

Best™ Integrated Radiotherapy Solutions

Best™ GammaBeam™ 300-100 CM Equinox™ Teletherapy System with Avanza 6D Patient Positioning Table

The **GammaBeam™ 300-100 CM Equinox™** is an evolution of the Theratron line of treatment devices. The advanced design provides freedom in treatment planning and can interface to all of the major record/verify systems to allow for rapid treatment parameter loading, treatment set-up verification and the recording of delivery.



NEW! Multi-Leaf Collimator for 80 and 100 cm SAD units— IMRT, IGRT, SRS, SBRT and Tomotherapy capable with ActiveRx

- **Machine Verification:** Parameters Set and Actual are continually monitored by the machine to ensure accuracy.
- **Asymmetric Jaws:** Partial fields capable without manual blocking. This feature saves time and reduces the handling requirements of manual block trays.
- **Auto Setup:** One-button setup and patient loading decreases the time required to prepare patients for treatments.
- **Motorized Wedges:** 60° Wedge moves in and out of field allowing therapists to block fields simply and effortlessly.

GammaBeam™ 300-100 CM Equinox™ External Beam Therapy System



GammaBeam™
saving lives

The **GammaBeam™ 300-100 CM Equinox™** is an evolution of the Theratron line of treatment devices. The advanced design provides freedom in treatment planning and can interface to all of the major record and verify systems.

- High activity sources
1.5 or 2 cm diameter
- 390 cGy/min at 80 cm
- 250 cGy/min at 100 cm
- Asymmetric collimators
- Auto Set-Up
- Physical Wedges
(15, 30, 45 and 60 degrees)
- Collision Detection
- Service Diagnostics
- Motorized Wedge
(1 to 60 degrees)
- Wedge and Block Code
Interlock
- Fixed Beam and Arc
Treatment
- Beam Stopper Option
- In-Room Monitors
- On-board Treatment
Verification
- Ergonomic Hand Control
- Dual Computer Control
System
- Graphical Data Entry
Interface

Best Theratronics Ltd. 413 March Road, Ottawa, Ontario K2K 0E4 Canada
tel: 613 591 2100 866 792 8598 www.theratronics.com www.teambest.com

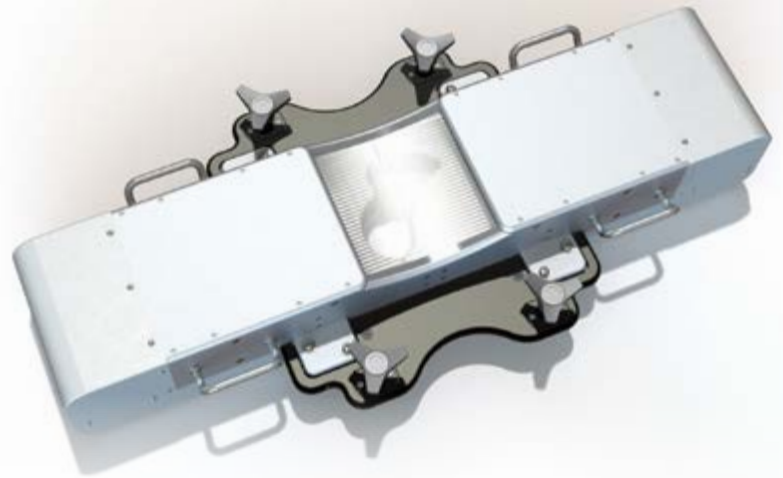
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Avanza™ Patient Positioning Table and Motorized Equinox™ Multi-Leaf Collimator

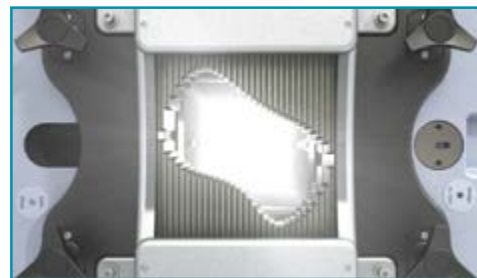
The **Avanza™ Patient Positioning Table** demonstrates a high level of stability and accuracy for treatment techniques that require precision.



- Accurate and reproducible patient positioning
- Better than 2 mm positioning accuracy
- Efficient and comfortable patient set-up
- Flexible set-up with “zero” position
- Streamlined set-up with free-float and automated motions
- Kevlar mesh reduces surface dose buildup

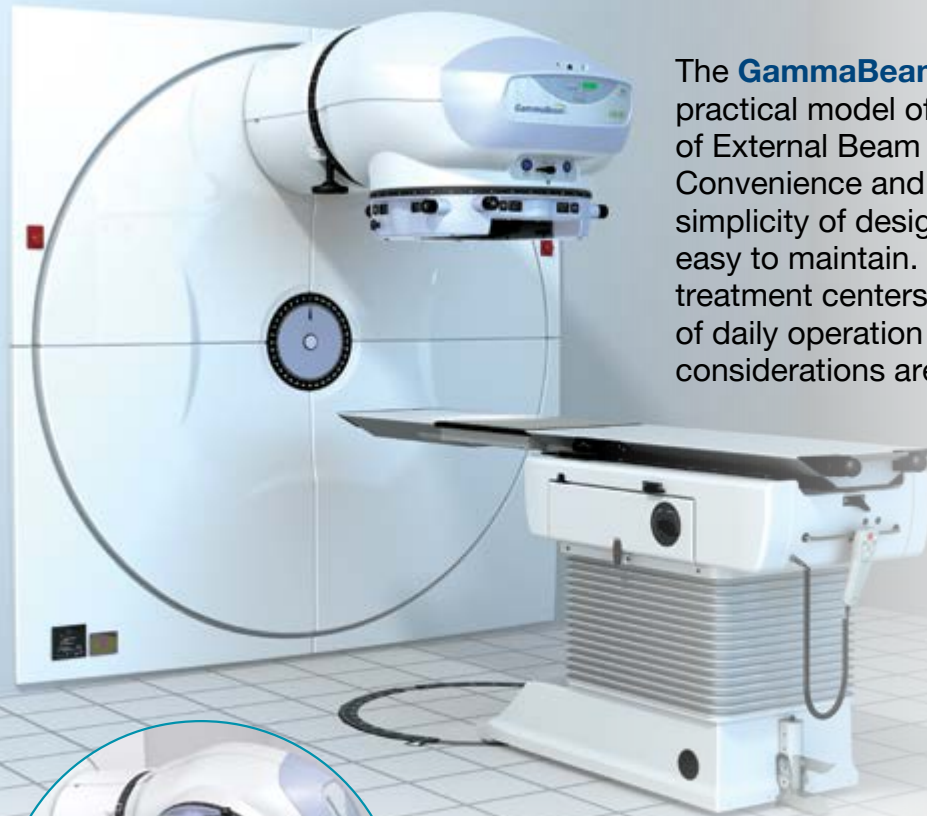


A **Multi-Leaf Collimator** is available as an optional accessory for the Equinox product line, providing 3D Conformal Radiation Therapy (3D CRT) and Intensity Modulated Radiation Therapy (IMRT) capability. The intuitive user interface incorporates a patient database, record and verify functionality, and is DICOM-RT compatible for treatment plan imports.



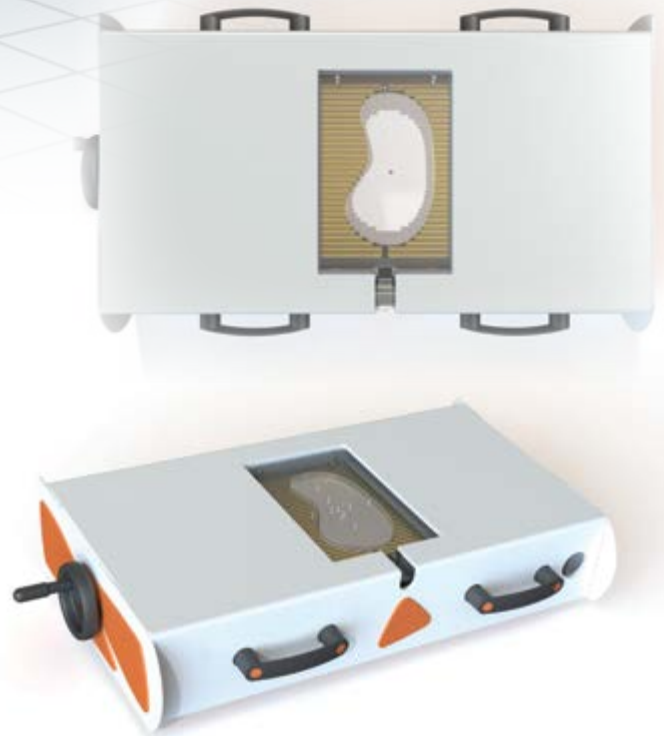
The **Equinox MLC 60** system is the most advanced Cobalt Teletherapy system available.

GammaBeam™ 100-80 CM Phoenix™ External Beam Therapy System and Manual Multi-Leaf Collimator



The **GammaBeam™ 100-80 CM** is a highly practical model of the GammaBeam family of External Beam Therapy System (EBTS). Convenience and safety, combined with simplicity of design, make it easy to use and easy to maintain. Particularly appropriate for treatment centers requiring extended hours of daily operation and where budgetary considerations are a major concern.

A manually adjustable multi-leaf collimator is now available with the GammaBeam™ 100-80 CM product line. The innovative concept of the MMLC system now provides the ability to conform the Cobalt-60 Radiotherapy to the exact tumor shape without the cumbersome use of lead blocks. The method known as 3D CRT, improves the impact on the cancerous tissue while sparing the surrounding healthy tissue. The MLC connects modern treatment methods in radiotherapy with high cost-efficiency and maximum reliability for all environments.



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GammaBeam™ 500 Total Body Irradiator System and Patient Positioning Couch

The **Total Body Irradiator GammaBeam™ 500** is a teletherapy unit designed to produce a large fixed rectangular radiation field at an extended source-to-skin distance in order to deliver total body irradiation. The unit can also be used for research and dosimetry purposes. Features include: dose rate up to 40 cGy/min at 2.5 m in air, record and verify and imaging capabilities, graphical touch screen data entry interface and motorized vertical motion of the head.



- Source position indicators
- Redundant control system monitoring and timing
- Source shutter mechanism
- Operational and inhibit state interlocks
- Fixed and SSD treatment capabilities
- Graphical touch screen user interface
- Motorized vertical motion of the head
- Head swivel (optional)
- DICOM Worklist interface to customer's treatment management system
- Field flatness ($\pm 5\%$)
- Back up power to guarantee completion of treatment

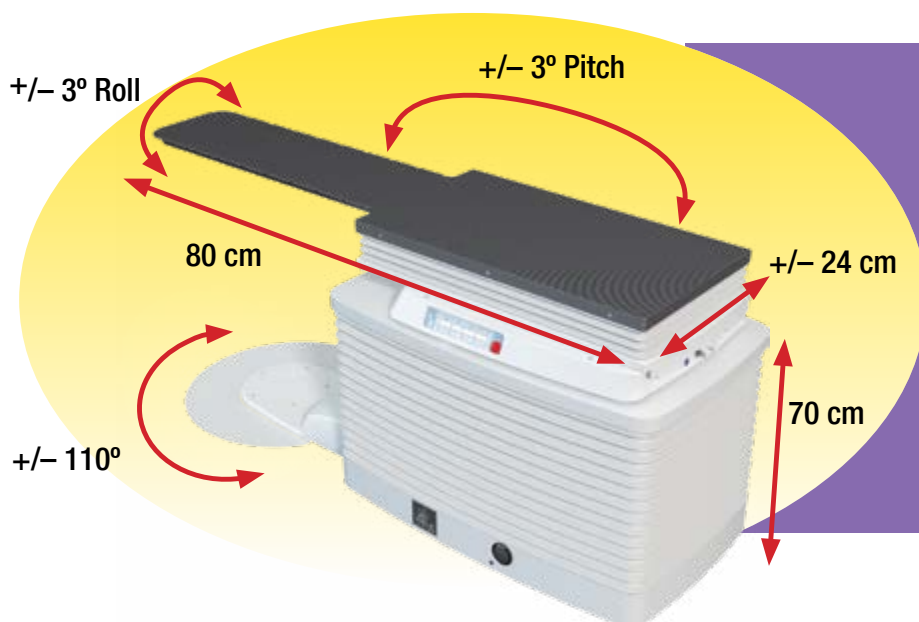
The patient couch is an accessory of the GB500, which includes an integrated portal imaging detector option. The imaging sub-system allows position verification of organ a tenuators, used during AP/PA total body irradiation treatments.



Best™ Theratronics
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www.teambest.com

Avanza 6D Patient Positioning Table and UPGRADE Kit for Theratron Systems



NEW Avanza 6D table provides adjustment in all six dimensions— including pitch and roll—greatly improving the patient set-up for all treatment cases.

UPGRADE Kit for Theratron Systems



UPGRADE includes:

- Removing all old controls, electronics and installing a new control system and covers
- Replacing the old collimator system with the new Equinox collimator
- Replacing the old treatment table with the new Avanza™ Table
- Retaining the head rotation capability is optional

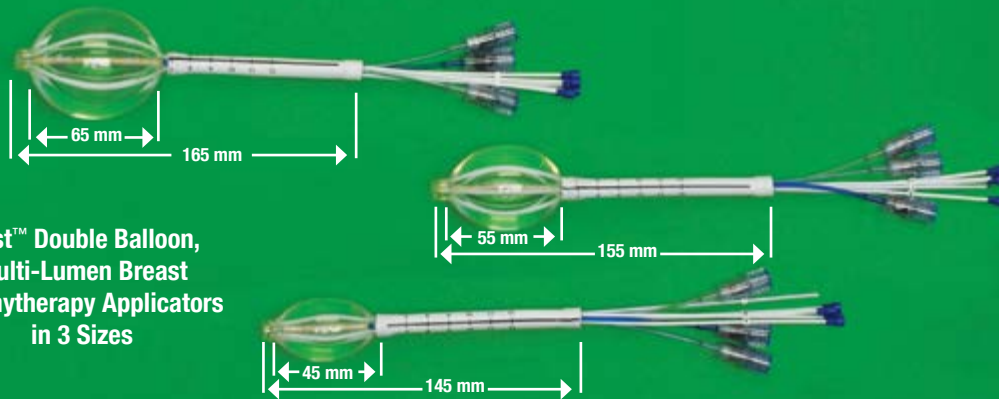
UPGRADE features:

- Calculated Arc Speed
- Graphical Control System
- Asymmetric Jaws (*optional*)
- R&V System Ready (*optional*)
- Service Log Files
- On-Board Verification
- Motorized Wedge (*optional*)
- Collision Detection (*optional*)

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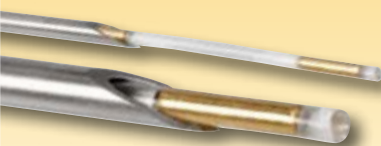
Best™ Integrated Radiotherapy Solutions



Best™ Double Balloon,
Multi-Lumen Breast
Brachytherapy Applicators
in 3 Sizes



Best™ Esophageal
Brachytherapy Applicator



Best™ Fiducial
Markers

Stranded

Loose

Best™ Iodine-125 Seed

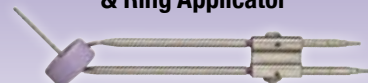


Best™ Palladium-103 Seed



Best™ Localization
Needles with I-125
Seeds

Best™ Kobold Tandem
& Ring Applicator



Best™ Kobold Fletcher Tandem
& Ovoid Applicator



Best™ Kobold Henschke Tandem
& Ovoid Applicator



Best™ Sonalis™
Ultrasound Imaging
System



Best™ HDR
Remote Afterloader



Best™ Treatment Planning
System

Portable Dosimetry
System

mobileMOSFET
Wireless
Dosimetry
System



Comparative Analysis of ^{60}Co Intensity-Modulated Radiation Therapy

Christopher Fox, H Edwin Romeijn, Bart Lynch, Chunhua Men, Dionne M Aleman, and James F Dempsey
Phys Med Biol. 2008 Jun 21;53(12):3175-88.

Abstract: In this study, we perform a scientific comparative analysis of using ^{60}Co beams in intensity-modulated radiation therapy (IMRT). In particular, we evaluate the treatment plan quality obtained with (i) 6 MV, 18 MV and ^{60}Co IMRT; (ii) different numbers of static multileaf collimator (MLC) delivered ^{60}Co beams and (iii) a helical tomotherapy ^{60}Co beam geometry. ... The results of the investigation demonstrate the potential for IMRT radiotherapy employing commercially available ^{60}Co sources and a double-focused MLC. Increasing the

number of equidistant beams beyond 9 was not observed to significantly improve target coverage or critical organ sparing and static plans were found to produce comparable plans to those obtained using a helical tomotherapy treatment delivery when optimized using the same well-tuned convex FMO model. While previous studies have shown that 18 MV plans are equivalent to 6 MV for prostate IMRT, we found that the 18 MV beams actually required more fluence to provide similar quality target coverage.



For the full article, please visit www.gammatherapy.com

Cobalt-60: An Old Modality, A Renewed Challenge

Jake Van Dyk and Jerry J. Battista
Current Oncology, November 1995

Abstract: The discovery of x-rays and radioactivity 100 years ago has led to revolutionary advances in diagnosis and therapy. However, it was not until the middle of the twentieth century that megavoltage photon energies became available through the use of betatrons, cobalt-60 gamma rays and linear accelerators (linacs). The increased photon penetration and skin sparing provided radiation oncologists with new opportunities for optimizing patient treatments. In recent years, several reports have considered various issues which define the "optimum" photon energy for the treatment of malignant disease. In many of these articles, cobalt-60 is mentioned although it is generally not recommended for radiation therapy departments in the western world. Indeed, many now consider cobalt-60 as an old modality

that is only useful for palliative treatments in a large department or for developing countries with limited technical resources. ... In this commentary, we ... briefly review the arguments that have been presented both for and against the use of cobalt-60 as well as add some up-to-date insights and perspectives. Undoubtedly, we will not resolve this debate for all clinical situations. However, we hope that by putting "all the cards on the table", the cobalt-60 option will be viewed from a fairer perspective than we have seen in recent years of rapidly advancing accelerator technology. Furthermore, we also make some recommendations for the designers of cobalt-60 technology so that modernized units can be made more attractive for today's radiation therapy facility.



For the full article, please visit www.gammatherapy.com