

Specialty: powerful, essential and valued cleansing systems

Pre-cleaning complex robotic instruments

'We are a medium-size German company specialising in ultrasonic equipment for cleaning, including pre-cleaning of medical instruments from different medical fields,' explained Florian Knuth, Sales Director for the Medical Division of the firm Bandelin, during an interview with Ralf Mateblowski, of European Hospital

'We've produced and distributed different types of ultrasonic equipment for pre-cleaning of medical instruments for a number of decades,' Knuth added. 'This ranges from one litre devices for smaller medical practices to large, built-in devices for the Central Sterile Services Department (CSSD). Additionally, we offer specialist devices, such as those required for MIS instruments or robotic instruments.'

Asked about the development and more general use of robot-assisted surgery, Knuth said the advantages are obvious. 'More precision are obvious. More precision for complex interventions and therefore a clear reduction in the number of surgical errors. However, these high-tech instruments with long lumen, various control wires, detailed cutting tools and complex design also require special handling. The manufacturer supplies detailed instructions for manual pre-cleaning. This involves rinsing, brushing, and moving the instruments in many individual steps. This procedure is very time-consuming.'

Knuth: 'Increasingly complex surgical instruments require innovative technical solutions for adequate preparation. Our focus is on achieving optimum safety during preparation using validated procedures, whilst simultaneously saving resources.'

'Our TRISON 4000 ultrasonic bath offers a pre-cleaning procedure which can prepare four highly complex robotic instruments simultaneously, with patented technology. The instruments are treated with ultrasound while

being rinsed and moved. Achieving all this in just one single step is unique and facilitates the best possible results in cleaning.'

'The system ensures a consistent process for each treatment cycle. With manual pre-cleaning this is not always the case, as different staff members will usually work in slightly different ways. To avoid this, we have integrated a control function, which monitors the device components and correct procedure throughout the process. We have also integrated a rinse control function, meaning that, should one or several instruments still be blocked after treatment, this is indicated on a large display. This function provides additional security to ensure the correct condition of the instruments for further treatment.'

EH: Documentation of processes is necessary from a regulatory perspective, as well as for quality management guidelines. Does the Trison 4000 offer this?

Knuth: 'Documentation of all individual steps may be considered time-consuming, but it provides user safety. Comprehensive process documentation guards against potential situations where users may have to provide explanations, meaning that, if something

**TRISON 4000:
Ultrasonic bath for the intensive and gentle pre-cleaning of robotic instruments**

was not documented, it was not done.'

'All users should safeguard against this, which is why the Trison 4000 generates a protocol of the last cycle after each treatment. This protocol documents all relevant parameters and can be securely, digitally archived via a USB interface or through integration into the network.'

With all these advantages, there must surely also be a disadvantage – I assume the system is not particularly cheap?

'A complex device like this has its price. But the big advantage is that there is hardly any staff expenditure. The instruments are inserted, the device is started, and the instruments can be removed for further treatment after only 30 minutes. Over a long period of time, this represents a substantial time saving and clear benefits for staff in the CSSD.'

And the device makes manual labour unnecessary?

'We have various examinations and test reports which



Florian Knuth studied economics in Berlin and is currently Sales Director of the Medical Division of Bandelin. He is responsible for consulting and sales of all medical ultrasonic baths used in CSSDs and medical practices. With almost ten years professional experience in the medical field, he is an expert in instrument reprocessing and decontamination applications. His knowledge and the constant exchange with the users help him understand the users' needs and requirements in their daily work.

show that pre-cleaning in the Trison 4000 is successfully carried out almost without needing any additional manual steps. The device was launched in 2017. More than 60 systems are currently in use in validated procedures across Europe, and user feedback is always positive. They especially value the intuitive handling, excellent cleaning results and the considerable relief in stressful working conditions.'

Could you give us a view into the future?

'Robot-assisted surgery will continue to increase. There will be more providers of robotic systems, along with completely new technologies, new instruments and new procedures which will continue to alleviate and improve the treatment of patients. The Trison will be ready for the cleaning of new robotic instruments in future.'

Bandelin always has an eye on new developments to ensure we can continue to meet this demand with innovative ultrasound equipment and to contribute to resource-saving cleaning of medical instruments.'

