



VILLA

Dental
Line



ROTOGRAPH *evo*

Dental panoramic system



When Rotograph Evo was first introduced to the market, **critics considered the new** machine a perfect mix of modern technology and innovative design. Since then, thousands of units have been assembled on its production line, to be distributed worldwide and finally installed in large hospitals as well as in small dental practices.

From the user point of view, the Rotograph Evo represents a reliable and inexhaustible co-worker, able to provide the essential support for a correct diagnosis of patients diseases. Our distributors, on the other hand, consider the capacity of the Rotograph Evo to fulfill the requests and the expectations of the market the real winning component of this product: gradually new versions and functions were added to the system and **today** the Rotograph Evo is one of the few examples of X-ray panoramic platform, with a unique mechanical structure adapted for analog panoramic, digital and 3D Cone Beam.

The secret of this great achievement is the project's ability to "grow up" according to the market needs. Since we are committed to incessantly improve our products, we are now able to offer a further improved machine, with an innovative digital platform for enhanced image quality and a new user interface, Touch Screen, even easier to be used.



Dental
Line



Our technology for a precise diagnosis



Constant magnification factor

Allows a more precise reproduction of anatomical structures for an excellent diagnosis.



High frequency generator

Assures efficient exposures, reducing the X-Rays dose to the patient.



Wide range of projections

One of the most complete choices for panoramic exposures, covering all diagnostic needs.



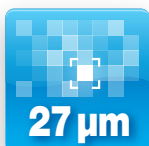
Upgradeable

Owners can decide to update the Rotograph Evo according to future clinical needs.



Multi-motorized rotation

Different trajectories cover various patient's morphologies for a more precise diagnosis.



Hi-resolution sensor

The digital version can rely on the new sensor with 27 μm pixel size, permitting a th. resolution of 18,5 lp/mm.

Evolution comes from experience

Rotograph Evo takes to the next level the experience of five decades of dedication to X-ray diagnostic imaging. Since the very first model introduced in 1974, the Rotograph name has always been synonymous with panoramic radiography.

As your patients rely on you for dental treatment, you can trust Rotograph Evo for an accurate diagnosis. Based on a multi motor technology, Rotograph Evo has all the examination programs you need and easily adapts to the individual characteristics of each patient. Panoramic images are acquired with constant magnification factor, resulting into an accurate geometrical representation of anatomic structures.

The 200kHz High Frequency generator provides accurate and efficient X-ray emission and produces excellent images with lower tube current than previous generation products. Detail-rich images can be obtained with minimum patient dose and reduced energy consumption. Shadows produced by the spinal column are reduced by an effective modulation of the kV value during the rotation of the overhead assembly: the result is a more uniform image in the incisors area.



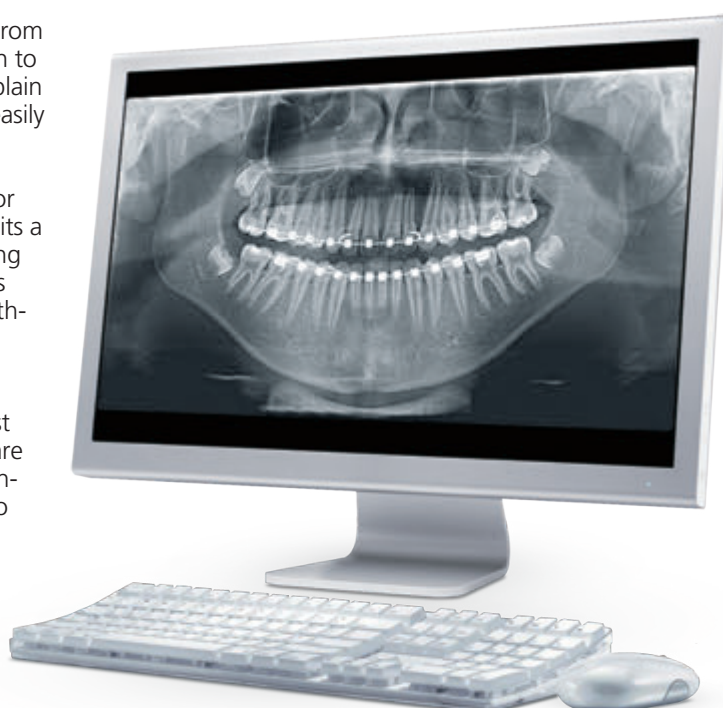


The power of digital

The digital version of Rotograph Evo allows to fully benefit from this specific technology. Images can be displayed and shown to the patient in seconds and become an important tool to explain treatment planning and progress. If needed, printouts can easily be produced using even inexpensive inkjet printers.

The "core" of Rotograph Evo D is the newest digital detector with CsI technology that, thanks to its high sensitivity, permits a reduced X-ray dose. Rotograph Evo D is compliant to existing regulations on patient dose monitoring: the dose readout is calculated for each exposure and stored with the image without the need for add-on DAP measuring devices.

All the softwares provided with Rotograph Evo D are conceived for sophisticated treatments and for accurate contrast control of the images. Patient archive and image database are extremely powerful and can be integrated with practice management softwares. Optional DICOM functionalities can also be added for integration into hospital networks.



A perfect patient alignment: the key for a high quality image



2 Laser beams

The presence of just two laser beams simplifies the patient positioning, with significant time-saving.



Electronic focal layer adjustment

The configuration is set according to the patient's morphology, without repositioning.



Mirror alignment

As he sees himself reflected in the mirror, the patient contributes actively to get a correct positioning.



Three-point headrest

Multiple contact points assure a high stability, minimizing the risk of patient's movements.



Complete range of chin rests

For an accurate alignment according to the exam selected by the operator.



Telescopic column

The motorized adjustment allows a faster positioning and the telescopic technology makes the machine more compact.

Accurate alignment, minimum effort

A good patient alignment to the reference axis is the most important factor for a good panoramic image. On Rotograph Evo, two laser beams are used for proper centering of mid-sagittal and Frankfurt planes, without the need for a third positioning light, normally required by competitors. The result is a faster positioning, with consequent advantages for patient's comfort and speed of operating.

The focal layer adjustment is obtained simply indicating the patient's morphology: patients with different jaw structures are not a problem, as this function allows to compensate differences in the anterior region. The focal layer is electronically adjusted, without repositioning the patient.

The self-centering option is also fundamental: thanks to the mirror installed on the machine, the patient can see him/herself reflected and helps to self-center the mid-sagittal plane, resulting in faster positioning. Finally, a complete range of chin rests are supplied with the unit, to accommodate all patients for any applications.



Standard chin rest with bite stick: provides stable chin support and accurate location of the incisors in the focal layer.



Edentulous chin rest: provides a reference position for the patient chin when use of bite stick is not possible.



Reduced chin rest: support specifically developed for the execution of Sinus exams.



Implant positioner: provided with numerical references, it permits to avoid dental impression.



Stable positioning

The patient support structure makes use of multiple contact points to ensure correct patient alignment and stability during the exam.

- Three-point headrest provides centering of mid-sagittal and Frankfurt planes
- Chin rest and bite stick provide stability and proper localization of the focal layer
- Angulated hand grips provide for a natural extension of the cervical vertebrae to reduce image shadows in the incisor area



An advanced system for immediate use



Touch screen interface

On digital systems, the touch user interface makes even easier the setting of the system's parameters.



USB connection

The USB memory stick offers the possibility, fundamental in case of unavailable PC connection, to save images directly.



Automatic collimator

The correct collimator is automatically set for each exam, without any manual intervention from the operator.



High speed/definition

The operator can choose whether to privilege high speed or high definition during cephalometric exams.



Single or dual Ceph detector

Rotograph Evo provides the possibility to choose the configuration according to specific needs.



DICOM compatible

Our experience with DICOM functionalities guarantees the integration of the system into hospital networks.



Simple is beautiful

Even the most advanced machine may not represent an asset if it is complex to handle; for this reason, Rotograph Evo makes its technology easy to manage for the operators, thanks to the intuitive user interface and touch-screen on the digital versions of the system. In line with our ergonomics criteria, the commands have easy-to-find buttons, with controls grouped in logical areas consistent with the typical operating workflow: patient selection, exam protocol, exposure adjustments.

The correct collimator is automatically set for each exam, without any manual intervention from the operator: in fact, it is always motorized and totally computerized, as the system itself sets the right collimation value when the combination patient/exposure is selected, with no need for any other interventions. Moreover the digital version allows to select cephalometric projections as "high definition" or "high speed", assuring extreme freedom for the user to choose the executing modality according to the patient or the specific clinical case.

In the case of digital systems, an easy-to-use machine is a direct consequence of an efficient installation with a perfect integration into the practice network. Rotograph Evo is easily deployed into your environment: the integrated Ethernet connection is compatible with existing networks and requires no dedicated boards to be installed in the computer. This makes possible to acquire images from any PC, including notebooks. DICOM functionalities can also be added for integration into hospital networks.



Maximum speed

One of the winning features of the new generation of Rotograph Evo D is undoubtedly the standard Touch Screen control panel.

With its practical operability and appealing design, this new user interface makes every function accessible with few touches.

Icons, numbers and symbols are positioned in order to allow an immediate use, with very little effort for the operator. Moreover, the generous dimensions of the screen assure the best visibility in all conditions.

Maximum efficiency

We know that our systems are frequently located in complex structures where different operators may use them. Therefore we respect all professional requirements, in a diverse range of work-places. For this reason, in addition to the standard control panel installed on the side of the unit, the Rotograph Evo D provides also a virtual keyboard, conceived for those who prefer to control the unit through the system's software.

This program can be visualized on the connected workstation and presents the same functions of the main keyboard.

Maximum reliability

The benefits of digital systems are undeniable, but it is also essential to preserve important diagnostic sessions from accidental network failures.

The Rotograph Evo D offers the possibility to save images on a common USB memory stick, so the user can operate in total safety even in case of network damage, protecting the workflow from any consequences.

The USB device can be inserted and removed with extreme simplicity, thanks to the dedicated USB output next to the main keyboard.



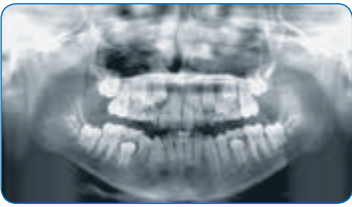
Basic projections



Standard Panoramic: traditional projection that assures a complete visibility of mandible, maxilla, sinus, TMJ and the supporting structures.



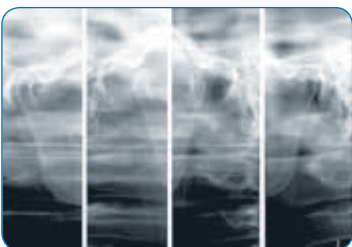
Evo Panoramic: advanced trajectory exam conceived for the digital version. The rotation enhances the focal layer in the frontal area, minimizing the mispositioning effects.



Pediatric Panoramic: projection optimized for the children anatomical structures. The magnification factor remains unvaried.



Maxillary Sinus: the exposed area is moved towards the sinus area and the apexes of maxillary teeth.



TMJ - Temporomandibular Joints: with open and closed mouth. The true Lateral view shows the exact location of the condyle.

Villa integrates, even on the standard version of the Rotograph Evo D, every kind of projection needed in general dentistry. Therefore the operator can count on 5 standard projections, including 3 PAN, the Sinus exam and the TMJ. We assigned particular relevance to the traditional panoramic image, due to the importance that this exam historically has for dentists and radiologists.

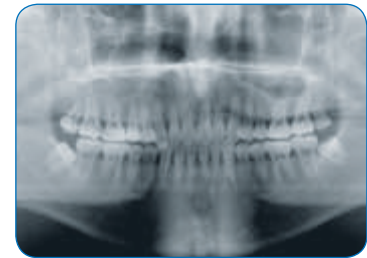
Furthermore, in addition to the standard Panoramic, Rotograph Evo also provides a typology of exam specifically optimized for pediatric dentistry and another "advanced" projection, conceived for the digital version, ensuring a major focal layer on the incisors area. All the projections **employ** a constant magnification factor in the center of the focal layer, another example of how diagnostic precision remains our main priority.



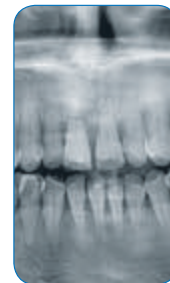
Advanced projections

The Rotograph Evo can be integrated with optional exams packages, created to widen the spectrum of the diagnostic applications of the unit. The “eXtended Package” Evo XP offers a range of additional projections, including Panoramic sections, frontal dentition and low dose pan; particular dedication is then reserved to the orthogonal dentition and, on the digital version of the unit, to the bite-wing projections.

The Implant package for the Rotograph Evo D is useful to take transversal sections of the dental arch for the preliminary analysis of the implant sites and the related follow-up. Compared to other competitors, equipped only with the projections for the posteriors, the Rotograph Evo D can display any dental component, from the incisors to the molars. Thanks to two positioning devices (maxillar and mandibular), the exam is taken with no use of dental impression or other consumable materials required by other products.



Orthogonal projection. Reduces overlapping of adjacent teeth for improved detection of interproximal caries.



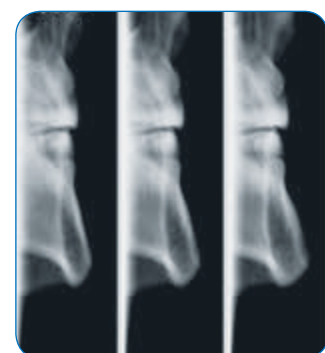
Frontal dentition: the exposure focuses on the frontal part of the arches, with optimized focal layer.



Bite-wing: set of projections displaying the single bite-wing of one arch or both, in the same image.



Half Panoramic, left and right. Provides reduced exposure when the diagnostic target is in one or the other half of the jaw.



Implant: displaying transversal sections of the arches for implant planning, follow-up, impacted teeth analysis.



Cephalometric projections



Lateral Ceph: allows excellent visibility of the patient profile. On Rotograph Evo D, for lateral projections a copper filter is automatically inserted into the x-ray beam to enhance the visibility of the patient's profile and a calibrated ruler is superimposed on the image for proper geometric calibration.



Antero-posterior Ceph: executable with different image formats, provides a frontal view of the patient, useful to recognize asymmetries.



Carpus: Bone age can be assessed with the dedicated Carpus Exam. A specific hand support plate makes positioning fast and easy.



Every version of the Rotograph Evo can be conveniently integrated with a cephalometric arm. The cephalostat provides fast and gentle patient alignment for lateral, frontal and antero-posterior projections.

The digital Ceph imaging principle of Rotograph Evo combines the scanning movement of the detector with the stationary position of the X-ray source. This method provides the same projection geometry as with a regular film, allowing precise orthodontic analysis. During the digital ceph scan, each portion of the skull is exposed for just fractions of a second by a perfectly collimated X-ray beam, limiting the overall patient exposure to a minimum.

Depending on the exam type and patient size, several image areas can be chosen, from 18x22 to 22x30cm. Two scanning modes can be selected:

- high resolution mode delivers highly detailed images
- high speed mode reduces acquisition time up to 4,5 seconds for a standard lateral ceph and is especially suitable for children.





Single or dual detector: it's your choice

The Rotograph Evo D is available as a dual or single Ceph detector configuration. If you're doing just a few studies per week, or are bound to a limited budget, the single detector unit is your choice: the same digital sensor can be moved from the Pan to the Ceph position with a quick and simple operation. The ergonomic hand-held assures a solid and stable grab during the preparation and the repositioning of the sensor.

If orthodontics is your field of expertise, or you just want to switch from Pan to Ceph instantly, then a dual sensor unit is what you need. This particular unit includes two different detectors, ready for use.

If you prefer to postpone your investment on a Ceph arm, Pan units can be always updated to cephalometry, with single or dual detector. Predisposed digital pan units can be factory-set for upgrade to ceph with several upgrade options, to help you plan your budget according to your needs, protecting your investment over time.



A complete family of units for all needs

Rotograph Evo

The analog version of Rotograph Evo accepts all standard 15x30cm flat cassettes. If your practice is equipped with CR phosphor plate not compatible with 15x30 format, you can request a specific cassette holder for using 24x30cm cassettes for panoramic images.

The optional ceph arm can be installed at any time and can be selected to host film or CR cassettes with 18x24 cm or 24x30cm or 8"x10" format.



Rotograph Evo D

The digital version of the Rotograph Evo combines the winning features of the analog unit with the known advantages of digitalization: usability, safety and minimization of the operating costs.

Moreover, the combination between the multi-motorized rotation and the high definition digital sensor assures excellent quality radiographic images. The Touch Screen control panel and the USB memory stick contribute to make this machine easy to manage. Finally, the optional Ceph arm is available to be fully integrated into the unit.



Rotograph Evo 3D

At the top of Evo family of products there is a 3-in-1 unit: Panoramic, Cephalometric and 3D. The Rotograph Evo 3D employs the newest "Cone Beam" technology together with the innovative Flat Panel Detector (FPD) based on Amorphous Silicon with Caesium Iodide (CsI) scintillator. This unit permits to directly acquire Pan images and 3D volumes, with a standard Field of View (FOV) of 85x85 mm; the integration of a digital cephalometric arm is then available to complete the system's performance.

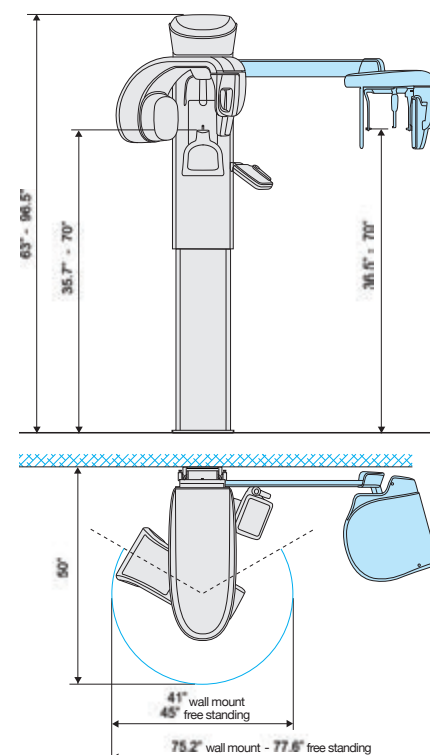


Technical parameters

Examination Programs

Standard programs	Adult Panoramic Child Panoramic Evo Panoramic Open-Closed mouth lateral TMJ P-A Sinus (rotational)
Evo XP package	Half Panoramic adult (l/r) Half Panoramic child (l/r) Orthogonal Projection Low Dose Panoramic Frontal Dentition Dual bite-wing (for digital version only)
Implant package	Transversal sections of any dental component (for digital version only)
3D package	Dentition Volume Left TMJ Volume Right TMJ Volume Sinus Volume

Dimensions



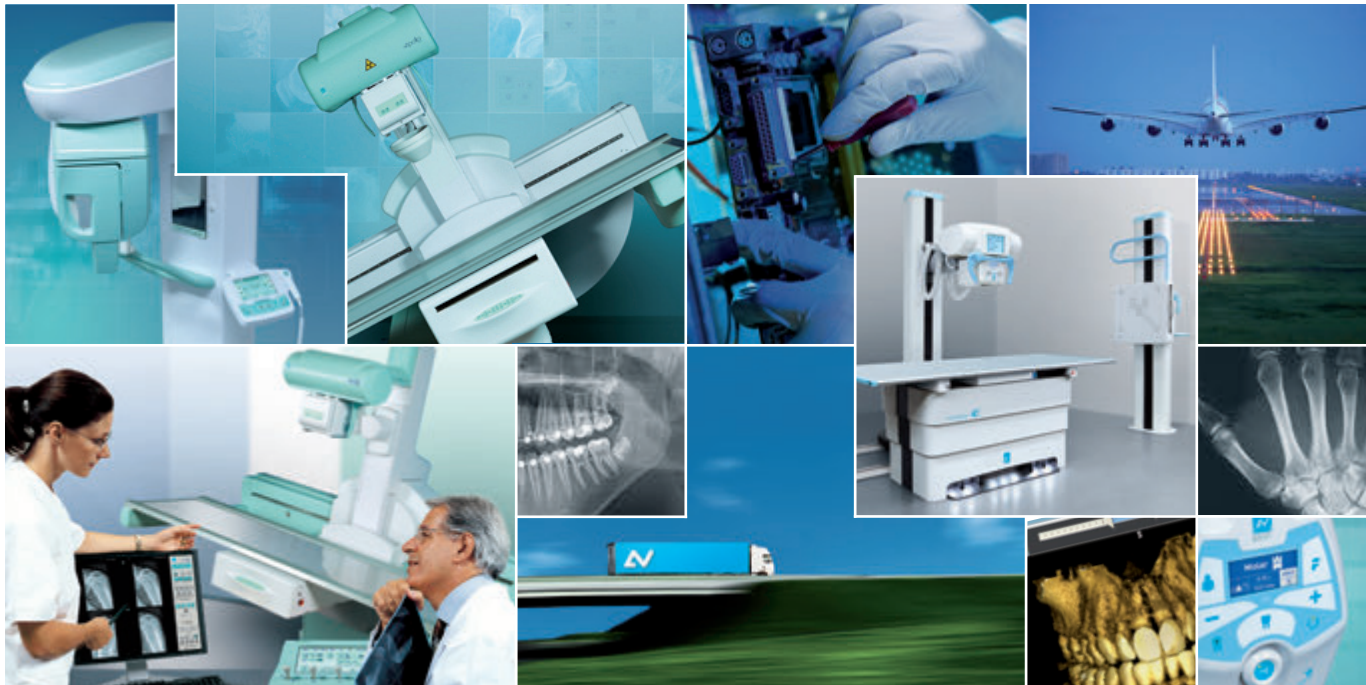
Technical Data

	Rotograph Evo - Analogic	Rotograph Evo D - digital 2D	Rotograph Evo 3D - digital 3D
Generator	High frequency, 200 kHz constant potential	High frequency, 200 kHz constant potential	High frequency, 200 kHz constant potential
High voltage	60 – 86kV	60 – 86kV	60 – 86kV
Anodic current	6 – 12 mA	6 – 12 mA	6 – 12 mA
Focal spot	0.5 (EN 60336)	0.5 (EN 60336)	0.5 (EN 60336)
Vertebral column compensation	Auto kV modulation	Auto kV modulation	Auto kV modulation
Weight	PAN 147 kg CEPH 167 kg	PAN 147 kg CEPH 167 kg	PAN+3D 161 kg CEPH 186 kg
Power supply voltage	110-120 V / 220-240 V (±10%) monophase, 50/60 Hz	110-120 V / 220-240 V (±10%) monophase, 50/60 Hz	110-120 V / 220-240 V (±10%) monophase, 50/60 Hz
Dose area product (DAP)	Standard	Standard	Standard
Standard image transfer	N/A	Ethernet	Giga-Ethernet
Sensor technology	N/A	• CCD w/ Caesium iodide (CsI) scintillator screen • Pixel size 27 µm	• Flat Panel amorphous Silicon w/ Caesium iodide scintillator screen (PAN+3D) • Voxel size 166 µm



Villa Radiology Systems

Long-standing experience at the service of our customers



Competence in x-ray systems

Villa is one of the most important manufacturers of radiological systems worldwide. Leveraging more than 50 years of experience in X-ray field, the company's know-how covers all technologies which can create a modern radiographic examination room.

A wide range of equipment

Our range of products include:

- Digital X-Ray systems
- Remote controlled tables
- Classical tilting tables
- General rad room
- Mobile units
- Surgical C arms
- Mammography
- Dental units: intra-oral, panoramic and 3D.

Our priority: Technical Service

A wide network of highly skilled service engineers ensures effective and reliable maintenance of all Villa equipment installed worldwide. Preventive maintenance programs and service contracts are defined by our qualified personnel and adapted to the needs of our customers.

Logistic services: a global presence

Villa provides full systems, spare parts, accessories and consumables, shipped regularly to all our customers, world-wide, using the most efficient couriers. Shipment modalities include ground, ship, air and inter-modal freight transport.

Products are continuously under review in the light of technical advancement; the actual specifications may therefore be subject to improvement or modification without notice. Some features and/or accessories displayed and described could be optional on different markets. X-ray images published in the present document are shown exclusively for demo purposes, are representative of the possible applications and might have been taken using other systems. All rights reserved. - Printed in Italy - 05/14



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