



**Tradition and Innovation** – – Since 1858, visionary thinking and a fascination with technology have guided us to develop innovative products of outstanding reliability: Anticipating trends to improve the quality of life.

# **SLIT LAMPS**CONFIDENCE THAT LASTS

#### **02** | 03 TIMELESS QUALITY

# HAAG-STREIT SLIT LAMPS CONFIDENCE THAT LASTS

Since its introduction in 1958, the famous Goldmann slit lamp 900 has enjoyed remarkable popularity amongst our customers because of its excellent optics and impressive longevity. As a result, more than 100,000 eyecare specialist decided to purchase one of these superb slit lamps.

Based on the knowledge and experience gained from this large user base, other slit lamps have been introduced by Haag-Streit over the years, all with the same high performance and equally as important, durability and longevity as their famous predecessor.

today





**04** | 05 **CONFIDENCE THAT LASTS** 

# THE HAAG-STREIT SLIT LAMP FAMILY

## TIMELESS QUALITY IN EVERY DETAIL

Our slit lamps are famous, not only for providing excellent optics and high precision mechanics, but also for their remarkable durability. The longevity resulting from high quality Swiss manufacturing makes these slit lamps one of the best investments one can ever make for its practice.



### **EXCELLENT OPTICS**

The quality of the optical system determines the results of whatever application a slit lamp is used for. All Haag-Streit slit lamps are equipped with elaborated microscopes, manufactured for highest quality requirements. The result is a superb view, allowing accurate diagnostics, effective patient treatment and stunning imaging results.

#### OPTIMAL MECHANICS

Since its foundation more than 150 years ago, Haag-Streit has stood for high-precision mechanics. This experience, combined with outstanding Swiss engineering and the use of high grade materials, ensures optimal mechanics in all our slit lamps, which can last for decades.

Precision in design, materials and construction allow all movements to be made smoothly and effortlessly without any wrist or finger strain – and to continue doing so for the very long lifetime of a Haag-Streit slit lamp.

### SUSTAINABLE INVESTMENT

All our slit lamps come with the extensive warranty period of 10 years. With this we want to emphasise that Haag-Streit is fully committed to the quality of their slit lamps.

For us it's just a small step – for our customers it's "confidence that lasts".







**06** | 07 THE VERSATILE SLIT LAMP

# **BQ 900**SOPHISTICATED MICROSCOPY – OUTSTANDING PERFORMANCE

Thanks to its outstanding optics, versatility and ease of operation, the BQ 900 is an excellent choice for those requiring the most demanding slit lamp microscopy. A wide range of optional accessories provide convenient conditions for every examination.



## MICROSCOPE OPTICAL EXCELLENCE

The BQ 900 is equipped by default with a Galilean Microscope providing a magnification range from 6.3 x up to 40 x selectable in 5 fixed steps. The high light transmission and the optical excellence ensure a superb clinical view. The large diameter of the exit pupils is designed to minimise fatigue even on long working days.

#### **APPLANATION TONOMETER**

#### THE ORIGINAL GOLDMANN TONOMETER

Because it is fast and reproducible, Goldmann applanation tonometry has been the gold standard of tonometry for many decades. It is based on the Goldmann principle – tried and tested during more than 50 years of usage with millions of patients.

#### **IMAGING MODULES**

# INTUITIVE IMAGING – OUTSTANDING RESULTS

The Imaging Modules IM 900 and IM 600 are fully integrated compact imaging solutions for the BQ 900 slit lamp. These cameras, manufactured by Haag-Streit, have excellent sensitivity, a wide dynamic range and innovative ergonomics that provide full control over the imaging process without distracting from the clinical examination. The included Eye-Suite software package contains a comprehensive imaging program and permits integration of the BQ 900 into your practice network.







## WIDE RANGE OF APPLICATIONS

#### **FUNDUS MODULE 300**

# FAST AND EASY FUNDUS DOCUMENTATION ON THE SLIT LAMP

This innovative accessory allows integration of non-mydriatic retina imaging as part of the regular slit lamp examination. This can improve practice workflow and save both clinical and patient time.

#### INCLINED EYEPIECE ADAPTOR

# ERGONOMIC AND COMFORTABLE WORKING

With the inclined eyepiece adaptor, the view into the microscope is inclined at 20 degrees to the horizontal. This enables the examiner the use of the slit lamp in a comfortable position, for minimal fatigue.

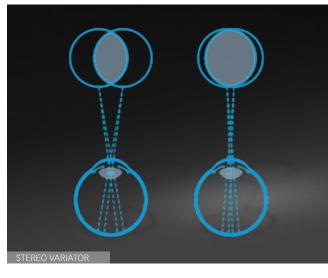
#### **STEREO VARIATOR**

### **ENHANCED VIEW ON FUNDUS**

The BQ-900's stereo variator reduces the angle of stereoscopic observation from 13° to 4.5°. This facilitates the stereoscopic examination of the fundus, peripheral parts of the retina and the vitreous, even under unfavourable conditions such as high myopia and small pupils. The reduction of the angle enlarges the stereoscopic field of view under the described conditions, maintaining depth information in the stereoscopic observation.







### YELLOW FILTER

#### FLUORESCENCE ENHANCEMENT

This yellow barrier filter provides additional contrast to fluorescein images. It can be mounted permanently on the slit lamp and easily engaged if required.

#### **BEAM SPLITTER**

# CONNECTION 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. Beam splitters are available in different versions. The beam splitter for cameras diverts 70% of the light to the secondary attachment, the one for co-observation under equal conditions diverts only 50% of the light. Video or digital cameras can be connected to the beam splitter with a range of C-mount adaptors, which offer different focal lengths for variable sensor sizes.

## SECOND OBSERVER TUBES ANALOG CO-OBSERVING

Haag-Streit's second observer tubes are designed to permit professional colleagues, students or technicians to participate in the examination. There are two versions of second observer tubes available: a short version for co-observing in sitting position and a long version for co-observing in upright position.







**10** | 11 **PROGRESSIVE FUNCTIONALITY** 

# **BP 900**OPTIMAL MICROSCOPY - COMPREHENSIVE APPLICATION

Designed for routine practice, the BP 900 is equipped with a modern optical system offering 10 x , 16 x and 25 x magnifications and imaging capabilities. As with all Haag-Streit slit lamps, a Goldmann tonometer – the gold standard in IOP measurement – may be added to the system.



## PROGRESSIVE FUNCTIONALITY

A Galilean Microscope with a magnification range from 10 x to 25 x provides the BP 900 with a powerful observation system. The optical excellence and wide aperture are designed with optimal comfort in mind, even on long working days.

#### **IMAGING MODULE 600**

### EASY-TO-USE - OPTIMAL IMAGING

The Imaging Module 600 is a fully integrated compact imaging solution for the BP 900 slit lamp. This camera, manufactured by Haag-Streit, has excellent sensitivity, a wide dynamic range and innovative ergonomics that provide full control of the imaging process without detracting from the clinical examination. The included EyeSuite software package contains a comprehensive imaging program and permits integration of the BP 900 into your practice network.

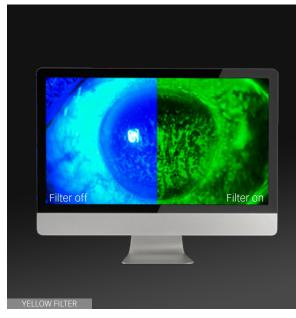
#### YELLOW FILTER

#### FLUORESCENCE ENHANCEMENT

The yellow barrier filter provides additional contrast to fluorescein images. It can be mounted permanently on the slit lamp and easily inserted or removed as required.







12 | 13 ESSENTIAL FUNCTIONALITY

# **BI 900**SIMPLIFIED OPERATION – HIGH RELIABILITY

Equipped with an improved version of the BM 900 microscope, an enhanced illumination system and the traditional high precision mechanics, the BI 900 is the predestined successor to the legendary BM 900. With this slit lamp, Haag-Streit combines simplicity and reliability in a modern system which offers integrated digital imaging as an option.



#### MICROSCOPE ESSENTIAL FUNCTIONALITY

The BI 900 is equipped with a Kepler microscope providing the default magnifications 10 x and 16 x. With a set of optional oculars it can be extended to 25 x and 40 x magnification. A yellow barrier filter provides additional contrast for fluorescein applications. The maximised diameter size of the ocular view keeps comfort in mind, even on long working days.

## IMAGING SET COMPACT IMAGING SOLUTION

The optional Imaging Set provides a fully integrated compact imaging solution for the BI 900. It has been designed to simplify the image capturing process. A fast and accurate automatic exposure control and the established History Trigger function allow simple image capturing while you are concentrating on your patient. The included EyeSuite software package contains a comprehensive imaging program and permits integration of the BI 900 into your practice network.

## SMOOTH WORKFLOW - NO DISTRACTION

Located in front of the joystick, the control panel can be operated blindly while examining the patient. It provides not only full control over the slit lamp illumination, but also a release bar for the camera, as well as simple and ergonomic management of the camera settings.







**14** | 15 TRADITIONAL FUNCTIONALITY

# **BM 900**RELIABLE OPTICS – ENDURING PERFORMANCE

The BM 900 has been the reliable choice in modern slit lamp microscopy for more than 55 years – and still is! As a result, more than 100,000 eyecare specialists decided to purchase one of these superb slit lamps. As with all Haag-Streit slit lamps, a Goldmann tonometer – the gold standard in IOP measurement – may be added to the system.



#### MICROSCOPE

#### CLASSIC AND RELIABLE OPTICS

Equipped with a Kepler microscope, the BM 900 provides two standard magnifications:  $10 \times 10 \times 10^{-2}$  x and  $16 \times 10^{-2}$  With a set of optional oculars it can be extended to  $25 \times 10^{-2}$  and  $40 \times 10^{-2}$  magnification. Like any other Haag-Streit slit lamp, the BM 900 features the high quality optical components to show all structures of the human eye in every detail.

#### ILLUMINATION SYSTEM

### POWERFUL LED ILLUMINATION

Over the last years, LED illumination has become standard in modern slit lamp microscopy. It delivers our sharpest and most homogeneous slit ever. A tilting frame allows good posterior segment observation, while the defocusing option enhances observation with indirect illumination. 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 is a masterpiece of engineering in itself, affording exceptional precision in both shape and movement.

## PRECISE CONTROL

This cross slide mechanism, incorporated into all Haag-Streit slit lamps, introduced one-handed operation of the slit lamp many decades ago. Excellence in design, materials and construction allow these movements to be made smoothly and effortlessly without any wrist or finger strain – and to continue doing so for the very long lifetime of this classic slit lamp.







## **BX 900**

## INNOVATIVE TECHNOLOGY - RELIABLE INSTRUMENT

The Haag-Streit BX 900 slit lamp combines innovative imaging technology with the versatility, optical brilliance and mechanical quality of the Haag-Streit tradition. The BX 900 is a high-quality slit lamp imaging device and is designed to assist the Ophthalmic Photographer in their demanding profession.

High quality ophthalmic imaging is ensured with an integrated flash, fully synchronised with camera and slit and

background illumination, all controlled through a release mechanism directly beside the slit lamp joystick, as well as adaptors for a variety of top of the range digital single lens reflex cameras.

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.



## XENON FLASH OPTIMAL LUMINOUS EFFICACY

The high power flash illumination is delivered via a xenon tube that lies coaxially to the LED illumination and thus exactly reproduces the slit illumination pattern to provide images of stunning quality. The brightness of the flash is individually adjustable for slit and background illumination.

#### **MIRROR HOUSING**

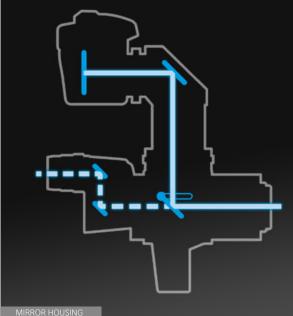
# CAMERA INTEGRATION AND SYNCHRONISATION

The heart of the BX 900 is the mirror housing with its built-in diaphragms. When capturing an image, light is directed via a mirror to the camera, allowing for maximum utilisation of the available light.

## SHUTTER RELEASE PRECISE IMAGE CAPTURING

Conveniently mounted close to the operator's hand, this can easily be utilised whilst continuously maintaining focus with the slit lamp joystick. As it is symmetric on the cross slide, it allows right and left handed operation.







## **BX 900**

## CUTTING EDGE TECHNOLOGY - RELIABLE INSTRUMENT



#### **EYEPIECES**

A large range of different eyepieces are available, such as a reticule eye piece for estimating length and angles, McIntire grid for estimating endothelial cells or crosshair reticule for imaging.

#### **CONTACT LENSES**

The best known lens of the Haag-Streit range of diagnostic lenses is the 903 original Goldmann three-mirror lens, offering the traditional 59°, 66° and 73° angles. But besides this famous contact lens, Haag-Streit lenses cover all areas of the eye and are available as diagnostic and laser lenses.

#### STERY CUP

Stery Cup is a disposable shield for use with 3-Mirror and Retina 145 lenses. The optically neutral, sterile cups are designed for single use, to reduce the risk of bacterial transfer.

#### 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 operator and patient.

### **INSTRUMENT TABLE**

Haag-Streit offers a wide range of instrument tables for professional examination. Our tables have internal channels to conceal wiring from instruments or accessories.





# IM 900 AND IM 600 INTUITIVE IMAGING - OUTSTANDING RESULTS

For many years slit lamp imaging was almost exclusively the domain of the ophthalmic photographer, but since documentation and patient education has become more important, every eye care professional has the need for imaging.

As one of the leaders in slit lamp imaging, Haag-Streit is meeting this need with the introduction of two imaging systems – the IM 600, a more basic, and the IM 900, a very sophisticated version. Now it is possible for every clinician to produce pictures of very high quality without being distracted from the clinical examination.



## **TECHNICAL SPECIFICATIONS**

## IM 900 AND IM 600

#### MEASURED VARIABLES AND MODES

	IM 900	IM 600		
Compatibility	BQ 900	BP 900 and BQ 900		
Beam path	Right side	Right side		
Control panel	RM02	RM02		
Depth of focus control	Yes	No		
Camera interface	USB 3.0	USB 3.0		
Shutter system	Global shutter	Rolling shutter		
Pixel size	5.86 µm	4.5 µm		
Dynamic range (sensor)	73dB	66 dB		
Quantum efficiency at 525 nm	76%	48%		
Sensor size	1/1.2"	1/1.8"		
Resolution	1920 × 1200	1600 × 1200		
Frame rate	30 (frames per second)	20 (frames per second)		
Software	EyeSuite Imaging	EyeSuite Imaging		
EMR interfaces	EyeSuite script language, DICOM (SCU) GDT	EyeSuite script language, DICOM (SCU) GDT		



22 | 23 FROM ONE OF THE LEADERS IN SLIT LAMP IMAGING

## **FUNDUS MODULE 300**

### INSTANT FUNDUS IMAGING ON THE SLIT LAMP

With the introduction of the Fundus Module 300, Haag-Streit complements its slit lamp imaging portfolio. This innovative accessory offers all users of current Haag-Streit slit lamps access to instant documentation of the retina.

The impressive simplicity of the Fundus Module 300 allows integration of non-mydriatic retina imaging as part of the regular slit lamp examination. This can improve practice workflow and save both clinical and patient time.



# **TECHNICAL SPECIFICATIONS**

## FUNDUS MODULE 300

Compatibility	Haag-Streit slit lamps: BQ 900, BP 900, BI 900 and BM 900		
	3 <sup>rd</sup> party slit lamps: Haag-Streit type with tonometer base for		
	Goldmann Tonometer on request		
Image sensor	CMOS, 5 MP		
Image resolution	1536 x 1152 pixels		
Field of view	40°		
Minimum pupil size	3.5 mm		
Capturing Modes	Color, Redfree, IR		
Fixation	9 internal LED		
Focusing	Manual		
Diopter compensation	-20D to +20D		
Illumination	Infrared LED for aiming, visible white LED for imaging		
Battery	Rechargeable Li-Ion Battery		
Usage time	Approx. 5h with full battery when connected to slit lamp via USB		
Display	3.97", 800 x 480 pixels		
Camera interface	USB 3.0		
Software	EyeSuite Imaging		
EMR interfaces	EyeSuite script language, DICOM (SCU), GDT		
Operating system	Microsoft Windows 7, Windows 8.1, Windows 10		
Cradle	Charging position and storage		



## **GOLDMANN APPLANATION TONOMETER**

## THE GOLD STANDARD IN 10P MEASUREMENT

Because it is fast and reproducible, Goldmann applanation tonometry has been the gold standard in tonometry for many decades. It is based on the Goldmann principle – tried and tested during more than 50 years of usage with millions of patients.

Furthermore, thanks to the high precision of manufacturing at Haag-Streit, the Goldmann applanation tonometer offers reliable performance over many years without the need for manufacturer maintenance.

AT 900 is the original version of the Goldmann tonometer and works 100% mechanically. The digital Goldmann tonometer AT 900 D adds the advantages of state-of-the-art digital technology.



#### TONOSAFE - THE DISPOSABLE TONOMETER PRISMS

#### CONVENIENT AND ACCURATE

Tonosafe avoids the need for time consuming and laborious cleaning and disinfection without compromising the original Goldmann quality. It has been developed for single-use only and is designed to eliminate the risk of cross-infection even in the most difficult situations. Calibrated to Goldmann standards, Tonosafe delivers accurate results with all Goldmann and Perkins contact tonometers.

#### **GOLDMANN TONOMETER PRISMS**

### EXCELLENT OPTICAL QUALITY

Goldmann measuring prisms are distinguished by their optical and mechanical performance which allows for fast and reliable measurements in daily practice. They are largely handmade by experienced workers, and are checked for tight tolerances in weight, optical quality, durability and for consistent measurement results.





Slit lamp model	mod. R	mod. T	mod. BQ
BD 900			
BM 900			
BI 900			
BP 900			
BQ 900			
		,	

**26** | 27 **CONNECTIVITY IS KEY** 

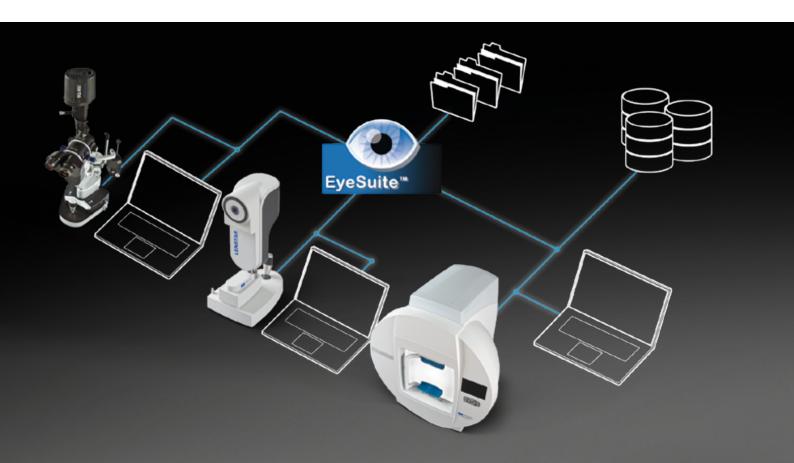
## **EYESUITE PLATFORM**

# FLEXIBLE INTERFACES FOR EASY INTEGRATION INTO YOUR NETWORK

The EyeSuite software is designed for optimal patient flow in busy practices. Supporting the Haag-Streit imaging solutions, the software makes your slit lamp networkable both with other Haag-Streit devices and your practice network. EyeSuite does not require any proprietary third-party software to provide connectivity.

If the slit lamp is connected to an EyeSuite server, all the images taken can be accessed remotely from any number of viewing stations connected to the same database.

Furthermore, the EyeSuite Script Language or standardised interfaces, such as GDT or DICOM, connect easily to almost any electronic medical record (EMR) system. Patient orders can be received from the EMR system and the captured images are then automatically returned to it.



# **TECHNICAL SPECIFICATIONS**

## **SLIT LAMPS**

		BQ 900	BP 900	BI 900	BM 900	BX 900
Illumination	LED					
	Background	0	0	0	_	
	Tilt					
	Defocusing					
Filter	Grey		_	-		_
	Red-free					
	Blue					
Slit	Width (continuous) in mm	0-14	0-14	0-14	0-8	0-8
	Length (continuous) in mm	1-14	1-14	1-14	1-8	1-8
	Test mark fixation star					
Microscope	Stereo angle 13°	-			_	
	Stereo angle 4.5°	0	_	_	_	
	Inclined eyepiece	0	_	_	_	0
	Yellow filter	0	0		_	0
	Second observer tube	0	_	_	_	•
Magnification (Std. Eyepieces)	6.3×	-	_	_		
	10×					
	16×					
	25×			_	_	
	40×		_	_	_	
	Zoom	0	_	_	_	_
Imaging	IM 900	0	_	_	_	_
	IM 600	0	0	_	_	_
	Imaging Set BI 900	_	_	0	_	_
	Fundus Module 300	0	0	0	0	
	SLR camera connector	_	_	_	_	
	Integrated flash (slit and background)	_	_	_	_	

Standard

O Option

— Not available

Not recommended



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