

MÖLLER Hi-R 700

Modular Operating Microscope



Trendsetting in optics, movement, and economy

 **MÖLLER-WEDEL
INTERNATIONAL**

Precision by Tradition

Only the best

Precision at less than a millimeter requires the best possible tools.



1966

Worldwide first ceiling-mounted OR microscope

1975

Introduction of the worldwide first OR microscope with variable focus

1991

Worldwide first computer-controlled OR microscope

1994

World premiere of the first manual/motorized OR microscope

2003

Microscope system MÖLLER 20-1000 with PermaBalance and SensoServo technology

2007

Introduction of the image management system MÖLLER MIOS (Microscope Image & Operation System)

Welcome

to the world of MÖLLER-WEDEL operating microscopes. For more than 140 years we have been pioneers in the development of high precision optical systems for medicine and science.

Trendsetting MÖLLER-WEDEL developments originate from intensive international interchange of ideas with physicians. Their demands are the guide line for the design of our operating microscopes.

We guarantee high precision in the fields of optics, electronics, and mechanics through our experienced production teams who transform innovative ideas into cutting-edge MÖLLER operating microscopes "Made in Germany".

In a nutshell, we stand for comfort of use and movement, optical image quality, and economy for your microsurgical workplace. Our worldwide service ensures the long lifetime and lasting quality of your MÖLLER operating microscope.

The MÖLLER Hi-R 700

- Individual configuration exactly for your needs
- Impressive optical image quality
- Extraordinary movability, precise positioning
- Intuitive balancing
- Highly economical due to modular design



Most natural movability and light

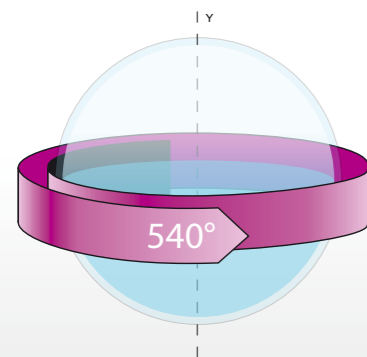
The microscope must follow the surgeon's hands, not the other way around.

Less effort

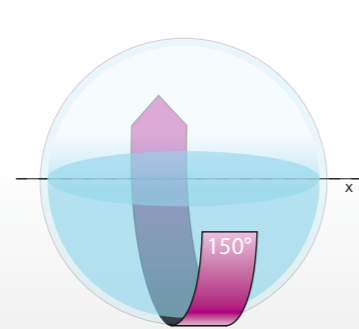
During surgery, time is an essential factor. Thanks to safe balancing and precise positioning of the MÖLLER Hi-R 700, there is less need for readjustments. This results in a more continuous workflow.

Ideal for one-hand use

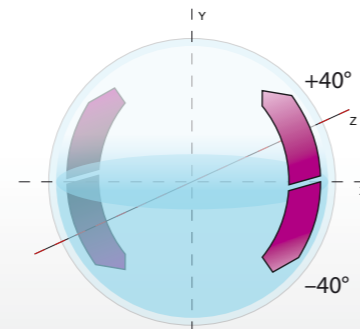
The ingenious **CenterAxis** system of the MÖLLER Hi-R 700 in connection with the **SoftMove** principle provides natural movement and precise positioning through effortless rotation in all three axes.



Rotation 540° (-270° to +270°)



Inclination 150° (-30° to +120°)



Tilt 80° (-40° to +40°)



Ergonomic handles

with individually programmable functions. Buttons for zoom, focus, and light guarantee relaxed and efficient working.

Integrated iris diaphragm

for individual adjustment of depth of field.

Exact intuitive balancing

with only two easy-to-use control knobs.

Working positions and system accessories



Light router LR 700F

Relaxed ergonomic work for two surgeons in face-to-face position.



Light router LR 700B

Inclined beam splitter suitable for all working positions.



Light router LR 700U

Optional for the assistant in face-to-face or lateral working position, no reconfiguration required.



Conventional beam splitter

With short straight eyepiece – ideal for working in 45° position. Easy mounting of a CO₂ laser.



Conventional beam splitter

Here shown in the working position for posterior fossa.

Better vision – the key to higher precision

Natural viewing with apochromatic optics made in Germany.



Why MÖLLER optics?

For more than 140 years MÖLLER has developed and manufactured precision optics and optical systems in its German production plant. We work according to an elaborated and certified quality process, and the quality of our optics exceeds the requirements of the relevant ISO standards. Looking through the oculars of a MÖLLER Hi-R 700 will tell you more than a thousand words about special glass, grinding, polishing, or coatings.

Closer to reality

The spacial recognition of objects is a decisive criterion in microsurgery. For this reason the MÖLLER Hi-R 700 has a large 25 mm stereo base providing realistic images and astonishing depth perception.

Optimal lighting

The small illumination angle of 3° gives uniform light even in narrow cavities. The illumination zoom controls the size of the illumination field.



Eyepiece

Inclination and rotation allow an ergonomic posture for each application. Additionally the pupillary distance and diopter settings are precisely adjustable for working with or without spectacles.

Cameras

The MÖLLER Hi-R 700 accepts digital or analog video and still cameras via MÖLLER adapters.

Illumination zoom and spot

Stepless illumination zoom with one-button operation to control the size of the illumination field.

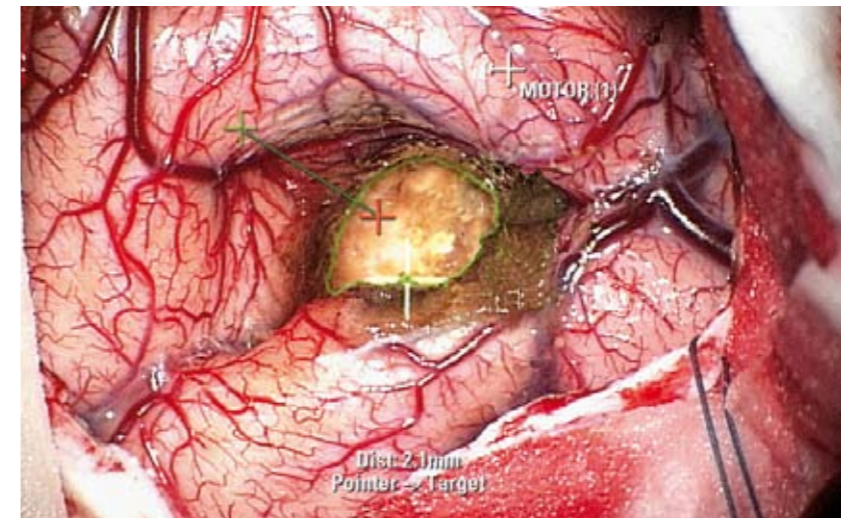


Image Guided Surgery

An integrated RS 232 interface allows bidirectional connection with IGS systems. The powered optical focus supports the pointer function to identify correlating images from the IGS system.

MÖLLER MIOS, the advanced solution for image management.



MÖLLER MIOS

Mounted near the MÖLLER Hi-R 700, the MÖLLER MIOS stores image data (still images and video streams) on the internal HDD and lets them be transferred to all common storage media (e.g. DVD-R, DVD+RW, USB stick, USB-HDD). Image management and processing are just as easy as the transfer to a PACS server (with optional DICom module).

Freedom and stability in perfect balance

The new MÖLLER floor stands promise more and do more.



Simple lamp exchange

The easily accessible 180/300 W xenon lamp modules can be quickly exchanged.

Individual and comfortable use

The operation is like child's play due to a clear panel with self-explanatory pictograms.

Software-supported balancing

Balancing of the microscope axes is precise and simple due to software support.



FS 3-32 / FS 3-33: compact and pleasant to use

The space-saving footprint and the long arm range make the FS 3-32 and FS 3-33 the ideal carrying systems for the MÖLLER Hi-R 700. The concept of operation is simple and efficient. Balancing is power-assisted and requires only pushing a button on the touch screen. Users' preconfigurations can be stored.

Additional equipment can be placed on tables attached to the stand and is supplied with power from the stand – thus reducing greatly the number of loose cables.

Thanks to the unique **MicroFriction** technology, the FS 3-32 / FS 3-33 arms can be moved with a minimum of friction. A special damping system effectively minimizes the vibration of the supporting arm. The integration of a 180 W or a 300 W xenon light source is standard.

Further options from our system's program



Light router LR 700T

With rotating receptacle for the best possible compensation of lateral microscope inclination; camera adapter is included.



Lateral observer scope

3-axis observer scope with image rotation for the assistant.

Lateral observer scope with inclinable eyepiece

With 3 axes and image rotation for optimal comfort for the assistant.



Mouth switch

Allows hands-free movement of the microscope in three axes.



Foot switch EF 2000

For foot control of zoom and focus.



Video module

Optimal light efficiency and low height.

Technical data

MÖLLER Hi-R 700 and floor stands

Operating microscope

MÖLLER Hi-R 700

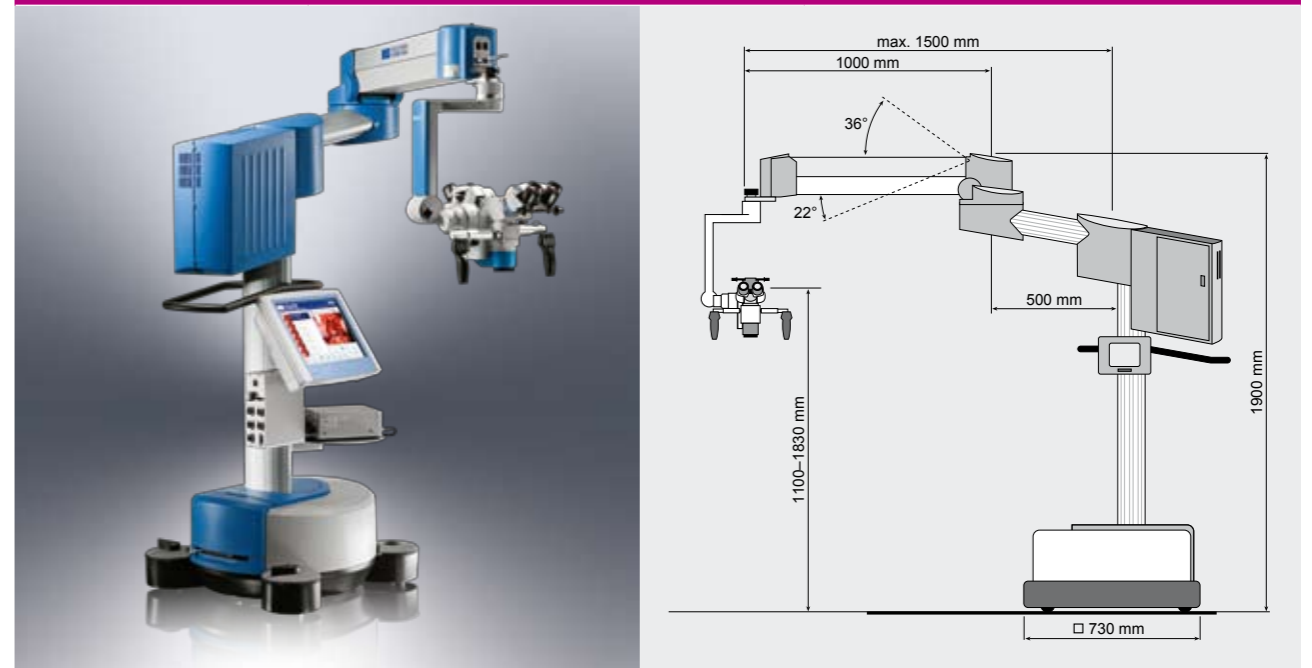
| Description | MÖLLER Hi-R 700 (eyepiece 160°) | MÖLLER Hi-R 700 (eyepiece 200°) |
|--------------------------------|---|---|
| Optical correction | apochromatic | apochromatic |
| Working distances (WD) | 224 to 510 mm (nominal) 200 to 450 mm (optional) | 224 to 510 mm (nominal) 200 to 450 mm (optional) |
| Total magnification | 1.5x to 16x | 1.4x to 14.5x |
| Motorized zoom | 1:6 | 1:6 |
| Diameter of visual field | 141 to 13 mm | 156 to 14 mm |
| Spot sizes (at WD 250 mm) | 12 to 125 mm | 12 to 125 mm |
| PD setting on eyepiece | 55 to 75 mm | 55 to 75 mm |
| Diopter setting on the oculars | +5 D to -8 D | +5 D to -8 D |
| Stereo base | 25 mm | 25 mm |
| Weight including eyepiece | 10.8 kg | 11.0 kg |
| Rotation | 540° | 540° |
| Inclination | -30° to +120° | -30° to +120° |
| Tilt | -40° to +40° | -40° to +40° |
| Integrated protection filter | UV blocking below 400 nm | UV blocking below 400 nm |
| Integrated IR filter | IR reduction from 800 nm to 1150 nm >85 % | IR reduction from 800 nm to 1150 nm >85 % |

Floor stands

| | FS 3-32 | FS 3-33 | FS 4-20 | FS 4-20 |
|-------------------------|-----------------|-----------------|------------------|-------------------|
| | | | one light source | two light sources |
| Height | 1900 mm | 1900 mm | 1985 mm | 1985 mm |
| Max. arm reach | 1500 mm | 1500 mm | 1700 mm | 1700 mm |
| Height at the oculars | 1100 to 1850 mm | 1100 to 1850 mm | 800 to 2000 mm | 800 to 2000 mm |
| Carrying capacity | 10 to 19 kg | 10 to 19 kg | 13.7 to 18.7 kg | 13.7 to 18.7 kg |
| Weight | 210 kg | 210 kg | 230 kg | 240 kg |
| Light source | 180 W xenon | 300 W xenon | 1x 300 W xenon | 2x 300 W xenon |
| Operating voltage | 100 to 240 VAC | 100 to 240 VAC | 100 to 240 VAC | 100 to 240 VAC |
| Power consumption | max. 1000 VA | max. 1400 VA | max. 1000 VA | max. 1000 VA |
| Bidirectional interface | RS 232 | RS 232 | RS 232 | RS 232 |
| Foot switch | optional | optional | optional | optional |

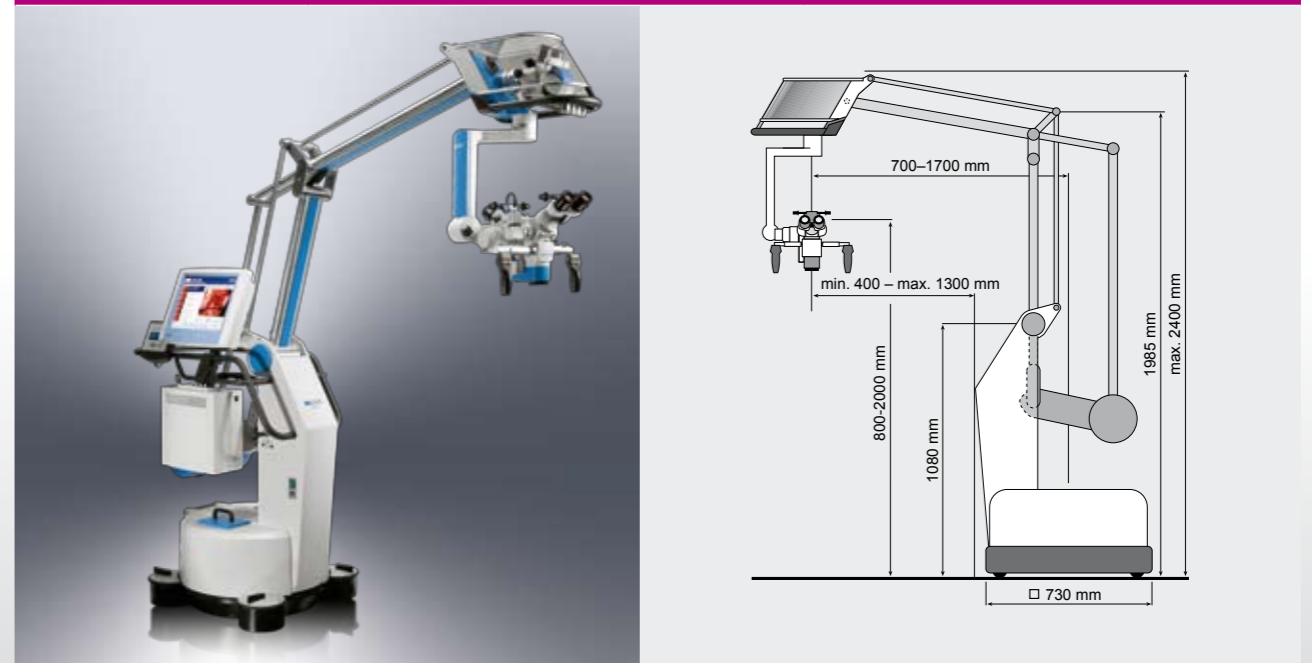
MÖLLER 3-700 system

FS 3-32 / FS 3-33 with MÖLLER Hi-R 700



MÖLLER 20-700 system

FS 4-20 with MÖLLER Hi-R 700



Precision by Tradition – worldwide



HAAG-STREIT Group



Your partner

HAAG-STREIT Group

HAAG-STREIT, founded 1858 in Switzerland, with its headquarters in Bern, has a top position internationally in the industry of medical products, particularly for ophthalmology. The group of companies, characterized by the motto "Precision by Tradition", consists of economically and technologically strong partners. MÖLLER-WEDEL is proud to be part of this group, which gives a strong foundation for the future development of operating microscopes.

MÖLLER products are available in most countries through dedicated distributors who also provide competent service and support. You will find the contact address of the local MÖLLER-WEDEL representative under www.moeller-wedel.com

- HAAG-STREIT Companies
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Precision by Tradition

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