HAAG-STREIT SURGICAL
Microscopes, imaging & accessories
Haag-Streit Surgical (HSS) is recognised as a leading manufacturer of state-of-the-art microscope equipment. Driven by different surgical disciplines and applications, each microscope is designed to fulfil the Surgeon’s individual requirements.

HSS is dedicated to the design and manufacture of the highest-quality operating microscopes, that meet the exact needs of microsurgical fields such as; ophthalmology, neuro, spine, ENT, plastic & reconstructive and dental surgery.

A comprehensive portfolio of microscope equipment is available, including the; ALLEGRA 500, ALLEGRA 700, Hi-R 700 and Hi-R NEO 900. To complement its comprehensive microscope portfolio, Haag-Streit Surgical also provides an extensive range of accessories and user-friendly microscope imaging solutions.

Each of the microscopes in the HSS microscope portfolio features a 25mm stereo base, which provides best depth perception and 3D vision.

Achromatic optics furnish a sharp contrast image at any zoom setting, giving fantastic image quality, while a motorised zoom of 1.6x affords smooth focusing and stepless magnification. Electromagnetic brakes give precise movement with minimal force, resulting in extremely stable working conditions.

All microscopes provide perfect positioning and there is a choice of tiltable eyepiece heads from 160° or 200°. They also include intraoperative filter selection with softlight, daylight, UV protection, blue and green light, with personal light preference for multi-disciplinary use. Additionally, all HSS microscopes are modular, with the ability to add imaging products or accessories, as required.

John Weiss & Son is the sole UK distributor for the HSS microscope range. With a relationship spanning almost 3 decades, and an experienced sales team trained by the manufacturer, customers are assured of getting the highest-quality equipment, combined with gold-standard aftersales support.
Haag-Streit Surgical, a history

In 1864, Johann Diedrich Möller started developing and manufacturing precision optics and optical systems from a small workshop in Wedel, Germany. Over the years, the business grew through the development of new technologies and the company moved to larger production facilities.

Almost 100 years later, in 1963, Möller Optische Werke entered the microsurgical market with the world’s first ceiling mounted microscope, the Möller Spezial for ophthalmology. From this point on, the company, now known as Möller-Wedel, focused on the development of surgical microscopes, and swiftly became a market leader.

In the 1990s, Möller-Wedel became part of the worldwide Haag-Streit Group, and in 2012 Haag-Streit Surgical was founded. Today, with over 150 years’ experience, HSS is renowned for the design and manufacture of innovative, state-of-the-art microscopes. These microscopes utilise the same gold-standard, world-class optics found in Haag-Streit slit lamp equipment used in over 90% of NHS Ophthalmic clinics, UK-wide.

Microscope training & education

Soon after your microscope is installed, each customer is provided with an on-site training workshop, which is delivered to all key members of staff.

Workshops are usually facilitated by our product manager, an expert in both the operation and clinical applications of Haag-Streit Surgical microscope systems.

They cover all the areas necessary to allow you to begin using your microscope effectively, and the information provided in these workshops is replicated in a handy user guide, which will be provided to each member of your team.

Authorised service centre

The HS-UK Service Division is the only Haag-Streit Surgical authorised service centre in the UK. In the unlikely event your system has technical issues, it’s important you have a trusted service provider to help you minimise equipment down-time and meet the demands of your patients.

Offering Gold, Silver or Bronze service contracts, each is designed to give you full peace-of-mind and allows you to choose the contract that meets your individual needs.
The ALLEGRA 500 is optimised for surgical procedures in day clinics, surgical centres and hospitals, where speed and flexibility are decisive factors. It is ideal for ENT procedures, plastic & reconstructive applications, as well as spinal and dental surgeries.

Due to the inclination angle of -30° to +120° and the lateral tilt of +/-45°, deep cavities and narrow canals can be optimally illuminated and examined, while the microscope head remains perfectly balanced. No springs need to be tightened, no knobs turned. The electromagnetic brakes retain the microscope safely in its working position.

In most surgical ENT procedures active assistance is not possible, hence no stereoscopic observer scope is needed. Therefore the ALLEGRA 500 is designed to rotate cardanically around its centre of gravity in all directions, requiring only minimal force. Two ergonomic hand grips with function buttons facilitate control of the microscope.

The ALLEGRA 500 has also been specifically configured for use in other microsurgical fields. It contains a motorised focus, ranging from 200mm to 450mm and a short inclinable 160° eyepiece head. For mounting a laser adapter, the turning axis of the microscope is adjustable to retain the full balance and there is an optional video camera (1 CCD) attachment, which reduces the height of the microscope and makes it easier to clean.

In respect to intraoperative light management, the ALLEGRA 500 contains a filter disk for daylight, softlight, UV protection (yellow filter), blue light (excitation of fluorescence) and green light (better recognition of blood vessels). In addition, two spot diaphragms are integrated against glare.
High-resolution monitor

Touch panel for user settings and system control

300 W xenon illumination with backup

Eyepiece head with 160° inclination angle

Variable focus 200 mm to 450 mm

25mm Stereo Base

HS ALLEGRA 500 on floor stand FS 2-23
The ALLEGRA 700 boasts all the features and functionality of the ALLEGRA 500. It incorporates two ergonomic hand grips with function buttons, which allow the operator to obtain full control of illumination. These contain a motorised focus, ranging from 200mm to 450mm, and a short inclinable 160° eyepiece head. In addition, like the ALLEGRA 500, it offers an inclination angle of -30° to +120° and a lateral tilt of +/-45°. It also contains a filter disk for daylight, soft-light, UV protection, blue light and green light, as well two spot diaphragms, which are integrated against glare. This configuration makes it the ideal microscope in the operating room.

Due to changing operating procedures, active assistance is increasingly needed and the ALLEGRA 700 is the perfect solution for ENT procedures, as well as spinal and plastic & reconstructive surgeries.

If a Surgeon needs active assistance, the ALLEGRA 700 incorporates a 0° stereoscopic observer on the right-hand side. It also includes a pre-mounted 1/3” c-mount camera attachment at the back of the microscope body. When mounting a laser adapter, the turning axis of the microscope is adjustable to retain full balance.
HS ALLEGRA 700
on floor stand FS 2-13

- Variable focus: 200 mm to 450 mm
- Eyepiece head with 160° inclination angle
- Stereoscopic observer
- 300 W xenon illumination with backup
- Touch panel
- 25mm Stereo Base
Hi-R 700
Effortless & precise positioning

Highly-flexible, with outstanding optical quality, the Hi-R 700 is ideal for neurosurgery, spinal surgery and ENT procedures, as well as plastic & reconstructive applications.

The spatial recognition of objects is a decisive criterion in microsurgery. For this reason, the Hi-R 700 provides realistic 3D images and an astonishing depth perception. The depth of field can be individually adjusted with the integrated iris diaphragm, especially in high magnification.

The Hi-R 700 affords optimal lighting, the small illumination angle gives uniform light, even in narrow cavities. Its illumination diaphragm controls the size of the illuminated field and decreases glare.

The axis has been designed to provide natural movement and the precise positioning of the microscope. Due to electromagnetic brakes, little force is necessary to manoeuvre the microscope or keep it steady in position where needed.

Usability is key, and safe balancing reduces the need for readjustments. The 2-knob balancing mechanism is software-assisted for quick settings, allowing accessories to also be perfectly balanced. This results in a more continuous workflow and provides one-hand use in all configurations.

Another key feature of the microscope is its ease of positioning. Due to the large movement angles of the Hi-R 700, all the positions you need are simple to reach. This provides the best observation, at just the right angle, while also allowing the surgeon to adopt an ergonomic posture.
HS Hi-R 700 on floor stand FS 3-43

Variable working distance
224 mm to 510 mm
or optional 200 mm to 450 mm

Eyepiece head with 200° inclination angle

Easy balancing

25mm Stereo Base

300 W xenon illumination with backup module

HS MIOS

Touch panel for user settings and motorised balancing

M.DIS
Hi-R NEO 900
Better vision - the key to higher precision

Boasting high optical visualisation, the Hi-R NEO 900 microscope is ideal for ophthalmology and hand surgery. The microscope’s integrated display gives instant feedback on all important settings. With a single glance, you can find information on the positions of focus, zoom and X-Y coupling, as well as the level of illumination. To maximise the freedom of positioning the microscope, an inclination mechanism has been integrated ranging from -70° to +90°. Fine adjustments can easily be made during surgery.

Modularity is a key feature of the Hi-R NEO 900. Standard accessories are available including; observers, cameras, a recording system, a keratoscope, a motorised slit lamp, a depth-of-field diaphragm and a choice of foot switches.

A perfect example of the Hi-R NEO 900’s optical quality is the large depth of field achieved, which limits focusing procedures to a minimum. To further increase this effect, especially in high-magnification, a Double Iris Diaphragm can be added.

The microscope’s C.RED 900 integrated red reflex enhancer is specially designed to clearly show all details during capsulorhexis and the polishing of the capsular bag. For light hazard protection, even at low illumination levels, a bright reflex is visible. The red reflex enhancer can be individually adjusted to always achieve a perfect red glow, and can be switched off for corneal surgery.

The Hi-R NEO 900A offers the assistant full stereoscopic vision. The 0° assistant scope, with its 12.5x oculars, has its own magnification changer (5 steps) and focusing device, allowing both surgeons independently to select the focal plane and magnification. It easily swivels laterally and, for relaxed working, the eyepiece head may be inclined and rotated into the most comfortable position.
Quick reference on microscope settings

Choose halogen or LED illumination

Ophthalmoscopic system EIBOS 2

0° assistant scope for teaching

25mm Stereo Base

HS Hi-R NEO 900A NIR on floor stand FS 2-21 / FS 2-25

Foot switch EF 5001
Comprehensive & intuitive recording

MIOS stands for Microscope Imaging and Operation System. Its prime functions include the recording of operation scenes and the capture and recording of snapshots, together with proper identification of patient and hospital data. Images and video streams can be stored on DVD-R/-RW, HDD, USB flash drive and external USB hard disk drives, or transmitted to the hospital PACS via DICOM.

The image data can also be edited for presentations with the optional module M.AED. When the snapshot button is pressed, a sequence of the video stream is marked. In the archive, all saved sequences are merged into one video.

Compact HD camera & display

High-quality imaging offers improved low-light sensitivity compared with traditional equivalent-sized image sensors. Full HD video images can be viewed on a connected monitor, or recorded with a suitable video recorder.

C.MOR HD is a full colour HD video camera specifically designed for HSS microscopes. Its ultra-compact camera head houses a 1/3” CMOS sensor. With a resolution of 900 TV lines and an S/N ratio of 50 dB, images are crisp and sharp. Different user settings allow individual adjustments.

With its flat design and 21.5” size, the C.MON HD monitor can easily be attached to the microscope’s floor stand. Its touch function can be operated even with medical gloves. Due to the planar screen and glass surface, it can be disinfected easily. For the safety of the system, C.MON HD is fully approved for medical use.

Sony Imaging products are also compatible with HSS microscopes. The Sony HD colour video camera consists of a light, compact camera head and separate Camera Control Unit (CCU).

Microscope-mounted display

The M.DIS (Microscope Display) turns the operating microscope into a microsurgical image control centre. The high-resolution screen, mounted close to the eyepiece, provides images or data for the surgeon which she/he may see by momentarily looking up from the eyepiece. The touch screen allows numerous functions to be controlled.
HSS MICROSCOPE ACCESSORIES

Fundus observation with integrated inverter

Important for vitreoretinal surgery is the EIBOS 2 non-contact wide angle ophthalmoscope. Covered with a sterile drape, it is flipped down for the operation. The focus mechanism and inverter are integrated.

The Hi-R NEO 900 has an integrated slit illumination, as standard. This can be applied very effectively through the EIBOS 2 in the starting phase of a vitrectomy for better vision of the vitreous.

Face-to-face observation

The C.DUO offers face-to-face observation for two surgeons in spinal and plastic hand surgery. Two lateral ports and a separate camera connection for c-mount cameras are provided. It also has an integrated 1/3” c-mount camera adaptor.

Foot switches

The EF 5000 and EF 5001 foot switches have been specially designed for use with all Haag-Streit Surgical microscopes. The body is made with durable plastics to prevent corrosion. They are easy to position and transport due to their light weight.

The pedals and buttons are programmable and designed for comfortable use, with the joystick on the foot switch controlling the movement of the X-Y coupling on the operating microscope

The EF 5000 is connected to the floor stand via a cable, the EF 5001 controls 14 functions of the microscope wireless via Bluetooth.
Mechanical solutions

The FS 2-11 (halogen), FS 2-13 (xenon) and FS 2-15 (LED) floor stands are equipped with newly-designed mechanical brakes, which allow individual adjustments for free-floating movements, as well as stable working positions.

The light source is mounted externally, for easy access. An optional touch panel display can be mounted on the push bar of the floor stand to configure individual user settings.

High-tech solutions

The FS 2-21 (halogen), FS 2-23 (xenon) and FS 2-25 (LED) floor stands boast electromagnetic brakes which support the smooth movement of the surgical microscopes. A holder for a foot switch can be mounted directly on the column, as can trays for camera control units or other equipment. The front side accepts an optional high-resolution monitor.

All versions are computer-controlled, with a graphic display for programming the individual start settings of the operating surgeons and the surgical procedures. The microscope parameters, brightness and the carrying weight of the articulated arm are adjustable and controlled on the graphic display.

The shape and internal reinforcements of the columns make the floor stands extremely stable against vibrations. The cables run inside a cable duct. A plastic surface protects the base of the floor stand against corrosive liquids.

Perfect reach, stability & flexibility

With its extreme arm length of 1600mm, the FS 3-43 floor stand allows great flexibility for positioning in the operating theatre. The automatic balancing quickly and easily adjusts the system when accessories are changed. For easy access, the 300 W xenon light source is located externally underneath the push bar. The upper housing contains a spare light module.

Additional holders for foot switches, camera control units and a high-resolution monitor, or other accessories, may be attached to the column.
**Full-flexibility in the operating room**

If more space is required in the operating room, then a microscope ceiling unit is the ideal alternative to a floor stand. Haag-Streit Surgical offers 2 ceiling unit solutions; the CU 3-51 (halogen) and CU 3-55 (LED). Both support all microsurgical procedures in ophthalmology, ENT and plastic & reconstructive surgery.

High-movability is key in a ceiling unit, and both the CU 3-51 and CU 3-55 provide a 1700mm arm reach, 340° + 340° swivel area, 895mm vertical lift and a floor clearance of 1900mm. For individual solutions, intermediate bodies for different ceiling heights from 2800mm to 4000mm are offered.

Perfect damping is essential for fast and stress-free surgery and the CU 3-51 and CU 3-55 offer the lowest vibrations after touch or movement, with the ceiling units quickly returning to a stable working position. Both are extremely sensitive, and movement requires very little force. In addition, automatic balancing is offered at the touch of a button.

**Central control centre**

The CU 3-51 and CU 3-55 ceiling units are modular, allowing the integration of documentation and recording systems, intraoperative OCT and 3D solutions.

All functions of the ceiling unit are operated via a central ‘control centre’ – a 21.5” C.MON multi-touch HD monitor. This includes; automatic balancing, regulation of brightness, microscope speed, camera control, as well as documentation and recording. Up to 30 individual Surgeon user settings can be stored, with five applications each.

The CU 3-51 and CU 3-55 ceiling units are fully-compatible with Haag-Streit Surgical Hi-R NEO 900/900A microscopes.