microSelectron® Digital
Brachytherapy Afterloading Platform

The solid foundation of today’s brachytherapy
Brachytherapy is in our DNA

Brachytherapy is a precise, highly-effective and well-tolerated treatment option, tailored to the needs of individual patients. Elekta Brachytherapy encompasses more than 35 years of brachytherapy innovations and is the preferred partner for about 60% of brachytherapy institutions worldwide. Continuous research and development in close collaboration with our customers allow us to find comprehensive and smart solutions to clinical needs and to remain at the forefront of brachytherapy.

With the introduction of the microSelectron afterloader, we have revolutionized the precision treatment of cancer. microSelectron has allowed users to move their brachytherapy practice from manual afterloading to automated remote afterloading, setting new safety standards and protecting healthcare specialists from unwanted radiation exposure while treating their patients.

microSelectron® Digital is the latest evolution of this pioneering remote afterloading brand. The scalable and upgradable platform serves the needs of a wide range of brachytherapy providers, connecting seamlessly to the broader infrastructure of a radiation department and creating long-term value.
Why microSelectron Digital?

- Reliable platform with largest installed base worldwide
- Scalable afterloading system that can be tailored to a clinic’s needs
- Seamless integration with MOSAIQ and other oncology information systems
- 24/7 service support
Reliable

microSelectron® has over 1,500 platforms in use in over 80 countries, making it by far the largest installed base in the world. The microSelectron® Digital platform is comprised of the treatment unit, remote treatment monitoring and control devices, as well as quality assurance tools.

The treatment unit’s forward stepping source ensures that the radioactive source is precisely placed at the defined dwell positions and that no unnecessary radiation exposure occurs at the tip of the treatment channel, thus adding to the safety of the procedure. The source is paused at dwell positions every 2.5, 5 or 10 mm, depending on the clinical preference. The source movement is controlled by an absolute drive that acts on the source cable directly, resulting in a robust positioning of the source with an accuracy of ± 1 mm at each dwell position.

The durable design of microSelectron Digital’s afterloading source guarantees 25,000 source transfers per source. Because of these aspects, the frequency of source exchanges and related quality assurance checks are typically lower. This is particularly beneficial to brachytherapy practices that regularly treat more complex patient cases or high numbers of patients.

Our global Service organization offers support for the microSelectron Digital platform. This team of experts understands the challenging issues of radiotherapy facilities and is committed to your clinical success – caring deeply about patients, customers and products.

The microSelectron® Digital platform offers you total confidence in:

- The precision and reliability you expect from your remote afterloading solution
- The reliability of source delivery logistics
- The full training and continuous support of your clinical team
Scalable

The microSelectron® Digital platform is a flexible solution for brachytherapy applications ranging from conventional treatments with a low number of treatment channels to more complex treatments requiring a multitude of treatment channels.

The scalable microSelectron Digital platform can easily be tailored to the evolving needs of your brachytherapy practice. You could start off with six treatment channels, for example, and scale up to 18 or 30 channels as the need arises.
With the 18 or 30-channel configuration, large implants such as state-of-the-art interstitial breast or prostate treatments, can be treated without needing to reconnect catheters during treatment.

For more complex implants, the number of catheters in the treatment plan can even exceed the afterloader’s number of physical channels. Through the use of the sub-fractionation functionality in the microSelectron Digital, treatments with up to 90 catheters can be performed.

The platform can be scaled to accommodate the various procedures of a clinical practice.
A successful brachytherapy procedure is tailored to the needs of individual patients. This can only be accomplished through a seamless connection of all the elements involved in the brachytherapy treatment solution: imaging, applicators, treatment planning and treatment delivery.

Oncentra® Brachy and Oncentra® Prostate treatment planning systems are designed for use with the microSelectron® Digital and provide an optimal fit. The microSelectron Digital platform can also be integrated seamlessly with MOSAIQ and other Oncology Information Systems, as it is compatible with DICOM RT and DICOM Unified Worklist.

For optimized conformal treatment delivery, a broad portfolio of applicators for more than 15 types of cancer in a variety of anatomies are available for use specifically with microSelectron Digital. It is even possible to treat anatomies that require small curvatures in the treatment catheters. Curvatures with a radius as small as 13 mm can be handled by the source and its cable.

With patient comfort in mind, the microSelectron Digital treatment unit has large castors that allow it to be easily maneuvered into place at the bedside, as well as an indexer that can be adjusted to the desired height.
Seamless connection to MOSAIQ® and other Oncology Information Systems.
One configuration suits all

The microSelectron® Digital platform can be configured to either high dose rate (HDR) or pulsed dose rate (PDR) brachytherapy. The system is comprised of the treatment unit with matching source containers, the treatment console, radiation monitoring systems, and a series of quality assurance devices.

**Treatment Unit**
Remote afterloading unit for brachytherapy treatment delivery, designed for use with Nucletron’s full range of applicators.
Elekta brachytherapy solutions are part of Elekta’s leading radiation therapy portfolio and encompass more than 35 years of Nucletron® innovations. These advanced products include Esteya® electronic brachytherapy, Flexitron® afterloading, Oncentra® Brachy treatment planning, the broadest range of applicators in the industry and Real-time Prostate solutions.

A human care company, Elekta pioneers significant innovations and clinical solutions harnessing both external and internal radiation therapy for treating cancer and brain disorders. Elekta provides intelligent and resource-efficient technologies that improve, prolong and save patient lives. We go beyond collaboration, seeking long-term relationships built on trust with a shared vision, and inspiring confidence among healthcare providers and their patients.