

OUR FOCUS IS ON YOUR VISION



Karl Kaps **SOM[©] 4dent**

Just More Comfort

Ergonomics, Quality
and Functional Design



Karl Kaps **SOM® 4dent**

Ergonomics and Quality for Your Dental Practice



SOM® 4dent 100

The new SOM® 4dent range of Karl Kaps dental microscopes stands for ergonomics and quality.

These first-class dental microscopes meet all the expectations of even the most demanding user - sharp, crystal-clear images, optimal lighting, a modern, ergonomic design, intuitive handling and ideal freedom of movement.

In addition to the excellent optics, we have placed particular emphasis on powerful, fully integrated LED lighting. Besides providing optimal light during treatment, they are also extremely economical in their energy intake. As light guides are no longer used, there are no additional costs.

What's more, the new ergonomic design facilitates your work. It enables you to adopt a comfortable and relaxed posture, which helps to prevent neck pain and backache since nothing impairs daily routine as much as back problems!

The Kaps SOM® 4dent dental microscope is available in three versions.

SOM® 4dent 100 - the all-rounder with 5-step apochromatic reflector

SOM® 4dent 200 - the flexible microscope with a unique **1:7 manual zoom**

SOM® 4dent 300 - the performer with **1:7 motorized zoom** and motorized adjustment of the working distance

All versions are available on a mobile stand or for wall or ceiling mounting.

Karl Kaps is a company with more than 70 years of experience in developing and manufacturing medical microscopes. The innovative, long-established company is based in Asslar, Germany, from where it successfully operates in over 70 countries through its very well developed dealer network.

Uncompromising Quality

Ergonomic Design

Compared to other systems, such as with a magnifying glass, the Kaps SOM® 4dent dental microscope enables you to comfortably perform the treatment in an ergonomic and upright position. This successfully prevents neck pain and backache, even during long periods of treatment.

Brilliant Optics

- Crystal-clear images and high-resolution details
- Natural colors (apochromatic optics)
- Whether progressively with a changer system or infinitely with a zoom system, the microscopes provide a general overview at low magnification as well as clear detail recognition at higher magnification.

Ultra-Bright Integrated LED Illumination

The LED lighting enables a glimpse into areas that are normally difficult to access.

- High lighting intensity
- Daylight temperature
- High color reproduction
- No disturbing fan noises, no dispersion of dust
- Cost-saving, as no light guides are needed

Balancing System

Using the balancing system, the Kaps dental microscope can be adjusted smoothly and precisely to any position you require, even when adapted accessories are used. Asymmetric loads on the microscope are compensated for and do not influence its ergonomics.

Electromagnetic Brakes

The position of the microscope is reliably immobilized by the electromagnetic brakes. These are activated at the press of a button. Hold down the button to move the microscope and let it go to fix it in its new position.

Comfortable Handling

The Kaps SOM® 4dent dental microscope is comfortable to use and handle. All elements are integrated in an optically clear and user-friendly way so that they are easy to reach during treatment without interrupting the procedure.

Comprehensive Accessories

An extensive range of accessories, geared perfectly to your individual needs, are available for the Kaps microscope. Later on, Kaps microscopes can be easily upgraded with the additional photo and video adapters. Recording findings is child's play as a result.

Durability

Dental microscopes from Karl Kaps are robust and designed for professional daily use in a dental practice. They are neither susceptible to servicing, nor is maintenance required at fixed intervals.



 made
 in
 Germany

Seeing More

Means More Safety During Treatment



SOM® 4dent 200

Brilliant Optics for a Visible Difference

The root system of a tooth is branched and consists of many fine channels. With our Kaps SOM® 4dent operation microscope you see much more than with a magnifying glass thus increasing the treatment's success.

Kaps SOM® 4dent dental microscope provides sharp, crystal clear images in natural colors and with high-resolution details.

The model 300 is equipped with a varioscope with a working distance of 220 mm to 320 mm. In combination with the unique new motorized zoom system in the 1:7 range, this enables flexible adjustment of the working distance and magnification to accommodate the current treatment situation. You can quickly and smoothly switch between a detailed field of vision (maximum magnification) and the overview field (the largest possible field) without any restriction to your stereoscopic vision. In this way, you gain a comprehensive picture and can fully concentrate on your patient's treatment.

The double iris increases the depth of focus and enables the user to see extra details in their field of vision. As a result, nothing escapes your notice.

All models are fitted with an integrated spotlight, so that tissue around the area being treated is not unnecessarily irritated.

The orange filter helps to effectively cut out disturbing UV components, which can lead to premature curing during the placement of composite fillings.

Equal to Every Challenge

Integrated Fan-less LED illumination

The color temperature of the LED illumination strongly resembles daylight, possesses a high illuminance and provides excellent color reproduction, thus guaranteeing less fatiguing work.

Since the illumination is integrated in the microscope, the system can do completely without light guides. Follow-up costs, for example for repairing damaged light guides or for replacing lamps, are a thing of the past.

You can focus completely on your patient since the fanless lighting system does not cause either disturbing fan noises or raise fine dust particles. Despite its high light intensity, the system only generates little heat.

The illumination system is highly energy-efficient. The high lifetime of modern LEDs also guarantees lower operating costs.



Great for multiple users

The Kaps SOM® 4dent dental microscopes are also ideal for joint practices. Through the use of an ergonomic handle, varioscope and inclinable tube, several users can work with the microscope without time-consuming retooling, and everyone continues to benefit from an ergonomic working environment.



SOM® 4dent 300

Ergonomics and Comfort

For Increased Efficiency

Every detail of the Kaps SOM® 4dent proves that it is designed with a clear focus on making the treatment of your patients as functional and ergonomic as possible.

It is equipped with a long support arm to provide the dentist with a large working area with maximum freedom of movement and unhindered access to the patient.

Ergonomic Working

The **45° ergonomic wedge** prevents neck pain and backache and always gives you an optimal viewing angle on your work. With our integrated binocular turntable, you can easily change back and forth between a number of adjustments. Position the microscope at the angle at which you need it and adjust it to the position of the patient. It only takes one touch, and by moving the turntable the tube swings back into your preferred working position.

Effortless Positioning

All microscopic movements are effected with minimum effort. From the 200 version upwards the system is equipped with a **balancing system**. This enables the user to smoothly position the microscope exactly as needed, even with adapted accessories. Asymmetric load distribution on the microscope is balanced out and does not influence the ergonomics.

In addition, the 300 version has **electromagnetic brakes** to immobilize the microscopic head in its current position. Press the button on the handle and the magnetic brakes are released. After shifting it to its new position, the button is released again and the new position is secured.

Disturbance-Free Work

All cables and connections have been incorporated into the device – for a fuss-free and easy-to-clean system without dangling cables.



Kaps SOM[®] 4dent 300



Also adapted accessories and/or asymmetrical load distribution neither influence the ergonomics nor the simple positioning of the microscope.

1 | Varioscope

With a working distance of 220-320 mm for focusing without having to reposition the microscope.

2 | Motorized Zoom

Step-less magnification adjustment (adaptive speed control for precise and quick zooming).

3 | Balancing System

For immobilizing the microscope head even with adapted accessories.

4 | Electromagnetic Brakes

For fastening the microscope head in the desired position.

5 | Ergonomic Handles

Facilitating the repositioning of the microscope. The fully motorized microscope version is equipped with integrated control knobs for easy handling of the zoom, focus and brakes.

6 | Integrated Fanless LED Lighting

For an excellent glimpse into areas that are normally difficult to access.

7 | Brightness Controls

For step-less adjustment of the brightness without interrupting the treatment.

8 | Deep Sharpness Double Iris Diaphragm

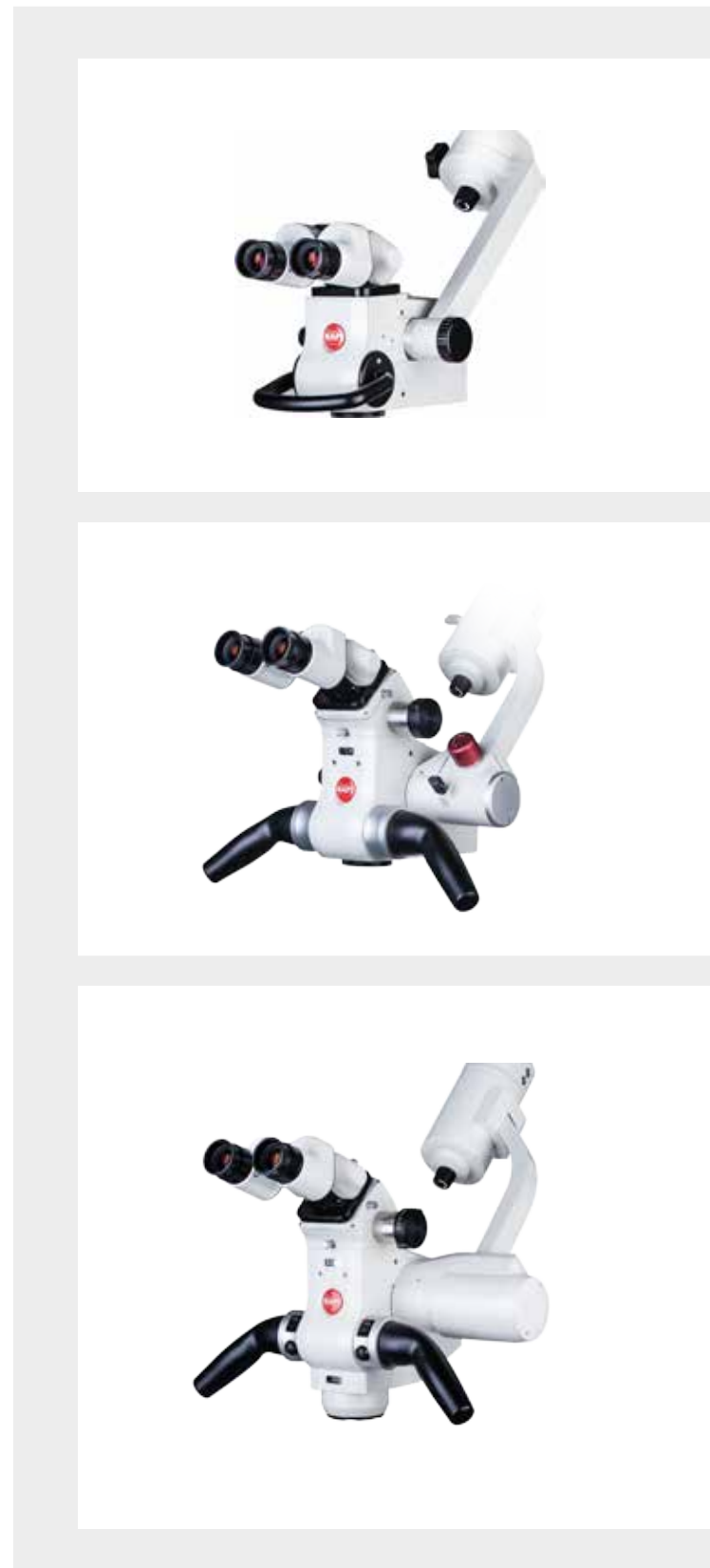
For depth of focus and even more detailed vision.

9 | Orange Filter

For filtering out harmful UV-light

10 | 45° Ergonomic Wedge with Beam Splitter and Binocular Turntable

For a comfortable, ergonomic upright working position that prevents neck pain and backache.



The Perfect Trio

Customized to Your Needs

Kaps SOM® 4dent 100 - the All-rounder with 5-step Magnification Changer

- 5-step magnification changer
- 0-210° swiveling tube with 12.5 eyepieces
- Spotlight
- Comfort handle in front
- Integrated fan-less LED illumination

Kaps SOM® 4dent 200 - the Flexible Microscope with Extended Manual Zoom

- **Manual Zoom 1:7**
- 0-210° swiveling tube with 12.5 eyepieces
- **Double iris** and spotlight
- **Balancing System**
- **Ergonomic handles at the side**
- Integrated fan-less LED illumination

Kaps SOM® 4dent 300 - the Powerful Performer with Extended Motorized Zoom

- **Motorized Zoom 1:7**
- 0-210° swiveling tube with 12.5 eyepieces
- Vario objective 220 - 320 mm
- Double iris and spotlight
- Balancing System
- **Electromagnetic brakes**
- **Ergonomic handles with control knobs integrated at the sides for easy handling of zoom, focus, and brakes**
- Integrated fan-less LED illumination

Kaps Accessories for SOM[®] 4dent

Powerful to the Last Detail



- **Kaps 45° ergonomic wedge with beam splitter and binocular turntable**

The unbeatable combination for an optimal viewing angle and comfort at the workplace.



- **Kaps Variflex-100 in compact height**

Objective lens with a focal length of 220 - 320 mm and lens protection. It is fast and easy to use and immediately ready for use.



- **Kaps observer tube**

With the second observer tube, your assistant can attend treatment live and gain valuable tips and tricks for their own clinical routine.



- **Kaps photo tube for DSLR camera (Canon, Nikon)**

Multi-coated anti-reflection high-end optics for a frame-filling, low-distortion and image field leveled digital camera image for Canon and Nikon.



- **Kaps HD photo adapter for SONY NEX-5/-6/-7 and Alpha 5000/6000**

HD documentation of medical findings with apochromatic optics for brilliant and true color images with amazing detail diversity in full format.



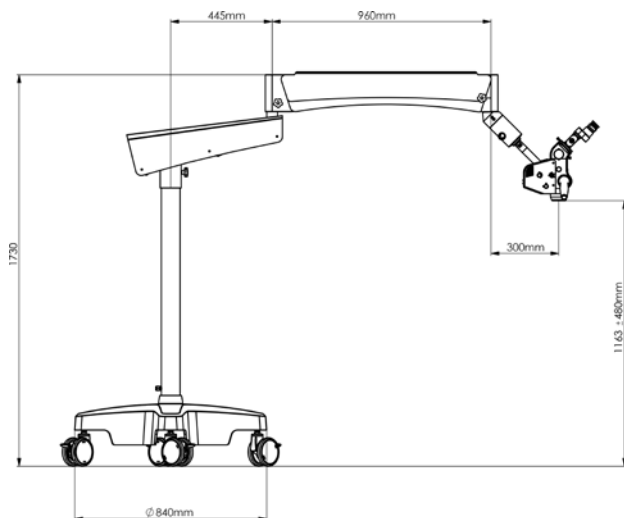
- **Kaps HD video and documentation accessories**

Wide range of video and documentation accessories on request. Please ask for current information.

Technical Data

	Kaps SOM® 4dent 100	Kaps SOM® 4dent 200	Kaps SOM® 4dent 300
Illumination	fan-less high power LED integrated in microscope head - brightness Control via Potentiometer - high CRI for bar best color reproduction - light filed diaphragm (spot illumination)		
Working distance	250 mm with fine focusing other objectives on request	250 mm with fine focusing other objectives on request	motorized Vario 220 - 320 mm other objectives on request
Magnification	5-step changer	manual Zoom 1:7	motorized Zoom 1:7
Filter	swing-in orange filter	swing-in orange filter	swing-in orange filter
Tube	inclinable 0 - 210°	inclinable 0 - 210°	inclinable 0 - 210°
Oculars	wide filed 12.5 x with diopter compensation		
Handles	ergonomic handle in front	ergonomic handles left and right	ergonomic handles left and right with buttons for zoom, focus and brake
Microscope carrier on right side	-	free motion (balanced)	free motion (balanced) with electromagnetic brakes
Electrical	class 1, voltage range: 90 ~ 264 VAC, frequency range: 47 ~ 440 Hz, Rated Power: < 75 W		
Mechanics	weight: < 140 kg, foot: Ø 844 mm, wheel diameter: 12.5 cm		
Safety Standard	60601-1 (2015)		

SOM® 4dent - Mobile Stand





Karl Kaps is a global medical technology company, offering complete diagnosis and treatment microscopes in the medical disciplines of otorhinolaryngology, ophthalmology, microsurgery, endodontics, neurosurgery, spinal surgery, gynecology and in all similar areas.

Modern, innovative surgical and diagnostic microscopes are developed and manufactured at the Asslar and Wetzlar production sites.

We aim to provide our customers with the best possible equipment for the medical care of their patients. This is our contribution to ensuring that correct diagnosis and successful therapy can be initiated.

More information can be found at
www.kaps-optik.de

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