

FALCO 3D MAGNIFICATION

BEYOND MAGNIFICATION:
CONNECTED CLINICAL VISION

Wearable digital system for magnification, visualisation, documentation and sharing

01 THE CONCEPT

THE OPERATING FIELD TOGETHER WITH ALL YOUR CLINICAL INFORMATION

During clinical procedures, consulting CBCT images, intraoral scans and practice software usually means looking away from the operating field towards external monitors, again and again. These constant changes of viewpoint create postural and visual strain, breaking the continuity of vision during treatment.

FALKO 3D Magnification brings dynamic digital magnification of the operating field and the clinical content of the PC together, directly in front of your eyes.

The front camera sends the live view to the PC over USB, and the video processed by the PC reaches the headset wirelessly. The clinician consults the information without turning to the monitors again and again, with greater workflow continuity.



EVERYTHING IN THE SAME FIELD OF VIEW

Magnified operating field, CBCT, scans and clinical software displayed directly in the headset, without obstructing direct and peripheral vision.

ERGONOMICS COME FIRST

Information in front of your eyes reduces the need to turn your head towards external monitors again and again, supporting a more natural working posture.

2D AND 3D SOURCES

The headset displays 2D content and Side-by-Side 3D signals from compatible stereoscopic sources, as well as the live view from the front camera through the MagnoCam capture software.

INTELLIGENT MAGNOCAM SOFTWARE INCLUDED

On Windows PCs: photo and video capture, annotations and a per-patient archive, with integration into compatible practice management software via TWAIN. When the user selects it, the software processes the captured video signal and converts it into stereoscopic Side-by-Side 3D.

STREAMING AND TELEMENTORING

Live view and clinical content can be shared with colleagues and students, in the practice or remotely, through streaming and video-conferencing software.

WIRELESS VIDEO TRANSMISSION

The video signal travels from the PC to the headset wirelessly, in real time.

02 THE ARCHITECTURE

SIMPLER THAN IT LOOKS



THE CAMERA CAPTURES

The front camera picks up the operating field and sends the images to the PC over USB, up to 6 m in total with the powered extension supplied.

THE PC BRINGS THE CONTENT TOGETHER

The MagnoCam software supplied manages the live view and clinical documentation. CBCT, scans and other applications can be consulted in the headset, in side-by-side windows if required.

THE HEADSET DISPLAYS IT ALL

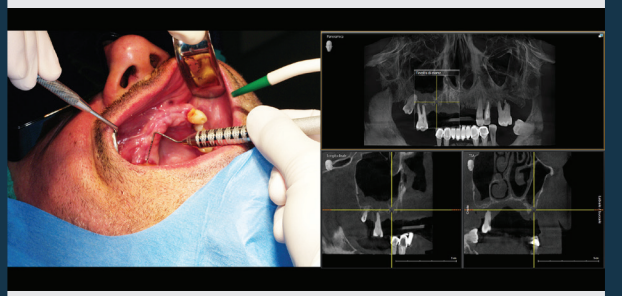
The FALKO TX transmitter sends the PC video to the headset wirelessly and with zero latency, for a viewing experience equivalent to a 200” virtual big screen.

WHAT THE CLINICIAN SEES IN THE HEADSET

Live front-camera view and images from connected devices, displayed simultaneously in the headset in multiview, with a 200-inch big-screen experience. Courtesy of Dr G. Guidi.



The view inside the headset



03 THE CAMERA

AUTOFOCUS FOLLOWS THE WORKING DISTANCE

Across the 25 to 50 cm operating range, continuous autofocus keeps the image sharp while magnification varies with distance. The clinician can move closer to the operating field to examine detail and then move back, with no need to hold a fixed working distance.

WORKING DISTANCE WITH CONTINUOUS AUTOFOCUS

25 CM · 6× — **40 CM · 5×** — **50 CM · 4×**

Why dynamic 4–6×

The useful magnification of a digital system depends on the actual detail per field of view, not on the multiplication factor: beyond a certain threshold the image gets bigger without adding information. The 4×–6× range with continuous autofocus maintains sharpness and depth of field across the entire clinical working distance.



THE OPTICAL UNIT

The camera and the LED spot are adjustable and frame the operating field in the direction of the clinician's gaze. Focus adapts to distance on its own: no adjustment during the procedure.

FROM THE DETAIL TO THE PATIENT

From a magnified view of the whole mouth through to direct and peripheral vision, without lifting the headset.

INTEGRATED LED LIGHTING

Circular LED spot up to 24,000 lux, with adjustable intensity, switched on independently of the camera.

SEE-THROUGH VISION OPTIONAL

Interchangeable magnetic filters modulate how much of the surroundings remains visible and set the viewing mode.

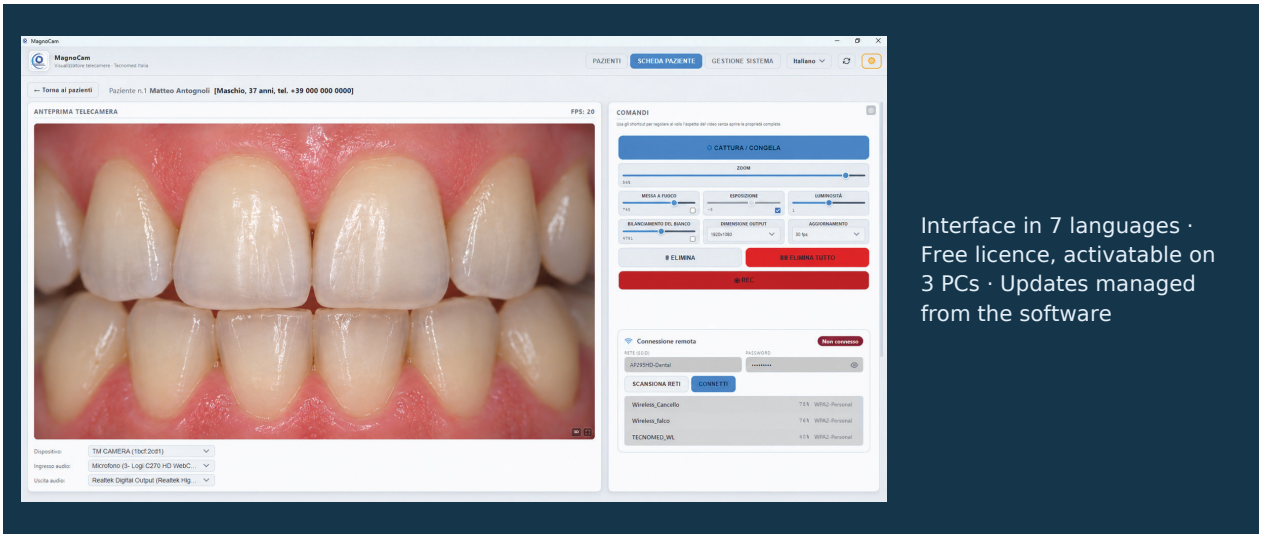
SUITS MORE THAN ONE CLINICIAN

Independent dioptric adjustment for each eye allows the system to be adapted to different clinicians.

04 THE INTELLIGENT SOFTWARE

MAGNOCAM SOFTWARE INCLUDED: FROM LIVE VIEW TO DOCUMENTATION

With MagnoCam, the camera view becomes part of clinical documentation. The universal software captures images and videos, annotates the shots and organises the content in each patient's record. Reducing magnification to 2.5× makes it possible to frame the full outline of the mouth, which is particularly useful in aesthetic dentistry. MagnoCam also lets the clinician choose 2D or 3D viewing. From camera control to archive management, the main functions are available from a single Windows interface.



Interface in 7 languages · Free licence, activatable on 3 PCs · Updates managed from the software

SEE ▸ CAPTURE ▸ DOCUMENT ▸ ARCHIVE ▸ INTEGRATE

PHOTO AND VIDEO CAPTURE

Live view, freeze frame, photo capture and video recording straight into the patient's gallery.

PATIENT IMAGING RECORD

Patient details, a dedicated gallery of images and videos, and annotations linked to the clinical content.

CAMERA CONTROL

Adjustment of zoom, focus, exposure, brightness, saturation, contrast and white balance directly from MagnoCam.

SIDE-BY-SIDE DISPLAY

MagnoCam adapts the display to 2D or 3D SBS according to the clinician's preference.

EXPORT AND SYNCHRONISATION

Archive export and data synchronisation to the folder or destination chosen by the practice.

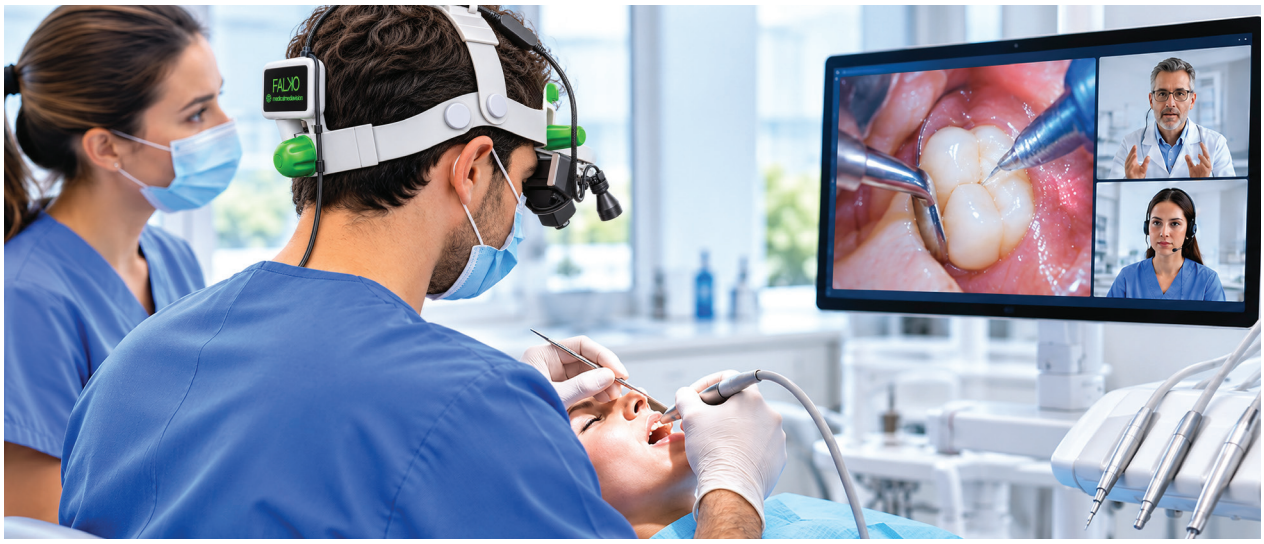
INTEGRATION WITH PRACTICE SOFTWARE

The TWAIN driver transfers images and videos straight into the patient records of compatible practice management software.

05 SHARE

SHARE YOUR POINT OF VIEW

Through the PC, the camera view can be shared with colleagues, assistants and students, together with the other clinical content. With streaming or video-conferencing platforms, the clinician's point of view also becomes accessible remotely, opening up new possibilities for collaboration, professional discussion and training.



COLLABORATION IN THE PRACTICE

Live view and clinical content can be shared on the monitors at the chair to involve the team during the procedure.

TELEMENTORING

A remote colleague can follow the procedure from the clinician's point of view and discuss it in real time.

TRAINING

Live views and recorded video to support lectures, courses and case review.

AUDIO FOR REMOTE SUPPORT

Bluetooth earphones keep the conversation with the remote colleague private.

FALKO 3D IN CLINICAL PRACTICE



Prosthodontics & Digital Dentistry
Prof. F. Zarone | Napoli



Restorative & Aesthetic
Prof. A. Cerutti | Brescia



Implant Surgery
Dr R. Scaringi | Milano

06 DATA



TECHNICAL SPECIFICATIONS

Product code	FK301DV
Dynamic magnification	6× at 25 cm · 5× at 40 cm · 4× at 50 cm
Focus	Continuous autofocus across the 25–50 cm operating range
Front camera	4K · 30 fps · 29 ms latency
Display	Two micro-OLED · 1,920 × 1,080 pixels per eye · 50,000:1 contrast
Diagonal field of view	43° · virtual screen equivalent to 200" at 6 m
Viewing modes	2D and Side-by-Side 3D · immersive or see-through
Dioptric adjustment	0 to −5.0 D, independent for each eye
Lighting	Circular LED spot · up to 24,000 lux · 5300 K · adjustable intensity
Wireless transmission latency	Less than 5 ms*
Battery life	Approx. 8 h with the standard battery · approx. 3.5 h with the slim battery
Software	MagnoCam included
Warranty	24 months
Regulatory compliance	Class I medical device · Regulation (EU) 2017/745

***Latency values refer to the individual components and do not represent the overall latency of the system. PC requirements:** Windows 10 or 11, 64-bit · At least 4 GB of RAM, 8 GB recommended · One HDMI output and one USB port available. An internet connection is required for the initial activation of MagnoCam and for updates. The local wireless video link between the PC and the headset does not require internet.

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