

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

Professor Georg Eisner, Bern, Switzerland

 **HAAG-STREIT
INTERNATIONAL**
Precision by Tradition

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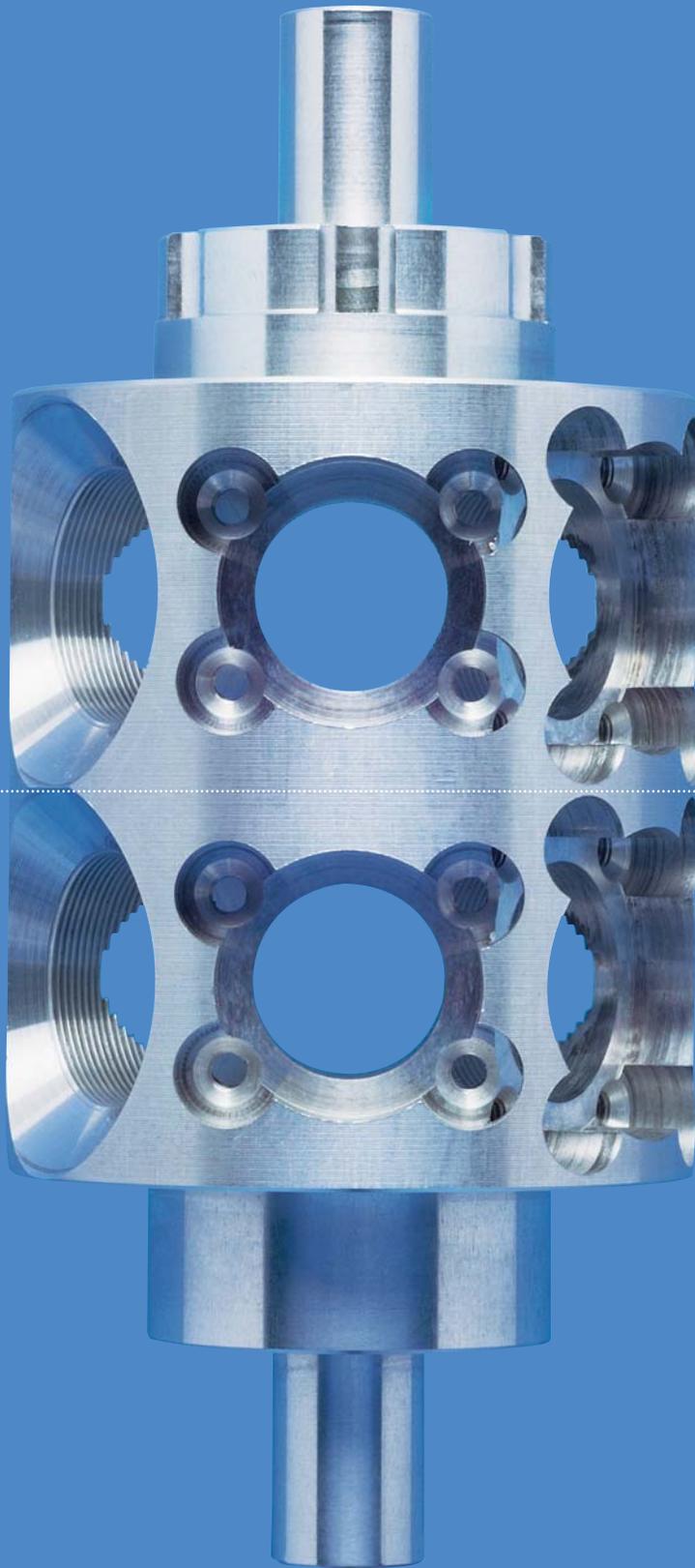
The difference is inside...

Slit Lamps



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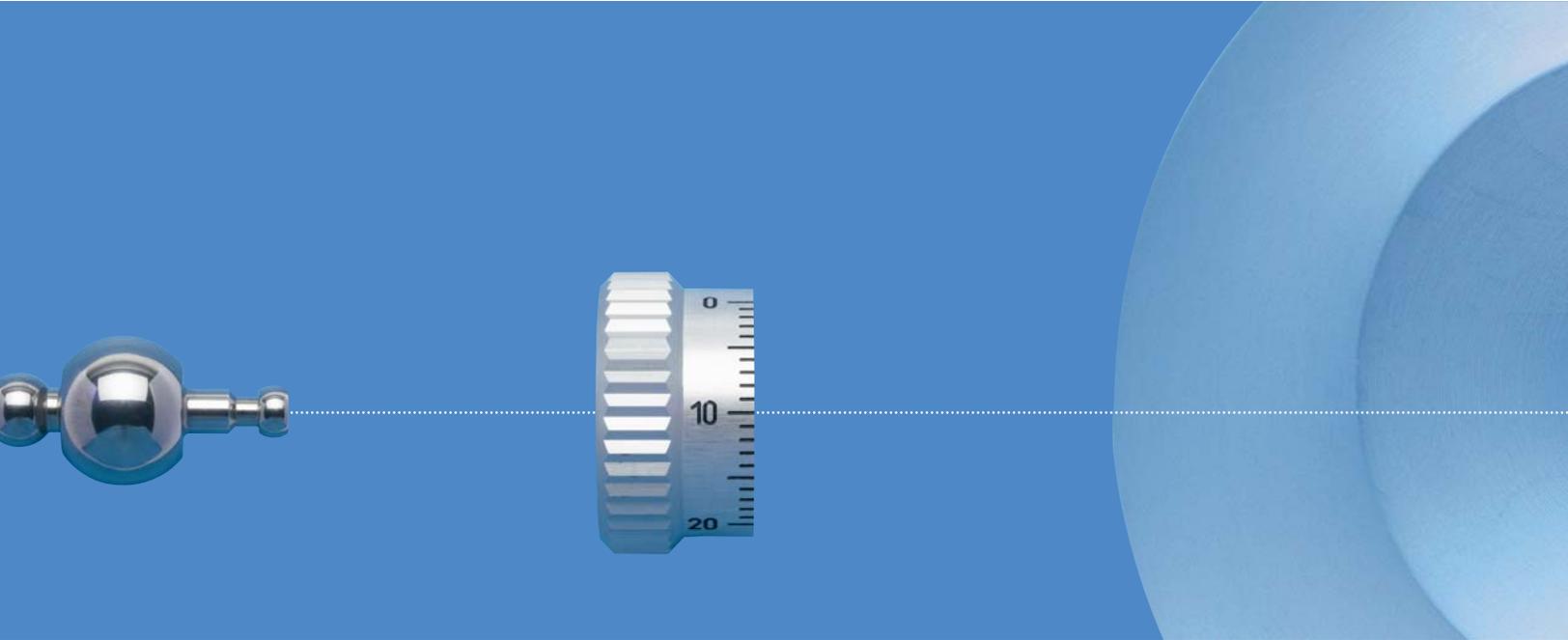


Timeless quality – in every detail.

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, almost 50 years later, there are over 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. 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.



The classic slit lamp microscope – enduring performance.

The Haag-Streit BM 900 has been the standard in modern slit lamp microscopy for almost 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.



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.

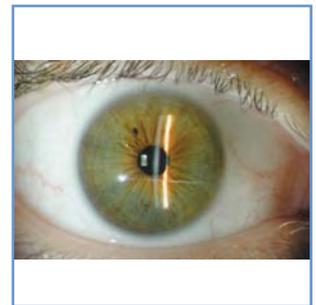




Slit Lamp BM 900

CROSS SLIDE MECHANISM

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.



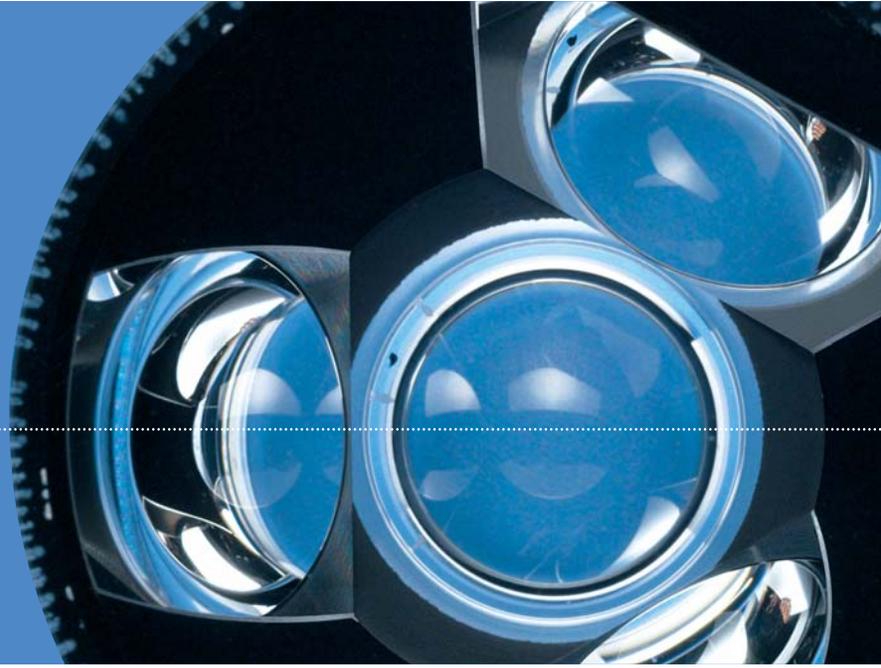
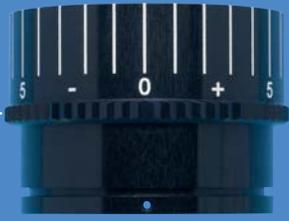
ILLUMINATION SYSTEM

The heart of the Haag-Streit slit lamp (also on the BQ 900 and BP 900 models), the illumination system has the brightest (600,000 Lux) 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.

IMAGING

A “through the eyepiece” digital adaptor for the BM 900 is available.





Imaging capabilities – progressive functionality.

The BP 900 offers three 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

MAGNIFICATION CHANGER

Changing between 10, 16 and 25x magnification is by means of a simple control on the side of the microscope. An optional 5x magnification (adding 6.3 and 40x) is available.



ECOLITE

Another innovation developed for the BP 900 is the new EcoLite background illumination for imaging purposes. On the BP 900 it plugs into the instrument base. EcoLite can also be used with all other Haag-Streit slit lamps through direct connection to the main power supply.

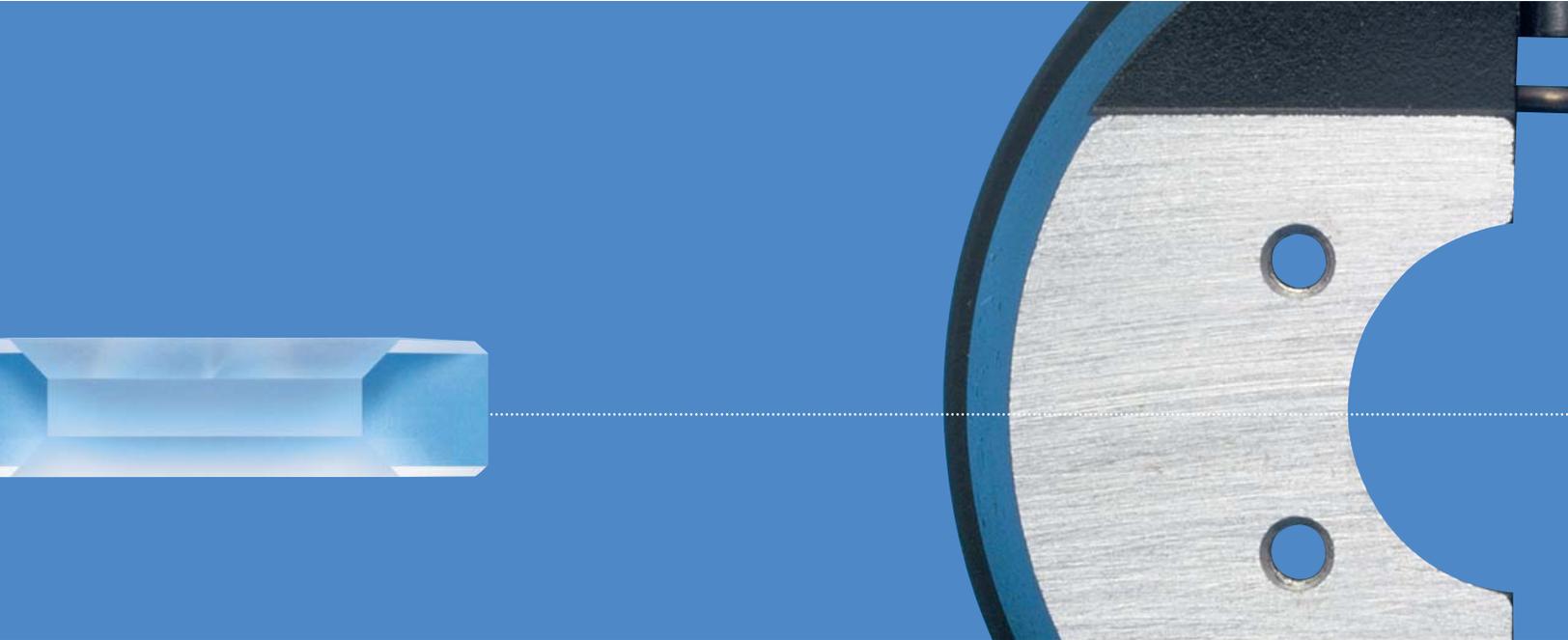
BEAM SPLITTER

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

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.





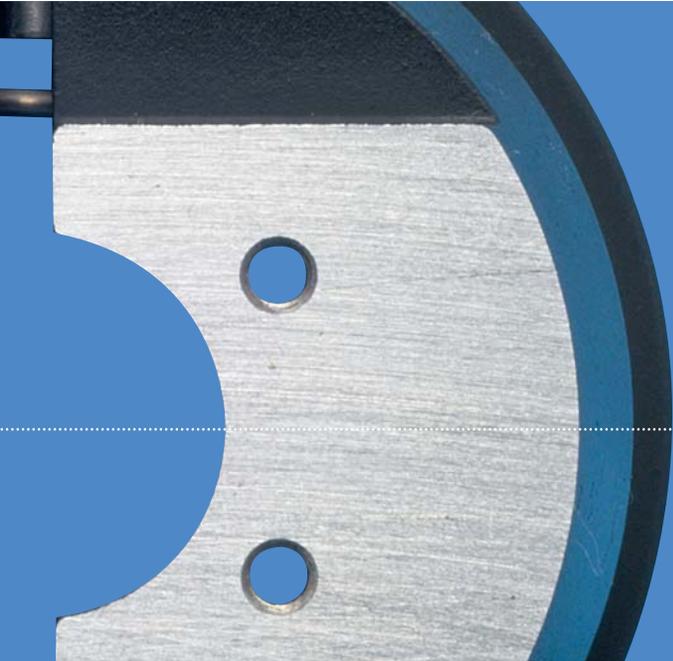
Optimal performance – for the anterior segment.

The BC 900 and BD 900 are optimised for the optician, optometrist, contact lens practitioners and ophthalmologists specialising in the anterior segment. They are also ideal for non-ophthalmologists within emergency rooms. Video – 1 CCD on the BC 900 or 3 CCD on the BD 900 – may be fitted through a built-in video port. Standard magnification is 10 and 16x times – through the flip of a lever placed just beneath the microscope.



There are several significant differences between the BC 900/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 regards contact lens fitting and observation of the corneal surface.





Slit Lamp BC 900 / 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 sited next to the joystick.



ILLUMINATION

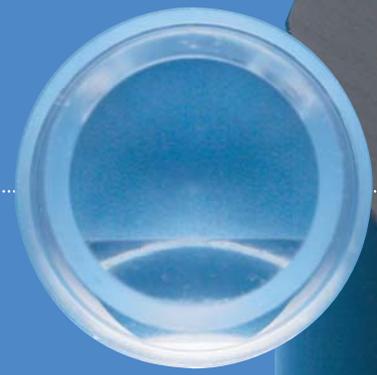
With a single support column the BC 900 and BD 900 allow optimal access to the patient. The halogen bulb gives up to 300,000 Lux illumination. The slit can be adjusted from 0–14 mm. UV and IR filters are built-in and blue, red and grey filters can be introduced as needed.



VIDEO PORT

A video port is included with both the BC 900 and BD 900. The image is diverted to the camera by means of a small prism permanently placed within the microscope. The video port on the BC 900 is designed for attachment to small 1 CCD "lipstick" cameras whilst the BD 900 will take a small 3 CCD C-mount camera.





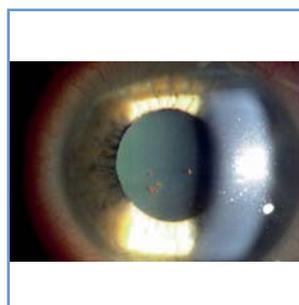
Sophisticated microscopy – fascinating versatility.

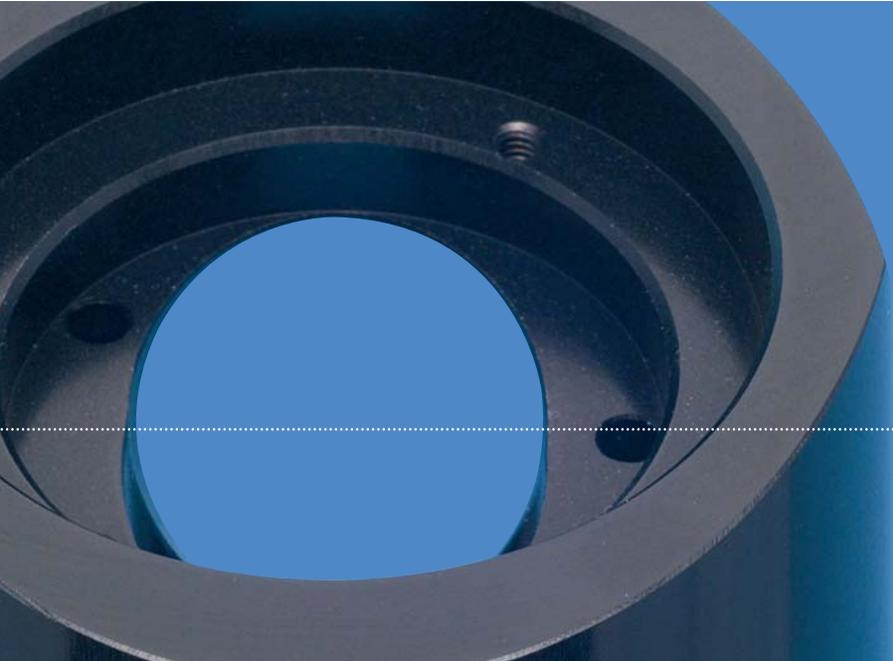


The BQ 900, due to its excellent optics, versatility and ease of operation, has become the standard for those requiring advanced slit lamp microscopy. A universal, modular system, offering simultaneous video and still photography through either professional or consumer level cameras. A range of optional 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.

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, 35 mm 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 users eyepieces.





Slit Lamp BQ 900

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.



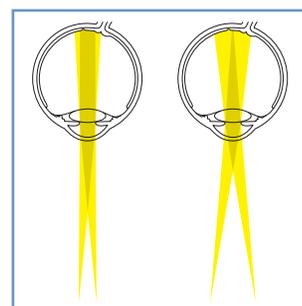
ZOOM-OBJECTIVE

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.

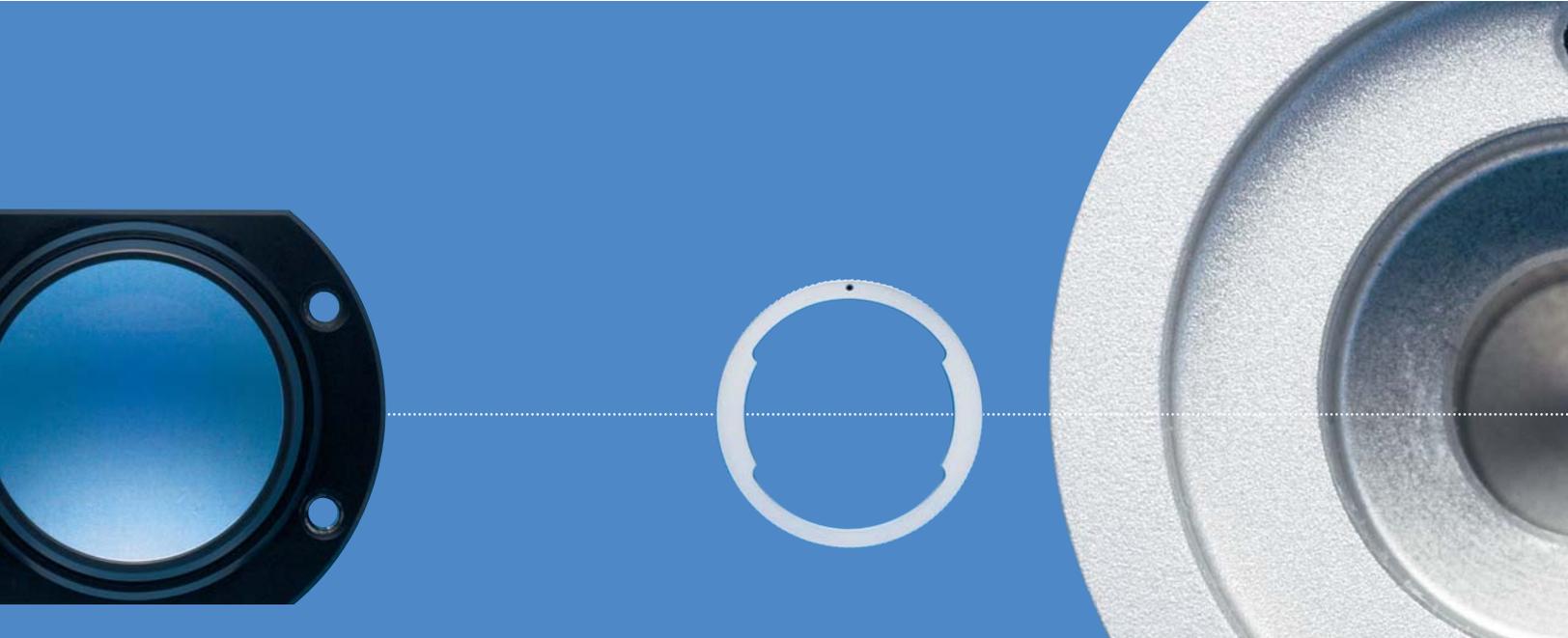


STEREO VARIATOR TUBE

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.

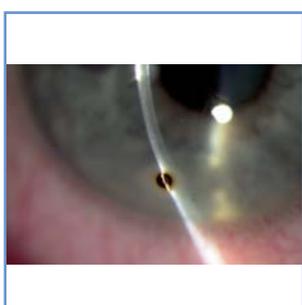
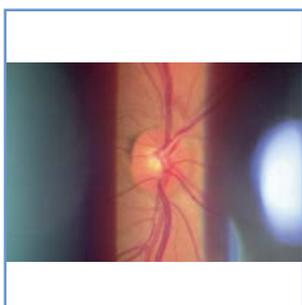


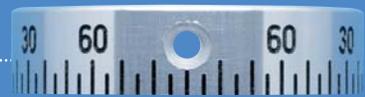
The convergent stereo view of the BQ 900 offers a very large binocular field of view with high resolution and depth of focus. Eyepieces adjustable to all pupillary distances allow for a fatigue-free and relaxed examination, even during long examinations.



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 immediately 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.

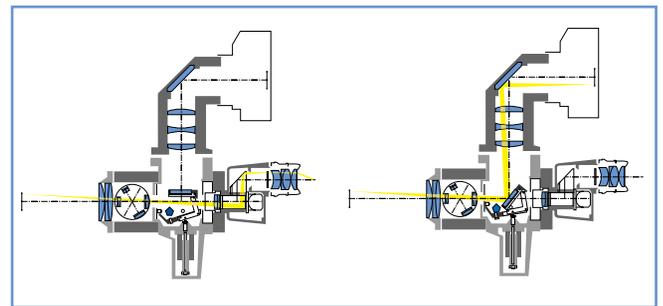




Slit Lamp BX 900

SHUTTER RELEASE

Conveniently mounted close to the operators 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

Shutter release

Mirror housing with monocular tube for camera integration and synchronisation



BC 900

BD 900

		BC 900	BD 900
Illumination	Tungsten		
	Halogen	■	■
	Tilt		
	Max. intensity (Lux)	300,000	300,000
Magnification <small>(with standard eyepieces)</small>	6.3x		
	10x	■	■
	16x	■	■
	25x		
	40x		
	Zoom		
	Filters	Grey	■
Redfree		■	■
Blue		■	■
Yellow		■	■
Heat absorption		■	■
Slit	Width (continuous)	0–14 mm	0–14 mm
	Length (continuous)	1–14 mm	1–14 mm
	Test mark fixation star		
Microscope	Stereo angle 13°	■	■
	Stereo angle 4.5°		
Imaging	Video connector	■ Mini 1 CCD	■ 3 CCD
	Photo digital connector		
	Photo 35 mm connector		
	Integrated flash (slit and background)		
	100% light deflection to camera		



BM 900	BP 900	BQ 900	BX 900	BA 904
■	■	■	■	
□	□	□	□	■
■	■	■	■	
600,000	600,000	600,000	600,000	205,000
	□	■	■	
■	■	■	■	■
■	■	■	■	■
	■	■	■	
	□	■	■	
		□	□	
■	■	■	■	
■	■	■	■	
■	■	■	■	■
□	□	□	□	■
■	■	■	■	■
0-8 mm	0-8 mm	0-8 mm	0-8 mm	0.12/0.25/0.5 mm steps
1-8 mm	1-8 mm	1-8 mm	1-8 mm	3/5/8/14 mm steps
■	■	■	■	
■	■	■	■	■
		□	○	
	□	□	□	
□	□	□	■	
		□	■	
			■	
			■	

■ = Standard
 □ = Option
 ○ = Not recommended

Extra comfort – optimal examination.



HEADREST WITH FIXATION DEVICE

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



OLCR PACHYMETER

Optical Low Coherence Reflectometry (OLCR) is used, via a device which may be fitted to all Haag-Streit slit lamps, to produce very accurate and reproducible (+/- 1 micron) measurement of corneal and epithelial thickness. It is contact free thus ensuring sterility and no discomfort to the 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.



STANDS AND UNITS

Haag-Streit provides you with stands and units. Please ask your local dealer for details.

DEPTH MEASURING ATTACHMENTS

A simple and accurate optical attachment for measurement of corneal thickness and anterior chamber depth. Two models, No I for measurements up to 1.2 mm and No II for measurements up to 6 mm, are available.



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

	BC 900	BD 900	BM 900	BP 900	BQ 900	BX 900
Tonometer	□	□	□	□	□	□
Second observer tube					□	○
Stereo variator					□	○
Inclined eyepieces adaptor					□	□
Depth measuring			□	□	□	□
OLCR Pachymeter	□	□	□	□	□	□

□ = Option, ○ = Not recommended.

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

Professor Hans Goldmann.



None of this would have been possible were it not for the work and dedication of Professor 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.



GOLDMANN APPLANATION TONOMETER

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

Eyepieces

An ocular for every need.



EYEPIECES

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

		BC 900	BD 900	BM 900	BP 900	BQ 900	BX 900
Oculars	standard	10x	10x	10x	12.5x	12.5x	12.5x
	optional	25x	25x	6.3x, 16x, 25x			
Crosshair reticule		10x	10x		12.5x	12.5x	12.5x
Length measurement		10x	10x	10x	12.5x	12.5x	12.5x
Split image				10x	12.5x	12.5x	12.5x
McIntire grid				25x	12.5x	12.5x	12.5x

Professional illumination – reliable documentation.



FIBRE OPTIC BACKGROUND ILLUMINATION WITH SUPPORT

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 swivelling device which moves independently of the slit lamp illumination.



ECOLITE

EcoLite offers LED background illumination. Easily mounted, this system can be shared between several slit lamps.



DIGITAL PHOTO ADAPTOR

For attaching specified digital cameras offering instant, high-quality pictures.



EYECAP – IMAGE MANAGEMENT APPLICATION

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.



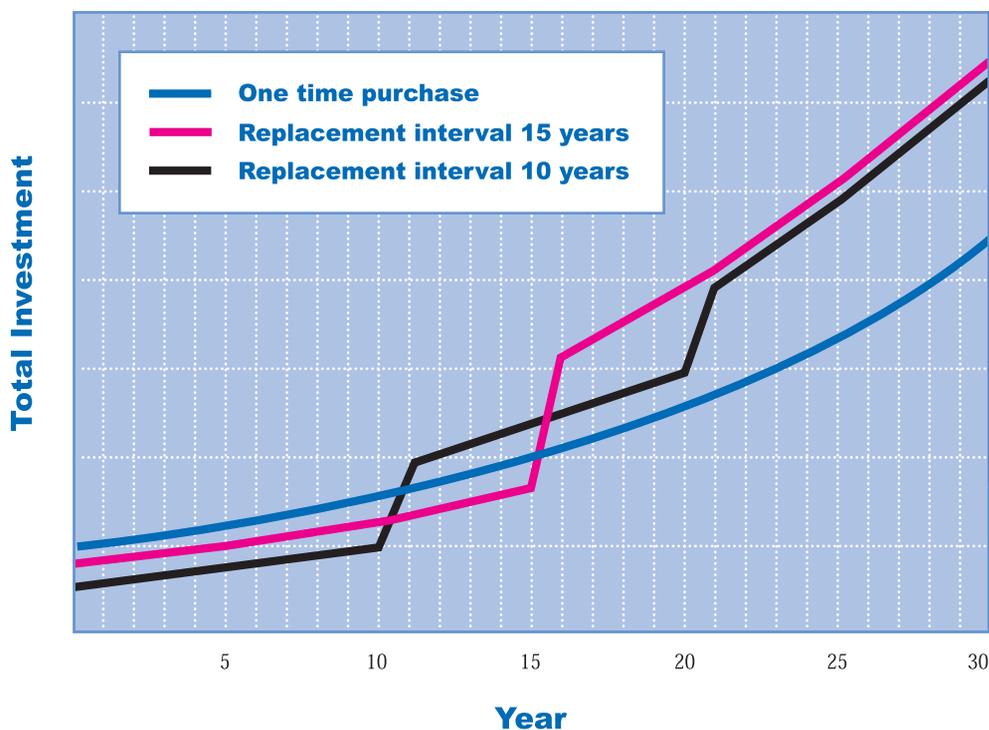
CGP

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.

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 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 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.