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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KAVO Dental Excellence

OP 3D Pro
The one for all your needs with Low Dose Technology™ and five volume sizes.



KAVO Dental Excellence

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The one for all your needs: KaVo ORTHOPANTOMOGRAPH™ OP 3D Pro.

The image quality of an ORTHOPANTOMOGRAPH™, combined with KaVo product excellence and maximum operating comfort: This is the KaVo OP 3D Pro. High-precision 2D images with multilayer pan function and V-Shape-Beam Technology. These features combined with four individual image resolutions in 3D, five volume sizes, Automatic Dose Control and the innovative Low Dose Technology make the OP 3D Pro the ultimate choice for every X-ray indication — whether it is used as a standard 2D device or as a 3D device; with or without a cephalometric option.

OP 3D Vision

OP 3D Pro

OP 3D

OP 2D

General dentists:
3-in-1 X-ray device for an excellent and reliable investment.

Endodontists:
One volume with special endo resolution and appropriate volume size for the finest structures.

Orthodontists:
The highest image quality for panoramic and cephalometric exposures. Excellent and adjustable 3D quality for retinated and impacted teeth.

Oral and maxillary surgery:
Tailored volume sizes for the entire maxillofacial region. Comprehensive analysis and planning functions in the X-ray software.

Implantologists:
5 different Field of Views with optimised image quality – from single implants to a complete set, including planning of surgical drilling templates.



Your benefits at a glance:

- Very low radiation doses with Low Dose Technology™
- Maximum flexibility with 5 volume sizes up to FOV 13x15 cm and 4 resolutions
- Ability to compensate for incorrect patient positioning and difficult anatomies with Multilayer feature providing five panoramic images with only one scan
- Automatically obtaining the most optimum panoramic image layer with ORTHOfocus™
- Simple, intuitive operation thanks to the new touch panel user interface
- Proven modular concept for maximum investment reliability

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Radiation reduction with Low Dose Technology™.

The innovative Low Dose Technology™ (LDT) of the KaVo OP 3D Pro enables optimised quality in 3D X-ray images with a lower dose of radiation. For dose sensitive cases in particular, such as follow-up exposures or exposures of children, radiation reduction for protecting your patients represents indispensable added value.



5:1



Panoramic | 5 x Ø 5 cm with LDT

80% less radiation dosage* for a 3D exposure (5 x Ø 5 cm, LDT) compared to a 2D panoramic

1:1

Panoramic | 8 x Ø 15 cm with LDT

Radiation dose for 3D panoramic 8 x Ø 15 cm as with 2D panoramic

* Study by Ludlow, John B., "Report of Dosimetry of ORTHOPANTOMOGRAPH™ OP300 Maxio," North Carolina Oral Health Institute, Chapel Hill, NC, USA, February, 2014ch

Automatic adjustment of the radiation dose in exposures.

ADC for 2D and 3D:
Proprietary ADC technology automatically optimises panoramic and 3D exposure levels for each patient and every acquisition, resulting in patient-specific dosage and enhanced workflow efficiency.

ASC:
Automatic Spine Compensation optimises the image quality through a dosage adjustment around the spine area.

AFC:
At cephalometric images the Automatic Facial Contour (AFC) decreases exposure factors in the facial soft tissue region to provide improved visibility of soft tissue tracing points in addition to a reduction in patient dose.

ORTHOfocus™:
For consistent panoranic image quality the ORTHOfocus™ feature obtains optimum image layer automatically – enabling forgiving patient positioning.

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Five Field of Views — multiple possibilities.

For all five volume sizes, you can choose from three image resolutions. For the 5 x Ø 5 cm (6 x Ø 4 cm*) volume, there is an endo resolution available. Each setting provides the perfect resolution in relation to the relevant indication. The five different volume sizes ensure reliable 3D diagnosis throughout the maxillofacial region.

5 x ø 5 cm (6 x ø 4 cm*)

Local diagnostics:
- Planning individual implants
- Wisdom tooth extractions
- Retinated teeth
- With endo resolution for high-precision imaging of the canal structures and of the periodontium





6 x ø 8 cm

Illustration of one dental arch:
- Planning multiple implants in one jaw
- Drilling templates



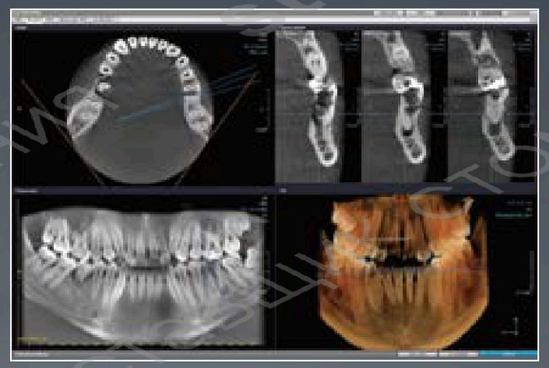


* In the small panel (SFOV) version of the OP 3D Pro, only the two volume sizes 6 x Ø 4 cm and 6 x Ø 8 cm are available.

8 x ø 8 cm

Illustration of both dental arches and parts of the maxillary sinuses:
- Planning multiple implants in both jaws
- Drilling templates
- Sinus analysis in children





8 x ø 15 cm

Illustration of the upper and lower jaw region:
- Illustration of the sinusitis maxillaris
- TMJ diagnosis
- Upper spinal column and respiratory tracts
- "The 3D panoramic"





13 x ø 15 cm*

Illustration of the entire maxillofacial region:
- Maxillary surgery
- Orthodontics
- TMJ diagnosis
- Trauma diagnosis
- ENT diagnosis



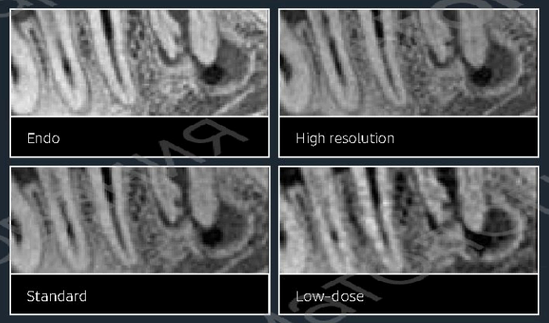


* optional function

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Integrated programs for optimised image quality.

Four resolutions.



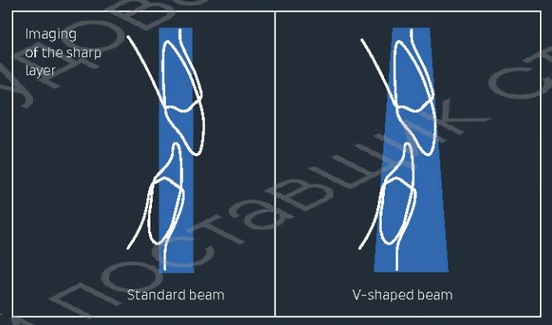
Individually selectable resolutions from low dose to standard to high resolution. In the 5 x Ø 5 cm (6 x 4 cm*) volume, there is also an endo resolution for high-precision imaging of canal structures and the periodontium.

Clearer images with MAR technology.



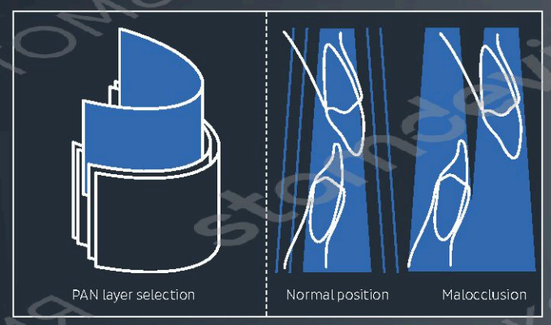
The user-selectable metal artefact reduction (MAR) reduces the influence of scattered radiation, which emerge on high-density structures in X-ray volumes. This optimises the imaging of teeth with filled root canals in particular.

Homogeneous images with V-Shape-Beam Technology.



A V-shaped beam better considers the different absorption of the human anatomy than a standard beam, thus ensuring a homogeneous image presentation. As a result, the structures of the upper jaw are better penetrated and the sharply presented layer in the lower jaw is significantly broader.

Because 5 is better than 1: Multilayer pan function.



The multilayer pan function supplies five layers with one exposure with the same scan time and dosage as a single panoramic exposure. The focus area enlarged through the five layers reduces the risk of retakes; e.g. in cases with malocclusion.

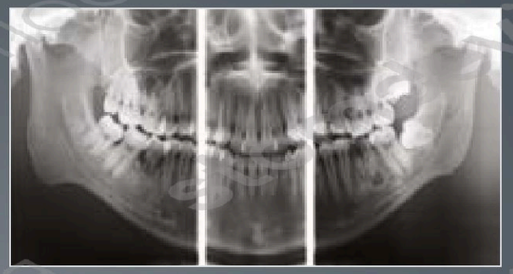
* In the small panel (SFOV) version of the OP 3D Pro, only the two volume sizes 6 x Ø 4 cm and 6 x Ø 8 cm are available.

Selected programs for exceptional diagnosis.

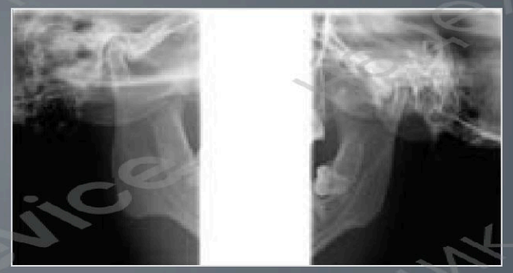
The standard panoramic program provides clear definition of the dental anatomy including TMJs. For children there is a height and width collimation program for dosage reduction.



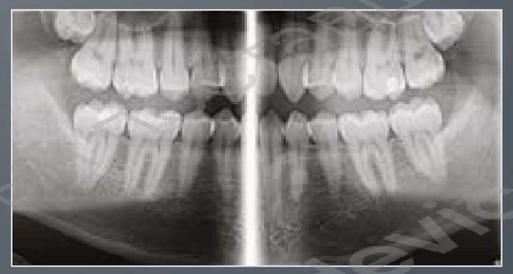
The Ortho Zone program provides a special geometry with a broad anterior layer for patients with extreme occlusive abnormalities.



Programs for lateral and frontal temporomandibular joint (TMJ) exposures with open or closed mouths.



Special program for bite wing-like imaging with specific segmentation and collimation.



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From easy to simply self-explanatory. The new 10.4 inch touch panel.

The operation of the KaVo OP 3D Pro is designed so that all workflows are performed intuitively and in a matter of seconds. The clear structure and easy-to-understand symbols make the settings self-explanatory. Whether it is used for 2D or 3D exposures, the 10.4-inch touch panel enables simple and clear operation, affording operational reliability and impressive savings in terms of time.



The 10.4-inch touch panel, with its elegant, clear user interface, supports easy and reliable use.

With SMARTVIEW™, you can see before what will be recorded later in 3D.

With SMARTVIEW™ functionality FOV positioning accuracy can be verified or adjusted if needed before CBCT examination. Furthermore, the FOV can be positioned freely to the region of interest, both in horizontal and vertical directions – with ease and confidence.



Perfect, free positioning of the volume on the region of interest is performed directly through the touch panel.



SMARTVIEW™ generates two 2D preview images of the region under analysis.

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5-point patient positioining for less movement artefacts.

Position exactly and restfully maintain this position: Correct positioning is confirmed by automatically-operated positioning laser lights. A rigid 5-point positioning system reduces patient movement. The open product design allows easy viewing and positioning of the patient.



The secure 5-point positioning system with chin rest, bite block and headrest, with a forehead and two temple points, reduces patient movement. Furthermore, the open product design offers you a first-class overview and enables you to freely position the patient from either the left or right side.

3-in-1 for maximum flexibility.

The OP 3D Pro is perfectly future-proof owing to its flexible configuration options. Purely as a 2D panoramic device, it is ideally suited to general dentistry. In addition, it can be expanded with small/medium-sized volumes (6 x Ø 4 and 6 x Ø 8 cm) or medium/large volumes (5 x Ø 5 to 8 x Ø 15 or even 13 x Ø 15 cm). In addition, the cephalometric option can be positioned on either side for optimum use of space and enhanced user-experience.

Cephalometric option for all your clinical needs.

The cephalometric option*, which can be attached on the right or left hand side of the KaVo OP 3D Pro offers you numerous, varying projections: cranial-lateral, AP / PA, cranial-eccentric and Carpus**. The freely collimatable exposure area reduces the radiation field to the diagnostic requirement of each individual case.



Lateral cephalometric exposures can be generated at two different heights and with free width collimation between 17 and 26 cm.



Posterior/anterior cephalometric image. The device's earpieces contain markings to ensure central positioning.



* optional function with one or two sensors
** optional function

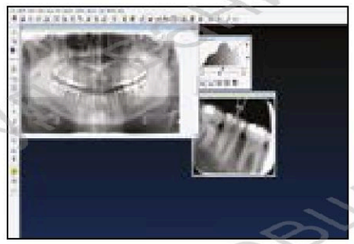
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Your software: already installed.
The future: DTX Studio™, fully integrated.

The software you need will be installed during the operational start-up of your OP 3D Pro – whether it is 2D or 3D X-ray software, drilling templates for implant planning and implant surgery, or another application. The new, unifying software platform DTX Studio™* will integrate the existing software solutions.

Your KaVo OP 3D Pro is ready for the future: With DTX Studio™, a new software platform is available to you, designed as an end-to-end workflow system. With a constant stream of new enhancements, DTX Studio™ will cover all fields of modern dentistry and dental technology in the future. 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.

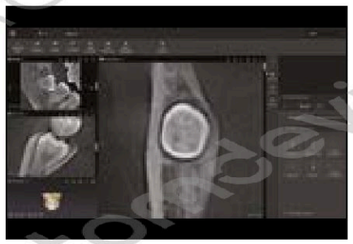
CLINIVIEW™.
2D X-ray software.



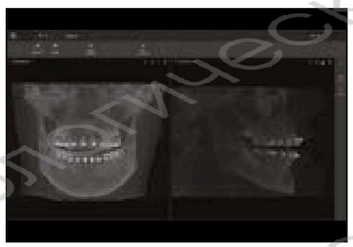
OnDemand3D™.
3D X-ray software.



DTX Studio™.
Uniform workflow.



DTX Studio™.
Flexible integration.



* Installations possible as soon as DTX Studio™ is available in your region.

Technical specifications.

Focal Spot	0.5 mm, IEC 336
Tube Voltage	57–90 kV
Tube Current	3.2–16 mA
HU Capacity	35 kJ, 49 000 HU
Minimum Total Filtration	3.2 mm Al
Wheelchair accessible	Yes

2D	Panoramic	Cephalometric
Image Detector	CMOS	CMOS
Sensor Pixel Size	100 µm	100 µm
Image Pixel Size	100 µm	100 µm
Scan/Exposure Time	8.6–16.1 s	10–20 s
Image Field Height	148 mm	170 mm–260 mm
Imaging Programs	Standard, Paediatric, Ortho Zone, Orthological, Wide Arch, Lat TMJ, PA TMJ, Maxillary Sinus, Bitewing	
Weight	200 kg/440 lbs	250 kg/551 lbs

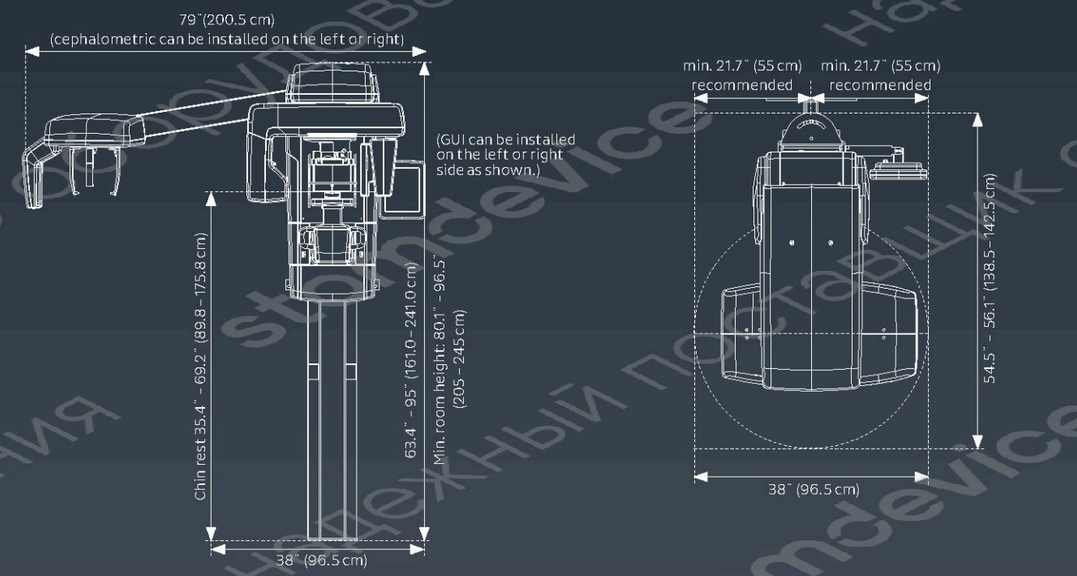
3D	OP 3D Pro small panel	OP 3D Pro
Image Detector	CMOS	CMOS
Image Voxel Size	85 µm–330 µm	85 µm–420 µm
Scan Time	11–21 s	11–42 s
Exposure Time	1.2–12.6 s	1.2–8.7 s
Image Volume Sizes (HxW)	61x41, 61x78 mm	50x50, 61x78, 78x78, 78x150, 130x150 mm
DICOM* Support	Yes	Yes

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

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 1000 Mb/s
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 DVD-ROM drive Anti-virus software

Dimensions.



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