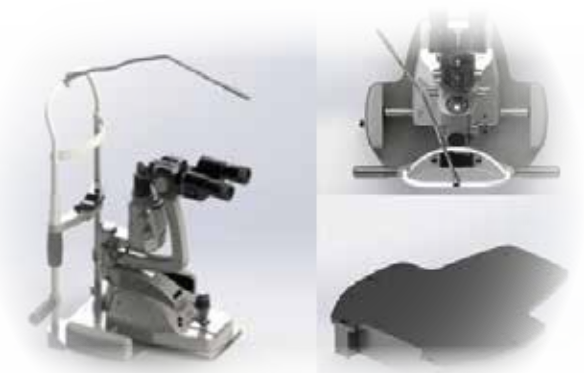
AOS Anterior Software

Automated Grading System

AOS Anterior is a stand-alone software designed to analyze slit lamp images of the eye and automate the grading scale for bulbar redness, lid redness, and corneal staining. AOS gives clinicians an important tool in assessing ocular surface conditions with consistency and accuracy that eliminates any inter-clinician variability.

Bulbar redness

This mode provides an objective grading scale for bulbar redness and also highlights all the vessels that would not be clearly visible in the original image of the human eye. This mode presents grading results showing the conjunctival total redness on a 0–4 scale and the vessel coverage for the selected area. There are three features in this mode: area, comparison, and draw. The user interface is designed to be intuitive and easy to use.
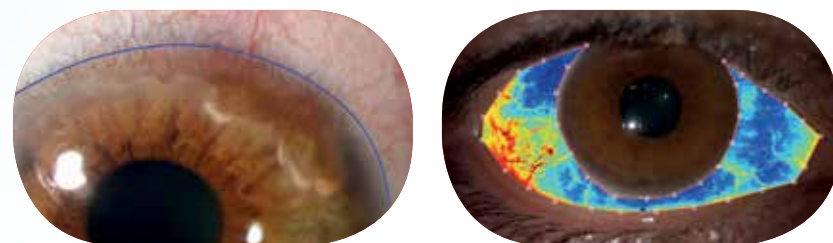
Corneal staining

Staining mode examines images of the conjunctiva and cornea that have been subjected to staining and conjunctival folding; the user can select specific areas to analyze. Corneal staining mode can also use the five zones corneal grid that most clinicians are accustomed to.
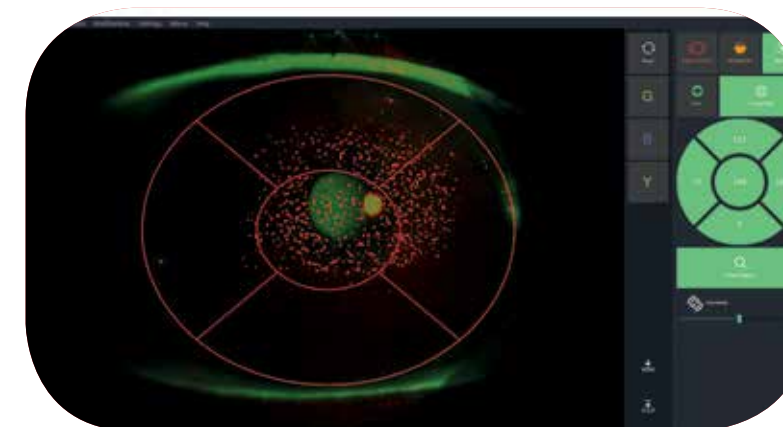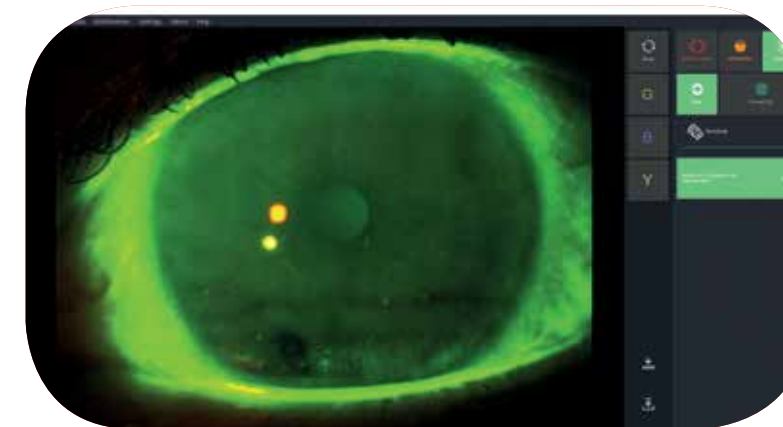
Lid redness

Lid redness mode divides the lid into the five zones (central, upper, lower, left, and right), which clinicians are accustomed to, and analyzes palpebral conjunctival redness for each of the zones.

Slit Lamps

ADVANCED OPHTHALMIC SYSTEMS

Keeler certified
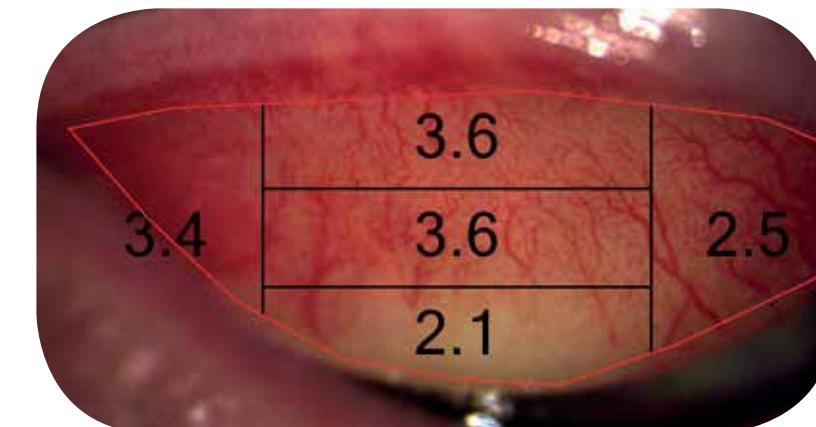
PSL Portable Slit Lamps

Versatility and portability are the key benefits of the Keeler PSL One and PSL Classic slit lamps. Designed and manufactured with the strength to withstand the daily traumas of the demanding ophthalmic environment, both PSL models are lightweight, durable, and robust.

Advanced optics

Choose between 10x and 16x magnification with the Classic or 10x magnification with the One. Top-quality multi-layered glass is crafted into our Keeler multi-element and multi-layer coated optical system to give maximum performance. Clarity is guaranteed.

Controllable illumination

With a proven halogen illumination system, illumination levels are controlled by a rheostat, giving you control of your examination parameters. From zero to maximum, you choose.

Big slit lamp features, portable usability

Unique features such as the fixation targets, and the 1mm square light patch for assessing anterior chamber flare set the new standard for portable slit lamps.

For more information on icons, please refer to the guide on page 73.

Slit wheel

| 1x1 | 0.15 | 0.5 | 0.8 | 1.6 | 12 |

Carrying case

Protect your investment with a rugged aluminum carrying case – perfect when your slit lamp is not in use or when you are traveling.

	PSL classic	PSL one
MAGNIFICATION	10x & 16x	10x
CHARGING BASE	Yes	No
DIRECT CHARGING	Yes	Yes
COLOR	Blue & white	Blue & black
IPHONE ADAPTER	Yes	Option
ALUMINIUM CASE	Yes	Option

Slit Lamp Part Numbers

KSL-H with LED illumination

- 3020-P-2007 – KSL-H with table module, power supply, and table top
- 3020-P-2013 – KSL-H with power supply, table top, and mounting post

KSL-H-DR with LED illumination

- 3020-P-2020 – KSL-H-DR with power supply and table top
- 3020-P-2021 – KSL-H-DR with power supply, table top, and mounting post

KSL-H-D with LED illumination

KSL-H-D with LED illumination, camera, Kapture Lite Software, background illuminator, auxillary diffuser, blue filter, joystick camera trigger, and external illumination controls for camera and independent of main illumination.

- 3020-P-2015 – KSL-H-D Digital System with power supply and table top
- 3020-P-2010 – KSL-H-D Digital System with power supply, table top, and mounting post

KSL-Z3 with LED illumination

- 3020-P-2042 – Converging (8°) Optics – Table module with power supply and table top
- 3020-P-2043 – Converging (8°) Optics – Table module with power supply, table top, and mounting post

KSL-Z3-DR with LED illumination

- 3020-P-2048 – KSL-Z3-DR Digital Ready with power supply and table top
- 3020-P-2049 – KSL-Z3-DR Digital Ready with power supply, table top, and mounting post

KSL-Z3-D with LED illumination

KSL-Z3-D with LED illumination, camera, Kapture Lite Software, background illuminator, auxillary diffuser, blue filter, joystick camera trigger, and external illumination controls for camera and independent of main illumination.

- 3020-P-2045 – Converging (8°) Optics Digital System – Table module with power supply and table top
- 3020-P-2046 – Converging (8°) Optics Digital System – Table module with power supply, table top, and mounting post

KSL-Z5 with LED illumination

- 3020-P-2051 – Converging (8°) Optics – Table module with power supply and table top
- 3020-P-2052 – Converging (8°) Optics – Table module with power supply, table top, and mounting post

KSL-Z5-DR with LED illumination

- 3020-P-2057 – KSL-Z5-DR Digital Ready with power supply and table top
- 3020-P-2058 – KSL-Z5-DR Digital Ready with power supply, table top, and mounting post

Kapture Software

Kapture comes with a one-year free support, to include upgrades, online, and telephone support. Ongoing support can be purchased from Keeler.

- 3020-P-7036 – Kapture Lite is a fully functioning stand-alone system including still capture with live preview, patient database, image processing, and import and export. Kapture Lite is included with the imaging module upgrade assembly and the complete digital slit lamp.
- 3020-P-7038 – Kapture Digital has all the features of Lite, plus video capture, measurements, network connectivity and multiup multiple image printing and saving.

Kapture upgrade, support, and review station options

- 3020-P-7042 – Upgrade Kapture Lite to digital for network connectivity (essential if you require review stations), measuring, and multiup multiple image printing and saving.

Review station options

- 3020-P-7045 – Kapture View allows patient data and images to be viewed over the network. This requires the Kapture station to be networked.
- 3020-P-7046 – Kapture View Plus includes file import, measure and multiup. The Kapture station must be networked.

PSL slit lamps

- 3010-P-2000 – PSL Classic
- 3010-P-2001 – PSL One

PSL accessories

- 3010-P-7000 – PSL carrying case
- 1030-P-7195 – PSL LED replacement module (bulb)
- 1030-P-7187 – PSL spare lamp
- EP39-70737 – PSL test bar
- 3010-P-7004 – PSL eye caps (2)
- EP59-47130 – Replacement lithium battery

Binocular Indirect Ophthalmoscopes

Since 1958, when we introduced the Fison, our first binocular indirect ophthalmoscope, Keeler has developed a reputation as the innovator in the development and manufacturing of indirect ophthalmoscopes. In 2003, we introduced the first Keeler "wireless" indirect ophthalmoscopes available on our All Pupil or Vantage models. Wireless gives you the freedom to move from room to room without any constraints – no more wires, cords, or tangles. Just a lightweight, balanced, and comfortable indirect ophthalmoscope. When you choose a Keeler indirect ophthalmoscope, you are guaranteed the following standard benefits in all of our instruments.

Enclosed KeeView Optics

All Keeler indirect optics are specially coated and individually laser aligned to provide the sharpest, clearest images every time you use your indirect.

Comfort and balance

Lightweight materials are used throughout the design of each unit; combined with soft cushioning and a nonslip contour shaped headband to maximize comfort and balance. These features will be particularly important during long examinations.

Easy-fit illumination

Keeler indirects have been designed to ensure optimal performance. LED modules and bulbs are easily accessible and quick to change.

Adjustable brilliant illumination

Why have all of the controls on the wall when the instrument is on your head? On the All Pupil II and Vantage, the illumination rheostat is located on the headband providing easily accessible, fully controllable light. Keeler indirects have the brightest illumination but can be turned down to as low as 2% of maximum required.

IR/UV filters

Supplies protection 100% of the time. IR/UV filters are built into the optics of the Vantage Plus and All Pupil II. LED products emit no harmful UV or IR wavelengths.

Wide-angle diffuser

The Keeler wide-angle diffuser eliminates shadows on the edge of the condensing lens, expanding the field of view significantly. This is particularly useful during difficult and peripheral examinations. There is also less discomfort for the patient, because the light is softer.

Vantage Plus LED Digital Ophthalmoscope

Digital Imaging Anywhere You Want It

As the world leader in binocular indirect technology, we lead the way with the first digital binocular indirect system, by moving away from analog video with true digital imaging. Utilize Vantage Plus LED Digital Wireless in your office, operating room, teaching facility, or anywhere you want to capture digital images.

The intuitive and powerful Keeler software allows you to use your laptop or any USB interface to optimize the examination, by providing still or dynamic images that aid in the documentation and diagnosis of your patient.

Increase your practice profile by educating your patients and their families with digital dynamic imaging in your office.

Features

USB INTERFACE	Plugs into any laptop or computer system, and examinations are recorded in digital format
KEELER SOFTWARE	For easy still or dynamic imaging, storage, and documentation
OPERATING SYSTEM	Windows 7 and Windows XP
VANTAGE PLUS LED	Built on the number-one selling LED and wireless Slimline system
PART NUMBERS	1205-P-5010 – Vantage Plus LED Digital Wireless Ophthalmoscope system 1205-P-7001 – Optional Vantage Plus LED Digital footswitch
INCLUDES	Vantage Plus LED Digital Wireless Ophthalmoscope docking station, power supply, additional Slimline Polymer battery, Keeler software, remote control, and carrying case

Technical Specifications

Camera

INTERFACE	USB 2 mini B
SUPPLY	Taken from USB 2 interface
RESOLUTION	To test pattern 6 of group 2 on the 1951 USAF TEST PATTERN (conforms to MIL-STD 150A standard), when used in combination with a 20D lens
DRIVER	When installed, will work with any video package capable of receiving video input from a USB source
LEAD	To connect camera to a PC, Keeler recommends a 5m long USB 2.0A to a mini 5 pin (sometimes packaged as a USB 2.0A to a mini B lead)

Convergence

RANGE	The camera can be adjusted ±7 degrees

Variable working distance

FOCUS	11–24 inches

Vantage Plus

CONTROLS	All controls and features have been maintained

Adjustment

VERTICAL ADJUSTMENT	Achieved by rotating the adjustment screw on the mirror holder the image should be adjusted so that the light patch is in the center
HORIZONTAL	Factory set adjustment

Physical

SIZE	The Vantage Plus Digital is approximately 50mm longer than the standard Vantage Plus
WEIGHT	The total weight of the complete Vantage Plus Digital is 662g

Vantage Plus Convertible

US Patent Number 8,132,915

Neutral LED cooler color

The neutral LED cooler color provides brighter, whiter illumination, longer battery life, and freedom from purchasing bulbs. Clinically, the superior optics combined with the LED illumination provides greater detail, allowing you to find retinal pathologies that are not visible with the xenon bulb.

Slimline lithium polymer battery

The Slimline lithium polymer battery weighs only 53 grams, making it comfortable and perfectly balanced. Wireless technology allows you to move from room to room and lasts up to six hours because of its combined LED illumination and lithium polymer battery.

Quality and efficiency

The high-contrast optics combined with the neutral LED or xenon light source offer brighter and higher definition retinal images.

15% lighter

Advanced textured engineering materials provide a lighter, smaller, and more-compact instrument without compromising the renowned Keeler reputation for robustness, reliability, and quality.

Filters and apertures

IR/UV filters are built into the optics of the Vantage Plus with optional filters and a choice of three apertures, plus a soft light diffuser.

48 – 76mm

Interchangeable LED module and xenon bulb

Slimline lithium polymer battery

> The cooler color temperature of the LED light source resulted in a level of image clarity rhat I've not found in another BIO.
>
> I have been able to find retinal pathology that was not visible with the xenon bulb BIOs in our clinic.

Todd J. Purkiss, M.D., Ph.D.
Ophthalmology and Visual Sciences, Kentucky Eye Care in Louisville

Intelligent Optical System (IOS) US Patent Number 8,132,915

When you change the aperture, the optics and mirrors automatically adjust for you without the need to flip another lever! Keeler has designed this unique, single-step movement to make your examinations easier and faster. When you select the small, medium, or large aperture, the optics automatically adjust through the IOS mechanism. This provides three-dimensional stereoscopic views of the retina through all pupil sizes.

Large pupil

When looking through a large, fully-dilated pupil, the optics are separated and the light source remains in the upper position, achieving maximum stereopsis.

Intermediate pupil

When looking through an intermediate pupil, the viewing optics and light sources are in a "mid position" for maximum stereopsis.

Small pupil

When looking through a small pupil, the viewing optics and light source are converged to allow you to view the retina through the smallest pupils stereoscopically.
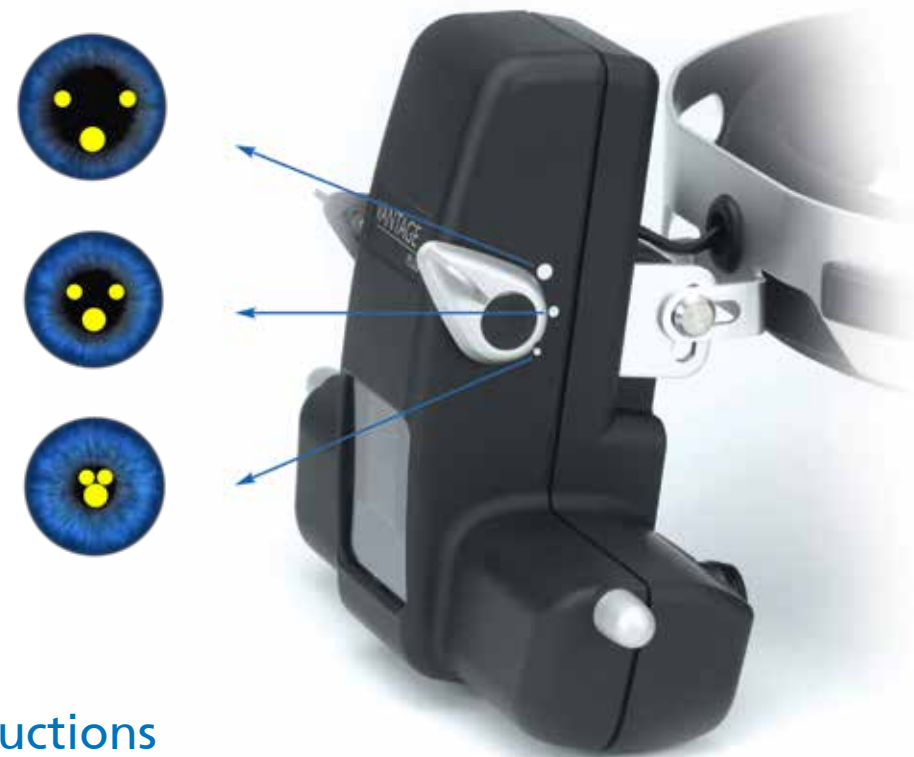
Exclusive – IOS Optics without obstructions

Vantage Plus IOS Optics

View through Vantage Plus with IOS Optics.

When small pupil is selected, there is no obstruction of the retina.

Non-IOS Optic System

View through Non-IOS Optical Systems.

When small pupil is selected, there is an obstruction, reducing your clinical information.

The HiMag Lens

Slides On and Off With Ease

This unique feature is only offered with the Vantage Plus indirect. It gives you a 1.6x additional magnification than with a condensing lens alone, providing superb stereoscopic images.

Scratch-resistant coated optics guarantee high-quality images at all times, and the HiMag can be simply flipped out of view when not required.

View when using a 20D lens and the Keeler HiMag lens.

View when using a 20D lens only.

The Teaching Mirror

The teaching mirror easily slides on and off, allowing two observers to view the retina at the same time.

Teaching mirror

HiMag Lens

All Pupil II Convertible

The All Pupil II is based on the design of the number-one selling All Pupil indirect. Look for the features designed to make your examinations easier and more comfortable.

Go wireless

No more wires and cords – gives the user freedom to move from room to room without any constraints. Keeler continues to provide the best-selling wireless indirect on the market.

Outstanding brightness

With 2,000 lux of light, which can be turned down to 2% of total illumination, when necessary, All Pupil II offers maximum illumination with total control.

Lightweight and comfortable

The device weighs just 520 grams, and extra padded materials have been incorporated into the headband to make this indirect extremely comfortable for all examinations.

Simple controls

The All Pupil II has a unique single control to change aperture size and position in one movement to view through all pupil sizes.

IR and UV barrier

There is a built-in IR/UV barrier, which guarantees improved patient protection and safety.

47–75mm

Teaching mirror

Interchangeable LED module and xenon bulb

All Pupil II LED module

The LED module simply plugs into the back of the All Pupil II to give you all the benefits of LED illumination.

- LED provides better detail and brighter, whiter illumination
- Freedom from purchasing bulbs
- The LED is designed to last your entire career
- Five-year warranty

Neutral LED cooler color

The neutral LED cooler color provides brighter, whiter illumination, longer battery life, and freedom from purchasing bulbs. Clinically, the superior optics combined with the neutral LED illumination can provide greater detail, allowing you to find retinal pathology that was not visible with the xenon bulb.

Quality and efficiency

The high-contrast optics combined with the neutral LED or xenon light source offers brighter high-definition retinal images.

Slimline Lithium Polymer battery

Our Slimline Lithium Polymer battery weighs only 53 grams.

- Comfortable and perfectly balanced
- Wireless technology allows you to move from room to room
- Combined LED and Lithium Polymer battery can provide up to six hours of use on a single charge

15% lighter

Advanced textured engineering materials provide a lighter, smaller, and more compact instrument without compromising the renowned Keeler reputation for robustness, reliability, and quality.

Filters and apertures

IR/UV filters are built into the optics of the All Pupil II with optional filters and a choice of three apertures, plus a soft light diffuser.

Spectra Iris

Little Indirect, Bigger Benefits!

Spectra Iris has been specifically designed as a compact, lightweight, and portable indirect with big benefits for professionals on the move. It can be tucked away in its neat carrying case or hung around your neck when not in use. And, you can adjust the size of the aperture at the touch of a slider.

Keeler sport frame

Spectra Iris comes on the new Keeler Sport Frame. This wrap-around frame is not only attractive but provides maximum comfort and balance.

LED long-lasting illumination

No more bulbs, just a long-lasting white homogenous light patch that can be used for up to 4 hours continuously.

Flip-up optics

The whole optical box and light pod can be flipped up, allowing direct eye contact when talking to patients or for writing notes.

Single-movement hinge

The hinge allows the Spectra Iris to sit closer to your eyes for a better view and a more comfortable fit.

48–76mm

Spectra Iris with Teaching Mirror

Adjustable Aperture Slider

Now you can adjust the aperture simply by moving the slider. Slide to the right to increase aperture size, and slide to the left to decrease it. The aperture range is from 20mm to 60mm.

Wireless Power-Supply Options

Keeler wireless technology allows you to move from room to room without any constraints. The chargers are either desktop or wall mountable, and they hold an extra lithium battery as a back-up, should you need it.

Slimline Wireless Charger

The desktop or wall-mountable charger remains as durable as the Standard Wireless with the facility to store your extra battery in the top compartment. The charger has an easy-release button to remove the extra battery. LED indicators show the level of charge in both batteries when BIO is docked and the spare battery is clipped in back.

Lithium-ion Power Pack

- Lightweight – six ounces (171 grams)
- For use with Spectra Plus and Spectra Iris
- Fast full charges in two hours
- Usable charge in five minutes

WallPack

With other manufactured indirect systems, you need to purchase a separate stationary unit. With your SmartPack, you can easily covert to WallPack, which fits neatly on the wall and has a built-in microswitch control.

Universal Power Plug

The cord used to power the Slimline Wireless Charger can also be used across Keeler's entire product line (with the exception of our Cryo units). This allows a Keeler owner to easily swap out power cords from their PSL to their Duo Charger, or even their Pulsair Desktop. We try to make our products as convenient to use as possible, and our power source is no different.
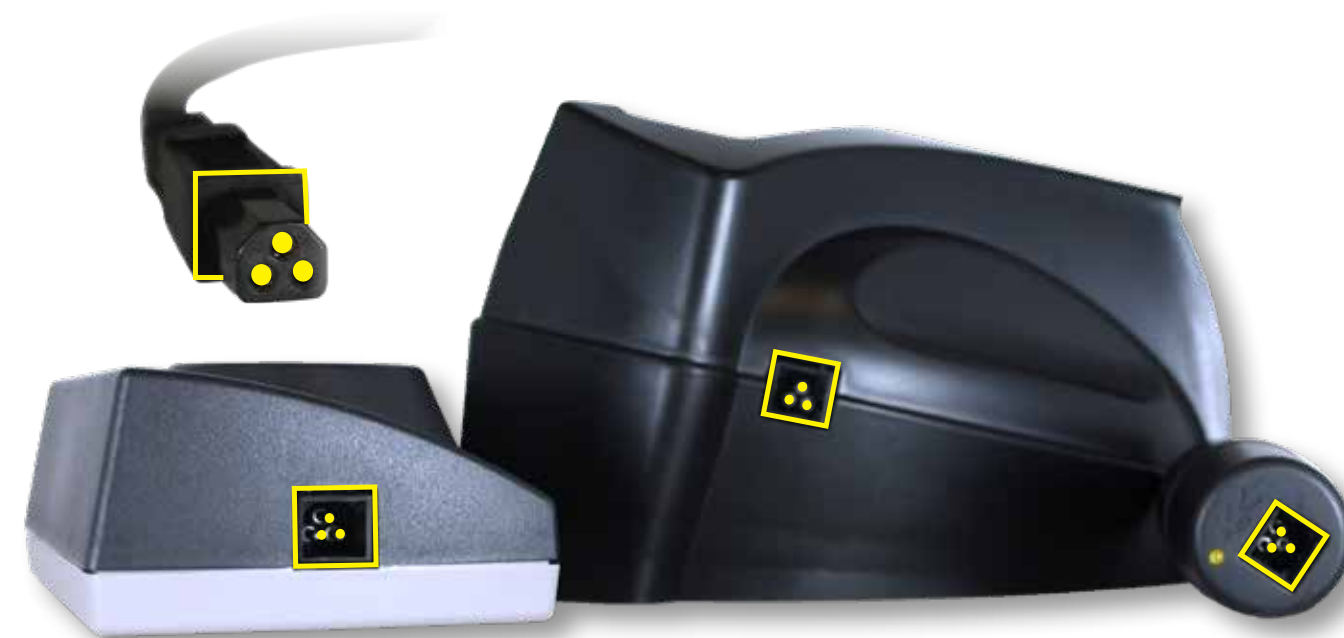
Double Lithium-ion Charger   Slimline Wireless Charger   Mini Lithium-ion Charger

SmartPack

SmartPack is a stylish power-supply system that combines three options in one product. No longer will you need to purchase a portable system for domiciliary use, another system for mounting on your wall, and another for tabletop use. All you need now is SmartPack for your Vantage Plus or All Pupil II.

Fast charge and long life – Nickel metal hydride

- Lightweight
- 120 minutes of continuous use
- Fast full charges in two hours
- Indirect can be used while charging
- Usable charge in five minutes
- Smart chargers that show the state of your battery

Keeler Indirects, Power-Supply, and Accessory Part Numbers

Vantage Plus Convertible Indirect Ophthalmoscope

Wired and wireless indirects come standard with an LED module, HiMag lens, and dimmer control.

- 1205-P-1010 – LED Wired headset only
- 1205-P-1020 – LED Slimline Wireless (2) with charger and two (2) batteries
- 1205-P-1014 – LED Slimline Wireless (2) headset only (no battery/charger)

Vantage Plus LED Digital Indirect Ophthalmoscope

- 1205-P-5010 – Vantage Plus LED Digital Wireless Ophthalmoscope, Slimline docking station and power supply, additional Slimline Polymer battery, Keeler Software, remote control, and carrying case
- 1205-P-7005 – Optional Dell E5420 Notebook
- 1205-P-7001 – Optional Vantage Plus LED Digital Footswitch

All Pupil II Binocular Indirect Ophthalmoscope

All Pupil II wired and wireless Indirects come standard with a dimmer control.

BULB ILLUMINATION

- 1204-P-3100 – 10W Bulb wired headset only

CONVERTIBLE ILLUMINATION AND NEUTRAL LED MODULE

- 1205-P-2000 – LED Slimline Wireless with charger and two (2) batteries
- 1205-P-2003 – LED Slimline Wireless (2) headset only (no battery/charger)

Spectra Iris Binocular Indirect Ophthalmoscope

Spectra Iris comes standard with the optics, frame, lithium power pack, and charger.

- 1205-P-2012 – Small frame
- 1205-P-2010 – Regular frame
- 1205-P-2011 – Large frame

Wired indirect power supplies

- 1945-P-1001 – SmartPack
- 1945-P-1000 – WallPack
- 1941-P-5385 – Spectra Iris lithium charger and power supply
- 1919-P-5215 – Spectra Iris lithium battery with rheostat

Accessories

- 1012-P-7008 – LED Module for All Pupil II
- 1012-P-5276 – Neutral LED Module for Vantage Plus convertible systems
- 1202-P-7205 – Vantage Plus teaching mirror
- 1202-P-7117 – All Pupil II teaching mirror
- 1205-P-7000 – Spectra teaching mirror
- EP39-22079 – SmartPack battery
- 1201-P-6076 – Pencil-type depressor
- 1201-P-6075 – Small Depressor
- 1201-P-6067 – Large Depressor

CASES

- 3412-P-7002 – Spectra Iris soft sase
- 3412-P-7000 – Vantage Plus and All Pupil II professional 3-in-1 carrying case. Easily convert from roller case to a handheld backpack.

Spectra case

3-in-1 case

Depressors

Tonometry

Let's Fight Glaucoma.

For more than 100 years, Keeler has continued to innovate, design, and manufacture world-class ophthalmic instruments in our Windsor factory. In 1986, the Pulsair Tonometer revolutionized noncontact tonometry with its unique handheld and portable system, bringing a new dimension to patient care and the management of space and time.

Pulsair and tonometry are synonymous – the fifth generation intelliPuff handheld model combines contemporary styling together with technologies, and the Pulsair Desktop brings the Pulsair name to those requiring a chin-rest desktop device. Applanation tonometry is a widely practiced and respected technique; the Keeler Applanation Tonometer (KAT) will match that level of respect with our exceptional quality and manufacturing consistency.

Pulsair Tonometers – stylish and practical

Both the Pulsair Desktop and Pulsair intelliPuff have exceptional patient visualization; the slim profiles of the Pulsair optical mainframe allows the clinician to maintain visual contact with the patient at all times during the measurement process.

Engineering and design excellence

Pump, solenoid control valves, a plenum chamber, and an optical mainframe are all designed to function optimally to allow efficient and fast measurement. LED illumination provides a constant and reliable light source for the alignment camera and the positional detection systems. Quietly cost-effective, Pulsair tonometers require no sterile consumables. Printing is also under your control, so ongoing costs are managed.

Pulsair IntelliPuff

Bringing versatility to tonometry, wall-mounted or desk-mounted, the lightweight handheld optical mainframe allows the clinician to measure all patients with equal comfort. The flexibility of use and space-saving design make this instrument virtually unbeatable for performance and value.

Handheld

Being handheld, Pulsair intelliPuff avoids the need to position the patient in a chinrest – fast and easy to use while the patient is already seated in an examination chair.

Pulsair Desktop

A small, space-saving footprint combined with the elegant, slim optical mainframe allows it to blend seamlessly into the clinical environment. The openness of the design increases the confidence of both patient and clinician.

Comfort and speed

Less is more. Pulsair Desktop is uncomplicated and therefore is quick to use for the novice and professional alike. Taking control of tonometry has never been easier or faster. Clear user controls and a color video alignment screen combine to set a new standard in usability.

Sophisticated Technology

Keeler Pulsair tonometers use advanced optical and sensor technology for positional detection and puff control. They have software controls to manage the measurement data; if two consecutive readings are within +/- 1mmHg of each other, the Pulsair will inform the user that sufficient readings may have been taken for that eye, saving precious time and increasing patient comfort.

Puff tube lens
and LED light source

Color alignment
screen

Durable and
smart finish

Keeler joystick system

Clear display screen

Puff tube and
alignment system

Seeing eye optics
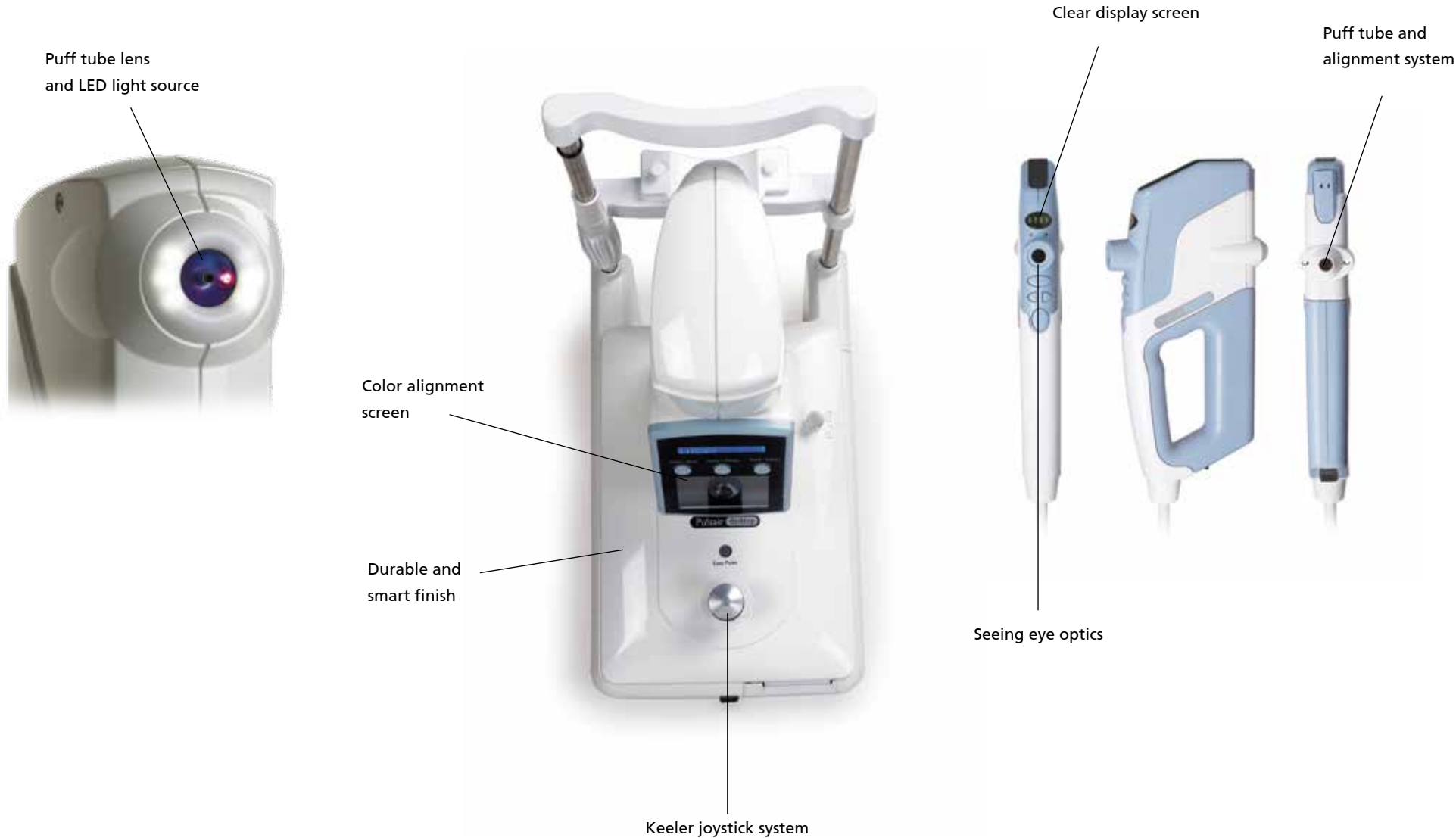
Pulsair Specifications

Pulsair Desktop

CALIBRATED RANGE	5mmHg to 50mmHg
DISPLAYED ACCURACY	Displayed accuracy to 1 decimal place, e.g., 12.3
DISPLAYED SCALE	Single-line 16-character alphanumeric display
WORKING DISTANCE	20mm
DIMENSIONS	475 x 410 x 245mm (H x D x W)
WEIGHT	16kg
COMPLIES WITH	Electrical Safety (Medical) BS EN 60601-1:2006. Electromagnetic compatibility EN 60601-1-2:2007. Ophthalmic instruments – fundamental requirements and test methods ISO 15004-1:2006. Optical r adiation hazard ISO 15004-2:2007
POWER SUPPLY UNIT	Switch mode, (110–240V) +/- 1% multi plug type compliant to EN 60601-1, EN 61000-6-2, EN 61000-6-3
POWER SUPPLY OUTPUT	30VA (12V DC 2.5A)
FREQUENCY	50/60Hz
PRINTER	Thermal line printer
PART NUMBERS	2417-P-2000 – Pulsair Desktop Tonometer 3104-L-8201 – Chinrest papers 2208-L-7008 – Printer paper roll

Pulsair intelliPuff

CALIBRATED RANGE	5mmHg to 50mmHg
MEASUREMENT SCALE	mmHg (millimeters of Mercury)
DISPLAYED ACCURACY	0.1mmHg
DISPLAY	4 character dot matrix scrolling
FIRING SYSTEM	Automatic and objective
ILLUMINATION SYSTEM	LED infrared
WORKING DISTANCE	20mm
MOUNTING SYSTEM	Table/desktop/wall
BASE UNIT DIMENSIONS	260 x 215 x 220mm (H x D x W)
BASE UNIT WEIGHT	2.465Kg
HANDPIECE DIMENSIONS	315 x 150 x 46mm (H x D x W)
HANDPIECE WEIGHT	0.890Kg
UMBILICAL CORD LENGTH	2.0mm
PRINTER	Thermal line printer
PART NUMBERS	2414-P-2001 – Pulsair IntelliPuff Tonometer 2208-L-7008 – Printer paper roll

Keeler Applanation Tonometers

The Goldmann principle is considered to be the most prevalent method of tonometry, as it is the most widely accepted method of determining the approximate intraocular pressure. The Keeler-manufactured applanation tonometers are designed and built to our exacting standards to give you the accuracy and quality you expect from a Keeler device. All KAT tonometers are supplied with one reusable doubling prism, the calibration check bar, and either the Z-type (Zeiss) or the R-type post or the T-type aluminium guide plate for slit lamp use.

D-KAT Digital Applanation Tonometer

- LED display for ease of use in darkened environments
- Z-type, T-type, and R-type available
- Display reading to 1 decimal point

D-KAT R-Type

D-KAT T-Type

D-KAT Z-Type

KAT R-type (fixed)

KAT T-type (take-away)

R-type mounting post

T-type guide plate

KAT – Keeler Applanation Tonometer

- Reliable and repeatable applanation tonometry
- Goldmann applanation principle
- T-type, R-type, or BQ-type available
- Designed to withstand the test of time and deliver reliable results year after year

KAP – Keeler Applanation Prism

Goldmann-style doubling prism for most applanation tonometers

Keeler Applanation Tonometer Specifications

MEASUREMENT FORCE	By leverage weight
INSTALLATION	
Keeler T-Type for tower illumination slit lamps	Fitted to the guide plate on the optical axis for the microscope and illumination unit arm
Keeler R-Type for tower illumination slit lamps	Mountable on a post fitted to the microscope optical body
MEASUREMENT RANGE	0–80mmHg (0–10.64 kPa)
APPROXIMATION OF THE IMPACT FORCE ON THE MEASUREMENT HEAD FOR A 0 TO 58,84 MN MEASUREMENT RANGE	Standard divergence: 0.49mN ≤ 3s ≤ 1.5% of nominal value
OPERATING TEMPERATURE RANGE	from 10°C to 35°C
MEASUREMENT ACCURACY	≤ 0.49mN
NET WEIGHTS	
Keeler T-Type	0.41kg (without accessories)
Keeler R-Type	0.69kg (without accessories)
PART NUMBERS	2414-P-2032 – D-KAT – Keeler Applanation Tonometer T-Type 2414-P-2042 – D-KAT – Keeler Applanation Tonometer R-Type 2412-P-2010 – D-KAT – Keeler Applanation Tonometer Z-Type 2414-P-2020 – KAT – Keeler Applanation Tonometer BQ-Type 2414-P-2030 – KAT – Keeler Applanation Tonometer T-Type 2414-P-2040 – KAT – Keeler Applanation Tonometer R-Type
ACCESSORIES	2414-P-5001 – KAT doubling prism 2414-P-5032 – KAT T-Type guide plate 2414-P-5042 – KAT R-Type mounting post 2414-P-5005 – Calibration arm assembly

AccuPen

Handheld Applanation Tonometer

The AccuPen handheld tonometer is ideal for screening IOP measurements in patients. Our gravity offset technology provides accurate IOP measurements with less calibration in any testing position. The AccuPen is accurate, easy to use, portable, and versatile ,making it a must-have for any facility.

Accurate

The AccuPen's gravity offset technology provides precise IOP measurements with less calibration compared to other handheld tonometers. Micro-strain gauge technology, combined with proprietary algorithm, provides reproducible results.

Easy-to-use

An ergonomic design combined with sighting lines allows for easy visualization of the cornea, facilitating both centralization and perpendicularity. Contoured molding with large, visible LCD allows the AccuPen to be used ambidextrously and fit comfortably in any size hand.

Ready-to-use

Eliminates the constant need for "up, down, and around" calibration. Long-lasting lithium battery lasts for four to six months.

Portability

The AccuPen only weighs three ounces and comes with a custom, heavy-duty traveling case and lanyard for safe transportation.

Versatility

The gravity offset technology allows for fast measurements with patients in any position. Frees up valuable office space.

Smarter software

The AccuPen stores and averages nine measurements. The built-in IOP correction calculator adjusts IOP based on corneal thickness.

AccuTips

AccuTips are designed for use with the AccuPen as well as the Reichert Tono-Pen. These tonometer tip covers are used to keep your patients safe from infection due to cross-contamination.

Individually packed

(Box of 100 or 300 sleeved tip covers).

Sleeved tip covers

(Buy in bulk with a box of 100).

Non-sleeved tip covers

(Bag of 600 or six boxes of 150 – 900 tip covers total).

AccuPen specifications

ACCURACY	+/- 2mmHg (compared to Goldmann Tonometer)
WEIGHT	3.0 oz.
DIMENSIONS	7¼" x 1¼"
TRANSDUCER DIMENSIONS	1.0mm diameter
MEASUREMENT RANGE	5–60mmHg
POWER SOURCE	3.6v lithium battery
ITEM NUMBER	24-3000

Pachymetry

Handheld Pachymeter

The PachPen is the perfect tool for testing a patient's corneal thickness with accuracy, portability, and comfort. The superior ergonomic design fits comfortably in any hand, offering a major advantage from other handheld models.

Accurate

The PachPen's 65MHz sampling probe ensures precise measurements and uses digital signal analysis to analyze wave patterns and to eliminate non-perpendicular measurements.

Easy-to-use

An ergonomic design, combined with sighting lines, allows for easy visualization of the cornea, facilitating both centralization and perpendicularity. The contoured molding with a large, visible LCD screen allows the PachPen to be used ambidextrously and fit comfortably in any size hand.

Ready-to-use

Digital ultrasound analysis eliminates the need for calibration. The long-lasting battery will last for four to six months.

Portability

The PachPen only weighs three ounces and comes with a custom heavy-duty traveling case and lanyard for safe transportation.

Versatility

The ergonomic design allows you to take fast measurements with your patient in any position. This frees up valuable office space.

Smarter software

The PachPen stores and averages nine measurements. It contains a built-in IOP correction calculator, which adjusts the IOP based on corneal thickness.

PachPen specifications

ACCURACY	+/- 5 Microns
WEIGHT	3.0 oz.
DIMENSIONS	7¼" x 1¼"
PROBE DIMENSION	2.5mm diameter
MEASUREMENT RANGE	300–999 Microns
POWER SOURCE	3.6v lithium battery
ITEM NUMBER	24-5100

AccuPach VI Pachymeter

Easy-to-use

The unsurpassed ease-of-use of the touchscreen, and the straightforward graphical user interface guide you through every operation. The high-resolution LCD touchscreen provides an intuitive user interface.

Superior accuracy

Industry-leading signal acquisition and processing helps ensure accurate measurements. State-of-the-art digital technology (Accutome's Digital Signal Analysis), combined with a probe sampling of 65 Mhz ensures precise readings.

Smarter software

Allows entry of intraocular pressure (IOP) and provides corrected IOP based on corneal thickness measurements. Displays measured corneal thickness, entered IOP, corrected IOP, and average of standard deviation for all stored measurements. Automatically capture and store up to nine measurements for each eye, along with the running average of all measurements taken.

USB interface

The USB flash drive is used to store patient data, which can be transferred to a computer for storage, or printed.

AccuPach VI specifications

ACCURACY	+/- 5 Microns	**MEASUREMENT RANGE**	300–999 Microns
WEIGHT	3.1 lbs.	**ELECTRONIC RESOLUTION**	+/- 1 Microns
DIMENSIONS	10" x 10" x 2.5"	**POWER SUPPLY**	Medical grade power supply
PROBE DIMENSION	0.25" Diameter x 1.75" length	**ITEM NUMBER**	24-6204

Ultrasound Imaging – Connect Software

Accutome Connect is a single application solution for managing your ultrasound patient workflow, including A-Scan, B-Scan, and/or UBM. The software is a powerful and portable diagnostic tool designed to meet the demands of today's ophthalmic practice. The A-Scan, B-Scan, and UBM probes plug directly into a PC, laptop, or tablet device and offer flexible data transfer to meet your clinical needs. All patient data is easily updated to electronic medical records and can be stored, emailed, or printed quickly. Reports are generated with just a few clicks of a button. Take the Connect anywhere with no software licenses, allowing you to load the software in multiple exam rooms and offices. Protect your investment with easily upgradeable software, and streamline your patient data by sharing information between each system.

It's all connected

The Accutome Connect is the only system to use the same probes as the Accutome 4Sight, boasting reverse compatibility and industry-leading options for portability and functionality. Both systems also use the same graphical user interface, eliminating the learning curve and making the transition seamless when switching from one system to the other.

A-Scan Plus Connect

Features:

- Immersion and contact modes
- Industry-leading resolution
- IOL formulas including the Hoffer Q, SRK/T, Holladay I, Haigis, SRK II, Binkhorst II, as well as new post-refractive formulas
- Customizable lens, ACD and VCD materials for new emerging implant/chamber materials
- Optimized lens constants for superior surgical outcomes
- Easy to set up defaults, smooth customer interface, and automatic EMR exports to decrease examination time, increase patient throughput, and increase profit
- Automatic alignment detection and sclera recognition help eliminate marginally aligned scans
- Seamless workflow integration with IOLMaster 500 from ZEISS.
- Fully upgradeable software
- Unlimited data storage, based on PC/network storage

- EMR capability with automatic transfer of data
- DICOM$ ready
- Unlimited IOL lens groups
- Piggyback calculation ability for ICL implant patients
- Rx surgery calculations for an aging Lasik population
- PC-based platform
- PDF reporting
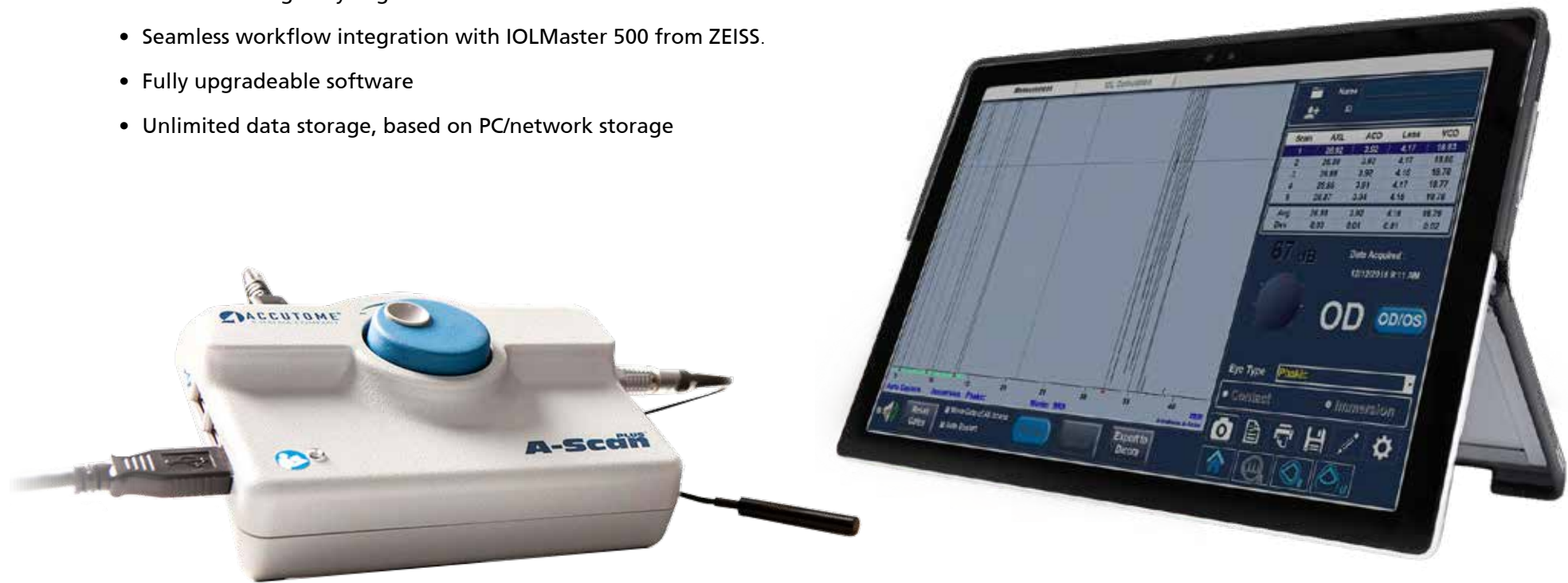
A-Scan Plus Connect Specifications

WEIGHT	0.43Kg (15.1 oz.)
DIMENSIONS	13.75cm x 9.50cm x 6.40cm (5.4" x 3.7" x 2.5")
METHODS	Immersion or contact
DEFAULT EYE TYPE SETTINGS	Phakic, Dense Cataract, Silicone Filled, Pseudo PMMA, Pseudo Silicone, Pseudo Acrylic, Aphakic
CUSTOM EYE TYPE SETTINGS	Unlimited with independent ACD, lens, VCD velocities
MEASUREMENTS	ACD, lens thickness, VCD, axial length
CAPTURE MODES	Automatic or manual
FREQUENCY	10MHz
ELECTRONIC RESOLUTION	0.016mm
CLINICAL ACCURACY	0.1mm
ITEM NUMBER	24-4400

DATA POINTS PER WAVEFORM	4,096
MEASUREMENT RANGE	0.01–63.6mm
ADJUSTABLE GAIN	30–100dB
IOL FORMULAS	Hoffer Q, Holladay I, SRK/T, Haigis, SRK II, Binkhorst II
POST-REFRACTIVE FORMULA METHODS	Clinical history, Contact Lens, Shammas Clinical
IOL DATA STORAGE	Unlimited, based on PC/network storage
PATIENT DATA STORAGE	Unlimited, based on PC/network storage
DATA EXPORT	EHR compatible, network ready
PRINTER	Any supported by PC
ACCESSORIES	USB footswitch, CD containing A-Scan Plus Connect software and manual, test block

Improved efficiency

Easy-to-use interface for fast scan capture.
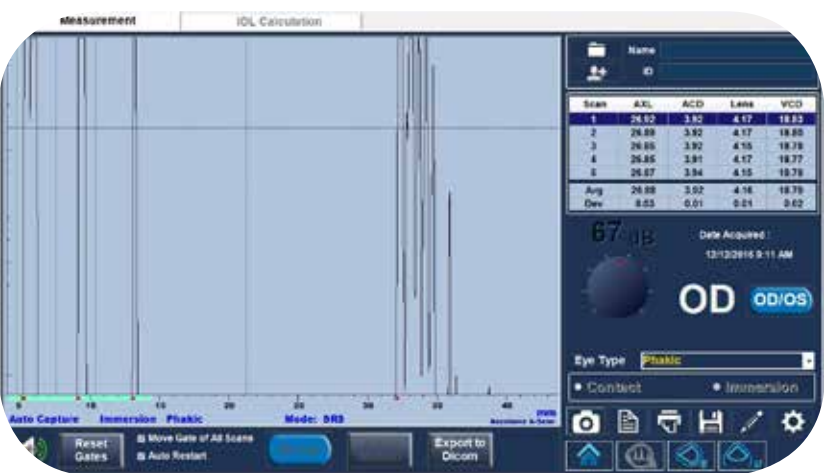
Trusted accuracy

Trusted reliability and accuracy with industry-leading resolution.

B-Scan Plus

The B-Scan Plus proprietary software combined with unique probe electronics make it the premier portable high-definition B-Scan. While developing the B-Scan Plus software, we visited many of the top facilities around the world. The results are a reliable and easy-to-use unit, which can quickly scan patients and transer information.

Features

- Superior Image – 0.015mm image resolution is among the highest in the medical industry

- Improved probe providing shaper, more focused images due to the elimination of signal loss

- Unsurpassed data analysis contains 12 useful measuring calipers, including six lines, two areas, two angles, and two arrows

- "Smooth Zoom" technology allows for 2x full-image zoom without distortion of real-time or captured scan

- The portable probe can plug into any Windows-based laptop or PC

- Adjustable film loops that range from 2 to 17 seconds

- Unlimited adjustable and transferable video recording

- Fully adjustable gain control before, during, or after scan

- Accutome Connect software allows the B-Scan Plus to integrate the option for A-Scan and UBM modes for improved patient workflow

- Easy to set up defaults, smooth customer interface, and automatic EMR exports to decrease examination time, increase patient throughput, and increase profit

- Unsurpassed compact file storage

- EMR compatible

- DICOM ready

- Multiple measuring velocities for ACD/VCD

- PDF reporting

- Archive data on a network or external hard drive

B-Scan Plus Specifications

WEIGHT	6 oz.
DIMENSIONS	7" long x 1.25" diameter
FREQUENCY	12 or 15MHz
AXIAL RESOLUTION	0.015mm electronic
LATERAL RESOLUTION	0.085mm electronic
GAIN	0–112dB
ADJUSTABLE GAMMA	Linear, S-Curve, Log, Color
SCANNING ANGLE	60°
FIELD OF VIEW	12MHz = 64mm or 15MHz = 52mm
FRAME RATE PER SECOND	15, 30 max
SAMPLING RATE	2,048 (points per line)
VECTORS PER FRAME	256
FOCAL POINT	22mm
FOCAL ZONE	20mm
TGC	Yes
FROZEN IMAGE GAIN ADJUST-MENT	Yes
ZOOM	2x optical zoom, 8x maximum
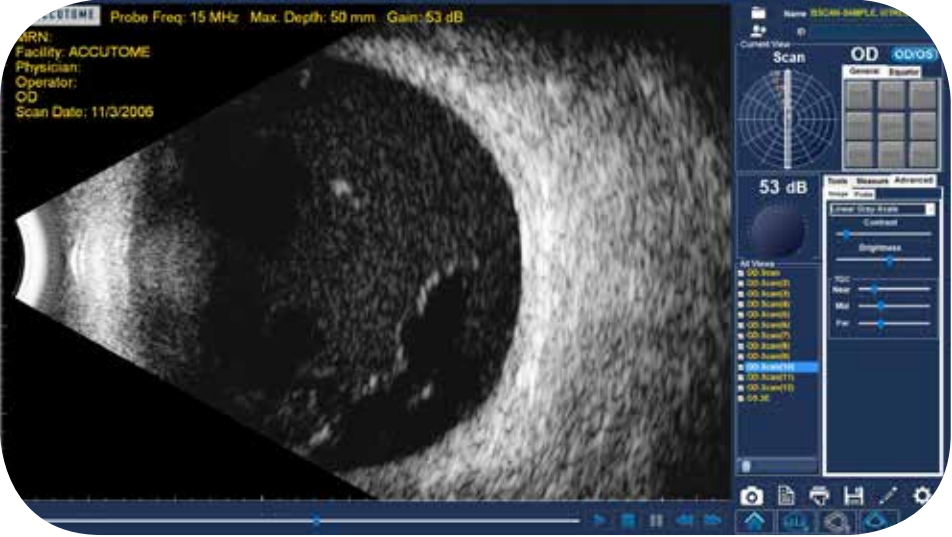
REPORTS	Integrated Microsoft Word
SNAPSHOT FORMAT	.jpeg, .bmp, .png, .tiff, .gif
DATA ARCHIVE/EXPORT CAPA-BILITY	Yes
MAX. NUMBER OF FRAMES PER SCAN	256
SIZE OF CINE LOOP	16–128MB
MEASUREMENT CALIPERS	6 line, 2 area, 2 angle, 2 arrow
ACCESSORIES	Durable traveling case, probe holder, footswitch
ITEM NUMBER	24-6100

UBM Plus

The UBM Plus probe has a guarded tip to prevent damage to both the patient and the probe. The unit is used for anterior segment imaging. This unit is an incredibly portable device because the 48MHz probe plugs directly into any Microsoft Windows laptop or desktop computer. The UBM features an all-in-one probe design to eliminate signal loss and provide the sharpest images possible.

Features

- High-definition imaging – Detailed structure definition, including cornea, iris, ciliary body, zonules, crystalline lens, and intraocular lens, as well as pathologies

- State-of-the-art probe design – Sharper, more focused images due to the elimination of signal loss

- Unsurpassed data analysis – Contains tools for measuring sulcus-to-sulcus, anterior chamber depth, positioning of intraocular lenses, and filtration angle of the eye

- Easy-to-set-up defaults, smooth customer interface, and automatic EMR exports that decrease examination time, increase patient throughput, and increase profit

- Adjustable video loop

- Full upgradeable software

- EMR compatible

- DICOM ready

- Multiple measuring velocities for ACD

- PDF reporting

- Fully adjustable gain-control before, during, or after scan

- Data archive – Network or external hard drive

UBM Plus Specifications

WEIGHT	6 oz.
DIMENSIONS	7" long x 1.25" diameter
FREQUENCY	48MHz
AXIAL RESOLUTION	0.015mm electronic
LATERAL RESOLUTION	0.05mm electronic
GAIN	0–112dB
ADJUSTABLE GAMMA	Linear, S-Curve, Log, Color

SCANNING ANGLE	30°
FIELD OF VIEW	32mm
FRAME RATE PER SECOND	10
SAMPLING RATE	2,048 (points per line)
VECTORS PER FRAME	256
FOCAL POINT	13mm
FOCAL ZONE	4mm
TGC	Yes
FROZEN IMAGE GAIN ADJUSTMENT	Yes
ZOOM	8x maximum
REPORTS	Integrated Microsoft Word
SNAPSHOT FORMAT	.jpeg, .bmp, .png, .tiff, .gif
DATA ARCHIVE/EXPORT CAPABILITY	Yes
MAX. NUMBER OF FRAMES PER SCAN	256
SIZE OF CINE LOOP	16–128MB
MEASUREMENT CALIPERS	4 lines, 2 areas, 2 angles
ACCESSORIES	Durable traveling case, probe holder, footswitch, wireless mouse, 18mm and 20mm Immersion shells
ITEM NUMBER	24-6300-G

4Sight

See It from Every Angle

A-Scan, B-Scan, UBM, and Pachymeter in one, easy-to-use platform

We understand the demands on today's busy clinics, which is why the 4Sight is designed to meet those needs. The 4Sight is a single solution for all ophthalmic ultrasound imaging at an affordable price. The A-Scan, B-Scan, UBM, and pachymeter have all been combined into one unit to eliminate wasted time switching modalities. The 4Sight is accurate, efficient, and affordable, making your job easier.

Features

- Modular platform allows for mix-and-match options with a combination specific to your needs
- DICOM worklist compatible
- Easy-to-use software for all probes
- User-friendly interface with touchscreen capability
- Unsurpassed image quality
- Printer compatibility
- Mobility of probes; can be used with 4Sight or laptop
- Live help and dependable support for the life of the product
- Proprietary signal processing
- Industry-leading clinical accuracy
- Financing options available upon request

Handheld Instruments

A combination of optical perfection, superb ergonomics, and versatile features makes all Keeler handheld instruments the ideal choice. From basic examination to detailed diagnosis, there is a Keeler hand instrument for you. The next couple of pages will guide your choice, but first read on to discover the standard features and benefits shared by all Keeler ophthalmoscopes.

Out-of-focus
image on paper
held close up

In-focus image
on a screen at 20
feet (infinity)

In-focus
image on
retina
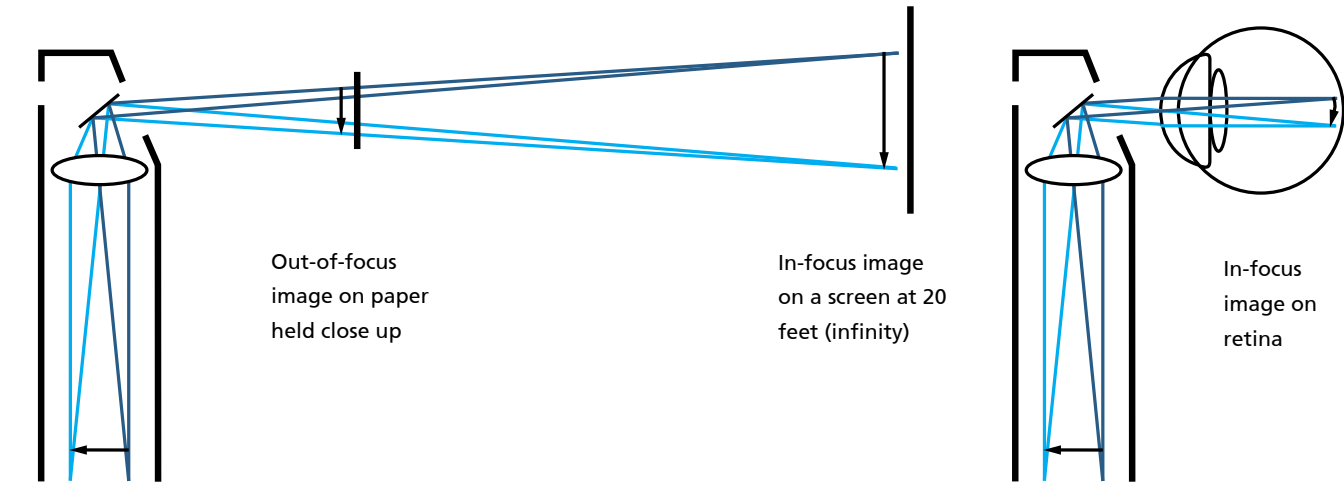
Keeler optical system – the more you see, the better the diagnosis

Keeler ophthalmoscopes are adjusted for perfect focus where it's needed: in the eye, not on paper. Along with Keeler's wide-angle light beam and individual mirror alignment, this ensures that you will see the clearest view of the retina, regardless of the patient's pupil size.

Comfort and fit

With curved surfaces and subtle patient side marking, each ophthalmoscope has been designed to fit snugly into the orbital bone. Unlike other straight-sided brands, the contoured, curved ophthalmoscope head guarantees an optimal viewing angle and larger field of view, while the smooth line surfaces provide a non-threatening aesthetic.

Slimline handles

Keeler handheld instruments have a slimline, lightweight handle.

Light, tough, and built to last

Keeler ophthalmoscopes are built from resilient, lightweight materials to give you many years of trouble-free service. High-impact resistant covers combined with a strong metal chassis protect the carefully aligned optics and allow Keeler ophthalmoscopes to withstand the rigors of everyday use for years to come.

Controllable light for bright, clear images

The bright white LED illumination is fully adjustable from zero. This ensures the comfort of your patients and the best possible diagnosis.

Reflex-free images

Individually controlled optics reduce the effect of corneal reflex while minimizing shadows and providing clearer retinal visualization.

Keeler Professional Ophthalmoscope

Total Control at Your Fingertips

The Keeler Professional Ophthalmoscope has been designed to ensure ultimate control. Lenses, graticules, and filters can all be introduced at the touch of a finger. No need to pull away from the patient – the Keeler Professional Ophthalmoscope makes routine examinations far easier.

LED illumination

We recognize that illumination is of fundamental importance to good diagnoses. That's why we have selected LED illumination for our ophthalmoscopes. This brighter, whiter, and longer-lasting light will meet any diagnostic challenge! With LED, you have the power to diagnose even through cloudy media. LED technology will last throughout your career.

Positive-action maywheel

The positive-action, easy-access maywheel not only allows you to dial up the required lenses quickly but it also allows you to know where you are without the need to pull away from the patient.

Swing-over filter

The red-free filter for enhanced vessel examination can be used in conjunction with any of the six diagnostic beams.

Brow rest

The integral soft brow rest allows for easy positioning and protects your lenses, if you wear glasses.

+29D to -30D
in single diopter

Pocket Ophthalmoscope

Portable and Compact

Full diagnostic capability in a compact instrument makes the Pocket Ophthalmoscope ideal for the practitioner on the move.

Portable

An ideal choice for domiciliary and ward use or as a backup instrument.

Pocket clip

It has a strong metal clip that can be attached to a pocket; and is powered by standard AA batteries.

+/- 20D range
of powers

The Keeler Specialist

The Choice of the Ophthalmic Profession

The Keeler Specialist offers precision optics, versatile features, and practical ergonomics making it the number one choice for ophthalmic practitioners.

Unequalled quality

The Specialist ophthalmoscope is perfectly balanced for precise ocular examination. The comprehensive lens range ensures clear and accurate diagnosis, even in the most difficult eyes. The Specialist lens range is made up of tiny, individual ground glass lenses. The fine gearing of the Morton Track lens system allows you to dial up any lens quickly and easily.

Pupillometer

The pupillometer comparison disc allows for quick assessment of pupil size.

Versatility

The graticule range offers a total of six diagnostic beams for comprehensive ocular examinations. In addition to a choice of three viewing beam sizes, the Specialist includes a red-free filter for vessel examination, a fixation cross for assessment of eccentric fixation, and a slit to determine changes in retinal elevation. A snug orbital fit optimizes the field of view and guarantees increased comfort for both practitioner and patient.

+44D to -45D
in 1D steps

Jazz Ophthalmoscope Set

Jazz Otoscope

- Fiber-optic otoscope
- Brilliant LED illumination gives the best possible view and a longer battery life for a greener product
- 3x magnifying lens

Jazz Ophthalmoscope

- Brilliant LED illumination
- Renowned high-performance Keeler optics with aspherical lens

Interchangeable color rings

Set consists of one handy package with two handles

+/- 20D range of powers

Finoff Transilluminator

For use when the presence of intraocular tumors in patients with cloudy media is suspected. The Finoff Transilluminator illuminates the fundus via the sclera and any tumors present in the light path will dim the normally bright red fundal reflex as seen through the pupil.

Professional LED Retinoscope

We Appreciate Vintage Technology but Not in OUR Devices.

Lifetime warranty

Keeler's patent-pending LED Retinoscope will last a lifetime, and comes with a warranty to match.

BCS technology

Easiest and most accurate refraction from the brightest illumination, increased contrast, and sharpness in your hands.

Longest battery life

Practice makes perfect, and our LED technology will increase your on time up to 300%, as compared to non-LED technology.

Double neutralization check

The Professional Combi (bulb) Retinoscope allows for the user to switch from spot to streak with the facility to double-check neutralization in both modes.

Easy access control

The Professional LED Retinoscope uses rare Earth magnet technology to provide optical precision refraction. A single control is used for rotation, convergence, and divergence.

A choice of apertures is included to optimize brightness or resolution of the retinal reflex in 4mm or 1.7mm.

The Professional LED Retinoscope comes with easily interchangeable soft brow rest for glasses wearers.

Light output

With up to 600 lux of brilliant illumination, the Professional LED Retinoscope guarantees you more than enough light to refract even the most difficult eyes.

Near point cards

Fixation cards for dynamic retinoscopy are included. Simply clip on and off for easy use.

Near point cards

Accessories and Chargers

Color-coded grips

Add a bit of color to your diagnostic area with color-coded grips. Available in four colors, these new grips are not only fun but functional, too! Available individually or as an assorted pack of four. Choose from pink, green, blue, or black.

Keeler slimline handles

The lightweight, perfectly balanced, smooth handle is made from high-quality chrome, eliminating cross-infection.

Lithium handle stand adaptor

The small, sleek adaptor converts your Keeler Lithium Handle to charge in any standard refraction stand.

LED displays

LEDs indicate when battery life is low, charging, or fully charged.

Lithium-ion double-charger

The compact charger takes two handles and fits neatly into your immediate testing environment, allowing easy access to your handheld instruments. It can be desk- or wall-mounted.

Lithium-ion mini charger

This can be connected quickly and simply to the base of your Keeler handle, making it the perfect choice for domiciliary visits or practitioners on the move. Your instruments can still be used while the battery is charging. Using a Keeler Duo or Mini Charger battery will charge your device within an hour.

Colored grips

Keeler Ophthalmoscopes and Accessories Part Numbers

Keeler Professional Ophthalmoscope

- 1125-P-1180 – 3.6v Professional Ophthalmoscope on lithium handle (no stand adaptor)
- 1911-P-1244 – 3.6v Professional Ophthalmoscope on lithium handle with stand adaptor
- 1128-P-1004 – 3.6v Professional Ophthalmoscope (head only)

Pocket Ophthalmoscopes

- 1102-P-1041 – 2.8v Pocket Ophthalmoscope on AA battery handle

The Keeler Specialist

- 1132-P-1050 – 3.6v Specialist Ophthalmoscope (head only)
- 1132-P-5000 – 2.8v Specialist Ophthalmoscope (head only)

Jazz Ophthalmoscope Set

- 1102-P-1105 – 2.8v Jazz LED Pocket Ophthalmoscope
- 1702-P-1096 – 2.8v Jazz LED Pocket Diagnostic Set

Finoff Transilluminator

- 2903-P-1126 – 3.5v Transilluminator (head only)
- 2903-P-1118 – 2.8v Transilluminator (head only)

Professional LED Retinoscope

- 1302-P-1012 – 3.6v Professional LED Combi Streak Retinoscope (head only)
- 1322-P-1060 – 3.6v Professional Combi Streak Retinoscope on lithium handle (no stand adaptor)
- 1302-P-1007 – 3.6v Professional Combi Streak Retinoscope (head only)

Chargers

- 1941-P-1368 – Lithium-ion double charger
- 1941-P-1341 – Lithium ion mini charger

Accessories

COLOR CODED GRIPS

- 1901-P-7028 – Pink
- 1901-P-7036 – Green
- 1901-P-7044 – Blue
- EP29-05365 – Black

NEAR POINT CARDS FOR RETINOSCOPY

- 1321-P-7005 – Near Point Cards

KEELER SLIMLINE HANDLE AND BATTERY

- 1911-P-1244 – 3.8v Slimline Handle with stand adaptor
- 3301-P-7410 – Stand adaptor only
- EP39-18918 – Lithium battery

Stand adaptor

Double charger

Slimline handles   Mini charger

Handhelds

Sight and Color Vision Testing

Sheridan Gardiner test

A well-established test designed for children but suitable for disabled people, those with learning difficulties, or patients who do not share a common language with the examiner.

PART NUMBERS

- 2204-P-1004 – Sheridan Gardiner Test without orthoptic booklets
- 2204-P-1063 – Sheridan Gardiner Test with orthoptic booklets

38- and 24-plate Ishihara color vision test

Ideal for commercial/industrial color screening. Tests for protan and deutan defects. Patients must identify numbers or patterns formed in a matrix of small colored dots varying in color and intensity. Two editions available – 38-plate for detailed investigation or 24-plate for quick screening.

PART NUMBERS

- 2206-P-1008 – 38-Plate Ishihara Color Vision Test
- 2206-P-1016 – 24-Plate Ishihara Color VisionTest

3rd Edition City University color vision test

This test displays normal protan, deutan, and tritan colors. Differentiation is stronger in the red/green. Significant tritan defects may be detected if used in conjunction with the Ishihara. The test includes a screening option.

PART NUMBER

- 2206-L-1057 – 3rd Edition City University Color Vision Test

Maddox Wing Test

A convenient, handheld, quick-and-efficient near test for heterophoria, which is measured on the red vertical scale. Esophoria and exophoria are measured by the white horizontal scale. Cyclophoria may be assessed by moving the red arrow pointer parallel to the horizontal scale.

PART NUMBER

- 2301-P-1022 – Maddox Wing Test

Amsler Manual

Assists in early recognition of changes in the macula and foveal areas. Only six patient responses are required for diagnosis of functional disturbances, from small scotoma to distortions. Full instructions include the interpretation of results.

PART NUMBERS

- 2215-P-1034 – Amsler Manual
- 2215-P-7050 – Amsler Recording Charts

Halberg Trial Lens Clips

Halberg Trial Lens Clips have become a required addition to every refraction stand. These useful and inexpensive clips may be fitted over your patient's glasses frame. Each cell has space for three lenses, and the rubber coating on the clip protects the glasses lenses.

PART NUMBER

- 2207-P-1026 – Halberg Trial Lens Clips with case

Keeler Retinoscopy Rack

An excellent tool for fast objective refraction, particularly with uncooperative patients and children. Comes complete in its own carrying case. There are 24 lenses, 13mm diameter –6D to +6D in 0.5D steps. Mounted in tough-yet-light alloy frame.

PART NUMBER

- 2202-P-1019 – Keeler Retinoscopy Rack

Surgical Loupes

Laser-aligned optics for magnification of superb optical quality; a lightweight aluminum assembly and precise pupil alignment system make Keeler Loupes the perfect choice for thousands of surgical professionals.

Galilean System

SuperVu SL Galilean System

2.5x magnification

The true benefit of this system is its ease of use. Movement while maintaining focal clarity is made possible due to a superior depth of field. The lightweight aluminum bar and individual pupillary adjustment provides stability for the mounted loupes and optimal focal alignment, eliminating headache and eyestrain. Ideal for ocular plastic and retinal procedures.

SuperVu SL Hi-Res Galilean System

3.0x magnification

SuperVu SL Hi-Res loupe provides greater definition than a standard Galilean with 15% increased field of view. The Hi-Res five element system provides a true 3x magnification in a lightweight system.

Prismatic System

SuperVu SL Mini Galilean System

Lightweight with great optics

Mini Loupes are designed to be ultra-light and comfortable with minimal compromise in field of view. Absolute comfort is our achievement; excellent peripheral vision is the added benefit of our slim design.

SuperVu XL Prismatic System

Delivery 3.5x, 4.5x, and 5.5x magnification

Higher magnification for advanced surgical procedures. Prismatic quality guarantees a true image. Edge-to-edge clarity and precise color rendition is ideal for intricate surgical applications. The XL's precision lenses are treated with an antireflective coating to produce a superior image. Ideal for surgeons who require higher magnification.

LED Illumination

The Keeler LED Loupe illumination system clips quickly and easily onto the Loupes bar. The K-LED provides 34,000 Lux of homogenous coaxial white LED–powered illumination. The lightweight (17g) LED offers 50,000 hours of life. The lithium battery will last for four hours before it needs charging.

Galilean with LED Illumination

Keeler Sport Frames

Stylish, Comfortable, and Attractive Loupes

Keeler Sport Frames are available in a choice of bright colors, as shown. The Keeler Sport frames can be worn over your own glasses, or your prescription can be incorporated into the supplied holder. The choice of colors are black, blue, red, light blue and a limited stock of pink. All Keeler loupes are available on Keeler Sport Frames

Designed for comfort

Choose from the Sport Frame or a headband mounted system to mount your loupes. Adaptable to all prescriptions.

Keeler Loupes & Lights Part Numbers

2.5x Mini

- 2112-P-2247 – 13" Working Distance (34cm)
- 2112-P-2248 – 16" Working Distance (42cm)
- 2112-P-2249 – 18" Working Distance (46cm)
- 2112-P-2250 – 20" Working Distance (50cm)

2.5x Standard

- 2112-P-1006 – 13" Working Distance (34cm)
- 2112-P-1007 – 16" Working Distance (42cm)
- 2112-P-1008 – 18" Working Distance (46cm)
- 2112-P-1009 – 20" Working Distance (50cm)

3.0x Mag – Hi-Res

- 2112-P-1050 – 13" Working Distance (34cm)
- 2112-P-1051 – 16" Working Distance (42cm)
- 2112-P-1052 – 18" Working Distance (46cm)
- 2112-P-1053 – 20" Working Distance (50cm)

3.5x Mag

- 2113-P-6004 – 13" Working Distance (34cm)
- 2113-P-6021 – 16" Working Distance (42cm)
- 2113-P-6022 – 18" Working Distance (46cm)
- 2113-P-6007 – 20" Working Distance (50cm)

4.5x Mag

- 2113-P-6008 – 13" Working Distance (34cm)
- 2113-P-6025 – 16" Working Distance (42cm)
- 2113-P-6010 – 18" Working Distance (46cm)
- 2113-P-6011 – 20" Working Distance (50cm)

5.5x Mag

- 2113-P-6012 – 13" Working Distance (34cm)
- 2113-P-6029 – 16" Working Distance (42cm)
- 2113-P-6014 – 18" Working Distance (46cm)
- 2113-P-6015 – 20" Working Distance (50cm)

ORDER FRAMES SEPERATELY

Sport Frame 130mm Temples (Small)

Keeler Loupe systems are supplied in a soft carrying case and include protective caps, sterilizable flip lever, and cleaning cloth.

- 2199-P-1982 – Black
- 2199-P-1983 – Blue
- 2199-P-1984 – Red
- 2199-P-1985 – Light Blue

Sport Frame 135mm Temples (Medium)

- 2199-P-1500 – Black
- 2199-P-1519 – Blue
- 2199-P-1527 – Red
- 2199-P-1535 – Light Blue

Sport Frame 150mm Temples (Large)

- 2199-P-1543 – Black
- 2199-P-1551 – Blue
- 2199-P-1578 – Red
- 2199-P-1586 – Light Blue

K-LED System

- 2004-P-1007 – K-LED with two batteries and twin charger tray – Keeler fit
- 2004-P-1012 – K-LED with one battery and single charger tray – Keeler fit

Single-charger system

Double-charger system

LED Illumination system

Cryo Surgical Systems

Keeler, the first name in cryo surgery, has been supplying the ophthalmic surgeon with high-performance, reliable cryo systems since 1966. Changes in technology and the surgeons' requirements have allowed us to improve and expand our range of cryo ophthalmic instruments.

Keeler Cryomatic MK II

The Cryomatic console employs smart technology

Electronic communication between the console and any probe that is connected to it allows for optimum operating parameters for any given probe and self-adjustment. Put another way, the console auto-configures to probe characteristics. The main advantage of this is that there no longer is a need for manual setup at the start of or during any procedure. Every probe will always perform optimally. This also means that the gas pressure will always be set automatically – no manual adjustment needed.

Back-flush facility

During purging, and about 20 seconds after the footswitch is released, the gas in the system reverses its flow, but at a lower pressure. This changed direction of gas after a freeze moves any debris or moisture that may be accumulating, thereby virtually eliminating the risk of problems during surgery.

Perfection evolved

Building on the exceptional reliability of its predecessor, the Cryomatic MK II delivers quality and versatility when using either disposable or reusable probes. The Cryomatic MK II's new coupling system allows you to connect either a single use disposable or reusable probe without the need for an adaptor. The new integral software automatically detects the type of probe in use and adjusts the unit accordingly, meaning the unit is ready for use in a matter of minutes.

Cryomatic MK II Probes

No purge cycle for disposables!

When using single-use probes, the Cryomatic MK II will instantly allow the user to couple the probe to the console, and it's ready to go – no more waiting for a purge cycle! The Cryomatic MK II has all new reusable probes, designed for ease of connection and, with a classic tip form, are perfect for your needs. The integral software will automatically detect and optimize its parameters for perfect performance, whichever type of probe you are using, and ensure a short purge cycle time after time.

Disposable Cryo Probes

No more sterilization concerns

The single-use sterile retinal cryo probe is the perfect answer when a sterile probe is demanded on short notice. Lightweight and comfortable to use, the single-use probe is a must-have to manage your infection-control processes and cut sterilization time and costs.

Single-use probe

Cryo Systems and Probe Part Numbers

Cryo

- 2509-P-1010 – Cryomatic MK II Console with footswitch, high-pressure hose, exhaust hose, (specify CO2, or N20 gas use when ordering), and user manual

Probes

DIPOSABLE

- 2508-P-7022 – Single use sterile 2.5mm retinal probe (box of 10)

NON-DIPOSABLE

- #1: 2509-P-8020 – Standard retinal probe
- #2: 2509-P-8030 – Compact retinal probe
- #3: 2509-P-8021 – Extended retinal probe
- #4: 2509-P-8022 – Mid-Reach retinal probe
- #5: 2509-P-8025 – Glaucoma probe
- #6: 2509-P-8024 – Curved cataract probe
- #7: 2509-P-8023 –Intra-vitreal probe
- #8: 2509-P-8026 – Collins trichiasis probe
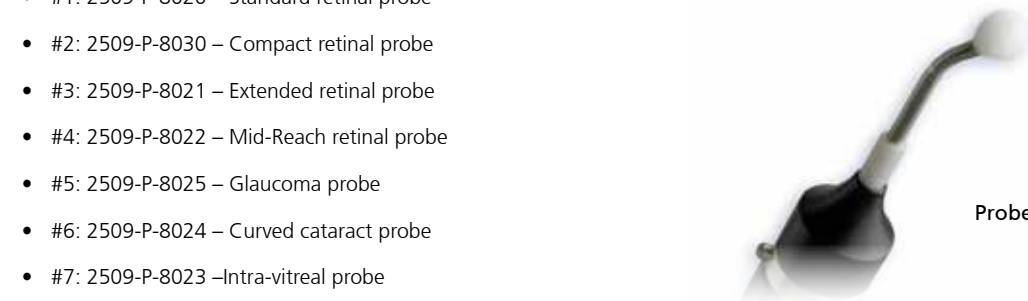
Supplies

- 3304-K-1085 – Cryomatic stand
- 1899-K-1163 – Chan wristrest with pillow
- 1899-K-1219 – Surgical foam headrest
- 1899-K-1243 – Nevyas drape supports (box of 24 – minimum order of 4 boxes)
- 1899-K-1112 – Machemer stool

Probe with ice

Cryomatic stand

Surgical Room Supplies

Keeler Chan wristrest - Item #1163

The Chan wristrest has become an important standard in busy operating rooms. The unique height-adjustable horseshoe bar encircles the patient's head and supports arms and wrists during ophthalmic surgery. The horseshoe bar facilitates easy draping, especially when fluids are collected. The bar also flips up and out of the way for easy patient transfer on and off the table. The metal plate fits under the mattress of the O.R. table. Adapts to all O.R. tables and stretchers.

Surgical foam headrest - Item #1219

The surgical foam headrest automatically secures the patient's head, while making them as comfortable as possible. Several center inserts can be removed to adjust for any head size from pediatric to adult. The pillow can be autoclaved when necessary. From surgical suite to the recovery room, this unique pillow will ensure correct patient positioning.

Nevyas drape support - Item #1243

The disposable Nevyas drape support is the simple and inexpensive way to establish a zone of comfort for your patients during ophthalmic surgery that requires draping over the nose and mouth. Packaged in boxes of 24, minimum order of 4 boxes.

Machemer stool - Item #1112

This stool is unquestionably the finest operating stool available today. This stool was designed especially for the ophthalmic surgeon who must remain absolutely steady for long periods of time. A poor stool can unexpectedly shift resulting in unanticipated hand motion. The Machemer stool has a solid base of five sturdy castors. A "foot bar" allows the surgeon to adjust the height from 22" to 33" and lock the seat swivel. The seat is constructed of one continuous piece of heavy sculptured foam and is covered in fabric without seams. This unique design reduces pressure on the sciatic nerve and remains comfortable through even the longest procedures.

Bulbs and Accessories

Accurate diagnosis depends upon a number of factors. Of these, top-quality illumination ranks as one of the most important. Only excellent visualization allows you to use your diagnostic skills to the fullest. All Keeler instruments use genuine halogen, xenon and LED technology, yielding a brighter, whiter illumination and a longer life. Look at the bottom of your bulb to identify if your instrument is 2.8v (dry cell battery) or 3.6v (rechargeable battery).

2.8v   3.6v
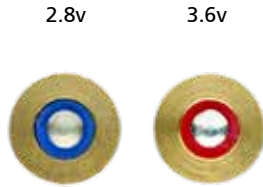
All Pupil II LED module

- 1012-P-7008

Vantage Plus LED module

- 1012-P-5276

Combi Retinoscope LED module

- 1305-P-7000

Specialist/Vista ophthalmoscope bulb

- 1011-P-7034

All Pupil II and Vantage bulb

- 1012-P-7003

Wide-angle Twin Mag Ophthalmoscope bulb

- 1012-P-7004

Pocket ophthalmoscope bulb

- 1011-P-7050

Professional/Vista Streak Retinoscope bulb, 35mm

- 1013-P-7008 – 2.8v Professional
- 1013-P-7009 – 3.6v Professional

PREVIOUS MODEL RETINOSCOPES, 20MM

- 1013-P-7002 – 2.8v
- 1013-P-7003 – 3.6v

Spectra bulb

- 1299-P-7075

Pulsair bulb for Mark 1, 2000, 3000, and EasyEye

- 1024-P-7156

Professional ophthalmoscope bulb

- 1011-P-7114

Professional/Vista Spot Retinoscope bulb, 35mm

- 1013-P-7006 – 2.8v Professional
- 1013-P-7007 – 3.6v Professional

PREVIOUS MODEL RETINOSCOPES, 20MM

- 1013-P-7000 – 2.8v
- 1013-P-7001 – 3.6v

Fison bulb

SUPPLIED INDIVIDUALLY

- 1012-P-7000

Vantage Plus bulb

- 1012-P-5241

Product Icon Guide

Throughout this catalog, you will find these icons underneath or beside specific products to showcase the different features of each. Here is a guide to what each one means for you to reference.

Semi -circle – Provides a combination of depth perception and field of view.

Large aperture – Ideal when examining fully dilated pupils.

Pupilary Distance – Distance between user's pupils.

Clear filter – Allows user to view the eye in crystal clear detail.

Slit – Used primarily to determine retinal elevations and depressions, but may also be used to assess anterior chamber depth.

Intermediate aperture – Permits easier access through an undilated pupil and in peripheral examination. Particularly useful in pediatric examinations.

Diopter range – Single-step diopter changes to compensate for patient and examiner refractive error.

Red-free – Used to examine blood vessels in fine detail. By filtering out the red light, blood vessels are silhouetted black against a dark green background.

Glaucoma – Projects a graticule onto the retina to assess the optic cup/disc ratio as an aid to glaucoma diagnosis.
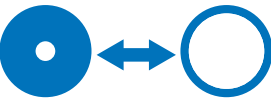
Small aperture – Ideal for undilated pupils.

Portable – Convenient for transportation.

Cobalt blue – Used with fluorescein dye for angiography.

Fixation cross – Projects a graticule onto the retina for assessment of the degree and direction of eccentric fixation.

Adjustable aperture – Ideal for all pupil sizes.

Long-lasting – LED and lithium polymer battery can provide up to six hours of use on a single charge.

Bright – 25% brighter than standard bulbs.

Neutral Density (0.8) – Reduces the amount of light patients receive equally across the spectrum, which is perfect for light-sensitive patients.

Diffuser – Softer light patch to be used with patients uncomfortable with a concentrated light. Perfect for pediatric examinations.

Lightweight – Stronger and lighter materials allow for comfort without sacrificing quality.

LED – Long-lasting white illumination that is bright and allows you to see better details.