VARIAN
medical systems

VARISOURCE AFTERLOADER FEATURE SHEET

The VariSource™ iX afterloader with its iX control software offers compatibility with hospital networks and enhances the high dose rate (HDR) brachytherapy experience. Utilizing the latest technology, the VariSource iX offers unique features to meet your brachytherapy needs.

Intelligent

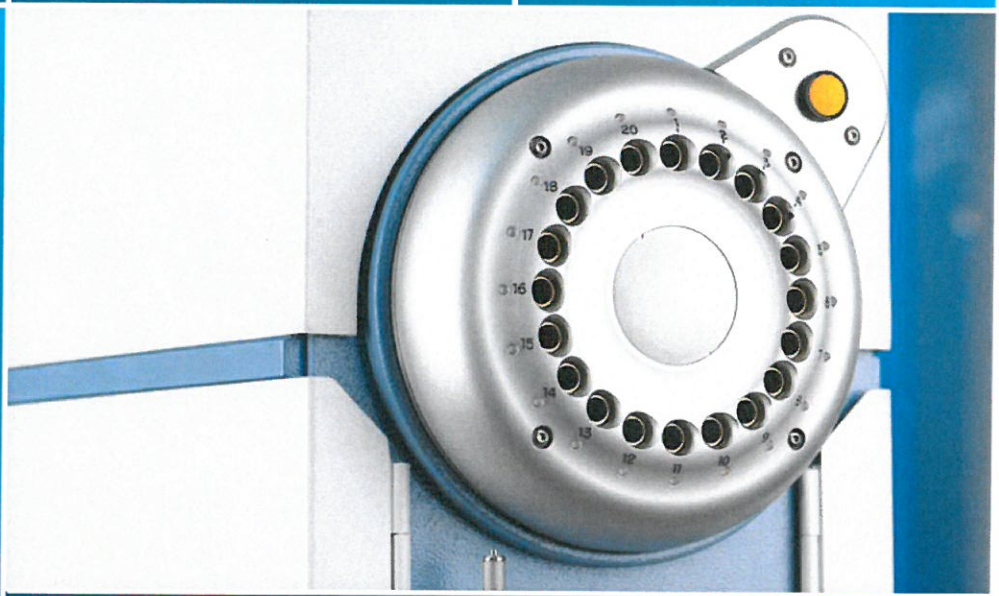
KEY FEATURES OF VARISOURCE:

- Smallest diameter source wire for potentially lower trauma with interstitial techniques and bronchial catheter designed for kink resistance
- Monitor wire transit with Intelligent Drive™ force feedback system
- Electronic turret for reliable and accurate transfer tube engagement
- CamScale™ automated position verification system for expedited, efficient daily QA checks
- Full UPS and battery back-up for safe treatment completion and automated wire recovery in a power failure
- Fully integrated with BrachyVision™ treatment planning system* and ARIA® oncology information system* network
- Wide range of treatment accessories suitable for CT imaging

Contact your Varian BrachyTherapy representative to discuss these and other key features of VariSource.

** Version 11 and above*

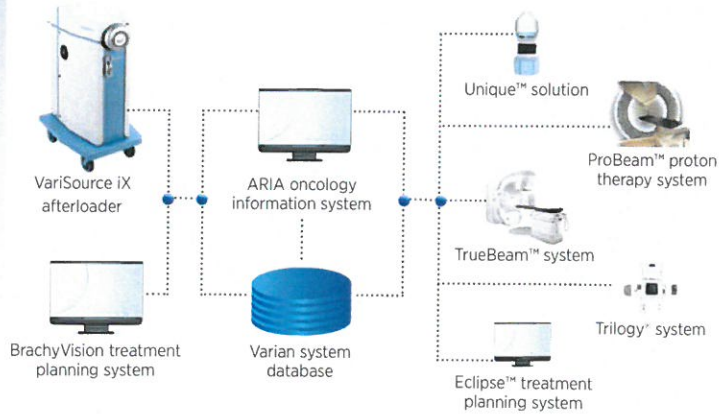
Integrated



Intuitive

BRACHYTHERAPY INTEGRATION

1. Patient scheduled in ARIA
2. Treatment plan created in BrachyVision and scheduled in ARIA
3. Afterloader console pulls treatment plan from ARIA
4. After patient treatment, afterloader console returns the treatment record to ARIA
5. Afterloader console updates the appointment status
6. RT Summary and Patient Summary display the treatment record and dose in ARIA

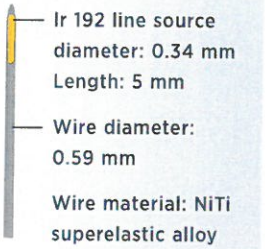


COMPREHENSIVE BRACHYTHERAPY TREATMENT

FEATURES

5mm long active source embedded into 0.59 mm wire

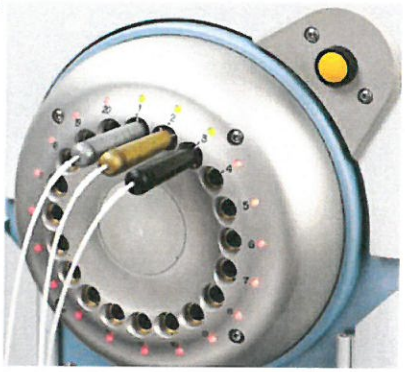
- Allows for the use of 18 gauge (1.27 mm) needles.
- Smaller needles can mean less trauma for the patient.
- Embedded directly into the tip of the wire leaving no crimps or joints that could produce weak spots. Loaded with enriched iridium, the source wire can be installed at an activity of up to 11Ci.



- Annealed source wire tip creates the right amount of flexibility to navigate the tightest catheter bends encountered clinically.

Kink-resistant catheters for uninterrupted treatment

- Standard catheter outer diameter measures 4.7 Fr. gauge, 1.57 mm making it robust and kink-resistant.
- Thick catheter wall means fewer treatment failures due to catheter kinking and suggests a higher treatment delivery success ratio.



- One of the thinnest standard catheters for use with an HDR afterloader.

Solid nitinol source wire and unique force feedback device for navigating constrictions

- Allows for accurate transmission of the forces on the wire back to the afterloader. Constantly measured by the Intelligent Drive, the system determines if the forces are consistent with normal operation.
- When the force measured on the wire indicates a tight bend in the catheter, the drive moves into a stepping mode to navigate the restriction or retracts if an obstruction is detected.
- Solid wire is able to move in a distal-to-proximal direction during treatment ensuring accuracy and potentially reducing errors caused by wire bunching.
- Connects to 20 channels.
- Plans involving ≥20 channels are delivered in multiple segments but reported as one treatment delivery.
- Source extension up to 150 cm from afterloader turret.
- Source wire transit speed of up to 60 cm/second.
- 5 mm default step size matches source length resulting in a uniform line source distribution.
- Programmable up to 60 dwell positions per channel and variable step sizes ranging from 2 mm up to 99 mm in 1 mm increments.
- Ensures no change occurs in the wire length as the source is driven to the treatment position and forces are exerted upon it.

iX control software creates intuitive, streamlined, user-friendly experience

- Presents information in a controlled and logical manner with the aim of ensuring no detail is overlooked or misinterpreted.
- Logical screen layout, intuitive icons, and clear graphics provide the pertinent information when and where it is needed.
- Icons at the foot of the screen indicate the system status, source calibration information, and prior to treatment initiation, the status of all critical interlocks.
- Treatment delivery steps include: selecting the patient, confirming the demographic data, selecting the fraction, and checking the treatment parameters. Once reviewed, the treatment report may be printed or stored.
- Imports patient data from the treatment planning system using a wizard-style, field-matching process to reduce the risk of selecting the incorrect patient for treatment. When a patient is recognized, users can create a new course or add the treatment to the existing course as a new fraction.
- View dwell times in a bar graph format to identify discrepancies.
- During treatment delivery, observe the radiation status, source position, remaining channel time (in minutes and seconds), and a graphical representation of real-time source position.

Remote text displays at the console area, treatment room door and on the afterloader itself give important information on the wire position and status including error messages.

- Manage QA with a source calibration worksheet, customized QA checklists and wire positional calibration (CamScale) reports
- Integration with the BrachyVision treatment planning system and ARIA oncology information system allows for the direct download of treatment plans with the aim of achieving accurate and reliable transfer of plan data, both to and from the database.

CamScale system

- Internal video camera focused on a scale upon which the wires can be positioned.
- Check the positional accuracy of both the dummy and active wires at distances of 80 cm and 140 cm.

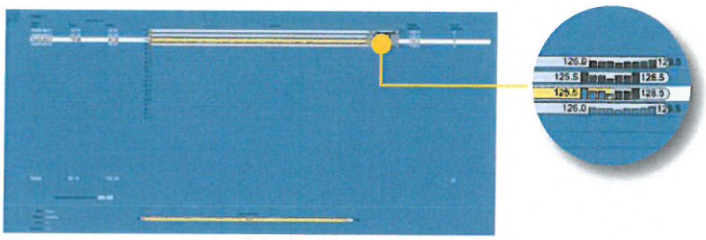
- View images on the control console, and print if needed.
- Prevents repeat trips into the room and eliminates film having to be developed and filed so physicists' time is saved.

Simple-to-operate quick connects

- Ensures a proper connection every time.
- Electronic lock precisely aligns the connectors to the reference plane.
- Sensor sweeps the channels checking the connections and then provides visual indication (red/not ready or green/ready) of each channel.
- Saves time and inconvenience of re-entering the treatment room to check catheter connections.

Hardware and software safety

- Access to control console secured through two hardware keys and password protection.
- Mechanical verification of secure connection of catheters/applicators prior to treatment delivery.
- Inactive source cable extends to the end of the channel to verify that no obstructions or kinks in the guide tubes, applicator or catheter exist.
- Immediate cable retraction occurs when console communication failure is detected.
- Tracks wire position via a combination of discrete position sensors and a precision encoder.
- Mechanical switch indicates when the cable is in the home position and the source is returned to the safe.
- Back-up mechanical switch prevents wire over-extending from machine.
- Wire length checked at treatment completion utilizing position sensors and precision encoder.
- Automatic detection of catheter/applicator blockages with accurate position reporting.
- Uninterruptible power supply isolates the system and provides enough power to complete a treatment in the case of a power failure



Treatment display streamlines workflows and shows pertinent information relating to the treatment in progress. The unique channel display facilitates clear indication of both dwell times and positions.

Emergency retraction

- Independent emergency retract drive assembly.
- DC emergency retract motor with backup battery.
- Independently powered Geiger Muller radiation detector alerts users if radiation is not detected during treatment or is detected after the source cable has retracted.

- Automatic source retraction on power failure or hardware error.
- Easily operated manual retract handle.

Varian BrachyTherapy Suite

The Varian BrachyTherapy Suite stems from the collaboration between Varian and Siemens successfully pairing imaging and treatment technologies to facilitate in-room brachytherapy procedures. The Varian BrachyTherapy Suite features the Siemens CT sliding gantry (CTSG) with either the VariSource or GammaMed™ afterloader and BrachyVision treatment planning. The Siemens CTSG can be configured with a dedicated full featured operating table, facilitating the most complex brachytherapy procedures.