

# Shaped for comfort

## EzSensor Soft™



## Are intra oral sensors are basically the same for every clinic?

Until now, we have been thinking that the intra oral sensor is just a very basic dental tool that allows us to observe patients' lesion more closely.

However, as the number of and competition amongst dentists continues to grow, we suddenly thought about "returning to the basics".

"We have to go back to the importance of the basics. Intra oral sensors are small and basic but important for diagnosis. We have to pay more attention to the quality of the basic in order to survive this competition."



# Are you really satisfied with your sensor?

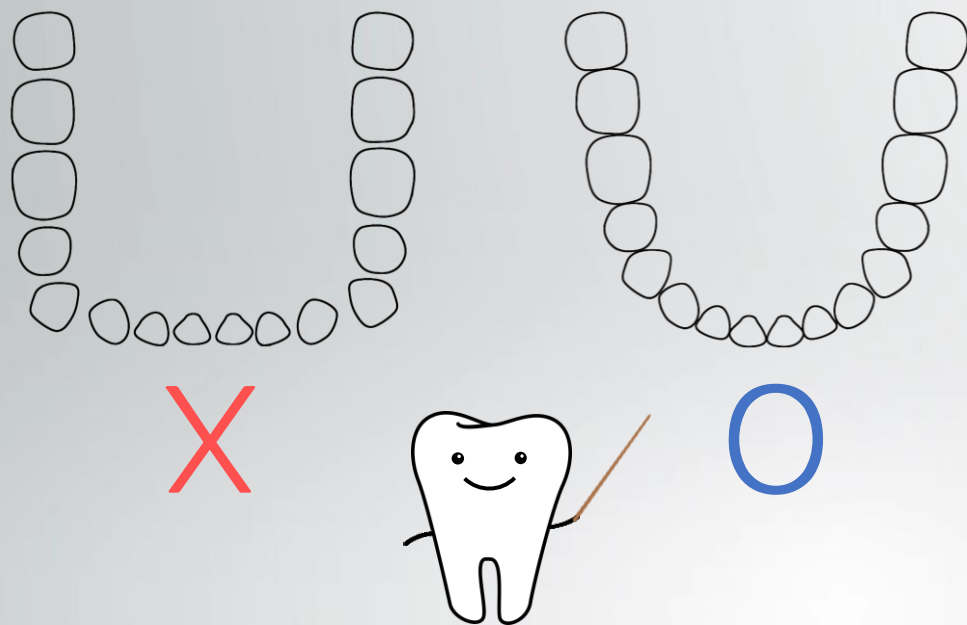
What is the biggest problem using an intraoral sensor?

Many patients feel so uncomfortable when a hard and rigid sensor irritates their gums and mouth. In severe cases, some patients end up gagging.

This issue has long been a “natural” part of the dental clinic, but we need improve on what is “natural”.



## Significant features provide the Best Comfort



The normal shape of our arch is not squared, but rounded. For the incisor area, the inclination of tooth may differ from person to person, and the image we see is flat while a human's arch is three-dimensional.

That's why getting a clear intra oral image with a rigid and flat sensor can be difficult.



# We found the answer in the experience.

Along the way toward patient comfort, comfort-oriented innovation has started. And we finally figured out that all the innovations come from experience. In our process to help patient comfort, we have learned that experience helps innovation.

By making it soft, we will bring this innovation into your practice for the best comfort.



# Introducing the new generation of Intra-Oral Sensors

Now, the **Generation of Soft Sensors** has begun.  
The change in detail will bring you many benefits.

**Calm your worries and simply focus on your practice!**



No Error



No Pain



No Damage



No Loss  
(No Money Loss, No Time Loss)



Take your  
**Worries  
Away**



# Want to be free from errors?

You and your staff will waste valuable time with your patient when these errors occur, and cause an interference with your diagnosis.



## Cone Cutting

→ The result of improper centering of the X-Ray.  
[while area is where there was no X-Ray exposure]



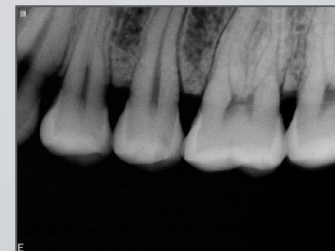
## Vertical angulation Error

→ Teeth can appear to be longer or shorter than the actual size of the teeth



## Horizontal angulations Error

→ Teeth can appear to be overlapping



## Placement Error

→ Apical roots were cut off

## Optimized positioning is the most important key to image acquisition



The EzSensor Soft is shaped for the arch.

A typical rigid sensor is hard to position towards the premolar and molar areas, whereas with the EzSensor Soft, you can easily position its rounded-edge design and Silicone material to fit anatomically during use.

As it clings to the patient's rounded arch softly, the ergonomically curved shape prevents the sensor from slipping in the mouth. This not only helps the patients feel less pain.



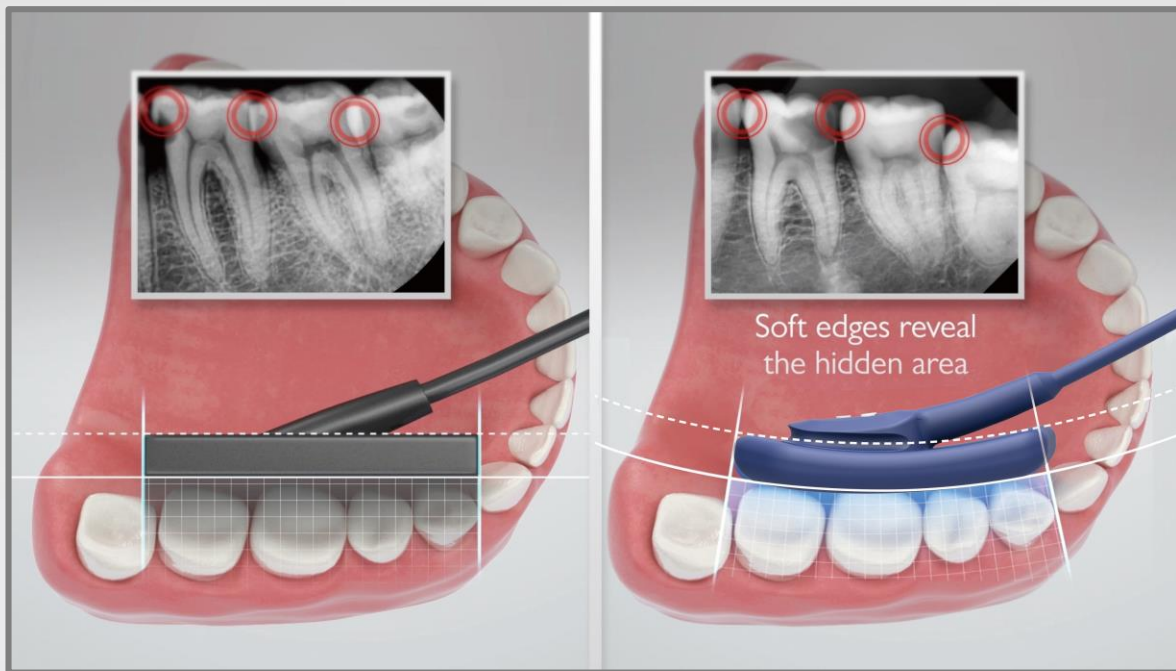


## Soft edges reveal the hidden area

EzSensor Soft's soft edge let your staff position the sensor easier than before and the alignment with the X-ray source could be well adjusted accordingly.

This reduces the overlap between each tooth, and as a result, you can check the hidden area on the image.

EzSensor Soft lets you and your team make a precise diagnosis.



# Soft touch ensures ultimate patient comfort

Feeling warm with Biocompatible silicone  
The sensor is designed with a soft exterior and a Uni-body with the cable.

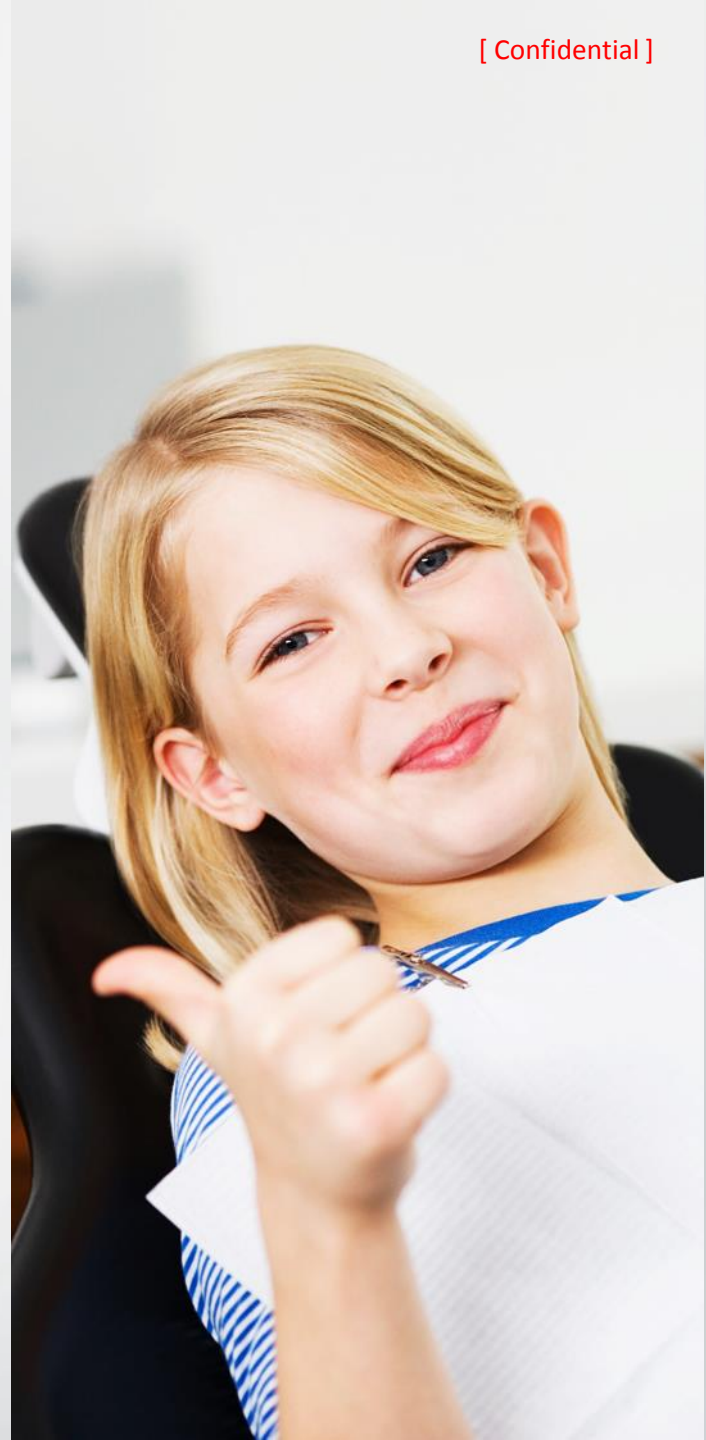
EzSensor Soft's patient-oriented design is suitable for even small arches.



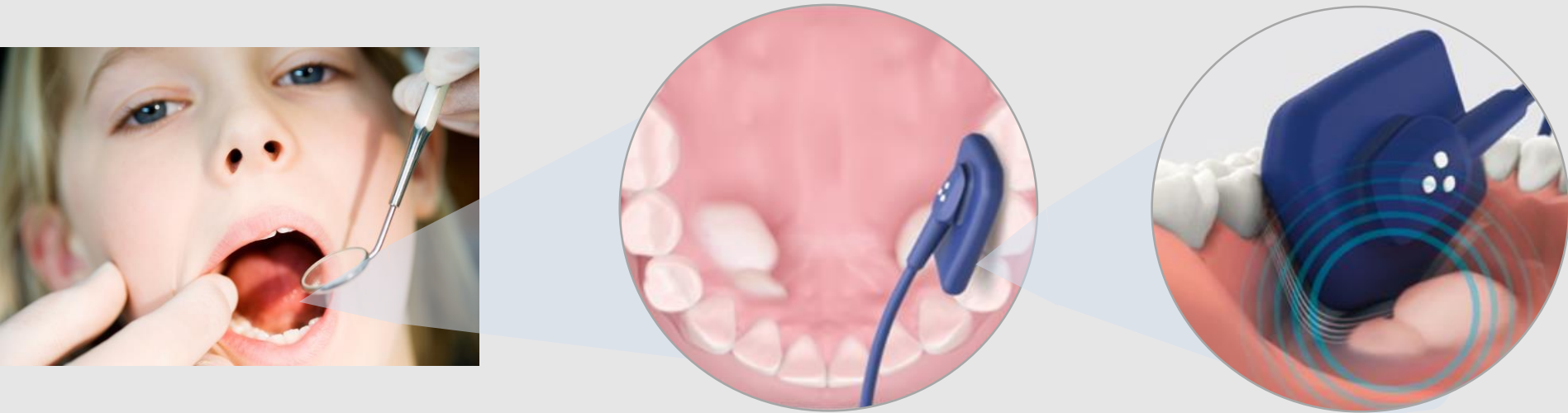
Soft and elastic touch



Ergonomically rounded and cut edge



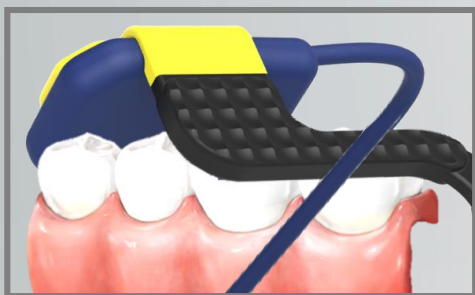
Every Doctor has sensitive patients. Like...



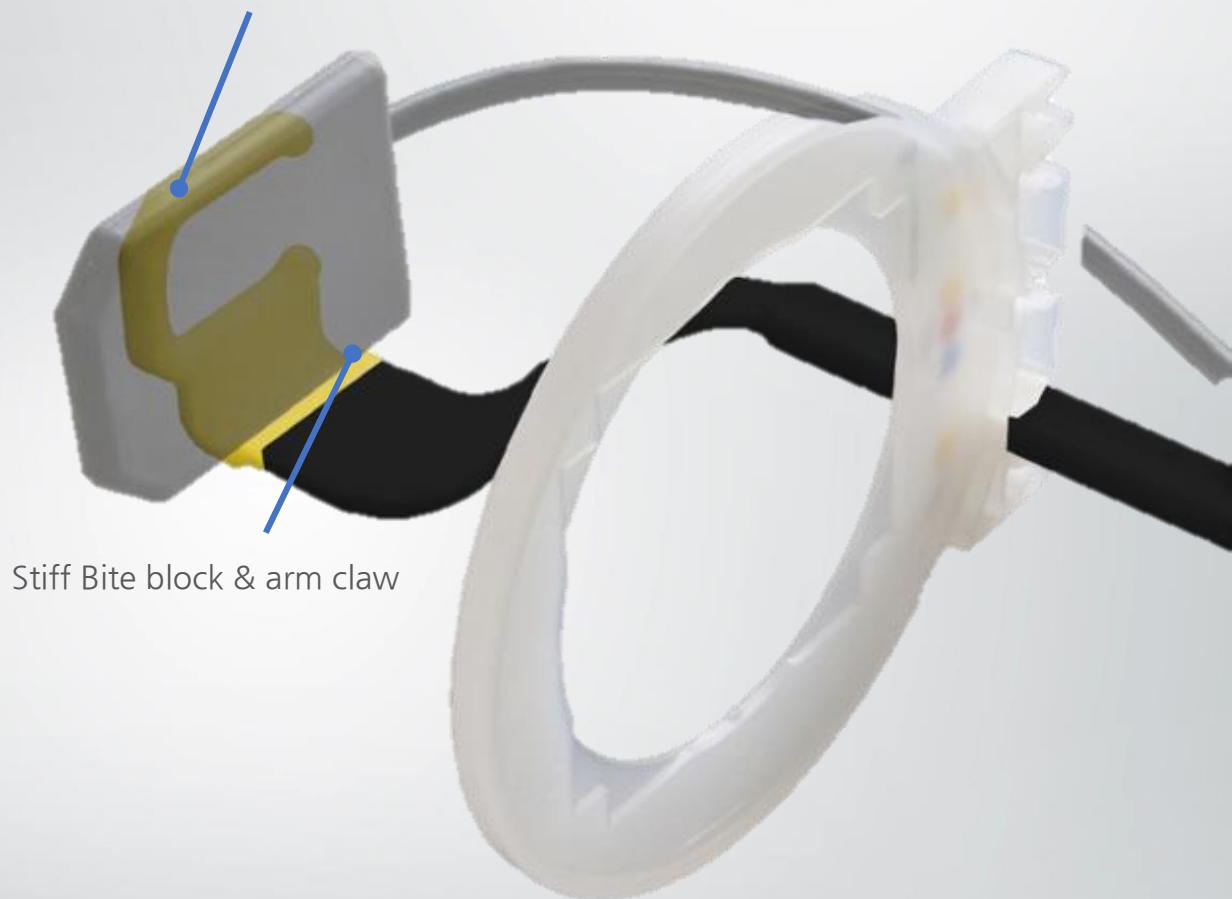
Mandibular torus (pl. mandibular tori) is a bony growth in the mandible along the surface nearest to the tongue. Mandibular tori are usually present near the premolars and above the location of the mylohyoid muscle's attachment to the mandible.

In particular, some patients could go through severe pain and gagging due to their irritated tori. Doctors should give more attention when positioning. The EzSensor Soft can be the best choice for these kinds of patients thanks to its softness.

## EzSoft, more comfort, better care



Softer claw



Stiff Bite block & arm claw

Furthermore, our 'EzSoft' cone indicator is designed to maximize patient comfort and sensor positioning.

The softer claw lets you finely adjust the tension and the stiff bite block & arm ensures positioning accuracy by sustaining its original angle(90') against the masticatory force.



## Significant features provide the Best Comfort

Taking images with rigid edge sensors can be a painful experience. EzSensor Soft is different.

With reduced pain for the patient, the staff will be able to accurately position the Intra-oral sensor on the region of interest. This allows the clinician to position more easily and work more efficiently.



# Experience different image quality

## IPS VS. EzSensor Soft

Emulsion scratches and plate scanning delays have a significant effect on pixel intensity degradation and the ability to detect occlusal caries.

EzSensor Soft's superior image quality is guaranteed via high-definition and a theoretical resolution of 33.7lp/mm associated to a 14.8µm pixel size. With noise and artifact suppression, EzSensor Soft provides the most clear and consistent images possible.



IPS Image



EzSensor Soft Image

Type	IPS		EzSensor Soft
Company	A	B	VATECH
Pixel Size	30 µm (High) 60 µm (Low)	23 µm (High) 30 µm (Low)	14.8 µm



## Top Class Durability - Drop Resistant

EzSensor Soft is the most durable sensor available. Usually, when a sensor is accidentally dropped or stepped on, it succumbs to damages.

EzSensor's soft rubberlike exterior can help prevent that! It can withstand external impact like dropping and thus reduce the risk of damage.

You can keep your EzSensor Soft as clean as possible with ease.

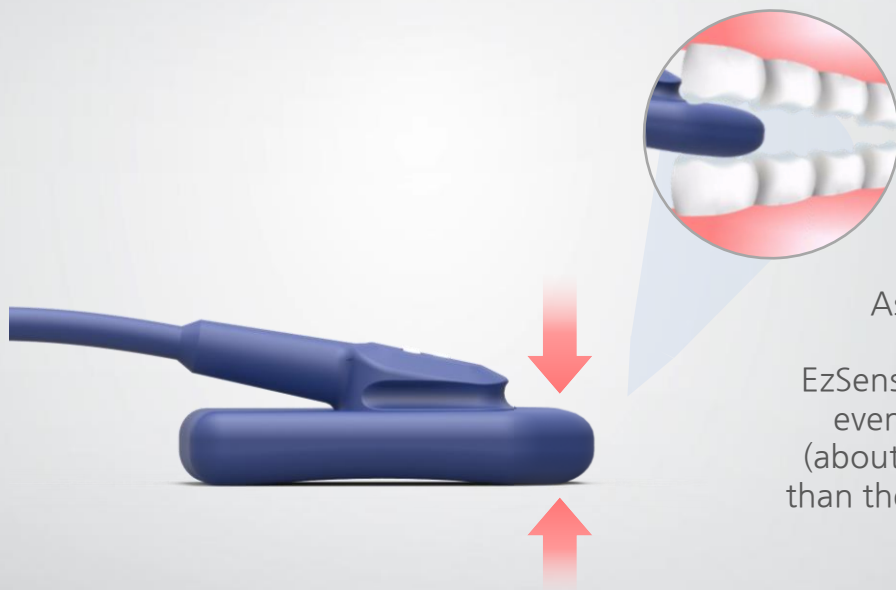


It safeguards the sensor against damages even it falls down

## Top Class Durability - Bite Resistant



The image above is a biting test taken at the product development stage. In this test, we applied a force of 50N for 100 times to the sensor in both the top and bottom directions. This test is an experimental reproduction of the tooth masticatory movement.



As a result of experiment, it was founded that the EzSensor Soft is not damaged, even though a force of 50 N (about 5 kgf), which is greater than the masticatory force, was applied to the sensor.





# Top Class Durability - Cable Bending

As the cable of the sensor often interferes with taking an intra oral image of molar, there are many users who use the cable in a specific direction. To sort this problem out, we conducted a cable bending test like bending Up, Down, Left, Right at the development stage. In particular, the sensor's strain relief (the connection between the cable and the sensor module) is designed to be durable enough.



Bending Up & Down



Bending Strain Relief Right



Bending Left & Right



Bending Strain Relief Left



## IP68

Highest level of Ingress, Solids, Liquids Protection

IP	6	8
Ingress Protection	First Digit : Solids Protection	Second Digit : Liquids Protection

EzSensor Soft rated IP68, which classifies the sensor to have complete protection against contact from dust and long periods of immersion under pressure. With this level of protection, the sensor can be soaked into sterilant for the sterilization from microorganisms such as Streptococcus Mutans and Mycobacterium Tuberculosis.

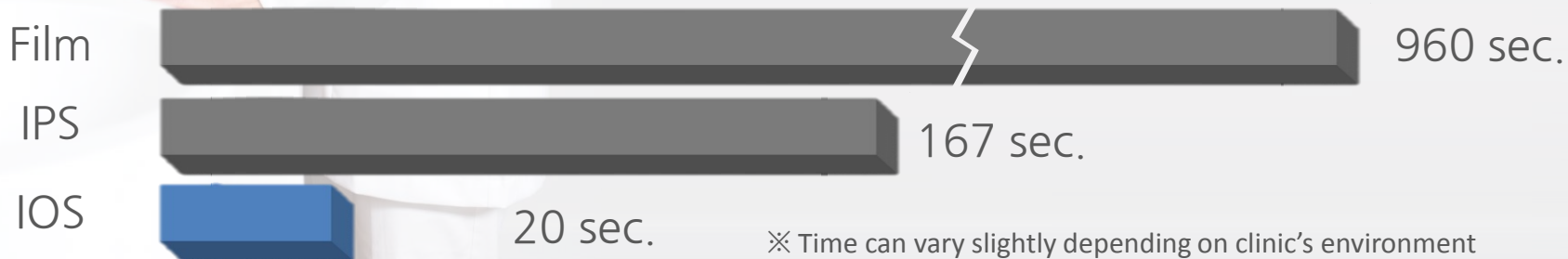
# Optimized positioning provides you Time Efficiency



Process Time Difference : Intraoral Sensor VS. Film & IPS

In general, it takes 16 minutes(960 sec.) to view one film image.  
For IPS, maximum 167 sec. are needed for handling and scanning (scanner processing) prior to the final viewing of the radiographic image.  
However, the Intra oral sensor requires only three steps - setting, positioning, and exposure - to monitor the image and these 3 steps take about 20 seconds in total.  
Doctors can save more time with the EzSensor Soft, as it provides optimized positioning with ease.

An intraoral sensor will save you **940 sec.** than in film, **147 sec.** than in IPS



# Which one is more cost-effective Film or an Intraoral Sensor?

## Running cost

(USD per Month)



## Running cost

(USD per Year)



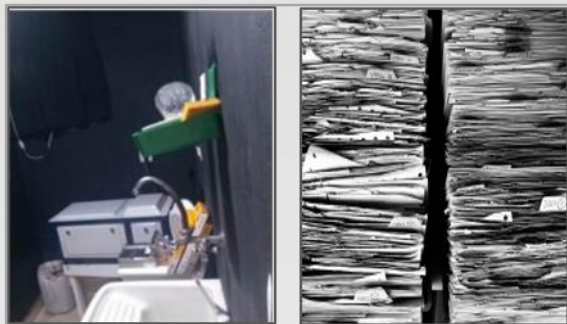
According to the study of ADA (American Dental Association), they estimated that it costs \$1.11 on average to capture an X-Ray film image. This cost includes material cost of film, storage and chemicals for developing and fixing. Suppose you capture 499 film X-rays per month, it would cost \$444 per month, and \$5,328 per year.

You can save \$5,328 every year just by switching over to intraoral sensors.



# Who wouldn't want a clean, modern and spacious clinic?

## Film



Dark room

File storage room

VS

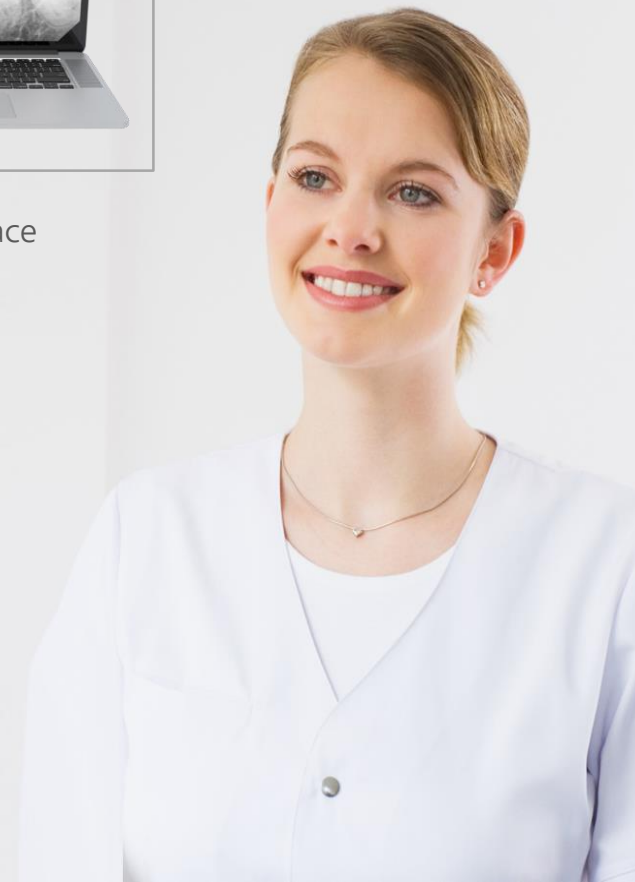
## EzSensor Soft



No additional space

Film users need to have physical space for film storage and a dark room to chemically process X-ray film images. However, in the case of intraoral sensors, doctors only need a small space for a PC and monitor to view the images.

Clinicians can transform the dark room and file storage room into a patient's waiting room or a reception space.



Shaped for comfort

**EzSensor Soft**<sup>TM</sup> makes you smile!



# EzSensor Soft in Hong Kong University



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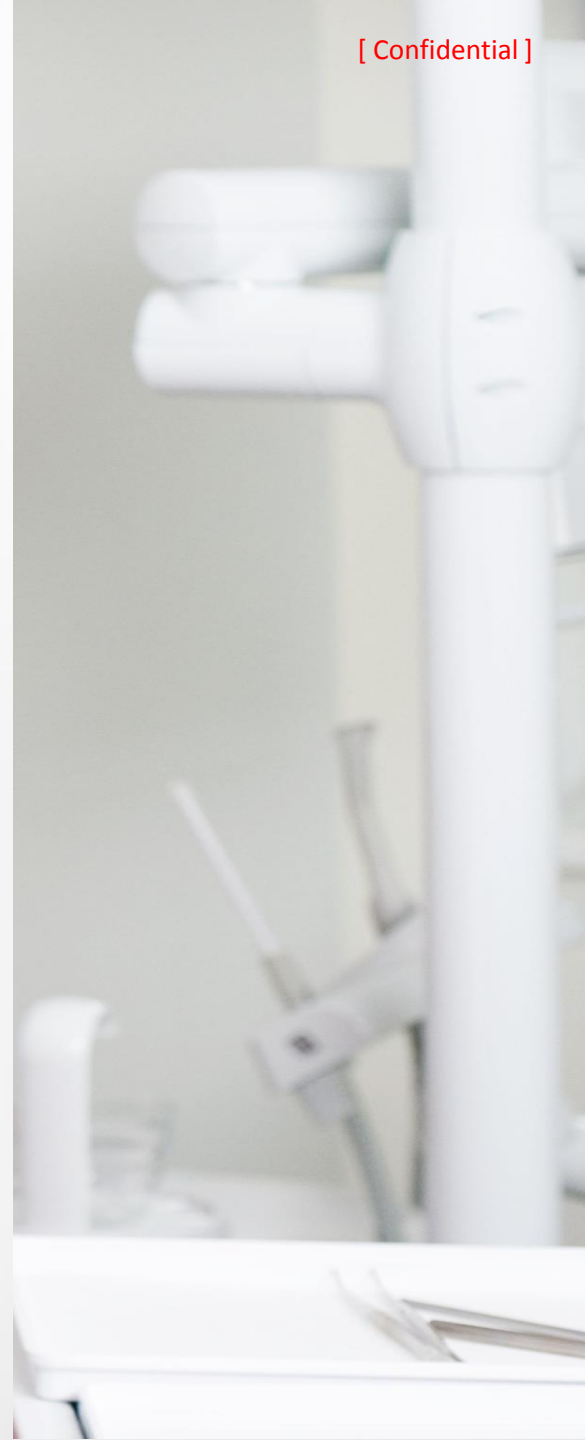
After the short test, student pointed out 3 following strengths in usage.

User friendly software

Immediate display

Softness

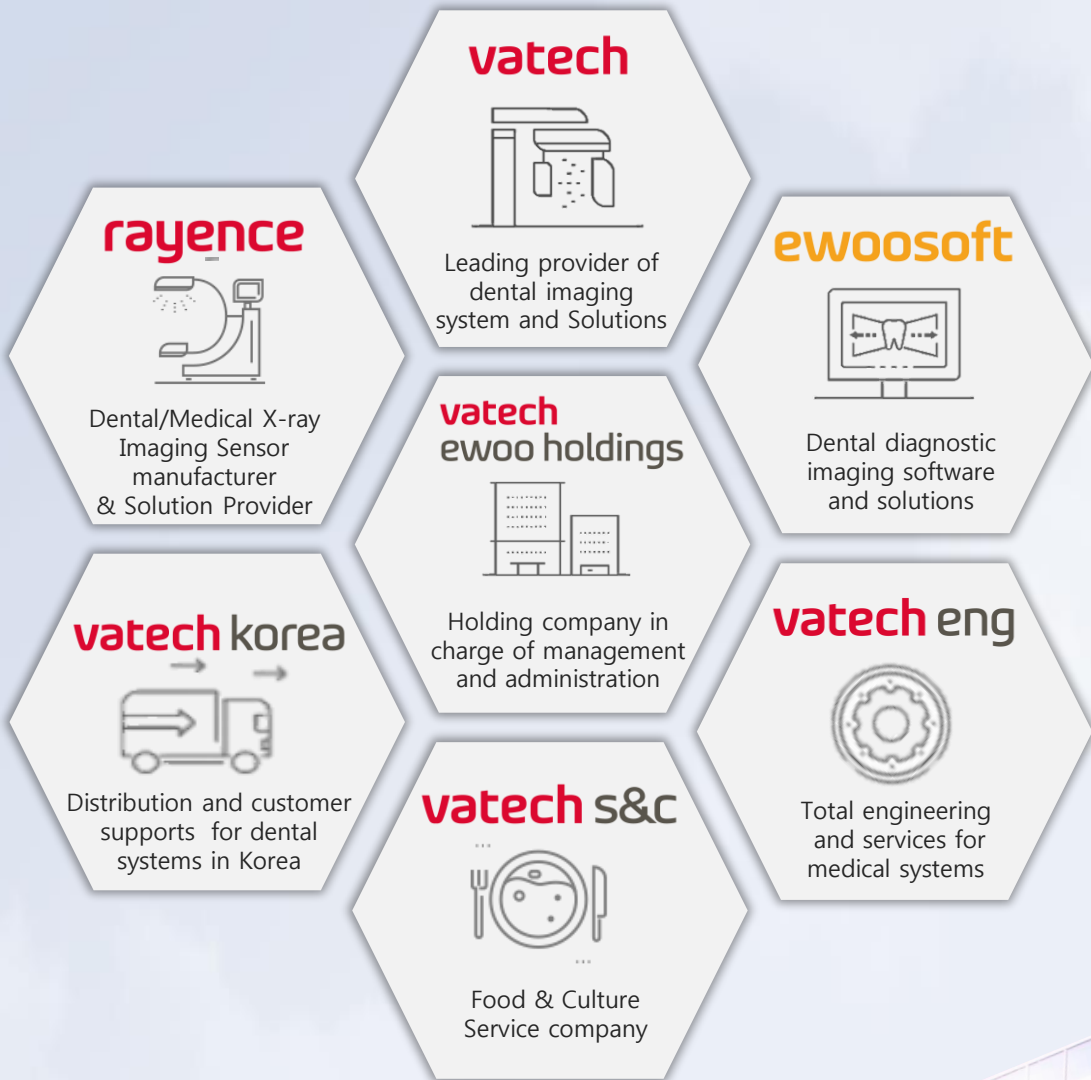
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# VATECH is

An international company specializing in the distribution of medical devices, and is currently ranked No. 5 in the digital dental x-ray field.

Vatech broadens its horizon based on global networks and has 14 overseas subsidiaries within the USA, France, Spain, UK, India, China, Taiwan and many other locations. Within Taiwan, China and Spain, VATECH Global is ranked No.1~No.2 in its market share.





## In house manufactured Sensor



VATECH owns original technology to design, build and produce CMOS and TFT detectors, which are the core components of digital imaging. The technical competence allows us to respond our customers' various needs faster and better.

- CMOS Wafer Design
- TFT manufacturing (by original technology)
- Scintillator manufacturing

## Core Competence : Five R&D Center

VATECH's five R&D networks leads innovation in dental industry by creating new values in the market. Their achievements includes the world's first intra-oral sensor and CNT ESX. Through these successes, VATECH obtained 300 intellectual property and signed supply contracts with global healthcare giants such as GE.



## Easy to use, Easy to learn Software

With our easier and smarter software, you can diagnose and plan treatment for every specialty.

- Implant Simulation
- 2 in 1 Consultation
- Comprehensive diagnosis
- Fully digitalize Ortho Analysis



# Quality principle to world's No.1

We aim for the highest quality for our customers and partners.  
VATECH is maximizing the productivity and quality by its systematic manufacturing process and education of employees.

2005



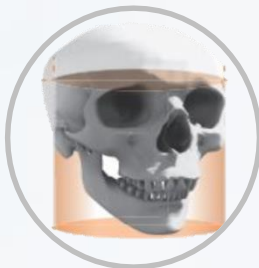
**Picasso-Trio**  
World First 3 in 1 System  
3 in 1 CT

2008



**PaX-Uni3D**  
No Motion Artifact  
0.9 sec Ceph

2009



**PaX-Reve3D**  
For All ROIs  
Free FOV

2013



**PaX-i3D Green**  
For Patient's Safety  
Groundbreaking Low Radiation

2015



**EzSensor Soft**  
Pain Relief & Damage Sensor  
Soft touch Sensor

2016



**EzRay Air**  
World First 3 in 1 System  
The Lightest portable X-ray



# Caring U, For your satisfaction

Through our services, we aim to raise customer satisfaction and our partner's reputation



Contact

## You will be in contact for 24 hours

Our 3 rules of tracking issues

- To constantly communicate with customers until issues are resolved
- To make customers aware of the whole history of issue
- To enable customers to check the situation whenever & wherever



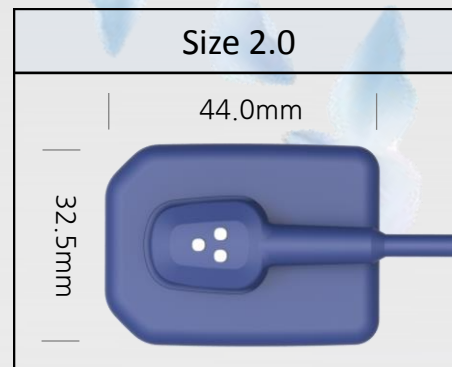
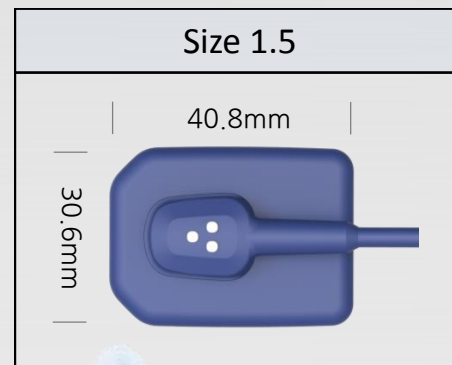
Deliver

## You will receive service parts within 24 hours

- Delivery check will be provided to help our partners resolve their issues



# Specification



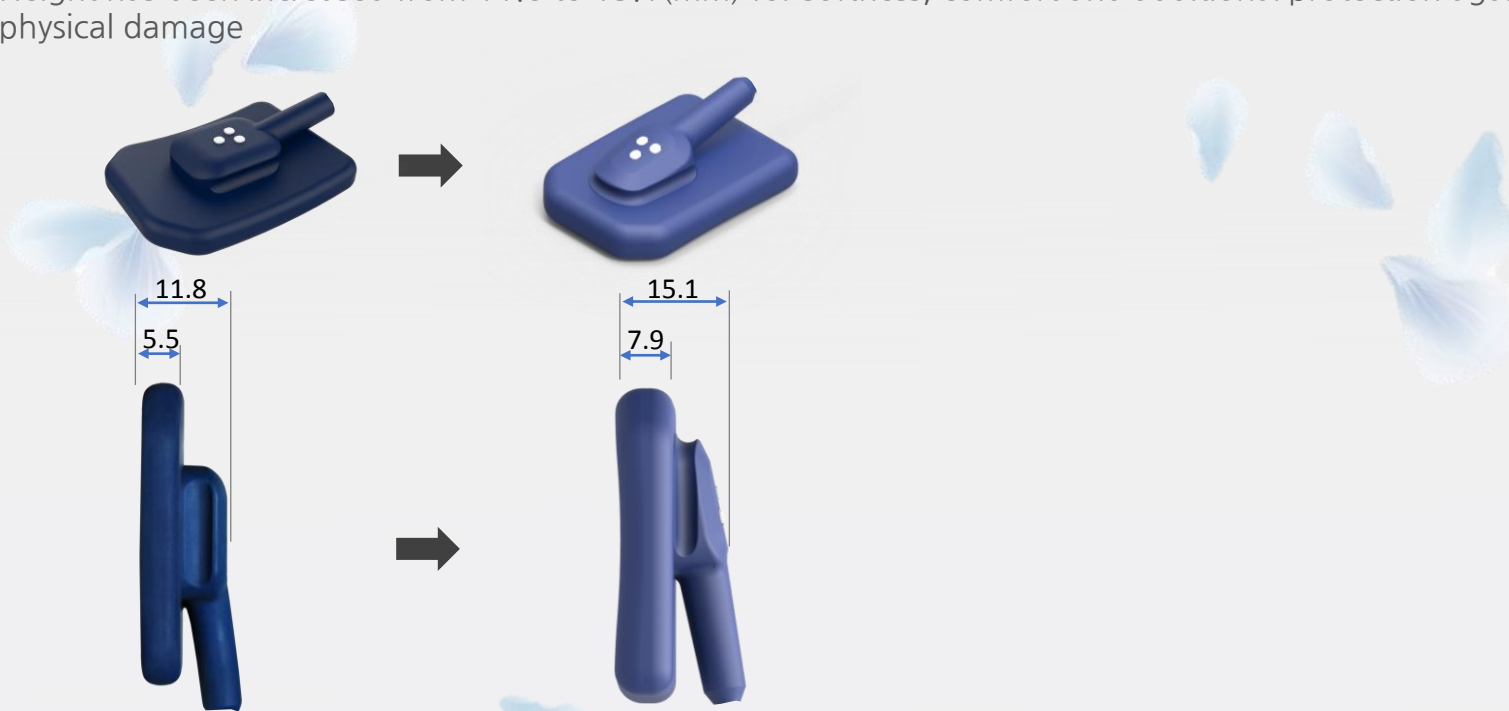
Detector	CMOS	Dimensions [WxLxT]	40.8 x 30.6 x 7.9 mm [1.5] 44.0 x 32.5 x 7.9 mm [2.0]
Pixel Size	14.8 $\mu\text{m}$	Active Area [Wx L]	33.00 x 23.98 mm [1.5] 35.99 x 25.99 mm [2.0]
Theoretical Resolution	33.78 lp/mm	Exterior Material	Silicone (Bio-compatibility)
Dynamic Range	12 bit	Total Cable Length	Under 3m

\* The specifications are subject to change without prior notice.

# Appendix

## Differences between EzSensor Soft(1<sup>st</sup> Edition) and EzSensor Soft(2<sup>nd</sup> Edition)

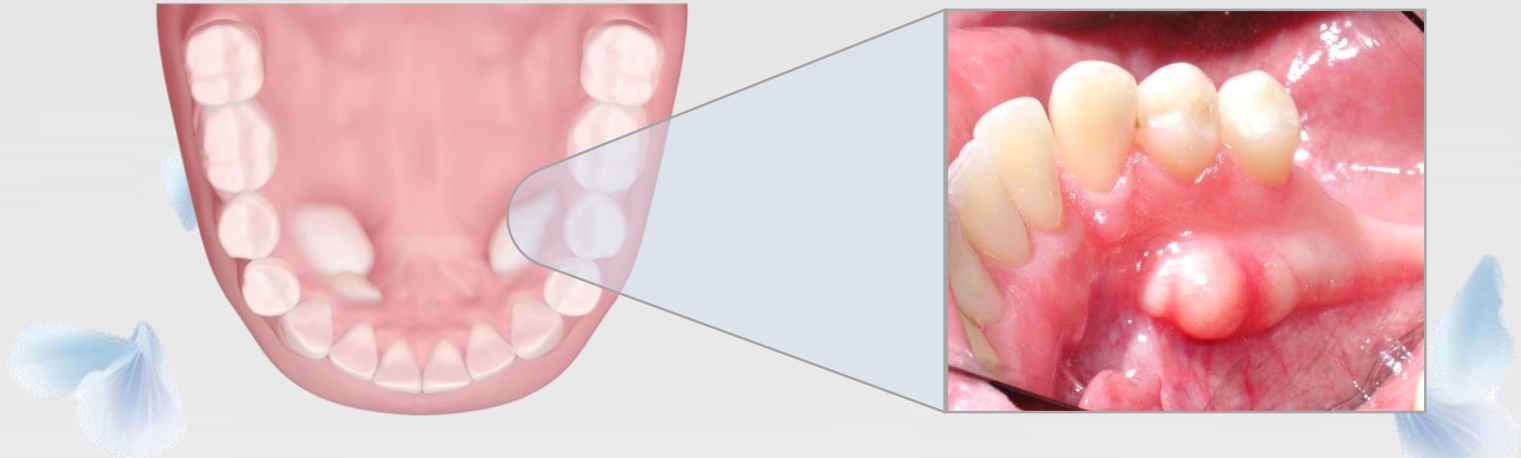
- 1) The width and Length of the new EzSensor Soft (WAVE) is the same as before.
- 2) Height has been increased from 11.8 to 15.1(mm) for softness, comfort and additional protection against physical damage



- 2) The gripper post moved toward the top of the sensor to minimize the stress during sensor positioning. The stress applied to the sensor by bending is minimized accordingly.



# Appendix - What is Mandibular Tori?



<p>What is mandibular Tori?</p>	<p>Mandibular torus (pl. mandibular tori) is a bony growth in the mandible along the surface nearest to the tongue. Mandibular tori are usually present near the premolars and above the location of the mylohyoid muscle's attachment to the mandible.</p>
<p>Prevalence</p>	<p>The prevalence of mandibular tori ranges from 5% - 40%. It is less common than bony growths occurring on the palate, known as torus palatinus. Mandibular tori are more common in Asian and Inuit populations, and slightly more common in males. In the United States, the prevalence is 7% - 10% of the population.</p>
<p>Causes</p>	<p>It is believed that mandibular tori are caused by several factors. They are more common in early adult life and are associated with bruxism. The size of the tori may fluctuate throughout life, and in some cases the tori can be large enough to touch each other in the midline of mouth. Consequently, it is believed that mandibular tori are the result of local stresses and not due solely to genetic influences.</p>
<p>Treatment or Surgery</p>	<p>Mandibular tori are usually a clinical finding with no treatment necessary. If removal of the tori is needed, surgery can be done to reduce the amount of bone, but the tori may reform in cases where nearby teeth still receive local stresses.</p>

**vatech**