

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.

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Palodex Group OY | Nahkelantie 160 | FI-04300 Tuusula | Finland
www.kavokerr.com

KaVo Dental GmbH | Bismarckring 39 | 88400 Biberach | Germany
www.kavo.com

KAVO
Dental Excellence

OP 3D

The most efficient entry
into the KaVo world of 3D X-ray.



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KAVO
Dental Excellence

Efficiency has a name: KaVo ORTHOPANTOMOGRAPH™ OP 3D.

The KaVo OP 3D makes choosing your 3D X-ray system simple. Four selectable image resolutions and up to four volume sizes for substantiated diagnosis in 3D. In addition SMARTVIEW™ 2.0 offers the possibility to adjust the height and width individually from the scout image. With Fast Scan it takes only 9 seconds to obtain panoramic image and ORTHOfocus™ function provides automatic recognition of the optimum image layer. And all this is easy to operate via a laptop or PC in your practice. That's efficiency on a new level: OP 3D.

OP 3D Vision

OP 3D Pro

OP 3D

OP 2D

3D images provide valuable information vital to diagnosis and determining the best course of treatment. Evaluation of different morphologies is easy as the region of interest can be viewed from all directions.

- | | | | |
|----------------|--------------|----------|----------------|
| • Implantology | • Pathology | • TMJ | • Trauma |
| • Endodontics | • Impactions | • Airway | • Periodontics |

Your benefits at a glance:

- Fast Scan for 2D panoramic images in just 9 seconds
- ORTHOfocus™ for automatic recognition of the most suitable image layer in 2D panoramic images
- 4 freely positionable volumes: 5 x ø 5, 6 x ø 9, 9 x ø 11 and (optional) 9 x ø 14 cm
- SMARTVIEW™ 2.0 for precise volume positioning and highly flexible number of FOV sizes
- 4 image resolutions for 3D (Low Dose, Standard, High-Res, Endo)
- QUICKcompose™ feature for fast image review automatically after scan is completed
- Lead free device design



Designed for efficiency.

Each and every feature of the OP 3D is designed to increase practice efficiency. Preparing the unit for a scan is fast with an intuitive patient positioning system and graphical user-interface. Imaging protocols are optimised for practice workflows.



Intuitive operation, connected to the future.
All functions can be easily and intuitively controlled in a time-saving way via your laptop or PC in the local area network of your practice. Only the patient positioning is set at the device.



ORTHSelect™ for optimised workflow.
The desired imaging area can be selected intuitively with the ORTHSelect. Teeth can be selected individually or as a whole upper or lower jaw, or TMJ. Optimum Field of View is set automatically based on the selection.

ORTHOPANTOMOGRAPH™. Without lead.

For more than 50 years, the name of ORTHOPANTOMOGRAPH™ system stands for ultimate reliability and clinically correct maxillofacial imaging. Now, the OP 3D device is the first of the ORTHOPANTOMOGRAPH™ series that replaces the lead usually used in tubeheads with an environmentally friendly alternative that provides equivalent radiation attenuation. In combination with the powersave feature to reduce overall energy consumption of this system, the OP 3D contributes to the sustainability of your practice.

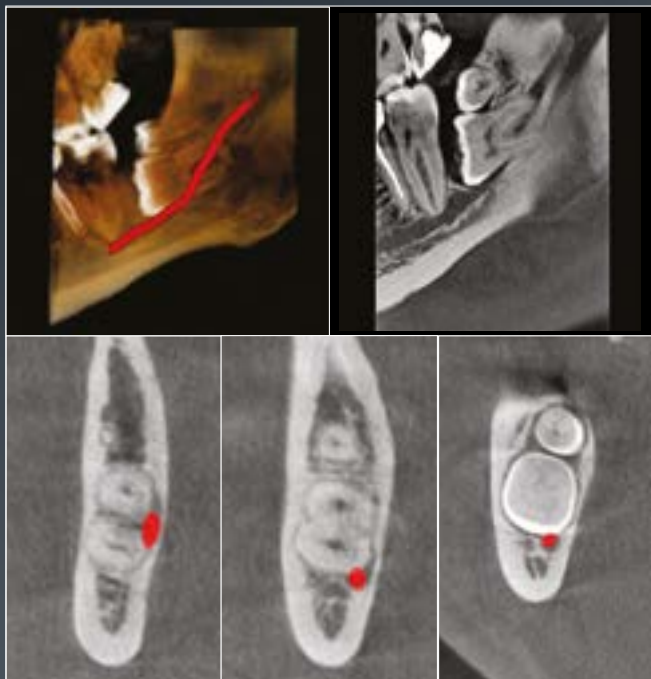
Four defined volume sizes plus the possibility to customise.

The FOVs of the OP 3D are based on true clinical need. FOV 5 x 5 with its endo-resolution is optimized for single-tooth and localised diagnostics. FOV 6 x 9 offers the capability to scan either the lower or upper jaw, whereas FOV 9 x 11 combines both. With the largest FOV 9 x 14, TMJ and airway studies can be conducted. In addition SMARTVIEW™ 2.0 enables choosing the most optimal FOV size for the indication as the FOV height and width can be freely adjusted from the scout image.

5 x ø 5 cm

Local diagnostics:

- Planning of individual implants
- Wisdom tooth extractions
- Impacted teeth
- With endo-resolution for highly precise illustration of channel and periodontal structures



6 x ø 9 cm

Covers the complete lower or upper jaw:

- Planning of multiple implants in one jaw
- Drilling templates



Variety of resolutions:

Low Dose

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

Standard

Standard resolution scan with optimised patient dose can be used for general diagnostics.

High Resolution

High resolution scan offers extremely sharp images for more detailed diagnosis.

Endo

Endo resolution scan with 80 µm voxel size specially designed for endodontic applications. Endo resolution is available for the 5 x 5 FOV.

9 x ø 11 cm

Covers the entire dentition, including both lower and upper jaw as well as a portion of the maxillary sinus:

- Planning of multiple implants in both jaws
- Drilling templates
- Sinus analysis in children



9 x ø 14 cm

Illustration of the whole craniofacial area:

- Illustration of the sinus maxillaris
- TMJ diagnostics
- Respiratory passages



Tools for professionals.

SMARTVIEW™ 2.0 for a new level of control and flexibility.

With OP 3D, the field-of-view location can be controlled easily and accurately. The capability to alter the FOV height or width can be smoothly accomplished with the SMARTVIEW™ 2.0 user-interface. SMARTVIEW™ 2.0 user-interface offers two-dimensional scout images prior to the actual CBCT examination enabling the verification of exact FOV location with the ability to adjust the location and size if needed.



Customized FOVs.

With OP 3D, the number of FOV sizes is highly flexible. SMARTVIEW™ 2.0 user-interface enables choosing the most optimal FOV size for the indication as the FOV height and width can be individually adjusted from the taken scout image.

QUICKcompose™ feature: fast image review.

QUICKcompose, available for panoramic and 3D modalities, offers a quick preview of the captured image, allowing for timely evaluation. The image appears on the user-interface automatically after scan is completed.



Clearer images with MAR technology.

To provide the most optimal image quality, the metal artefact reduction (MAR) algorithm is utilised to reduce the artefacts caused by the metallic structures in the X-ray volumes. MAR is readily activated with all the FOV sizes of the OP 3D and optimised to aid in all cases ranging from endodontics to implants, all the way to maxillofacial imaging.

Programs to fit your clinical needs.

Standard, paediatric and segmented panoramics, lateral TMJ and bitewing protocols are available to cover the panoramic imaging needs of a busy practice. The paediatric and bitewing programs are collimated in height for an additional dose reduction.



The standard panoramic program provides a clear definition of the dental anatomy, including TMJs –in only 9 seconds.

ORTHOfocus™ feature: automatically selected image layer.

With the ORTHOfocus feature, optimum panoramic image layer is automatically obtained enabling forgiving patient positioning. The result: consistent image quality every time.

9-second fast scan.

OP 3D fast scan procedure takes standard or paediatric panoramic image in only 9 seconds resulting in highly diagnostic images due to less movement artefacts as well as a lower dose to the patient.

Your software: already installed.
The future: DTX Studio™, fully integrated.

The software you need will be installed on your workstation during operational start-up — it is 2D or 3D X-ray software, drilling templates for implant planning and implant surgery, or another application.

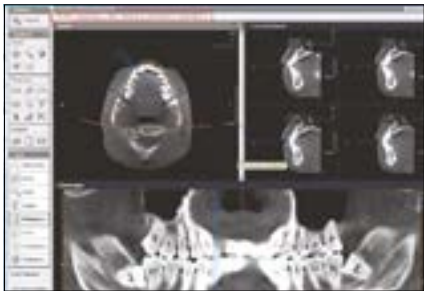
The future is already integrated into your OP 3D: With DTX Studio™, you have a new software platform designed as a complete workflow system. With every new enhancement, DTX Studio™ will in future cover all areas of modern dentistry and orthodontics. DTX Studio™ is compatible

with Mac and Windows operating systems. It will integrate both existing and future devices of multiple brands as well as current software provisions into one unified working process.

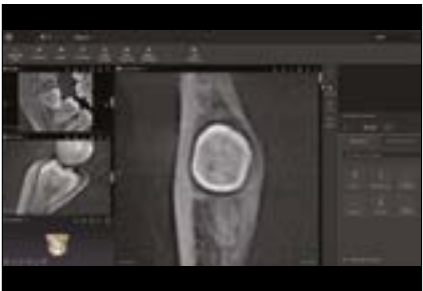
CLINIVIEW™.
2D X-ray software.



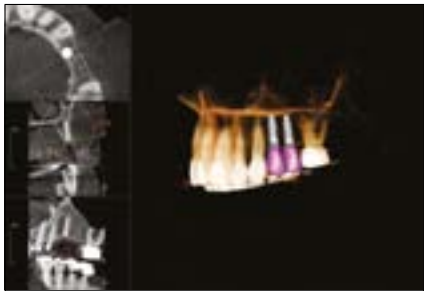
OnDemand3D™.
3D X-ray software.



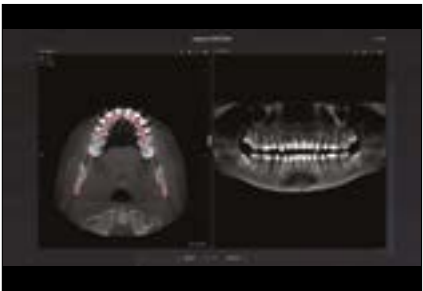
DTX Studio™.
Consistent workflow.



InVivo™.
3D X-ray software.



DTX Studio™.
Flexible integration.



Technical specifications.

Focal spot	0.5 mm IEC 336 (IEC 60336/2005)
Tube Voltage	60 – 95 kV
Tube current	2 – 16 mA

2D / Panoramic

Image receptor	CMOS
Pixel size (sensor&image)	99 µm
Scan/Exposure 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 µm – 400 µm
Scan Time	27 – 45 s
Exposure Time	1.7 – 20 seconds
Image Volume	5x5, 6x9, 9x11, 9x14 cm(optional)
Sizes (H x Ø)	
DICOM* support	yes

Minimum System Requirements
for 3D Acquisition Workstation

CPU (processor)	Intel Core i5, i7 or Xeon, 4-cores or more
GPU (Graphics Processing Unit)	NVIDIA Quadro M2000 4GB or GeForce GTX 1050 Ti 4GB
RAM (memory)	8 GB or more
Storage (hard disk)	1 TB or more, RAID 1 or RAID 5 recommended for data redundancy, plus backup
Network	Gigabit Ethernet, 1000Base-T
Operating System	Windows 10 Pro or Enterprise, 64-bit Windows 8.1 Pro or Enterprise, 64-bit Windows 7 Professional, Ultimate or Enterprise, 64-bit, with SP1
Display	1920 x 1080 resolution (Full HD) or higher, at least 300 cd/m² brightness for typical room lighting, native contrast ratio 100:1 or better, 8-bit panel strongly recommended
Other	OpenCL 1.1 support, OpenGL 3.2 support DVD-ROM drive Anti-virus software
Notes	Please refer to software and device installation manuals for detailed requirements

Easy wheelchair accessibility.

* DICOM is the registered trademark of the National Electrical Manufacturers Association for their standard publications on the digital exchange of medical data.

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

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

Dimensions.

