Dental Excellence
in every area

**Practice equipment**
KaVo treatment units and lights, dental chairs, patient communication systems, dental microscope and additional operatory accessories.

**Instruments**
Dental straight and contra-angle handpieces, turbines, air polishing systems and small equipment for all application areas including diagnosis, prophylaxis, restorative, surgery, endodontics and instrument care.

**Imaging**
Intraoral X-ray equipment, sensors and imaging plate systems, panoramic and cephalometric in combination with CBCT, as well as dedicated CBCT devices for every indication in dentistry.

**CAD/CAM**
Dental CAD/CAM solutions for premium aesthetic, natural-looking and long-lasting restorative work, suitable for dentists and dental technicians.

OP 3D™
Award-winning innovations for panoramic, cephalometric and 3D imaging

The products, features and services shown and described in this catalogue are not available in all countries. All specifications were correct at the time of publication. KaVo Dental GmbH assumes no liability for deviations in colour of the products due to differences in printing. Differences in promotions are subject to the right to make changes to the information in this brochure. Reprinting, even just of excerpts, is only permitted with the consent of KaVo Dental GmbH.

ORTHOPANTOMOGRAPH™, OP™, OP 3D™, SMARTVIEW™, CliniView™, Low Dose Technology™, ORTHOfocus™, ORTHOselect™, QUICKcompose™ are either registered trademarks or trademarks of KaVo Kerr Group in the United States and/or in other countries. KaVo™ is a registered trademark or trademark of Kaltenbach & Voigt GmbH in the United States and/or in other countries. All other trademarks are property of their respective owners.

**Palodex Group OY** | Nahketelantie 160 | FI-04300 Tuusula | Finland
www.palodex.com

**KaVo Dental GmbH** | Bismarckring 39 | 88400 Biberach | Germany
www.kavo.com
Welcome to excellent imaging: KaVo ORTHOPANTOMOGRAPH™ OP 3D

The KaVo OP 3D makes choosing your X-ray system simple. It is a complete X-ray platform that provides easy-to-use features throughout the entire dental imaging workflow. With its versatile imaging programs and intuitive user interface, the KaVo OP 3D in its different configurations offers imaging excellence for a variety of users, ranging from general dental practitioners to orthodontists, and all the way to maxillofacial surgeons.

OP 3D Vision
OP 3D Pro
OP 3D

Panoramic
- Fast Scan — 2D panoramic imaging in just 9 seconds
- ORTHOfocus™ feature for providing the optimum panoramic image layer automatically
- Panoramic programs for covering the daily needs of a busy practice

Cephalometric
- Innovative and patented ORTHOceph™ Plus design with fast cephalometric imaging scan times and adjustable field sizes for perfect image quality with minimal dose

3D
- 4 resolutions for 3D (Low Dose Technology™ (LDT), Standard, High, Endo) combined with Metal Artefact Reduction (MAR) technology
- 4 predefined volumes: 5x ø 5, 6x ø 9, 9x ø 11 and (optional) 9x ø 14 cm — thanks to SMARTVIEW™ 2.0 the volumes are freely positionable and height adjustable in 5 mm steps between 5 and 9 cm before the exposure, leading to up to 36 possible FOV sizes in total.

Overall benefits
- QUICKcompose™ for fast image review, appearing automatically following the scan
- Optimised imaging workflows
- Configurable device platform: Panoramic, Cephalometric and 3D imaging
- Lead-free device

ORTHOPANTOMOGRAPH™ — environmentally friendly

For more than 50 years, the name ORTHOPANTOMOGRAPH™ has been the synonym for ultimate reliability and clinically correct image quality. As the newest member of the legendary ORTHOPANTOMOGRAPH™ series, the KaVo OP 3D takes environmental thinking to a new level by replacing the lead, usually used for radiation shielding, with a more environment-friendly alternative capable of providing equivalent radiation attenuation. All this is completed with the efficient power-saving feature which helps reduce the overall energy consumption of the practice.
Programs to fit your clinical needs

Standard, paediatric and segmented panoramics along with bitewing and lateral-TMJ programs are included to cover the panoramic imaging needs of a busy practice. With the ORTHOfocus™ feature, the optimum panoramic image layer is automatically obtained, enabling forgiving patient positioning. The result is consistent image quality every time.

Panoramic images with automatically selected optimum layer — ORTHOfocus™

The standard panoramic program provides a clear definition of the dental anatomy, including TMJs — in only 9 seconds. This results in highly diagnostic images due to fewer movement artefacts as well as a lower dose to the patient.

The paediatric panoramic program has a clinically adapted image layer and reduced image height.

The TMJ program provides a lateral view of temporomandibular joints, with an open or closed mouth.

The bitewing program provides a quick and easy alternative to intraoral bitewing imaging.
Cephalometric imaging innovations — for all your clinical needs

The innovative, patented ORTHOceph™ Plus design of the KaVo OP 3D takes cephalometric imaging workflow to a new level. The KaVo OP 3D provides all needed protocols such as lateral and paediatric lateral projections with adjustable field widths, posterior-anterior (PA) projections and carpus* imaging — with fast scan times and a minimal dose. All combined with an intuitive graphical user interface and automated sensor movements to enable smooth workflows.

ORTHOceph™ Plus design
• Thanks to its patented design, the KaVo OP 3D is by definition at the correct height for a CEPH image if a panoramic image has been taken first. Due to the minimised needs for adjustments, workflows are easy and fast.
• A dedicated X-ray source for the cephalometric imaging, combined with advanced sensor technology, enables a high throughput and optimum imaging parameters resulting in clinically great results with minimal radiation exposure for the patient.

* Carpus holder optional
Four predefined 3D volume diameters plus the possibility to customise the volume size

The four predefined FOVs of the KaVo OP 3D are based on true clinical needs and are adjustable in height. FOV 5x ø 5 cm with its endo resolution is optimised for single-tooth and localised diagnostics. FOV 6x ø 9 cm offers the capability of scanning either the lower or upper jaw, whereas FOV 9x ø 11 cm combines both. With the largest FOV 9x ø 14 cm, TMJs can be conducted.

**Low Dose Technology™ (LDT)**
- The LDT scan can be used in dose-sensitive cases and in control and follow-up scans where the dose is to be minimised or a lower resolution is acceptable.

**Standard resolution**
- The standard resolution scan with an optimised patient dose can be used for general diagnostics.

**High resolution**
- The high resolution scan offers extremely sharp images for more detailed diagnosis.

**Endo resolution**
- The endo resolution scan (available at ø 5 cm) with an 80 μm voxel size is designed especially for endodontic applications.

### 5x ø 5 cm
- **Local diagnostics**
  - Planning of individual implants
  - Wisdom tooth extractions
  - Impacted teeth
  - With endo resolution for highly precise illustration of the canals and the periodontal structures

### 6x ø 9 cm
- **Covering the complete lower or upper jaw**
  - Planning of multiple implants in one jaw
  - Surgical templates and direct link to 3D navigated surgery*

### 9x ø 11 cm
- **Illustration of the whole craniofacial area**
  - Illustration of the sinus maxillaries
  - TMJ diagnostics

### 9x ø 14 cm
- **Covers the entire dentition, including lower and upper jaw, as well as a portion of the maxillary sinus**
  - Planning of multiple implants in both jaws
  - Surgical templates and direct link to 3D navigated surgery*
  - Sinus analysis in children

---

* Provided by 3D planning SW or DTX Studio™
Customised and fast: SMARTVIEW™ 2.0 and QUICKcompose™ for imaging at its best

With the KaVo OP 3D, the number of FOV sizes is almost unlimited. SMARTVIEW™ 2.0 offers the ability to select the FOV diameter and location and to adjust the FOV height between 5 and 9 cm in 5 mm steps based on the scout images.

SMARTVIEW™ 2.0: new level of control
The SMARTVIEW™ 2.0 user interface utilises two-dimensional scout images to allow choosing the most optimum FOV position height and diameter based on the clinical need.

QUICKcompose™ feature: fast image review
Available for panoramic, cephalometric and 3D modalities, the QUICKcompose™ feature offers a quick preview of the captured image, allowing a timely evaluation. The image appears on the graphical user interface automatically as soon as the scan is completed.
Every feature of the KaVo OP 3D is designed to increase practice efficiency. Preparing the device for a scan is fast with an easy patient positioning system and intuitive graphical user interface. All imaging protocols are optimised for practice workflows.
DTX Studio™ suite connecting treatments from beginning to end

With KaVo OP 3D you can benefit from DTX Studio™ suite, a single digital platform for dental treatments, that connects technologies and workflows — from image acquisition to diagnostics, planning, implant surgery and restoration.

**DTX Studio™ Clinic — only one software for all imaging data**
- Use one piece of software to acquire and display together all imaging data from KaVo imaging devices, sensors, intraoral cameras and scanners.
- Boost the efficiency of your practice with the automated scheduling of scan assignments.
- Seamlessly proceed to diagnosis and treatment planning without the need to import or export data.

As an alternative, Cliniview™ imaging software is available with an additional OrthoTrace™ option for cephalometric tracing needs.

For 3D imaging you can choose also 3D diagnostic software OnDemand3D™ or Invivo™ alternatives.**

**Technical specifications**

**2D/Panoramic**
- Image receptor: CMOS
- Pixel size (sensor & image): 99 μm
- Tube voltage: 60–90 kV
- Tube current: 2–16 mA
- Scan time: 9 s
- Image field height: 147 mm
- Imaging programs: Standard, segmented, paediatric, Lat TMJ, bitewing

**3D/CBCT**
- Image detector: CMOS
- Image voxel size: 80–400 μm
- Tube voltage: 95 kV
- Tube current: 2–12.5 mA
- Scan time: 10–20 s
- Image volume sizes (H x Ø): 5x 5, 6x 9, 9x 11, 9x 14 cm (optional)
- Volume height and location are adjustable through the SMARTVIEW™ 2.0 interface.

**2D/Cephalometric**
- Image receptor: CMOS
- Pixel size (sensor & image): 99 μm
- Tube voltage: 60–95 kV
- Tube current: 2–14 mA
- Scan time: 10.5 and 8.1 s
- Image field height: 180–223 mm
- Image field width: 160–260 mm
- Imaging programs: Lateral and Paediatric Lateral with an adjustable field width, Posterior–Anterior (PA), Carpus*

**Others**
- Tube focal spot: 0.5 IEC 336 (IEC 60336/2005)
- DICOM** support: Available as a software option

**Dimensions**

- Easy wheelchair accessibility.
- The device meets the RoHS Directive 2011/65/EU without any exemptions mentioned in Annex IV.

Details on the system requirements can be found on our Internet pages or can be requested at technical service.

* DTX Studio™ Clinic installation possible as soon as available in your region
** Availability depending on offering and registrations in your region

---

14 | KaVo

---

KaVo | 15