Varian Medical System’s X-Ray Products (XRP) Group is the world’s premier independent supplier of X-ray tubes and flat-panel digital detectors for filmless X-ray imaging. Its products are used in X-ray imaging equipment for medical diagnostics, dental imaging, veterinary care, industrial inspection, and security.

Varian’s X-Ray Products Group serves original equipment manufacturers (OEM’s) in the diagnostic imaging industry, asset management organizations, and third party service providers. Varian manufactures over 20,000 X-ray tubes annually.

Late in the 90’s, Varian’s Ginzton Technology Center in Silicon Valley produced the first commercially available flat panel digital X-ray detector using amorphous silicon. Varian’s X-Ray Products Group was among the first component manufacturers to bring a digital detector capable of producing real-time fluoroscopic images to the market, forever changing the imaging industry.

The X-Ray Products Group is a division of Varian Medical Systems, a Fortune 1000 company headquartered in Palo Alto, CA. Varian employs approximately 5,100 people located at manufacturing sites in North America, China, and Europe and in 79 sales and support offices around the world.
Varian has over 60 years of combined experience in X-ray tube design and manufacturing. Varian’s advanced product designs, incorporating metal/glass, metal/ceramic and anode end grounded technology, have set the standard to which others aspire.

Varian is known as a leader in housing design, offering unique cooling options that maximize tube performance.

These achievements are attributed to a comprehensive R&D program which incorporates teaming concepts and active customer participation.

**Manufacturing Excellence**

Varian’s experience with proven high-performance electronics provides the highest quality imaging device to the radiographic market.

Varian performs extensive quality testing on every X-ray tube and flat panel imager it manufactures. Each product receives thorough testing including focal spot positioning, high voltage stability, radiation emission, and vibration and noise detection. Our X-ray tubes are built to withstand rigorous stresses – such as being spun around a patient up to three times per second in a CT scanner while producing the sharp images needed by doctors to help their patients.

To ensure a superior product that meets on-time delivery requirements, we have implemented “Just-In-Time” manufacturing throughout the facilities. Our manufacturing processes are also supported by Video Image Processing (VIP), a paperless documentation system which streamlines manufacturing and improves accuracy.

The electronic, mechanical, and radiation testing is monitored through statistical process control (SPC) to ensure uniform tolerances and long term component reliability. The result of this attention to detail is superior product technology in computed tomography, mammographic, and conventional X-ray applications.
Medical X-ray Tubes – OEM/Custom Design

CT scanners – We manufacture computerized tomography tubes utilizing metal/glass, metal/ceramic and anode end grounded designs. Multi-slice CT tubes are designed for higher heat capacity and through-put, reduced off-focus radiation, high power and coverage and a higher “G” force capacity. Recent developments have led to dramatic improvements in multi-slice CT imaging, which now can reveal blockages in the smallest blood vessels of the heart. Equipment designers believe this quality of imaging could eliminate the need for more invasive cardiac catheterization procedures.

Radiographic/fluoroscopic imaging & Special Procedures – We manufacture the largest selection of radiographic and fluoroscopic imaging tubes in the industry. Each tube is high quality and long lasting with low noise high speed bearings. The tubes feature a rhenium-tungsten molybdenum target and are available with focal points ranging from 0.3 to 2.0 mm.

Mammography – Our X-ray tubes have been used to complete close to a billion mammograms. These tubes are designed for high contrast, consistent radiation emission and noise free operation. Today we are supporting advances in digital mammography with new products that use less radiation to show abnormalities in the breast with greater clarity and depth than ever.

Industrial X-ray Tubes

We manufacture industrial X-ray tubes for applications in Non-Destructive Testing (NDT), X-ray inspection, X-ray baggage screening, chemical analysis and thickness gauging.

Our NDT product line consists of a broad range of glass and ceramic X-ray tubes providing a variety of target angles, focal spots, and power capabilities. For inspection applications that require different imaging parameters, we offer dual and single focus X-ray tubes with small focal spots for high-resolution imaging. In addition, we offer X-ray tubes with Beryllium (Be) windows for low inherent filtration.

Our new industrial tubes developed for analytical and chemical analysis are being used to protect the public and comply with new government regulations. These new tubes allow consumer goods to be inspected for the presence of cadmium, lead, and other hazardous materials.
Varian Interay – Medical X-ray Tubes

Our medical X-ray tubes for the aftermarket are distributed by Varian Interay, a wholly-owned subsidiary in Charleston, South Carolina.

The Interay organization manufactures and distributes replacement X-ray tubes and production X-ray tubes “on demand” from its facilities in the USA, Europe, and Asia.

Interay specializes in rapid response to customer requirements, providing X-ray tubes to OEM’s, and replacement X-ray tubes from factory inventories through an international network of Independent Service Organizations.

Interay tubes are designed to be compatible with equipment from major medical manufacturers, including CGR, Comet, Dunlee, Elscint, Eureka, GE, Hitachi, Marconi/Picker, Philips, Shimadzu, Siemens and Toshiba.

All trademarks are property of respective OEM’s.

New Technology

At Varian, we develop and manufacture tubes to meet evolving technology requirements for high-resolution imaging, faster patient throughput, longer tube life, smaller dimensions, and greater cost efficiency.

Our highly-skilled researchers and engineers devote themselves to continuous improvement of X-ray technology; an effort resulting in 84 U.S. and 24 foreign patents on novel X-ray tube and detector technologies, with nearly 100 additional patents pending. Resulting innovations include the first anode-grounded tube for faster CT scanning, an air-cooled tube for safer mammography, and digital detectors fast enough to show a heart beating.

Services & Support – Varian is committed to customer service and support. We have service and distribution centers in Duesseldorf, Germany and Beijing, China:

First hand contact to our European and Asian customers
Evaluation, repair and replacement capability for X-ray tubes
X-ray products inventory
Administration and logistic support
Backup for our sales offices all over Europe

From stocking locations around the world we are able to offer regional product and support services, which in turn help increase our customer’s competitiveness in the marketplace.

Varian Interay

Vast product selection
Global inventory locations
Replacements for most equipment manufacturers
Expedited shipments
Cost effective

Interay manufactures cost-effective replacement medical X-ray tubes for most diagnostic imaging modalities including:

Computed Tomography (CT)
Special procedures (cath lab/angiography)
Radiography/Fluoroscopy (R/F)
Mammography
Flat Panel Digital X-ray – PaxScan®

We are the world’s premier independent supplier of flat panel digital detectors used in medical imaging. Now, after more than 50 years of leadership in X-ray generation technology, we offer leading edge digital technology for X-ray capture and display.

The PaxScan® line of flat-panel digital X-ray image detectors are used to capture X-ray images and instantly display them on computer screens, eliminating the need for film and film processing. PaxScan® panels capture up to 60 images per second, which is fast enough to produce a moving image of a heart beating.

PaxScan® Technology

PaxScan® amorphous-silicon flat-panel image detectors work by converting X-rays that strike its surface into an image which can then be displayed for reading by the radiologist.

The PaxScan® detectors are a compact and efficient way of instantaneously capturing radiographic images digitally. Unlike traditional film radiographs, there is no requirement for chemicals to process the film or need to archive and store hard copy processed film images.

Flat panel detectors present a uniform, undistorted, high resolution image throughout the rectangular field of view. They offer significant improvement in image quality and dose. With superior contrast resolution, flat panel detectors show smaller objects in greater detail than is possible with image intensifiers.

A digital image is easier to use and can easily be made available in multiple locations simultaneously. It can be digitally transmitted over long distances in real-time and can easily be linked to a patient’s electronic record. Flat panel detectors have emerged as the next generation digital X-ray technology.
Flat Panel Digital Products

Imaging panels are available for medical and industrial applications, including: medical diagnostics, veterinary care, dental imaging, industrial inspection, and security.

Ginzton Technology Center

The Ginzton Technology Center acts as Varian Medical Systems’ research and development facility for breakthrough technologies. Current efforts are focused on emerging flat panel technologies. This facility also conducts externally funded research related to medical technology, which leads to long-term partnerships and new business opportunities.

Flat Panel Advantages

Compact, lightweight

Excellent imaging quality across entire panel (no image distortion)

Flexibility of direct to digital
  • Eliminates film and film processing
  • Image manipulation capability eliminates retakes

Facilitates transition to an all digital department

Extremely fast image output rates

Potential patient dose reduction

High dynamic range
Varian Medical Systems X-Ray Products is currently registered or certified under the following regulations and standards:

- ISO 13485
- Varian holds an EC certificate under the requirements of Council Directive 93/42/EEC
- Canadian Medical Device Regulation, P.C.
- ISO 9001
- UL/IEC 60601-1
- CSA 22.2 No. 601.1
- Chinese SFDA Registration Nos. 0712278, 0714670, 0004482
- Japanese PAL/Yakuji-Ho: Controlled MD
- Russian MHSO: Federal Law No. 184-FZ

Salt Lake City, UT
- FDA 21 CFR, Sub-Chapter J. Initial report number 7410266
- ISO 9001 Certificate Number FM21804
- ISO 13485 Certificate Number FM77566
- CE Mark Certificate Number CE 00999
- Canadian Medical Device Regulations (CMDCAS)

Charleston, SC
- FDA 21 CFR, Sub-Chapter J. Initial report number 8612039
- ISO 9001 Certificate Number FM81645
- ISO 13485 Certificate Number FM84906
- CE Mark Certificate Number CE 00999

Willrich, Germany
- ISO 13485 Certificate Number FM84906
- CE Mark Certificate Number CE 00999

Beijing, China
- YY/T 0287 Certificate No. 04709Q10016ROS-1
- Beijing Hua Guang Certification of Medical Devices Co. Ltd. (CMD)

Varian X-Ray Products complies with requirements of:
- RoHS (Reduction of Hazardous Substances) Directive 2002/95/EC
- Administrative Measure on the Control of Pollution Caused by Electronic Information Products, No. 39 (28 February 2006 – People’s Republic of China) SJ/T11364-2006

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