CJ OPTIK

Mikroskope in Medizin & Technik

Flexion

The Microscope Family

General Catalogue

We want **satisfied** dentists.
And **happy** patients.

Designed,
developed and
made in Germany

CJ-Optik Dental Microscopes
For successful treatments.

Since 2007 **CJ-Optik** has become one of the high-performance companies in the field of dental microscopy. With customers in 90 countries worldwide we go for efficient solutions in the interests of dentists and patients.

Our goal is to optimally design the Flexion dental microscope family with every evolutionary stage for the most modern applications and treatment methods.

Get to know the CJ-Optik Flexion microscope family with its extensive, innovative features - for the highest requirements of modern dentistry.

Table of Contents

About CJ-Optik

2007	2008	2013	2014	2015	2016	2017	2017	2019	2021	2022
Foundation of CJConsultation in Wetzlar	Developing of various OEM products	Foundation of CJ-Optik in Wetzlar	Introduction of Vario-Focus 200-350 mm objective which fits for all microscopes	Production start of the Flexion microscopes	ISO 9001:2008 certification	Relocation to Asslar. New factory building (2000 sqm)	German Design Award Special for the Flexion dental microscope	Production start of Flexion twin microscope	ISO 13485:2016 certification for medical devices	To date, over 4000 Flexion microscopes have been sold

Our in-house production is located in Asslar in the immediate vicinity of the "City of Optics" Wetzlar. The production is according to ISO 13485 thus guaranteeing the highest quality and reliability. We take advantage of the region's out-standing expertise by cooperating with the "Wetzlar Network" and local suppliers.

Wetzlar Network

CJ-Optik

- Optical precision, care and responsibility - made in Germany.
- Owner-managed, medium-sized company with in-house development & production.
- Together with our customers we find individual solutions.

Designed, developed and made in Germany

Flexion Twin

The top model for the highest demands of modern dentistry. The double LED equipment with fluorescence and the state-of-the-art selective filter system deliver a superior microscopy experience.

Flexion Twin lite

Consequently designed and developed to meet the needs of dentists. Two LEDs, fluorescence and the Natural Light Filter make the Twin lite the ideal tool for endodontists, general dentists and dental hygienists.

Flexion
The Microscope Family

Flexion Advanced

The model for advanced dental microscopy. With 5-stage fully apochromatic magnification changer, high light transmission, orange filter and spot diaphragm, the Flexion Advanced is the efficient solution for dentists worldwide.

Flexion Advanced SensorUnit

In addition to its sister model Advanced, the Advanced SensorUnit has a sensor unit which starts photo or video recordings simply by hand gesture. For even more treatment comfort.

Flexion Basic

Ideal for entry-level dental microscopy. High-quality semi-APO optics and LED illumination for a well-lit treatment site. The unique MonoGlobe coupling system creates an ergonomic working position.

Flexion Exepto

The Flexion Exepto is the most compact of all Flexion models. The magnification changer is equipped with the three most commonly used levels.

Optics   For **superior** results.

For **stress-free** treatments.   # Ergonomics

Advanced Optical Design

CJ-Optik Flexion microscopes are highly acclaimed for their superior image quality. It is only through CJ-Optik working closely with the optics designer that the optimal specifications can be developed. With the use of apochromatic optics in the Twin microscopes dentists can detect the finest colour and structure details.

Perfect Illumination

The fanless LED spot lighting provides a well-lit treatment area with high colour rendering index and 5500 K. Future-proof with 65000 hours lifespan. The spot diaphragm always shows the assistant the exact treatment site and prevents light from falling into the patient's eyes.

VarioFocus

Choose from either the VarioFocus[2] with 200 - 350 mm range or the VarioFocus[3] with 210 - 470 mm working distance and plan-apochromatic correct built-in optics. The superior light transmission provides optimal viewing and documentation results. Removable protection cover lens with Hydrophobic Coating (HPC). Index Matching Coating for highest transmission and low reflection rates.

Details make the Difference

Just to name some of the many remarkable features that makes working with the Flexion microscopes so comfortable:

• Individual eyecup adjustment
• Large eye relief with bigger exit pupil
• IPD adjuster optionally available

Flexion

Anyone who has ever worked with one of our microscopes knows why we called them Flexion. We consider the Flexion as a flexible extension of the dentist's eyes. The dentist's upright treatment position ensures a relaxed posture and thus prevents neck and back problems in the long term.

MonoGlobe

MonoGlobe is the uniquely designed ball joint system for 3D microscope head movement and an ergonomic working position. The dentist benefits from fluid and smooth repositioning at all angles without the need to loosen and retighten knobs.

Quality at the Touch of a Button

Ergonomically placed controls ensure that all functions are immediately at your fingertips for all inter-procedure changes.

Cable Management

Experience full connectivity with HDMI, USB, USB3, camera AC/DC power and 24V monitor power supply integrated within the arm for a cleaner cable management and for an optimal digital workflow. No fragile fibre-optic cables that break or tangle.
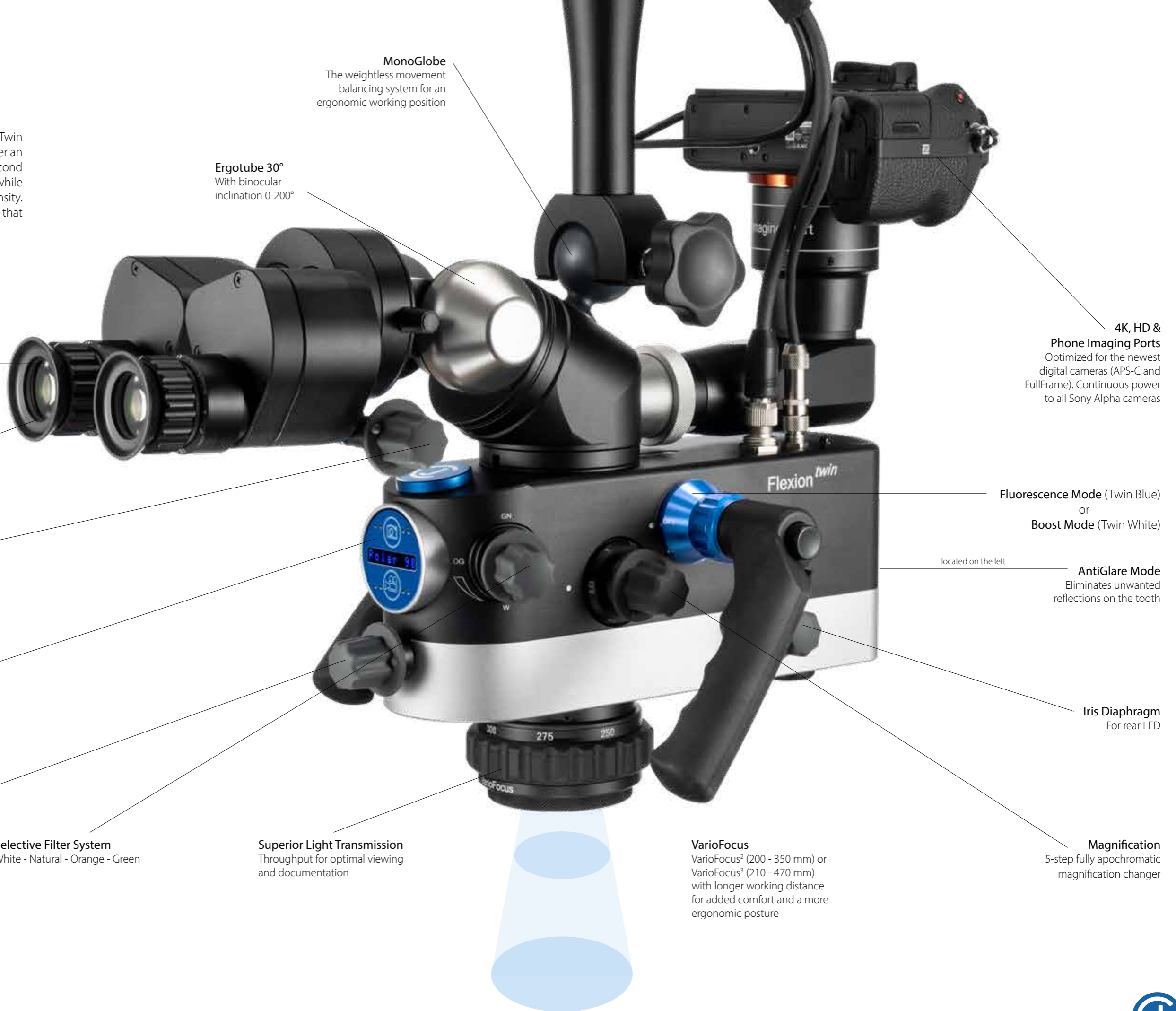
Flexion Twin
See more.

You will be thrilled, because the two new Twin models, each with two LED light sources, deliver an outstanding microscopy experience. The second LED in the Twin Blue generates fluorescence, while in the Twin White it doubles the light intensity. Experience state-of-the-art dental microscopy that brings everything to light.

MonoGlobe
The weightless movement balancing system for an ergonomic working position

Ergotube 30°
With binocular inclination 0-200°

4K, HD & Phone Imaging Ports
Optimized for the newest digital cameras (APS-C and FullFrame). Continuous power to all Sony Alpha cameras

Bigger Lens System
The larger the lenses and the better their coatings, the brighter and sharper the image.

Large Exit Pupil
For wearers of glasses

Fluorescence Mode (Twin Blue)
or
Boost Mode (Twin White)

located on the left

IPD Adjuster
Single-handed, wide adjustment range from 55 - 75 mm

AntiGlare Mode
Eliminates unwanted reflections on the tooth

SensorUnit
Controls photo or video recordings easily with a hand gesture.
Including the display for the Selective Filter System.

Iris Diaphragm
For rear LED

Iris Diaphragm
For front LED

Selective Filter System
White - Natural - Orange - Green

Superior Light Transmission
Throughput for optimal viewing and documentation

VarioFocus
VarioFocus^2 (200 - 350 mm) or VarioFocus^3 (210 - 470 mm) with longer working distance for added comfort and a more ergonomic posture

Magnification
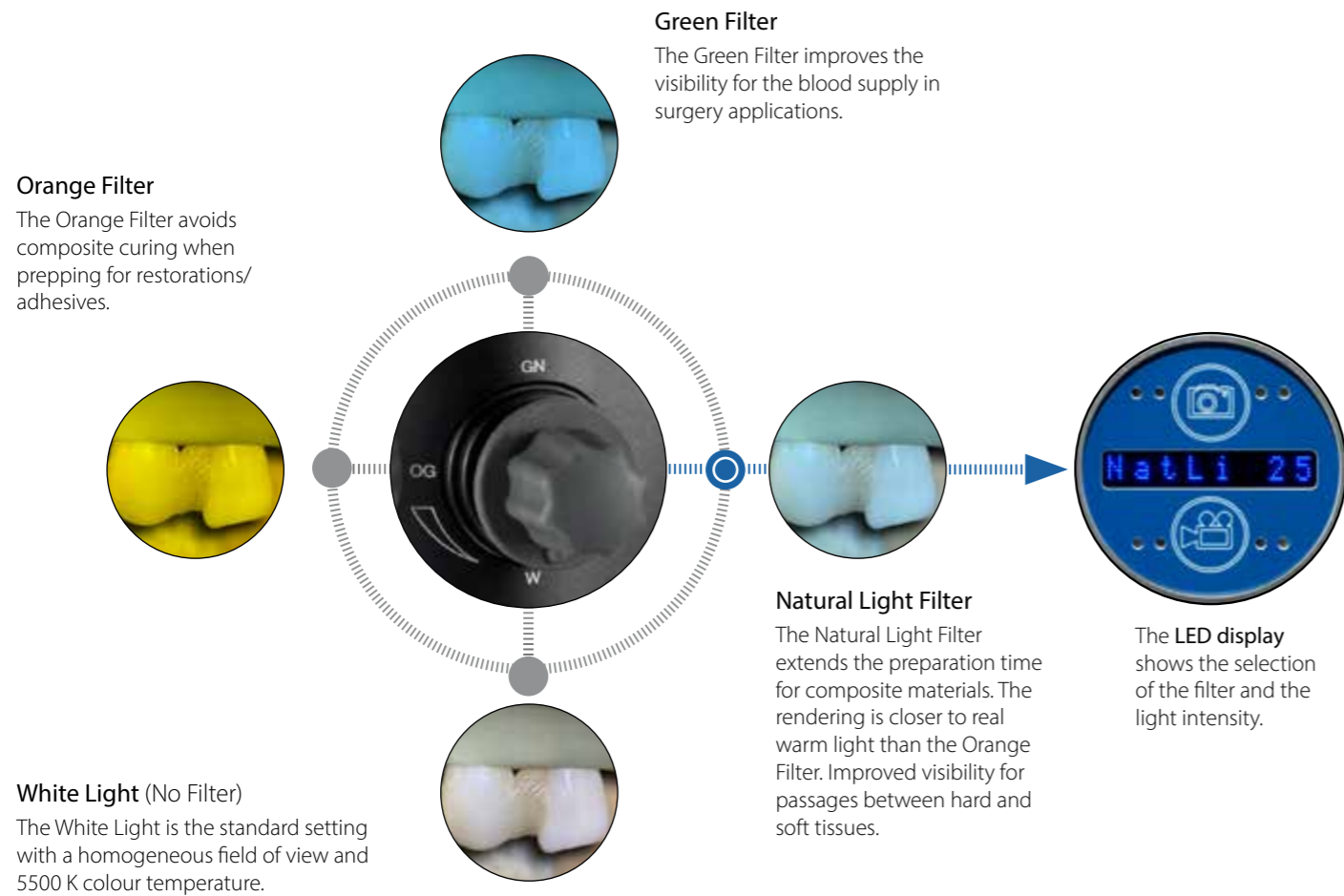5-step fully apochromatic magnification changer

Flexion Twin
For different ways of working.

True to the motto "You can only treat what you can see" the Selective Filter System of the Flexion microscopes makes dentistry more efficient and precise. All filters shown on this page are integrated in both Twin versions.
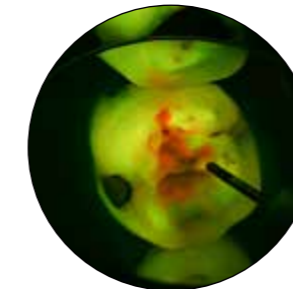
The Selective Filter System

Green Filter
The Green Filter improves the visibility for the blood supply in surgery applications.

Orange Filter
The Orange Filter avoids composite curing when prepping for restorations/adhesives.

Natural Light Filter
The Natural Light Filter extends the preparation time for composite materials. The rendering is closer to real warm light than the Orange Filter. Improved visibility for passages between hard and soft tissues.

The **LED display** shows the selection of the filter and the light intensity.

White Light (No Filter)
The White Light is the standard setting with a homogeneous field of view and 5500 K colour temperature.

Polarizing Filter (AntiGlare Mode)
The AntiGlare system makes it easy to eliminate all unwanted reflections on the tooth caused by the light and allows you to see the tooth structure. The polarization filter is activated using a wheel on the left side of the housing.

Two LEDs. Really a lot of light.

The name "Twin" indicates that both models are equipped with two LED light sources. While the Twin Blue uses its fluorescent light to represent the normally invisible boundaries and transitions between tooth material and fillings, the Twin White has the full power of two LEDs that penetrate even into the deepest root canals.

Fluorescence Mode
© Dr. Carlos Garcia / Mexico

Twin Blue
Visibility through Fluorescence

In addition to the white LED, the Flexion twin Blue is equipped with a second LED (dark blue), which improves the identification of restoration materials, tartar and caries. The UV light causes porphyrins inside the caries bacteria to fluorescence orange/red. The fluorescence mode is set using an ergonomically placed wheel with the right hand.

Fluorescence video
by
Dr. Carlos Garcia

Twin White
Light Boost with up to 200K Lux

The white version of the Flexion twin takes account of the wish of many dentists for a particularly well-lit treatment area by providing a second, white LED for additional luminosity. With the Twin White, the enormous power of up to 200K Lux of the two LED lights is visible. The special feature is that the front and rear LED can be switched independently of each other. Their different angles of incidence (less than 3°) make it easier to identify structures in the root canal. All three light modes are easily controlled via the joystick. Thanks to the high magnification power lateral canals and cross connections can be identified very well.

Boost Mode / 2 LEDs

Standard White Mode / 1 LED

The Joystick

Selecting the filters is child's play with the joystick. By turning the joystick the light intensity is adjusted between 0 and 99. By pushing the joystick all filter settings can be saved separately. In addition a quick setting mode in steps of 10 can also be used.

Awarded for Design.
Designed for Dentists.

Flexion Twin lite
A Class of its own.

As with the Flexion Twin, there are two models to choose from for the Twin lite: the **Blue fluorescence model** and the **White model with double LED luminosity.** Both feature the important **Natural Light Filter**, which extends the preparation time for composite materials. The Twin lite deliberately does without the extensive selective filter system including polarisation filter of its big Twin sister and is thus an ideal tool **for dentists who have the essentials in mind.**

SensorUnit

The sensor unit is used to start a photo or video recording. In addition, the display informs about the selected intensity of the LEDs and whether the Natural Light Filter is active.
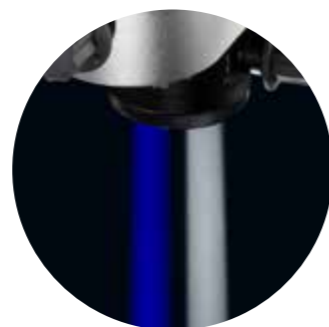
White Light Mode

Fluorescence Mode or Light Boost Mode

Natural Light Filter

Flexion Twin lite blue

The dark blue fluorescent LED takes your work to a new level. Caries and the transitions between real and artificial dental material become immediately visible.

Flexion Twin lite white

The Twin lite white and its 200K Lux light intensity from two LEDs are the right choice when a particularly bright treatment area is desired.

- 5-step, **fully apochromatic magnification changer**
- Outstanding **light transmission**
- Fanless **high-power LED** with 5500 K
  LEDs: white/blue (Fluo) or white/white
- **Natural Light Filter** extends preparation time for composites
- Stepless **iris diaphragm** shows the exact treatment site and prevents light from entering the patient's eye

Flexion Advanced &
Flexion Advanced SensorUnit
The Allrounders.

The Flexion Advanced dental microscope impresses with its excellent optics and a wide range of functions. The well thought-out ergonomics ensure an upright treatment position and a relaxed posture. Various imaging connections for full-format, APS-C cameras and smartphones are available for contemporary documentation. By means of a hand gesture, photo or video recordings can be started conveniently via the sensor unit integrated in the Flexion Advanced SensorUnit model.

Flexion Advanced

The model for advanced dental microscopy delivers the highest level of resolution, colour purity and contrast.

Flexion Advanced SensorUnit

The Advanced SensorUnit model is additionally equipped with a sensor unit - **for particularly convenient documentation.**

Full frame cameras   APS-C cameras

CJ-Optik
recommends
SONY α

- 5-step, **fully apochromatic magnification changer**
- Outstanding **light transmission**
- Fanless **high-power LED** with 5500 K
- **Orange filter** avoids composite curing
- Stepless **iris diaphragm** shows the exact treatment site and prevents light from entering the patient's eye

Scan for
360° view

Flexion Basic
Start the Treatment.

The Flexion Basic is the perfect tool when the magnification of the loupe glasses is no longer sufficient, there is no light at depth or the sitting posture becomes painful. The Basic works with the same five magnification levels of its Flexion family members and has semi APO optics. If documentation is desired, the Basic can be equipped with the imaging ports.

Flexion Exepto
Compact Size. Big on Performance.

CJ-Optik Flexion microscopes stand for maximum flexibility and ergonomics. Two values that apply especially to the Flexion Exepto thanks to its compactness. The Flexion Exepto has the smallest housing of all models of the Flexion family making it a very flexible tool for your treatments. The magnification changer, which is equipped with the three most frequently used levels, ensures quick changes. Even beginners quickly become familiar with the microscope.

Flexion Basic

- 5-step **magnification changer** (semi APO)
- Outstanding **light transmission**
- Fanless **high-power LED** with 5500 K
- **Orange filter** avoids composite curing

Flexion Exepto

- **Compact:** approx. 20 % smaller housing
- 3-step, **fully apochromatic magnification changer**
- Outstanding **light transmission**
- Fanless **high-power LED** with 5500 K
- **Orange filter** avoids composite curing

Documentation

Whether you prefer to document the treatment in 4K, in HD or with a smartphone: Focal lengths and optics have been uniquely designed for an ideal match to today's latest digital cameras.

4K-Imaging-Port
For Sony, Nikon & Canon FullFrame cameras.

HD-Imaging-Port
For Sony, Nikon & Canon APS-C cameras.

Phone-Imaging-Port
Adapter compatible with all smartphones.
MicVision App
for iOS and Android.

Laden im **App Store**
JETZT BEI **Google Play**

AppStore is a trademark of Apple Inc.
Google Play and the Google Play logo are trademarks of Google LLC.

SensorUnit
Starts a photo or a video recording with a hand gesture.
For Sony cameras
(FullFrame & APS-C).

Full Connectivity
Swivel Arm Advanced with HDMI, 24V, USB, USB3. Direct power supply for the camera from the microscope.

CJ-Optik
recommends

SONY α
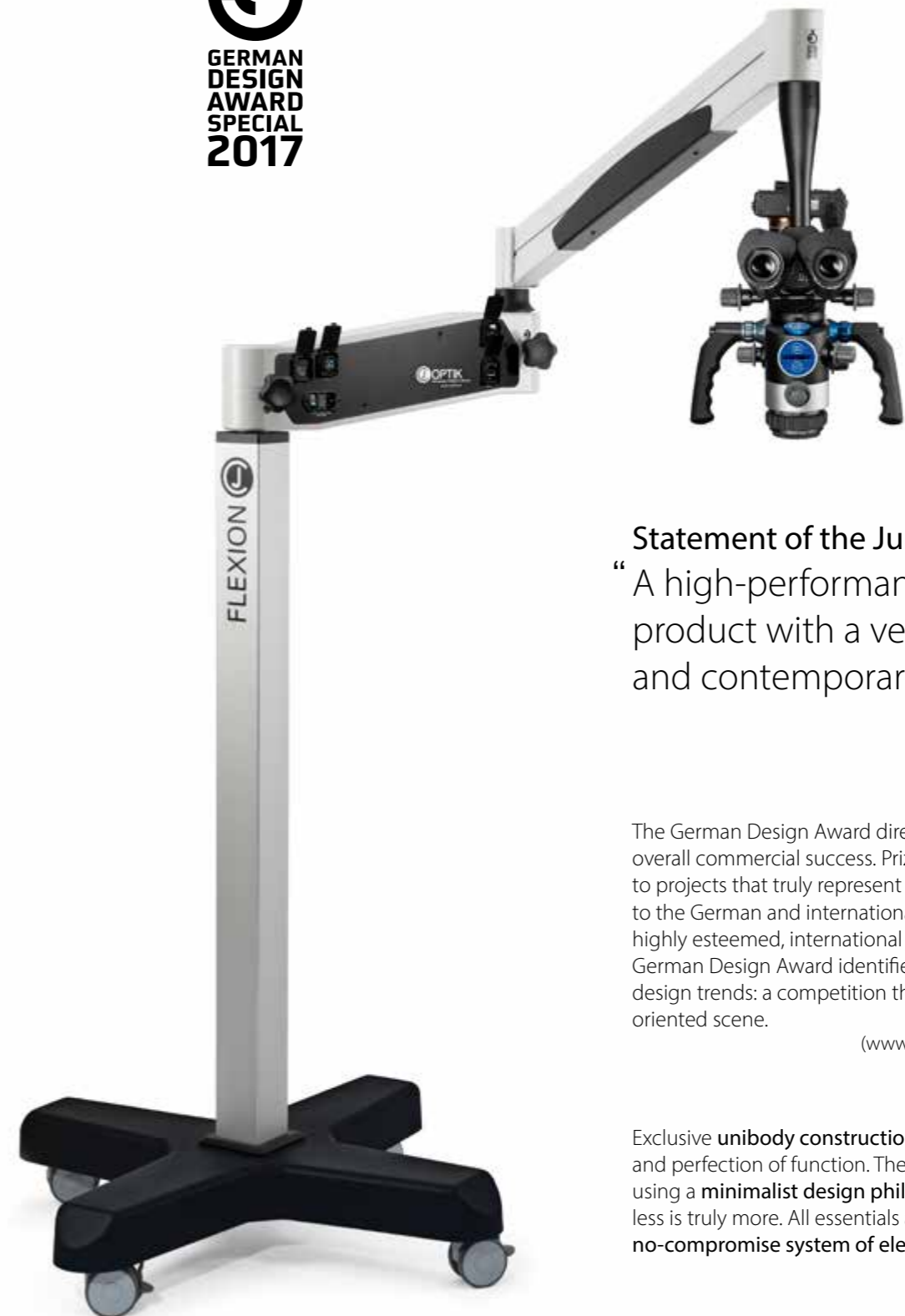
Software

MicroVis

Save Time for the Important Things

With the MicroVis software specially developed for the Flexion microscopes, the image and video files of the treatment are conveniently and securely stored in your patient's file (PACS). Thanks to its user-friendliness, MicroVis relieves your team and you save important time. MicroVis is optionally available and compatible with all common practice management systems.

- Ideal for communicating with patients & assistants effectively
- Standardizing video and image documentation workflow
- Patient management
- Editing of photos and videos
- Supports DICOM modalities

Design meets Performance.

GERMAN DESIGN AWARD SPECIAL **2017**

FLEXION

Statement of the Jury
" A high-performance high-tech product with a very progressive and contemporary design."

The German Design Award directly contributes to the overall commercial success. Prizes will only be awarded to projects that truly represent pioneering contributions to the German and international design landscape. The highly esteemed, international jury guarantees this. The German Design Award identifies and presents unique design trends: a competition that advances the design-oriented scene.

(www.german-design-award.com)

Exclusive **unibody construction** offers purity of form and perfection of function. The microscope is created using a **minimalist design philosophy**, demanding that less is truly more. All essentials are included to create a **no-compromise system of elegance and simplicity.**
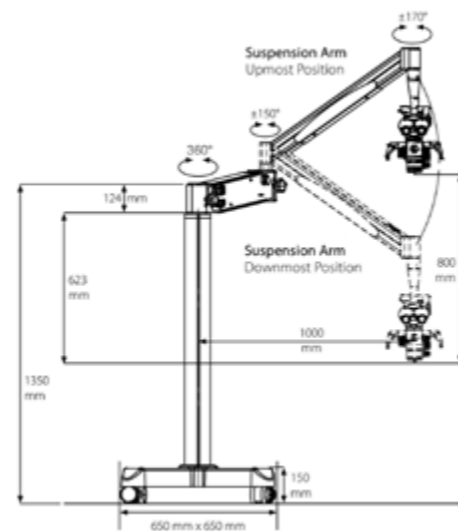
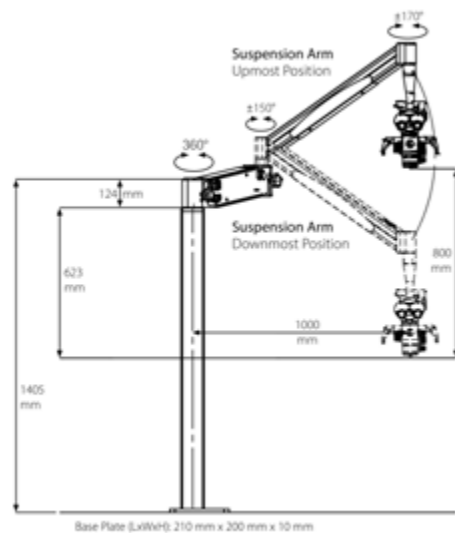(CJ-Optik)

Mounting Options

Flexible and customized

Flexion – The name says it all, even with the different mounting options. In addition to the dimensions shown here, CJ-Optik also offers tailor-made heights and lengths of all tripod parts in order to adapt the assembly to the premises in the best possible way. In addition, the parts can be interchanged (e.g. when changing from floor to ceiling mounting).
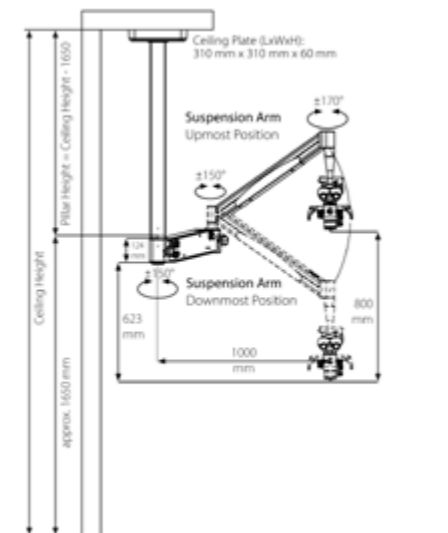
Mobile Stand

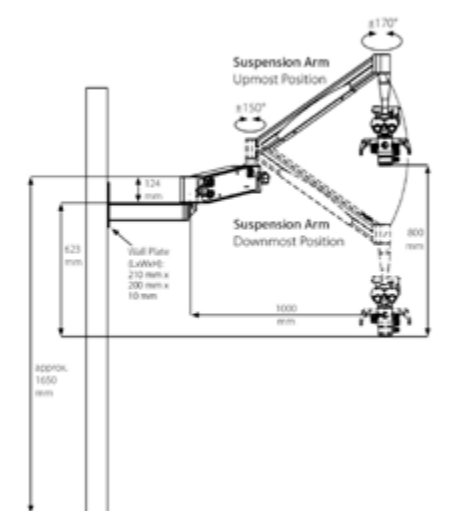Ideal for use in multiple rooms.

Floor Mount

The space-saving alternative to the mobile stand.
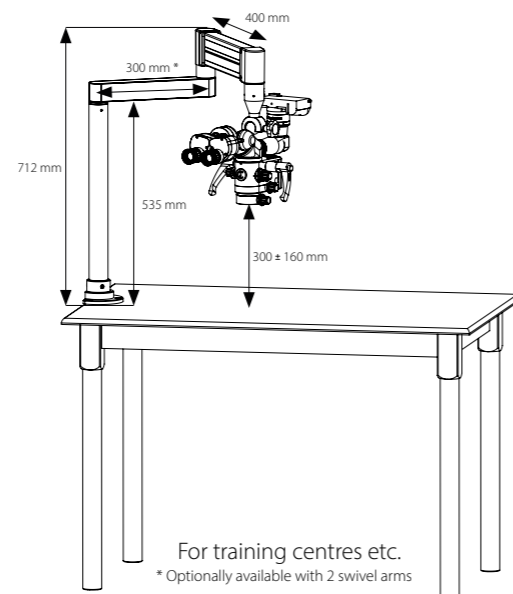
Ceiling Mount

Maintains ground clearance. Pillar height can be adjusted to any ceiling height.

Wall Mount

The alternative to ceiling mounting.

Table Mount / Labscope

For training centres etc.
* Optionally available with 2 swivel arms

Technical Data

Flexion Family	
Magnification System	5-step apochromatic magnification changer / 0.4 - 2.5 **or** 5-step semi APO magnification changer / 0.4 - 2.5 **or** 3-step apochromatic magnification changer / 0.7 - 1.45
Eyepieces	Widefield eyepieces WF 12.5 x (reticle optionally available)
Tube System	F = 170 mm **or** F = 200 mm apochromatic / 180° tiltable tube
Stereo Base	24 mm for enhanced 3D vision
Focus System	VarioFocus[2] 200 - 350 mm **or** VarioFocus[3] 210 - 470 mm **or** VarioFocus[4] 200 - 350 mm **or** VarioFocus[5] 210 - 500 mm Plan-APO / glass protection * VarioFocus with hydrophobic glass protection *
Illumination System	Up to 100K Lux **or** Up to 100K Lux (white LED) + Fluorescence (dark blue LED) **or** Up to 200K Lux (2 white LEDs) Fanless high power LED 5500 K / 65000 h life time 2° with stepless spot diaphragm system (Twin: for front and rear LED)
Filter	Orange Filter (Exepto, Basic, Advanced, Advanced SensorUnit) **or** Natural Light Filter (Twin lite) **or** Natural Light Filter + Orange Filter + Green Filter + Polarization Filter (Twin)
Movement	MonoGlobe, 355° Axis control
Handles	Ergonomic handles, 360° adjustable
Asepsis	1 x Asepsis set for the handles and knobs (sterilizable)
Documentation	Integrated beam splitter 50:50, 4K-Imaging-Port / FullFrame **or** HD-Imaging-Port / APS-C **or** Phone-Imaging-Port, SensorUnit for touchless photo / video, MicroVis Software **or** MicVision App (iOS and Android)
Power	Power adapter for all Sony Alpha cameras, smartphones
Stands	Mobile stand **or** Wall mount **or** Ceiling mount **or** Floor mount **or** Dental unit

* optional

Optics Quality

We are often asked:
How do you achieve the outstanding quality of the Flexion microscope optics?

The quality and integrity of our optical glass is one of our best kept secrets; designed by our Optical Engineer to ensure the refractive index, light dispersion, transmission and anti-reflective coating become the cornerstone of our microscope.
The optimal combination of these properties together with the precise manufacturing of the lens surfaces and good mechanics enables the perfect imaging performance.

Comparison of Models

	Exepto	Basic	Advanced	Advanced SensorUnit	Twin lite	Twin
Microscope						
Microscope body Exepto / APO	✔	O	O	O	O	O
Microscope body Basic / Semi APO	O	✔	O	O	O	O
Microscope body Advanced / APO	O	O	✔	O	O	O
Microscope body Advanced / APO / SensorUnit	O	O	O	✔	O	O
Microscope body Twin lite blue / APO / SensorUnit	O	O	O	O	✔ Blue	O
Microscope body Twin lite white / APO / SensorUnit	O	O	O	O	✔ White	O
Microscope body Twin blue / APO / SensorUnit	O	O	O	O	O	✔ Blue
Microscope body Twin white / APO / SensorUnit	O	O	O	O	O	✔ White
3-step full magnification changer (0.7/1.0/1.45x)	✔	O	O	O	O	O
5-step full magnification changer (0.4/0.63/1.0/1.6/2.5x)	O	✔	✔	✔	✔	✔
Suspension arm with transport lock / integrated micro HDMI cable	✔	✔	✔	✔	✔	✔
Adjustable spot LED diaphragm with knob and cap	O	O	✔	✔	✔	✔
Adjustable spot blue or white LED diaphragm with knob and cap	O	O	O	O	✔	✔
2 pcs WF 12.5x eyepiece (± 5 dpt adjustment)	✔	✔	✔	✔	✔	✔
1 pc WF 12.5x eyepiece with reticle (± 5 dpt adjustment)	OAC	OAC	OAC	OAC	OAC	OAC
Swivel tube 0 - 200°	✔	✔	✔	✔	✔	✔
Straight tube f'=170 mm APO, IPD 45 - 80 mm	✔	✔	✔	✔	✔	✔
Straight tube f'=200 mm APO, IPD 45 - 80 mm	OAC	OAC	OAC	OAC	OAC	OAC
IPD adjuster for Swivel tube 0 - 200°	OAC	OAC	OAC	OAC	✔	✔
30° Ergo Optic with beam splitter 50:50	✔	✔	✔	✔	✔	✔
MonoGlobe Movement System	✔	✔	✔	✔	✔	✔
Counter weight for Ergotube	✔	✔	O	O	O	O
Objectives						
VarioFocus^2 / 200 - 350 mm Plan-APO	OPT	OPT	OPT	OPT	OPT	OPT
VarioFocus^3 / 210 - 470 mm Plan-APO	OPT	OPT	OPT	OPT	OPT	OPT
Focus / 250 mm Plan-APO	OPT	OPT	OPT	OPT	OPT	OPT
Interchangeable objective protection	✔	✔	✔	✔	O	O
Interchangeable objective protection with hydrophobic coating (HPC)	OAC	OAC	OAC	OAC	✔	✔
Functions / Filters						
Display for filter visualization / SensorUnit for touchless photo/video	O	O	O	O	✔	✔
Fluorescence filter (blue) for composite, plaque, tartar detection	O	O	O	O	✔ Blue	✔ Blue
2nd white LED (5500 K) for double light boost, up to 200K Lux	O	O	O	O	✔ White	✔ White
Natural light filter to extend the curing time of composite materials	O	O	O	O	✔	✔
Antiglare filter for eliminating light reflections	O	O	O	O	O	✔
Orange filter for modelling composite materials	✔	✔	✔	✔	O	✔
Green filter to enhance the contrast of blood and tissue	O	O	O	O	O	✔
Imaging-Ports						
HD-Imaging-Port / Sony E-mount / APS-C (22x16 mm)	OPT	OPT	OPT	OPT	OPT	OPT
4K-Imaging-Port / Sony E-mount / FullFrame (36x24 mm)	OPT	OPT	OPT	OPT	OPT	OPT
Camera power adapter Sony	O	O	✔	✔	✔	✔
Phone-Imaging-Port (including universal holder)	OAC	OAC	OAC	OAC	OAC	OAC
Phone-Imaging-Port connection adapter (USB-C, USB-micro, lightning)	O	O	✔	✔	✔	✔
Documentation Accessories						
Universal tablet holder	OAC	OAC	OAC	OAC	OAC	OAC
Monitor holder with VESA	OAC	OAC	OAC	OAC	OAC	OAC
Monitor 22" Full HD Dental-Display (IEC 60601)	OAC	OAC	OAC	OAC	OAC	OAC
Mounting System						
Mobile / Floor / Ceiling / Wall / Table / Dental Unit (optional)	✔	✔	✔	✔	✔	✔
Electronics						
Swivel arm Advanced / HDMI	✔	O	O	O	O	O
Swivel arm Advanced / HDMI, XLR (24V)	O	✔	OPT	OPT	O	O
Swivel arm Advanced / HDMI, XLR (24V), USB (charging)	O	O	✔	✔	✔	✔
Swivel arm Advanced / HDMI, XLR (24V), USB (charging) USB3 (data transfer)	O	O	OAC	OAC	OAC	OAC

✔ = Included   OPT = Optional   OAC = Optional + Additional Charge   O = Not available

Flexion
Microscopes

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