KaVo Imaging

DENTAL
EXCELLENCE

KaVo
Dental Excellence

KaVo Imaging –
The next generation
of dental excellence.

CONTENTS

KaVo Dental Excellence
Brand Promise

What we stand for as a brand

KaVo is a long-established, dependable manufacturer, and always will be. We and our products have stood for the highest quality and reliability for over 100 years, so our customers can concentrate on what's important.

KaVo is a long-established, dependable manufacturer, and always will be. We and our products have stood for the highest quality and reliability for over 100 years, so our customers can concentrate on what's important. Thanks to our perfect interplay of dynamism and expertise, we're always at the cutting edge.

Dental units   **Instruments**   **Imaging**   **Dental training**

Portfolio Statements

KaVo dental units – Invest in your own health.

Dental units

KaVo dental units are your dependable practice partner.

KaVo dental units are unrivalled when it comes to promoting a natural posture with exceptional freedom of movement and short reach distances. They provide the ideal ergonomic solution for every conceivable treatment situation.

We aim to combine the highest standards of hygiene with an aesthetic design to create a feel-good atmosphere for users and patients alike. This perfectly harmonised package for the dental workplace includes a long service life and absolute reliability – Made in Germany.

KaVo instruments – Feel the difference.

Instruments

Our instruments are based on the finest materials, developed exclusively for our products.

These are paired with our unique product architecture – fabricated from solid workpieces – for extraordinary precision and durability.

We set the standard for the dental instruments of today. This wealth of experience, borne of over a century of constant innovation, is reflected in the design and functionality of our current instruments. The result is optimum user performance through precise, fatigue-free working.

KaVo Imaging – See more, plan better

Imaging

The combination of 35+ years of experience in the development of imaging systems, and the innovative strength of an owner-managed family business form the basis for our KaVo ProXam X-ray portfolio in both the intra- and extraoral areas.

Perfectly tailored to the patient, we ensure the lowest possible radiation exposure with maximum clinical benefit and support fast, comfortable positioning with optimum accessibility. This most robust foundation, combined with high-tech components, brilliant image quality, a world-leading software platform with open interfaces and a broad sales and service network, all add up to a secure investment in your future.

Dental training – Excellent learning

Dental training

Our wealth of experience from over 100 years of innovation in the field of instruments and dental units and over 35 years in the of imaging systems form the basis for the highest quality training products.

With a flexible, customisable and functional portfolio, which we are continuously developing, we create the most accurate clinical training scenarios for dental students.

KaVo provides support with the conception, room design, configuration and realisation to perfect your ideas.
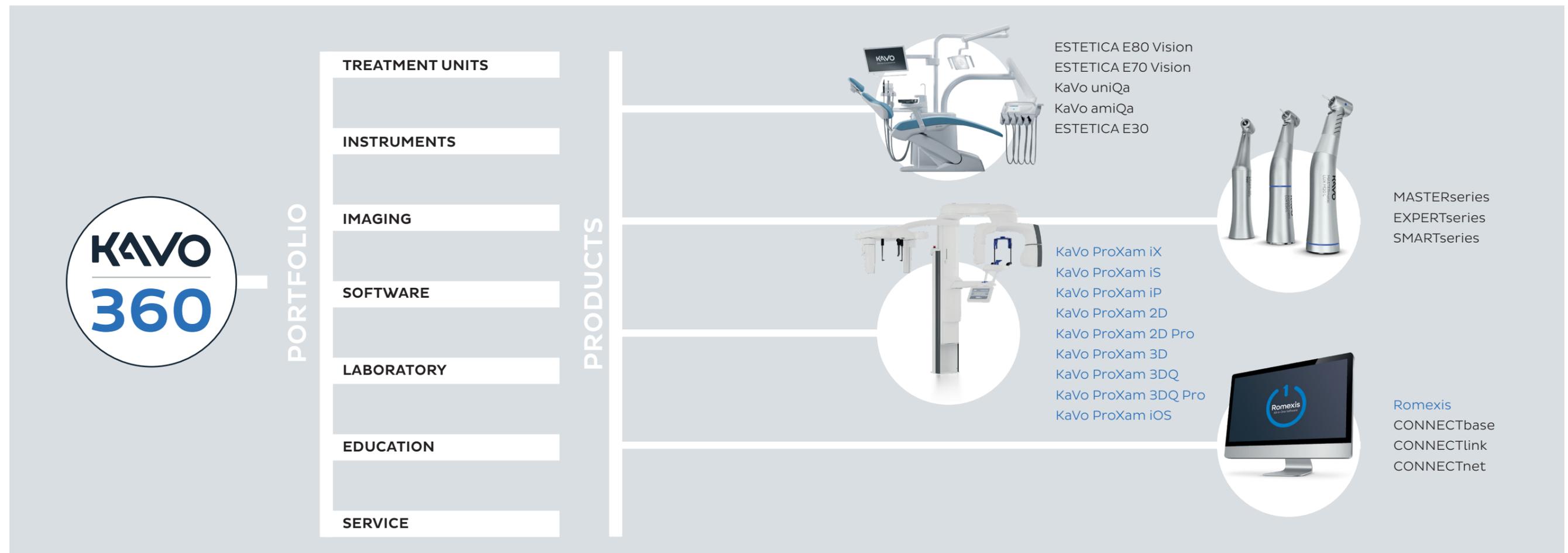
ONE PORTFOLIO –
MANY POSSIBILITIES

KaVo 360° – Proficiency and excellence for modern dentistry.

As a pioneer in the dental industry, KaVo has been setting the pace in dentistry for over 110 years. Today, KaVo's preclinical portfolio and its products, including dental instruments, treatment units and laboratory equipment, offer comprehensive proof of excellence for practices and clinics all over the world. KaVo products set the standards in the dental market, promoting innovation, quality, ergonomics and design.

KaVo is well on its way to becoming a complete solution provider and is now supplementing its existing product range with high-quality imaging solutions – the new KaVo ProXam series. This includes premium extraoral imaging, intraoral X-ray and scanning products. The central and all-networked, all-in-one Romexis software completes the KaVo imaging portfolio. In combination with Romexis, the ProXam products offer a particularly compelling solution for dental practices and clinics looking to prepare for a digitised future while prioritising quality, reliability and premium service. Opting for the KaVo ProXam diagnostics concept offers customers a secure digital future and premium quality.

KAVO 360

PORTFOLIO

- TREATMENT UNITS
- INSTRUMENTS
- IMAGING
- SOFTWARE
- LABORATORY
- EDUCATION
- SERVICE

PRODUCTS

ESTETICA E80 Vision
ESTETICA E70 Vision
KaVo uniQa
KaVo amiQa
ESTETICA E30

MASTERseries
EXPERTseries
SMARTseries

KaVo ProXam iX
KaVo ProXam iS
KaVo ProXam iP
KaVo ProXam 2D
KaVo ProXam 2D Pro
KaVo ProXam 3D
KaVo ProXam 3DQ
KaVo ProXam 3DQ Pro
KaVo ProXam iOS

Romexis
CONNECTbase
CONNECTlink
CONNECTnet

STRONGER TOGETHER

Two partners, one common goal:
The future of dental imaging is now.

KaVo ProXam – the name says it all.
KaVo ProXam also stands for a common approach and the streamlining of skills from two successful dental companies. The new name combines the well-known "Pro" from the Planmeca imaging products with the tradition of KaVo Imaging "Xam" naming. In this way, the new name honours both the quality and intelligence of the Planmeca units and KaVo's successful history of imaging diagnostics. The capitalised "X" in the middle of the name stands for X-ray technology. These KaVo naming elements will continue to appear in the field of imaging diagnostics at KaVo in the future.
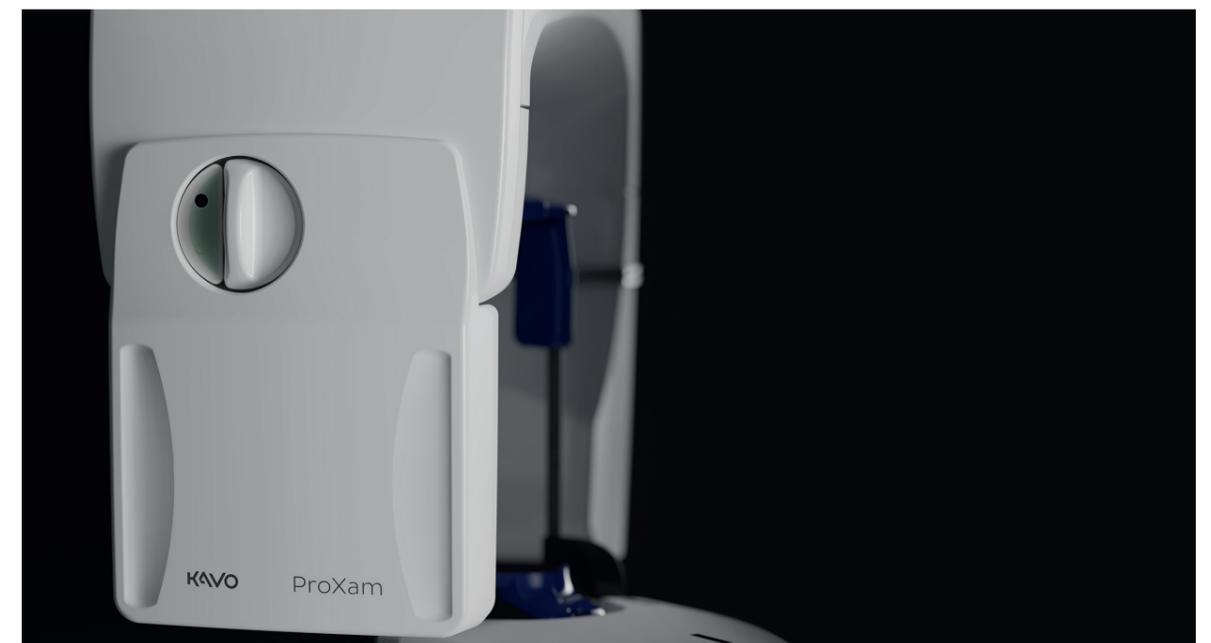
KaVo
Dental Excellence

PLANMECA

4,500 employees
= **one** family

KaVo and Planmeca, two leading companies on the international dental market, are combining their expertise in the field of dental imaging. This pooled knowledge, years of experience and a passion for modern dentistry have resulted in a KaVo imaging portfolio that sets imaging diagnostic standards. Both existing and new technologies, reliable high-quality imaging and new connectivity options are KaVo and Planmeca's common goals. Accordingly, the new KaVo ProXam series calls on Planmeca's know-how to complement the KaVo product range. As part of the KaVo Planmeca product family, the Romexis all-in-one software is of course compatible with the relevant imaging units and ensures that all components can be networked intelligently and easily. This is the future of digital diagnostics.

JAN MOED INTERVIEW

KaVo and Planmeca are joining forces to offer new workflows in dental imaging.

Following the merger of the two industry giants KaVo and Planmeca, we are already seeing the first major expansion of the KaVo imaging portfolio. With its new KaVo ProXam imaging product series, the company based in Biberach, Germany, is wowing dental practices with its wealth of expertise, future-proof workflows and impressive features.

Jan Moed, *CCO of KaVo new with global responsibility for marketing and sales.*

Mr Moed, in March 2023 you introduced the ProXam range from KaVo. How was the new KaVo Imaging product range received by the target group? Could you give us a sense of the feedback from users?

Our ProXam Imaging series has been designed to provide the best solution to the daily challenges of dental diagnostics and to offer a range of options for a digital future. Our product portfolio directly addresses what dentists need in their practices today and in the future. This is reflected in the response to our products. Since its launch at the beginning of last year, our ProXam Imaging portfolio has met with great interest from our selected specialist dealers and our valued customers. When providing feedback, our customers regularly mention the intuitive operation of our products and the all-in-one Romexis software. They also enthuse speak very positively about the high image quality and open interfaces. Customers describe our entire product portfolio, the support provided by our specialist dealers and our service team, and the training and the hotline support from our Biberach site as highly professional. We are committed to offering our customers superb service on an ongoing basis, together with our excellent products.

Can you outline for customers again what the ProXam portfolio consists of and what new things they can expect?

The Imaging portfolio is a premium product range for extraoral and intraoral imaging and intraoral scanning. As well as the imaging units themselves, we also offer our all-in-one Romexis software, which allows you to interconnect different units. Previously, KaVo's extraoral range consisted of three X-ray machines designed for the most exacting requirements. The KaVo ProXam 2D S2 (previously the KaVo ProXam 2D) was developed especially for 2D imaging requirements and includes programs for panoramic, extraoral bitewing, temporomandibular joint (TMG) and sinus imaging. The KaVo ProXam 3D Classic (previously the KaVo ProXam 3D) and KaVo ProXam 3DQ Mid (previously the KaVo ProXam 3DQ) offer various intelligent 3D imaging programs. The new KaVo ProXam 2D S3 has also joined the product portfolio. Unlike the KaVo ProXam 2D S2, this features robot-controlled SCARA technology. The triple-jointed arm enables highly precise movements for anatomically correct image geometry. For 3D requirements, we're rolling out the ProXam 3DQ Plus, which stands out from the rest primarily due to its maximum 3D volume size. All units can be expanded to include cephalometric X-rays, guaranteeing greater flexibility and future security. Existing highlights of these 3D units include the Ultra Low Dose and Calm modes. The effective radiation dose per patient can be reduced by an average of 77% in Ultra Low Dose mode – without any loss of image quality. CALM mode, meanwhile, eliminates the effects of patient movement. This is particularly useful when taking X-ray images of restless or lively patients such as children, people with special needs or elderly patients. However, the algorithm also benefits images across the board, as it improves quality. Ultra Low Dose mode and CALM can be used for all voxel sizes and all 3D images. The primary component of the intraoral KaVo ProXam portfolio is the KaVo ProXam iX X-ray tube, which can be positioned easily and precisely and ensures high-quality image results thanks to its focal point of just 0.4 mm. High image quality is also ensured by the KaVo ProXam iS intraoral X-ray sensors, which offer impressive handling when combined with the KaVo ProXam iX. The intraoral product range is completed by the KaVo ProXam iP, a compact, powerful imaging plate scanner, and the KaVo ProXam iOS, an intraoral scanner with a remarkable scanning speed and user-friendly features.

Experience has shown that people need X-ray software explaining to them. Are there prejudices or reservations that you repeatedly encounter in your day-to-day business?

Using our all-in-one Romexis software, which allows you to interconnect multiple units, represents a major step forward for any dental practice. The software can be adapted to the individual needs of dental practices and is highly intuitive to operate. Of course, some practices are still hesitant about switching require a little more persuading to switch from another brand to KaVo. As soon as dentists do decide to switch, we offer them dependable support from our selected dealers and qualified digital solutions specialists, who assist them as they advance into the future. This includes explaining our digital solutions.

The ProXam iCam has been part of KaVo's intraoral camera range since January of this year. Could you tell us more about the new product and how it interacts with others within the range?

The new KaVo ProXam iCam is a digital imaging diagnostic tool that can be connected directly to Romexis. It offers a high depth of field and superb user-friendliness is extremely user-friendly. The ProXam iCam is easy to operate with a button or foot control, and comes with a practical macro mode for close-ups. Its sharp intraoral images facilitate diagnostics, aid image documentation and

make patient communication that much easier. The ProXam iCam can be connected directly to the KaVo CONNECTbase and CONEXIO patient communication systems via interfaces, so diagnoses and treatment results can be discussed with the patient with direct reference to the image. The KaVo ProXam iCam enhances our range of intraoral cameras. Our DIAGNOcam Vision Full HD is also available with the Romexis software. The DIAGNOcam Vision Full HD* enables triple diagnostics using high-resolution intraoral images for initial visual diagnosis, in-depth insights into the tooth structure with transillumination technology, and informative fluorescence images. All three diagnostic images appear on your screen within one second, in full HD resolution.

Where does modern imaging stand today, and do you see any untapped potential for the future?

We follow the latest developments in digital technologies with great interest. Digital solutions are constantly being expanded, and we believe that the diagnostics of the future will soon be inconceivable without artificial intelligence. Actually, I have some exciting news on that very matter: The Romexis All-in-One software now comes with new modules, so our customers can now start using it with smart AI functions.

* For more information on the iCam and DIAGNOcam, see the bookazines on our instruments and dental units.
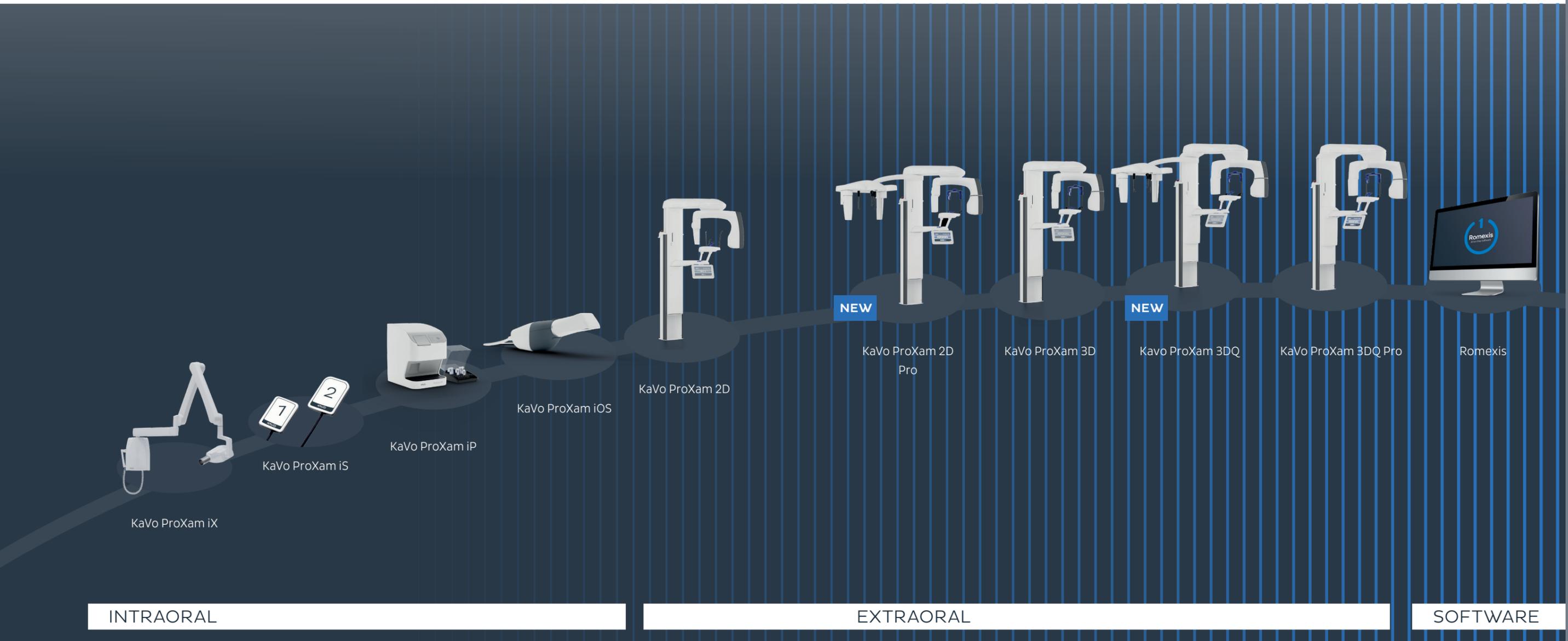
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KaVo ProXam
One portfolio – many possibilities.

Choosing the KaVo ProXam concept means premium quality with proven, reliable technologies, whether in intraoral and extraoral imaging or in the field of intraoral scanning.

The KaVo ProXam all-in-one concept: **Highlights**

- Imaging units combined into one comprehensive software platform.
- A future-proof concept – a solution with excellent upgradeability.
- Reliability through proven technologies.

NEW

NEW

KaVo ProXam 2D Pro

KaVo ProXam 3D

Kavo ProXam 3DQ

KaVo ProXam 3DQ Pro

Romexis

KaVo ProXam 2D

KaVo ProXam iOS

KaVo ProXam iP

KaVo ProXam iS

KaVo ProXam iX

INTRAORAL

EXTRAORAL

SOFTWARE

INTRAORAL

KaVo ProXam iX
Premium class intraoral X-ray.

The KaVo ProXam iX intraoral X-ray unit is a compelling way to achieve easy, precise positioning, a simplified imaging workflow and excellent, high-resolution 2D image results.

KaVo ProXam iX
Impressive quality across a wide range of diagnostic applications.

The small focal point (only 0.4 mm) of the ProXam iX offers the best conditions for incredibly sharp images and its variable exposure parameters ensure optimal contrast and suitable greyscale settings at all times. The extra-long cone creates an accurate image geometry and guarantees a distortion-free display of the image results.

Simple and user-friendly with versatile installation options.
Wherever the KaVo ProXam iX is used – the unit can be attached either directly to the treatment unit or to the wall.
With six different arm lengths and seven different tubes and collimators, the ProXam iX offers a variety of individual setting options and a wide range of uses.

Pre-programmed adult and child modes are available for the numerous areas of application:
· Periapical application
· Occlusal application
· Bitewing or endodontic images

Alternatively, all important exposure value parameters can be set separately:
· 60 – 70 kV
· 2 – 8 mA
· 0.01 – 2 seconds exposure time

Full digital integration with Romexis.
Full integration into the Romexis software platform is possible. In combination with the ProXam iS sensors or the KaVo ProXam iP imaging plate scanner and the optionally available connector box, the exposure parameters can be automatically transferred to Romexis and stored in the respective patient file. This eliminates the need to enter the data manually at a later time.

As much as necessary, as little as possible – the optimal dose of radiation.
The KaVo ProXam iX works according to the ALADA principle, abbreviated to "as low as diagnostically acceptable". ALADA means that the emitted dose of radiation per X-ray is only as high as absolutely necessary to generate a diagnostically good image.

The required exposure values are automatically retrieved based on the unit's selected setting and the lowest possible radiation dose for the image is selected.

A rectangular cone can also be used to further reduce the radiation dose, which focuses the radiation on a smaller image area.

Find out more:
www.kavo.com/en/ix

KaVo ProXam iS
A simplified workflow for
compelling image quality.

The digital, intraoral KaVo ProXam iS X-ray sensors have a lot to offer: in addition to reliable, high-quality image results, they score points with their small size and patient-friendly design. And in combination with the KaVo ProXam iX, the simple application makes them even easier to use.

KaVo ProXam iS
Impressive image quality.

Thanks to their large dynamic range, the KaVo ProXam iS sensors consistently deliver high-quality images, regardless of whether the radiation dose is high or low. The recordings are in HD quality and, thanks to the small pixel size of 15 µm and the high resolution of over 20 lp/mm, they offer the optimal combination of noise level and contrast for a detailed diagnosis.

Solid, reliable and durable.
The KaVo ProXam iS sensors are particularly robust, have high-quality workmanship and are also covered with a protective glass fibre layer.
The sensor cable is reinforced and therefore ideally suited to continuous daily use.

Perfect results through careful construction of each individual layer:

White housing – easier positioning due to better visibility

Carbon fibre plate – protection from bites and other external impacts

Shock-absorbing layer – drop and impact protection

Scintillator – guarantees sharp images

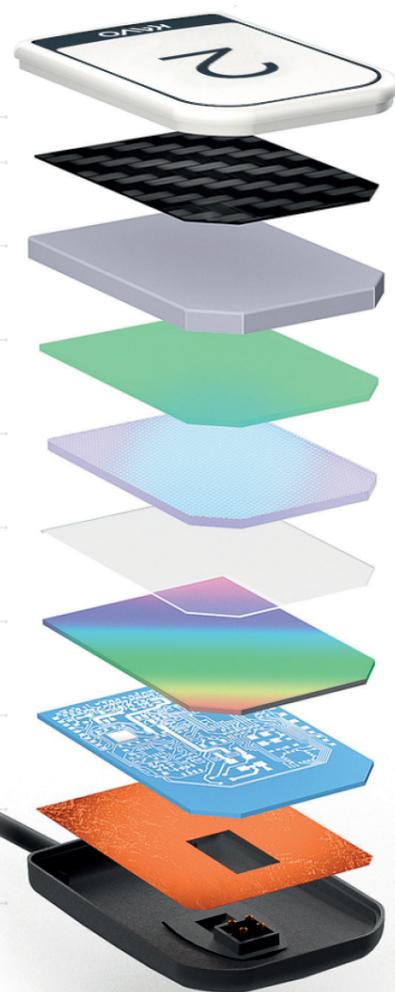Fibre optic board – high signal-to-noise ratio and high modulation transfer function

Optical coupling – vivid images over the entire image area through perfect optimisation and control

CMOS image sensor – HD camera
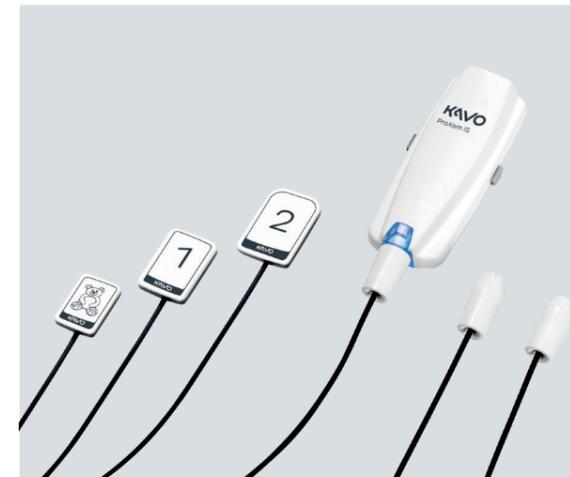
LTCC electronics – robust sensor

Protection against backscatter – reliable patient protection and sharper images

Cable – premium durability with Kevlar coating and only two cores

Find out more:
www.kavo.com/en/is

Well thought-out, from A to Z.

The total KaVo package.
Each KaVo ProXam iX X-ray unit is factory-prepared for easy integration and use of the KaVo ProXam iS X-ray sensors. As a result, optional retrofitting is extremely easy and is possible without the need for time-consuming cable laying on the unit. Thanks to the magnetic interface, the sensor can be attached with one hand. In this way, the sensor size can be changed quickly and easily, or the sensors can be easily transported from room to room.

Hygiene safety.
Suitable hygienic protective covers are available for the KaVo ProXam iS sensors, for easy, safe hygiene.

These sensors are a symbol of greatness.
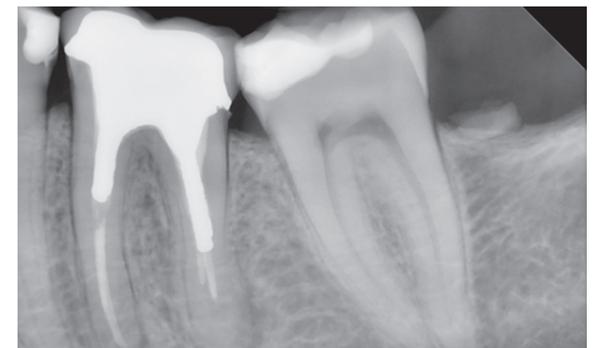The KaVo ProXam iS sensors are available in three different sizes:

· Size 0 – for use with children, for example, for single tooth or bitewing exposures.
· Size 1 – ideal for exposures in the anterior region.
· Size 2 – suitable for bitewing shots, for example.

The optionally available right-angle holders support the safe and easy positioning of the sensors in the oral cavity. They are also available in three different sizes: 0, 1 and 2 to match the sensors.

Full flexibility for many options.
There are two different installation options for the ProXam iS sensors. The sensors are either integrated directly into the KaVo ProXam iX X-ray unit, or connected to the X-ray units (including third-party supplier units) with the separate interface box via USB or Ethernet cable.

Technical specifications
The KaVo ProXam iX intraoral X-ray unit

Product description

The KaVo ProXam iX is a microprocessor-controlled intraoral X-ray unit with a high-frequency X-ray generator. The product has 66 pre-programmable exposure parameters for quick and easy operation. The small focal point of only 0.4 mm ensures sharp images with minimal distortion.

Adjustable exposure parameters	
Tension	60–70 kV
Contrast and density of objects	2–8 mA
Exposure time	0.01–2.0 seconds, 24 levels

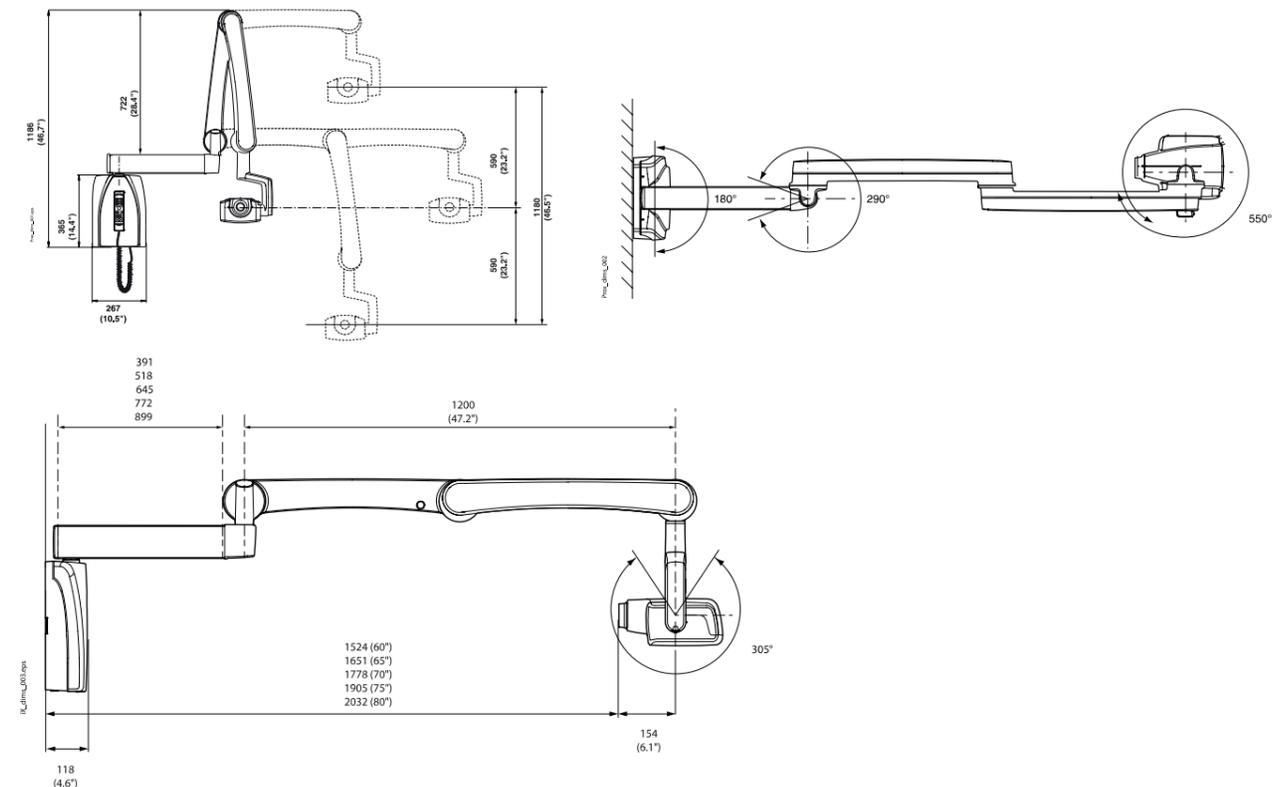| Technical specifications	
Generator	DC voltage, microprocessor controlled, operating frequency 66 kHz
X-ray tube	Toshiba D-041SB
Focus	0.4 mm according to IEC 60336
Tube diameter	60 mm round 36 x 45 mm rectangular
Filtration	at least 2.5 mm Al
Anode voltage	60, 63, 66, 70 kV; ±1 kV Adjustable working area
Rise time	8 ms at 70 kV
Anode current	2–8 mA DC, 1 mA steps
Exposure times	0.01–2.0 seconds, 24 levels
Focus-Skin Distance (Standard/Long)	Round (200 mm/300 mm) Rectangular (300 mm/ 345 mm)
Mains voltage	100/110–115/220–240 ±10%, 50/60 Hz
Merging	15 AT/ 8 AT
Work cycle	1:30, automatic control
Weight	33 kg total X-ray emitter: 4.2 kg with standard tube 4.5 kg with long tube
Range	152 cm, 165 cm, 178 cm, 191 cm, 203 cm

Key benefits

- Easy and accurate positioning, stable arm, very light weight and compact size
- Very long range (224 cm)
- Hygienic surfaces
- Hand-held remote control or fixed panel, remotely installable
- Small focal spot, automatic compensation for mains voltage fluctuation
- Adjustable anode voltage (60, 63, 66 and 70 kV)
- Adjustable anode current 2, 3, 4, 5, 6, 7, 8 mA
- 24 visually detectable density levels of the exposure times
- 11 levels of density for different films
- Pre-programmable exposure parameters
- Optimised image quality for all techniques, outstanding definition and sharpness
- Automatic transfer of exposure parameters to Romexis (in combination with KaVo ProXam iS or KaVo ProXam iP and Connector Box)

- Short and long tube (200 and 300 mm), density compensation for different tubes
- Rectangular tube for better radiation hygiene
- Automatic switch-on control
- Self-diagnostic system and help codes

Assembly:
- Wall mounting (default)
- KaVo treatment unit integration
- 5 selectable extension arms

- Tube head design: near the patient's chest during occlusal imaging
- Each KaVo ProXam iX X-ray unit is prepared for use of the KaVo ProXam iS sensors. The sensors can be attached directly to the X-ray source.
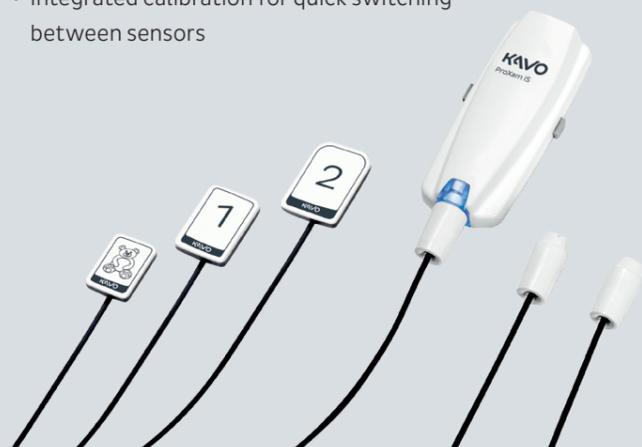
Dimensions

Technical specifications
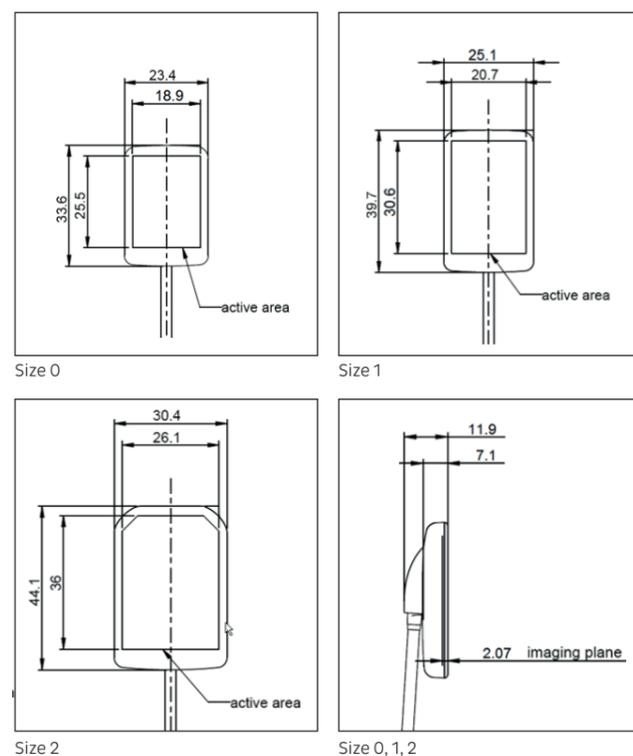## KaVo ProXam iS intraoral sensors

Key benefits

- Advanced image sensor for sharp images with high contrast and low noise
- Theoretical resolution 33 lp/mm, true resolution > 20 lp/mm
- Large dynamic range
- Three sensor sizes with rounded edges
- White housing for easy positioning
- Magnetic connector for easy operation
- Colour-coded LED light on the interface box for instant feedback
- Hermetically sealed housing for the best protection against infection

- Compatible with Windows and macOS
- Plug-and-Play USB solution
- Integrated calibration for quick switching between sensors

Technical specifications

Sensor	
Sensor type	CMOS with scintillator
Pixel size	15 μm x 15 μm
Image format	16 bits
Resolution (Normal)	17 lp/mm
Resolution (High)	> 20 lp/mm
Theoretical resolution	33 lp/mm
Cable length	1 m or 2 m
Expected Lifetime	10 years/100,000 cycles

Size 0	
Dimensions	33.6 x 23.4 x 7.1 mm
Active area	25.5 x 18.9 mm
Pixel matrix	1700 x 1258
Pixel count	2.14 M
Image size	850 x 629 (0.5 MP)/ 1700 x 1258 (2.13 M)

Size 0 Size 1

Size 2 Size 0, 1, 2

Sensor	
Size 1	
Dimensions	39.7 x 25.1 x 7.1 mm
Active area	30.6 x 20.7 mm
Pixel matrix	2040 x 1380
Pixel count	2.82 M
Image size	1020 x 690 (0.7 M)/ 2040 x 1380 (2.82 M)
Size 2	
Dimensions	44.1 x 30.4 x 7.1 mm
Active area	36 x 26.1 mm
Pixel matrix	2400 x 1740
Pixel count	4.18 M
Image size	1200 x 870 (1.0 M)/ 2400 x 1740 (4.18 M)

Interface box		
Ethernet		
Dimensions	112 x 46 x 24 mm	
Power consumption	48 V DC 65 mA	
Interface box to PoE	RJ45 10 m or 15 m	
PoE to LAN	RJ45 10 m or 15 m	
PoE (Power over Ethernet)		
Phihong single port injector		
Type	PSA16U-480 (POE)	POE15M-1AF/ POE15M-1AFE-R
Input voltage	100-240 V AC (50-60 Hz)	100-240 V AC (50-60 Hz)
Output voltage	48 V DC	56 V DC
Maximum output current	0.32 A	0.275 A
Insulation voltage primary-secondary	3000 V AC	3000 V AC
USB		
Dimensions	112 x 46 x 24 mm	
Cable	Permanently installed USB 2.0 power cable 2 m	
Power consumption	2.5 W	