

The difference is inside...

Slit Lamps – LED Illumination – Imaging

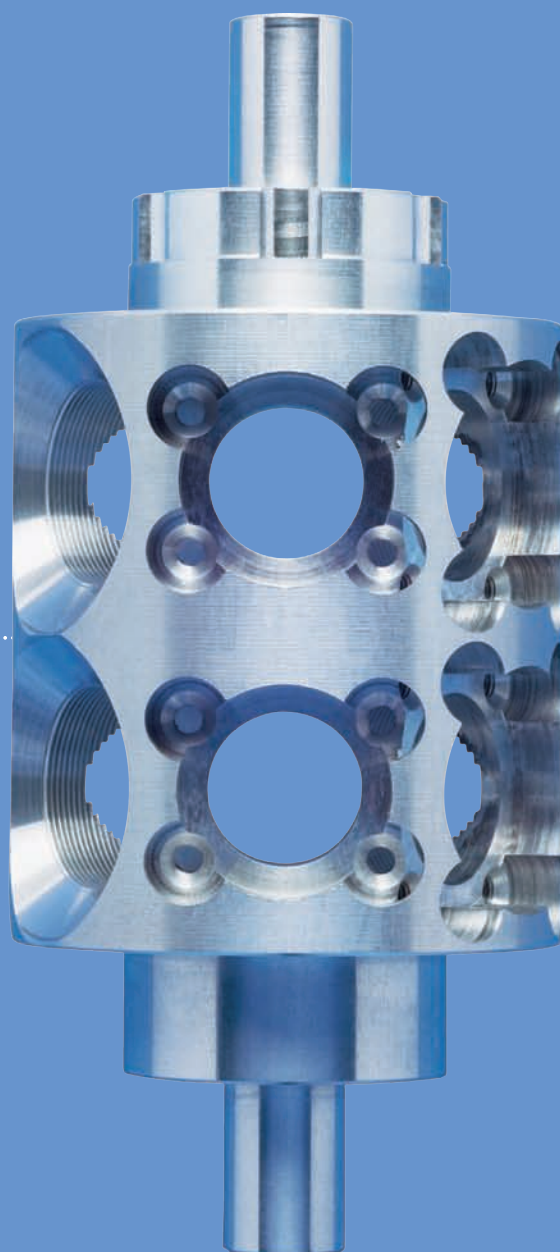


Slit Lamps

HAAG-STREIT
INTERNATIONAL

Tradition and Innovation





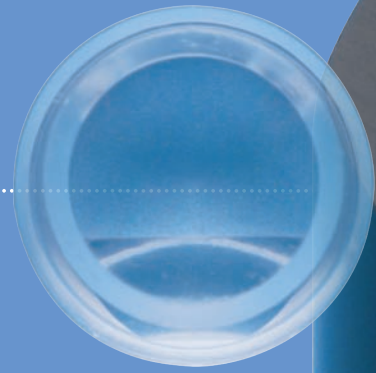
Timeless quality – in every detail

Haag-Streit has been involved in the production of high-quality, high-precision optical and mechanical instrumentation since their foundation in 1858. In 1959 the “Goldmann” slit lamp – known as the BM 900 – was launched. The BM 900, which has been often copied but never equalled, was a dramatic improvement in slit lamp design, usage and functionality. Today, over 50 years later, there are far more than 100,000 BM 900 slit lamps in daily use – including many from the original year of manufacture. Based on the knowledge and experience gained from this large user base, other slit lamps have been introduced by Haag-Streit over the years and these all show the same high performance and, equally as important, the durability and longevity of their famous predecessor. But what is the secret of a Haag-Streit slit lamp?

Why does it go on and on, year after year?

The answer is simple – quality made in Switzerland. Quality of design, quality of materials, quality of our personnel, quality of assembly and, don’t forget, the quality of the original conception.

So when we say “The difference is inside...” we ask you to consider, and you will see some examples throughout this catalogue, the extraordinary skill, and even beauty, of those “hidden” components which come together to produce a Haag-Streit slit lamp.



Sophisticated microscopy – fascinating versatility



The BQ 900, due to its excellent optics, versatility and ease of operation, has become the standard for those requiring advanced slit lamp microscopy.

A universal, modular system, offering simultaneous video and still photography through either professional or consumer level cameras.

A range of optional accessories include a teaching scope, inclined eyepieces and, for retinal specialists, the unique stereo variator. As with all Haag-Streit slit lamps, a Goldmann tonometer – the gold standard in IOP measurement – may be added to the system.



Slit Lamp BQ 900®

IMAGING MODULE IM 900®



The fully integrable, compact and ergonomic imaging solution on the BQ 900 slit lamp for every day documentation, teaching and publication.

INCLINED EYEPIECE ADAPTOR



This simple but effective device allows the eyepieces to be inclined upwards by 20° from their traditional horizontal position, thereby reducing neck strain in allowing a more natural viewing position to the user.

ZOOM-OBJECTIVE

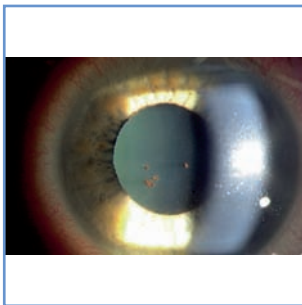


The magnification can be continuously changed from 6 up to 40x. Reference points are set at magnifications 10, 16 and 25x.

SECOND OBSERVER TUBE

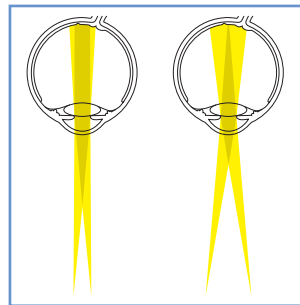


For teaching and assistants.



The convergent stereo view of the BQ 900 offers a very large binocular field of view with high resolution and depth of focus. Eyepieces adjustable to all pupillary distances allow for a fatigue-free and relaxed examination, even during long examinations.

STEREO VARIATOR

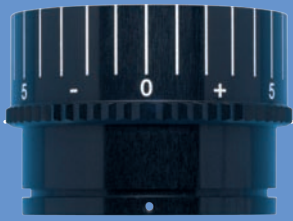


Uniquely with the BQ 900 an optional stereo variator reduces the 13° angle to 4.5°. Thus an enlarged binocular field of view is possible even with myopia or through small pupils. This also aids the observation, without additional lenses, of the peripheral fundus and vitreous. It improves fundus viewing for imaging applications.

BEAM SPLITTER



The “key” to a wide range of accessories, the beam splitter diverts a portion of the light to secondary attachments such as the second observer tube, video or digital cameras. There are two ports which allow for simultaneous video / still photography or, alternatively, use of the second observer tube with either video or still cameras. The beam splitter may stay attached to the slit lamp as, by use of a simple lever, the full 100% light is sent back to the user’s eyepieces.

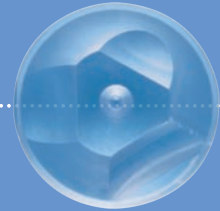
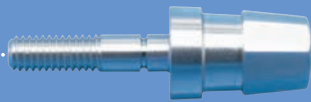


Imaging capabilities – progressive functionality



The BP 900 offers 10, 16 and 25x magnifications and imaging capabilities. Designed for routine practice, the BP 900 has a redesigned optical system and progressive functionality. Two optional beam splitters, one for video, one for digital photography, are available and allow the attachment of consumer market digital cameras.





Slit Lamp BP 900®

BEAM SPLITTER



There are two optional beam splitters – one for video and one for digital consumer. Each accepts commercially available consumer level devices. 70% of the reflected light from the image is directed to the camera or video.

CAMERA MODULE CM 900®

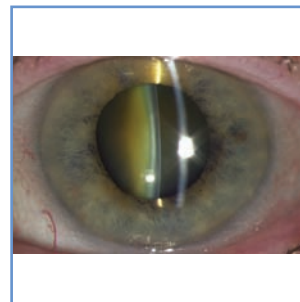


Specifically developed for ophthalmic slit lamp imaging. The professional sensor provides the user with high sensitivity and wide dynamic range, ideal for imaging under lower light conditions and easier to image dark eyes.

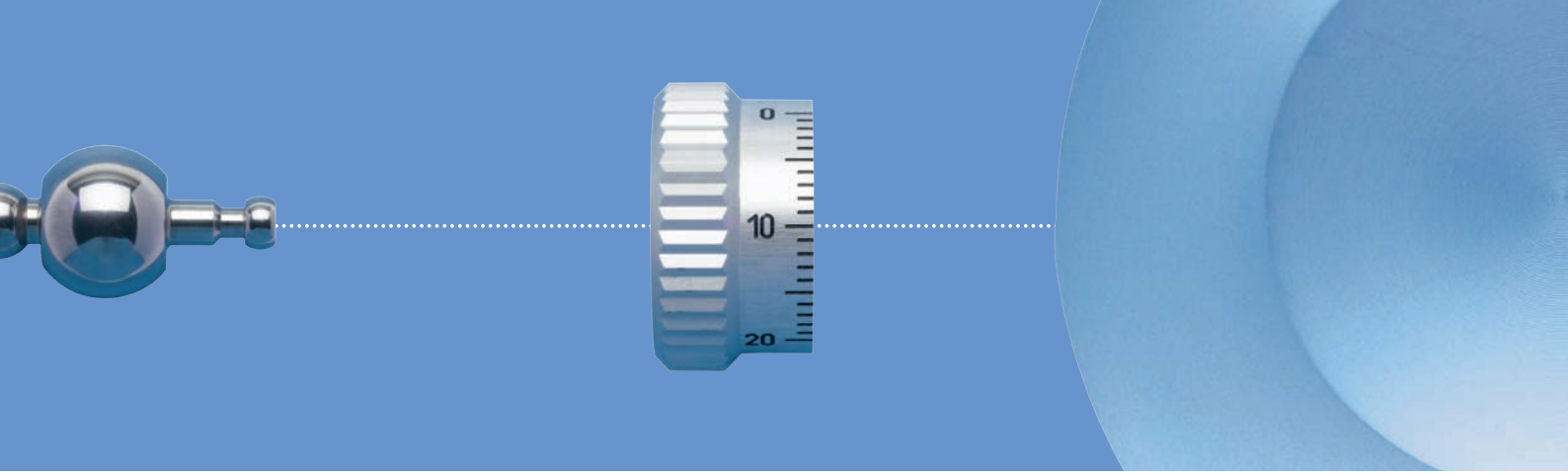
JOYSTICK WITH ILLUMINATION CONTROL



A push button on the top of the joystick, unique to the BP 900, allows for the control of illumination levels.



The quality of the optical system is the determining factor for the results of whatever application you are using the slit lamp for. Haag-Streit is therefore only using the best materials and latest production processes to manufacture the lenses for all our slit lamps at its own premises.



The classic slit lamp microscope – enduring performance



The Haag-Streit BM 900 has been the standard in modern slit lamp microscopy for more than 50 years – and still is! Over 100,000 professionals all over the world who own a BM 900 agree that it was the best investment they ever made for their practice. The BM 900 is the “classic” slit lamp for the general ophthalmologist concerned with both the anterior and posterior segments.



Slit Lamp BM 900®

CROSS SLIDE



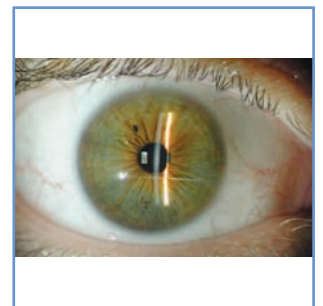
This cross slide mechanism, incorporated into all Haag-Streit slit lamps, has both its vertical and horizontal movements controlled by our patented joystick. Perfection in design, materials and construction allow these movements to be made smoothly and effortlessly without any wrist or finger strain – and to continue so for the very long lifetime of this classic slit lamp.

ILLUMINATION SYSTEM



The heart of all Haag-Streit slit lamps, the illumination system has the brightest illumination available in a slit lamp providing a tilting, rotating slit of up to 8 mm in length and width. Tilting is extremely important to good posterior segment observation. All filter and slit controls are conveniently situated for ease of use and, as with the cross slide mechanism, have a silky smooth, effortless movement. The slit mechanism, one of those “differences inside”, is a masterpiece of engineering in itself, affording faultless precision in both shape and movement.

OPTICAL QUALITY



The BM 900, like any other Haag-Streit slit lamp, features best optical components to show all structures of the human eye in every detail.

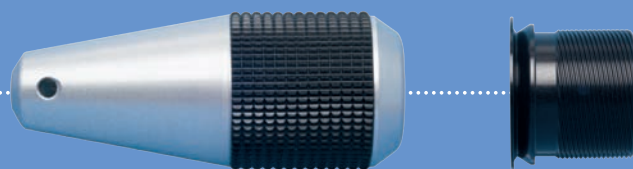
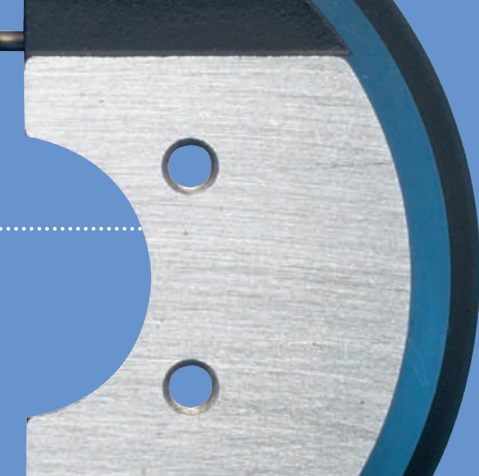
A convergent, stereoscopic microscope offering short observer to patient distances and “workhorse” 10 and 16x magnifications (with standard 10x eyepieces – optional eyepieces with other magnifications are available – see “Accessories”). PD and optical correction are both finely adjustable to give easy viewing with none of the eye fatigue so often associated with use of the slit lamp.

Optimal performance – for the anterior segment



The BD 900 is optimised for the opticians, optometrists, contact lens practitioners and ophthalmologists specialising in the anterior segment. It is also ideal for non-ophthalmologists emergency rooms. Video may be fitted through a built-in video port. Standard magnification is 10 and 16x – through the flip of a lever placed just beneath the microscope.





Slit Lamp BD 900®

YELLOW FILTER



For good contrast enhancement when using Fluoresceine, simply turn the filter positioned at the front of the microscope.

INSTRUMENT BASE



A smooth to operate instrument base with a continuously adjustable illumination control conveniently situated next to the joystick.

ILLUMINATION

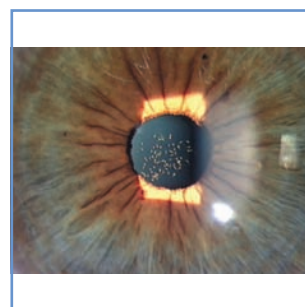


With a single support column the BD 900 allows optimal access to the patient. The halogen bulb gives up to 300,000 Lux illumination. The slit can be adjusted from 0–14 mm. UV and IR filters are built-in and blue, red-free and grey filters can be inserted as needed.

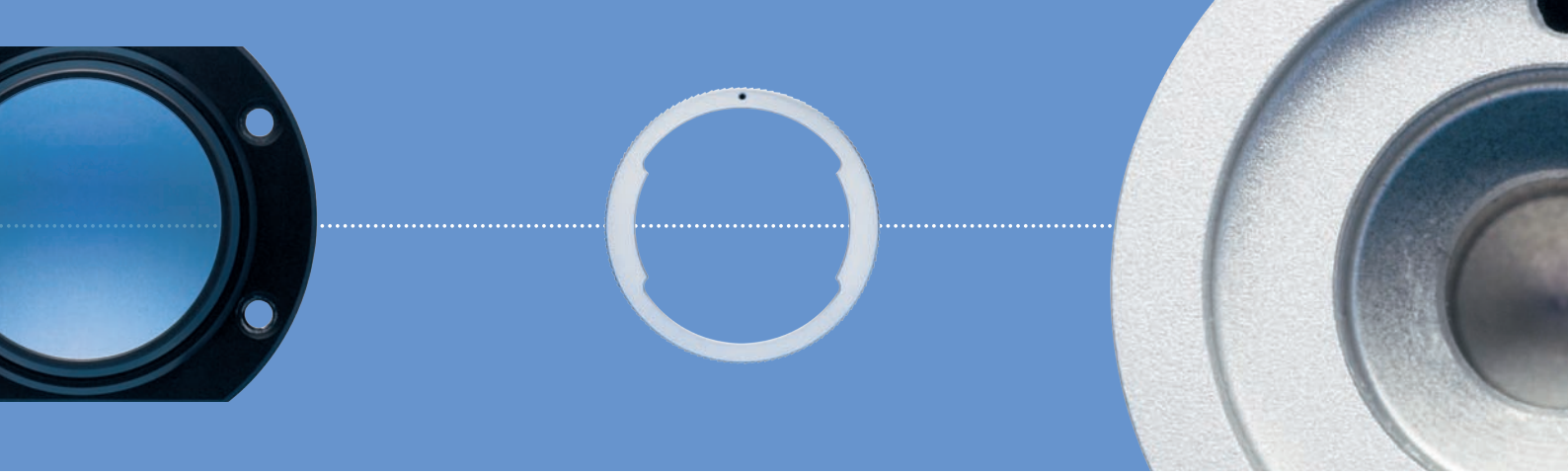
VIDEO PORT



The image is diverted to the camera by means of a small prism permanently placed in the microscope. The video port on the BD 900 is optimised for the use with the CM 900 but will also take any other small C-mount camera.



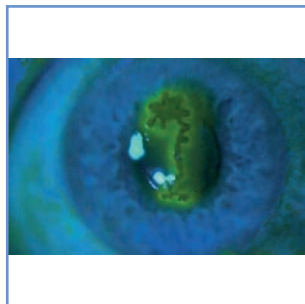
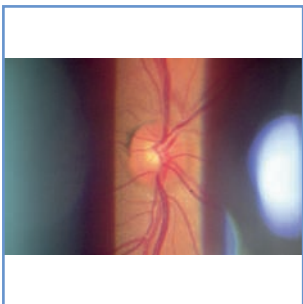
There are several significant differences between the BD 900 and the other slit lamps of the Haag-Streit range – although the underlying philosophy of quality has been retained. Halogen is standard, there is a 14 mm slit and a yellow filter – all aspects considered important with regard to contact lens fitting and observation of the corneal surface.



Superior technology – professional photography



The BX 900 provides features for the professional ophthalmic photographer. Integrated flash, fully synchronised with the camera, slit and background illumination, all controlled through a release mechanism directly beside the slit lamp joystick, as well as adaptors allowing for the fitting of many top of the range professional level digital and 35 mm cameras, ensure ophthalmic imaging of the highest possible quality. The camera is mounted above the microscope thus allowing ease of access to the patient. This is especially useful when photographing in conjunction with hand-held diagnostic lenses.





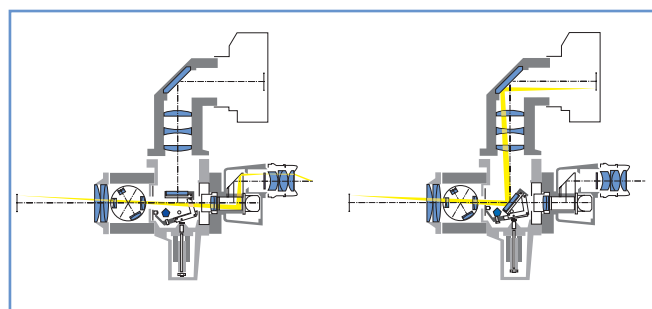
Slit Lamp BX 900®

SHUTTER RELEASE



Conveniently mounted close to the operator's hand it can easily be utilised whilst continuously maintaining focus through the joystick of the slit lamp.

MIRROR HOUSING



During normal examination, 100% of the light is directed to the oculars.

For photography, the built-in retracting mirror directs 100% of the light to the camera.

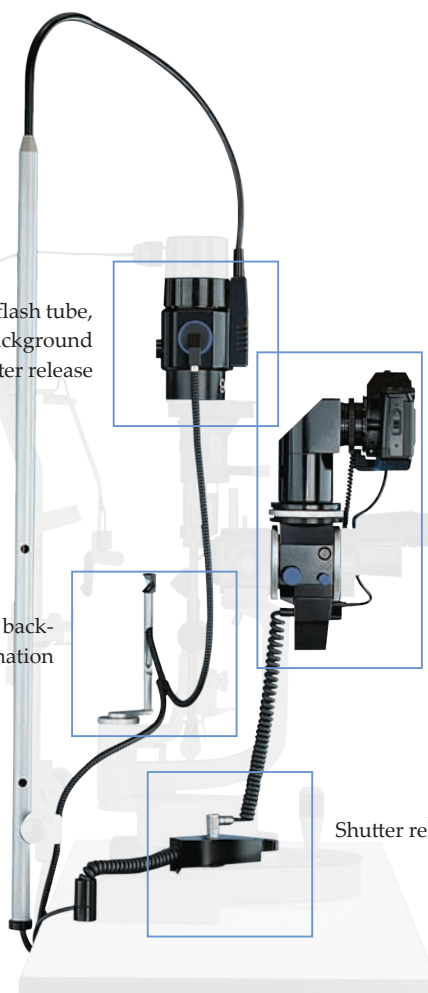


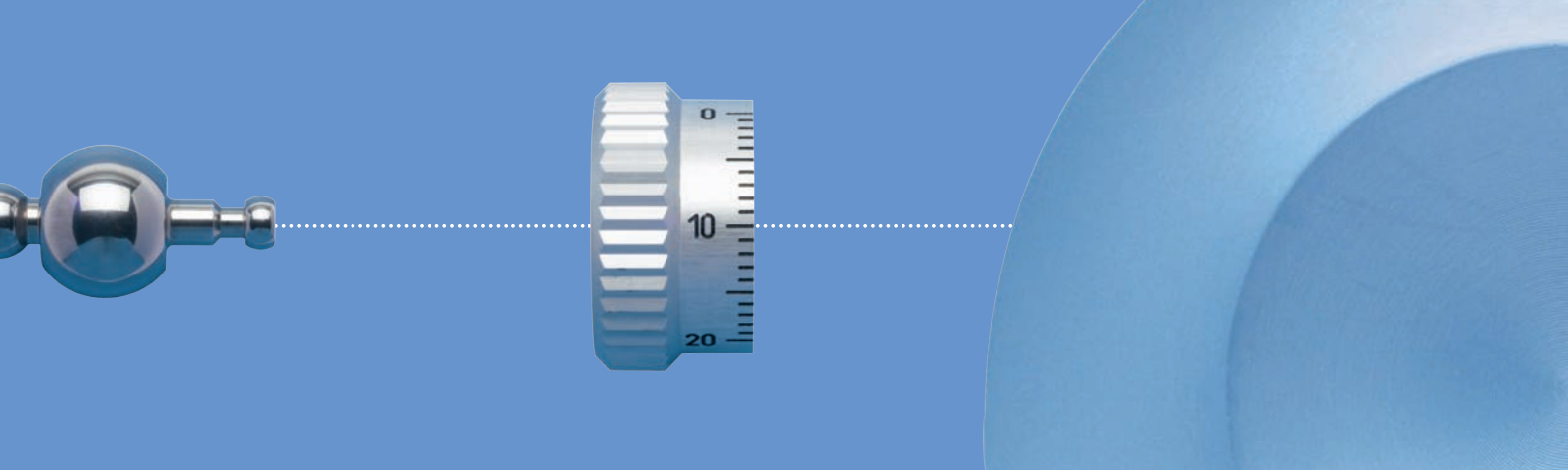
Integrated flash tube, synchronised to slit, background illumination and shutter release

Fibre optic background illumination

Mirror housing with monocular tube for camera integration and synchronisation

Shutter release





LED power – for more detail

The LED powered slit lamp delivers our sharpest, brightest and most homogeneous slit ever.

The light spectrum is specially designed for Haag-Streit to fulfil the high quality standard and matches the well established tungsten light. This ensures best details in diagnosis from the cornea to the retina.

In terms of economic efficiency, the LED technology brings significant improvements. Due to the high lifetime of the LED illumination, no more bulbs must be exchanged in future.

The LED powered slit lamp is imaging ready and combines slit and background illumination. This provides the user with improved functionality. Pivoting and fixed background illumination allows the user to adjust the light in a flexible way and ensures best details in all imaging applications on the slit lamp.

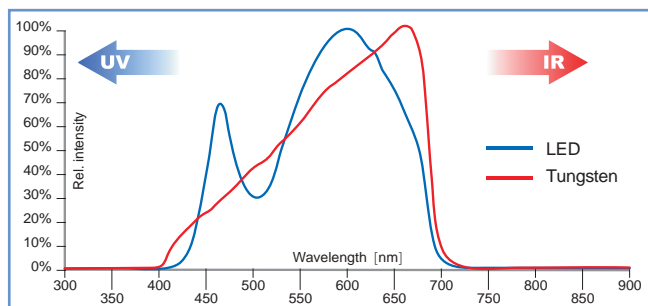
The LED illumination is available for the BQ 900, BP 900 and BM 900 slit lamps.





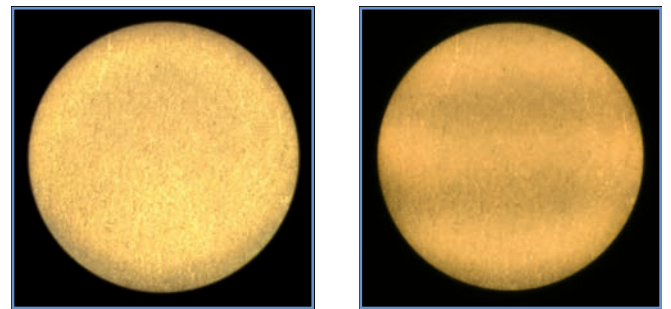
Slit Lamp LED powered

OPTIMISED LIGHT SPECTRUM



The light spectrum of the LED illumination is designed to resemble the spectrum of the well established Haag-Streit tungsten illumination, ensuring best details in standard diagnosis. Some more power in the short wavelengths improves fluorescence and anterior chamber examination.

MOST HOMOGENEOUS SLIT



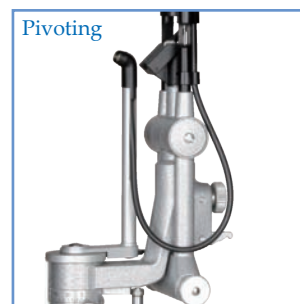
The left image shows a most homogeneous illumination compared to the wave like pattern on conventional systems.

ADVANCED ERGONOMICS



Slit and background illuminations are continuously variable controlled by a single slim control panel or box. The control box can be placed free on an existing table with a single cable to the power supply or completely integrated as a panel in the table top with no wires visible.

BACKGROUND ILLUMINATION



A bright and even background illumination is the most important key for all imaging applications on the slit lamp. The pivoting background illumination for advanced users allows the creation of the exact right lighting condition for every imaging situation. The fixed background illumination provides homogeneous and bright light for basic imaging application.

Imaging Module IM 900®

Easy use – optimal imaging

The Imaging Module IM 900 is the fully integrated compact imaging solution for the BQ 900 slit lamp. It is developed for easy and intuitive imaging. The IM 900 delivers highest quality images and high resolution video. Combined with the new LED illumination, the IM 900 provides the user with improved functionality. EyeSuite or EyeCap imaging software completes the perfect imaging system.

EASY TOUCH



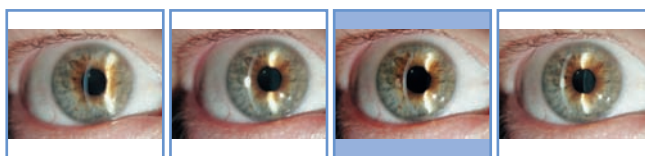
Control the image: Easy touch is more than just a trigger, allowing simple, ergonomic management of the camera settings.

DEPTH OF FIELD CONTROL (DFC)



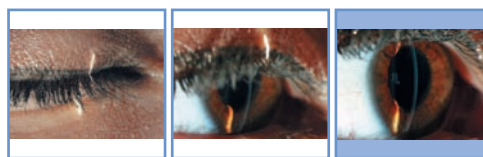
True aperture: A unique feature of the Haag-Streit imaging systems, facilitating complete control of the depth of field.

HISTORY TRIGGER



Never miss the perfect image: The history trigger not only captures one image but records the last few seconds in real time and lets you return to select the optimum image.

FREEZE TECHNOLOGY



Captures precisely at the moment you press the trigger.



IM 900 on BQ 900

Easy adjustable – best results

The Haag-Streit Camera Module CM 900 provides an exceptional imaging solution for the BD 900, BP 900 and for the discontinued BMV 900 slit lamp. The combination of the CM 900 with EyeCap or EyeSuite Imaging software completes the perfect imaging system with Freeze Technology for precise picture capture and the unique history trigger to select always the best image.

CM 900 ON BP 900



70% of the reflected light from the image is directed to the camera or video.

EASY TOUCH



Controls the image and camera settings at the tip of your fingers.

EYEPIECE WITH CROSSHAIR RETICULE



The 12.5x eyepiece with crosshair reticule will ensure the slit lamp and camera are focused at the same plane and thus compensate for any user accommodation.



CM 900 on BD 900

Professional illumination – reliable documentation

LED BACKGROUND ILLUMINATION



The new LED illumination slit lamp is imaging ready and combines slit and background illumination. Specifically in combination with the Imaging Module IM 900, the new LED illumination provides the user with improved functionality. Pivoting and fixed background illumination allows the user to adjust the light in a flexible way and ensures best details in all imaging applications on the slit lamp.

COLD LIGHT SOURCE



Homogeneous background illumination is an essential for good slit lamp imaging. This is provided through an optional, high output fibre optic light source and either a holder mounted to the illumination device or by a separate pivoting device which moves independently of the slit lamp illumination.

IMAGING MODULE IM 900® / CM 900®



Haag-Streit offers several camera solutions specifically designed for the special conditions of slit lamp imaging. High sensitive imaging sensors paired with unmatched quality of Haag-Streit optics lead to perfect images for documentation, teaching and publication.

EYECAP™ – IMAGE MANAGEMENT



The EyeCap software is a complete image capture and management application that has been developed through cooperation with leading ophthalmic clinicians, ophthalmic photographers and optometrists. It allows simple, accurate and secure documentation of the eye via the slit lamp. Images from other systems, i.e. a fundus camera, can be archived through the same system directly to the patient's records.

Lenses

Explore and treat every detail

903



The best-known (and most copied) of the Haag-Streit range of diagnostic lenses, "903" is the original Goldmann three-mirror lens, offering the traditional 59°, 66° and 73° angles.

CGP



The CGP is shown as just one example of our wide range of laser contact lenses. Haag-Streit laser lenses cover all areas of the eye and laser wavelengths – the CGP, for instance is very specifically designed for capsulotomy with a Nd: YAG laser. Please ask for more details of our entire range.

Extra comfort – optimal examination

HEADREST WITH
FIXATION DEVICE



The headrest has been designed according to anatomical criteria and includes an adjustable chin-rest. The fixation device permits uninterrupted observation and simultaneous guidance of the patient's eye. Both help to make examination comfortable for user and patient.

TABLE HSM 901



Mechanical or electrical instrument table with internal channels to conceal wiring from instruments or accessories such as video and fibre-light.



LOTMAR VISOMETER



A very useful attachment for the assessment of retinal visual acuity:

- prognosis of postoperative acuity in cataract surgery
- direct reading of retinal visual acuity
- available for the Slit Lamps BQ, BP and BM 900

STANDS AND UNITS

Haag-Streit offers a wide range of instrument tables and units for professional refraction and examination.

INCLINED EYEPIECE
ADAPTOR



This simple but effective device for the BQ 900 allows the eyepieces to be inclined upwards by 20° from their traditional horizontal position, thereby reducing neck strain in allowing a more natural viewing position to the user.

Eyepieces

An ocular for every need

Length & angle measurement



EYEPIECES

A large range of different eyepieces are available for each slit lamp.

| | | BQ 900® | BP 900® | BM 900® | BD 900® | BX 900® |
|------------------------------|----------------------|--------------------|---------|-----------------------|------------|---------|
| Oculars | standard optional | 12.5x | 12.5x | 10x 6.3x, 16x, 25x | 10x 25x | 12.5x |
| Crosshair reticle | | 12.5x | 12.5x | | 10x | 12.5x |
| Length measurement | | 12.5x | 12.5x | | 10x | 12.5x |
| Split image | | 12.5x | 12.5x | 10x | | 12.5x |
| McIntire grid | | 12.5x | 12.5x | 25x | | 12.5x |
| Length and angle measurement | | 10x (with adaptor) | | 10x | | |

Professor Hans Goldmann



None of this would have been possible were it not for the work and dedication of Hans Goldmann (1899–1991) who was Professor of Ophthalmology at the University Hospital of Bern (“Inselspital”). During his long and brilliant career, Professor Goldmann won virtually every major prize in Ophthalmology in recognition of his contributions to the profession. Aside from the slit lamp, Professor Goldmann was also responsible for the Goldmann applanation tonometer, many diagnostic contact lenses and the Goldmann perimeter.



APPLANATION TONOMETER

The first Goldmann applanation tonometer was launched in 1937, since then many hundreds of thousands have been installed around the world. All Haag-Streit slit lamps, naturally, accept the “Gold Standard” Goldmann applanation tonometer.



DIGITAL APPLANATION TONOMETER

The digital Goldmann tonometer AT 900 D pairs the positive experience of many thousands of Goldmann tonometer users with the opportunities of state of the art digital technology. Wireless transfer of the IOP readings and left/right eye position allows direct integration of the tonometer into an existing patient information system thus facilitating an ergonomic workflow.

| | BQ 900® | BP 900® | BM 900® | BD 900® | BX 900® |
|------------------------------|--------------------------|--------------------------|--------------------------|---------|--------------------------|
| Tonometer AT 900®, AT 900® D | Mod. T / Mod. BQ | Mod. T / Mod. BQ | Mod. R / Mod. T | Mod. R | Mod. T / Mod. BQ |
| Second observer tube | <input type="checkbox"/> | | | | <input type="checkbox"/> |
| Stereo variator | <input type="checkbox"/> | | | | <input type="radio"/> |
| Inclined eyepieces adaptor | <input type="checkbox"/> | | | | <input type="radio"/> |
| Depth measuring | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> |

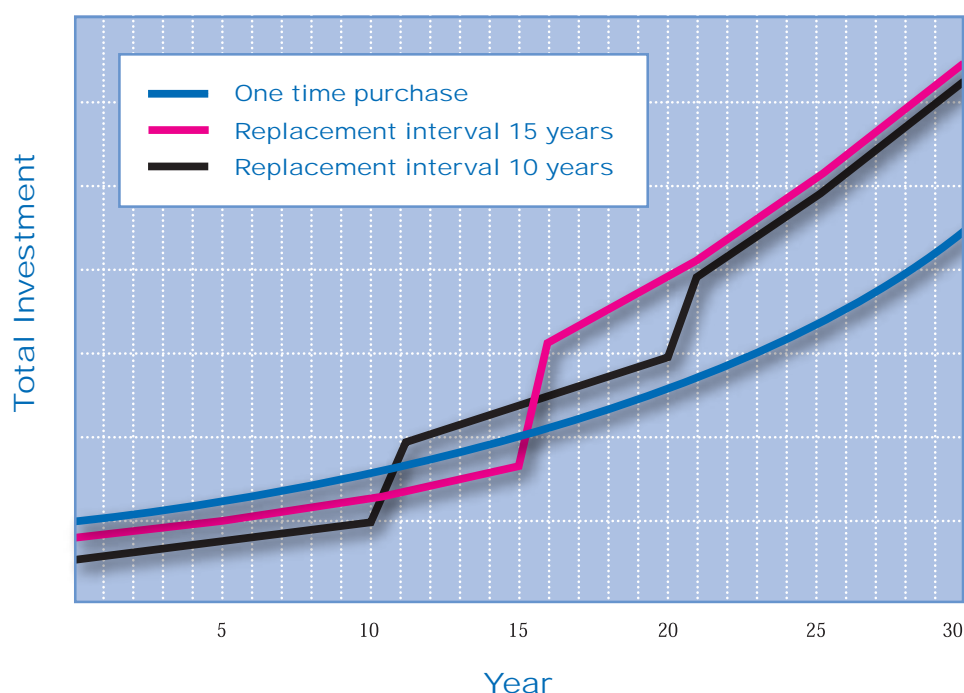
☐ = Option ☐ = Not recommended

This is not a complete list of the BQ/BX accessories. Please contact your Haag-Streit Distributor for further information.

The benefit of perfection

| We put in more... | ...for your success |
|--|--|
| Top quality optical design and materials | → No missed or misinterpreted diagnoses |
| Ergonomic design | → Patient and user comfort |
| Compliance with current safety standards | → Patient safety |
| Swiss mechanical perfection | → Smooth and enjoyable operation |
| Environment-friendly production | → Contribution to pollution control |
| Made with the care and knowledge of over 50 years experience | → A sound practice investment |

Haag-Streit slit lamps are one of the best investments you can ever make for your practice. Built for the once in a lifetime purchase, they justify the higher investment and result in a significant payback over time.



This chart shows an investment calculation for three different slit lamps priced at \$ 6,000, \$ 8,000 and \$ 10,000 with respective life-cycles of 10, 15 years or lifelong. The calculation of the investment value is based on an interest rate of 5% and assuming an average price increase of 2% per year. It clearly shows that a one time investment in quality is the most cost saving decision you can make.



| | | BQ 900® | BP 900® |
|--|--|-------------------------------------|-------------------------------------|
| Illumination | LED NEW | <input type="checkbox"/> | <input type="checkbox"/> |
| | Tungsten | <input type="checkbox"/> | <input type="checkbox"/> |
| | Halogen | <input type="checkbox"/> | <input type="checkbox"/> |
| | Tilt | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Magnification (with standard eyepieces) | 6.3x | <input checked="" type="checkbox"/> | |
| | 10x | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | 16x | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | 25x | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | 40x | <input checked="" type="checkbox"/> | |
| | Zoom | <input type="checkbox"/> | |
| Filters | Grey | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | Red-free | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | Blue | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | Yellow | <input type="checkbox"/> | <input type="checkbox"/> |
| | Heat absorption | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Slit | Width (continuous) | 0– 8 mm | 0– 8 mm |
| | Length (continuous) | 1– 8 mm | 1– 8 mm |
| | Test mark fixation star | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Microscope | Stereo angle 13° (convergent optics) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | Stereo angle 4.5° (stereo variator) | <input type="checkbox"/> | |
| Imaging | Video connector | <input type="checkbox"/> | <input type="checkbox"/> |
| | Photo digital connector | <input type="checkbox"/> | <input type="checkbox"/> |
| | Photo 35 mm connector | | |
| | Integrated flash (slit and background) | | |
| | 100% light deflection to camera | | |



| BM 900® | BD 900® | BX 900® | BA 904 | |
|---------|-----------|---------|------------------------|---|
| □ | | | | ■ = Standard □ = Option ○ = Not recommended |
| □ | | ■ | | |
| □ | ■ | □ | ■ | |
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| ■ | ■ | ■ | | |
| ■ | ■ | ■ | ■ | |
| □ | ■ | □ | ■ | |
| ■ | ■ | ■ | ■ | |
| 0–8 mm | 0–14 mm | 0–8 mm | 0.12/0.25/0.5 mm steps | |
| 1–8 mm | 1–14 mm | 1–8 mm | 3/5/8/14 mm steps | |
| ■ | | ■ | | |
| ■ | ■ | ■ | ■ | |
| | | ○ | | |
| | ■ C-mount | | | |
| ○ | | ■ | | |
| | | ■ | | |
| | | ■ | | |
| | | ■ | | |
| | | ■ | | |

«When I realised the beauty of
what I saw through a Haag-Streit
slit lamp, I knew that I would
become an eyecare specialist.»

Professor Georg Eisner, Bern, Switzerland