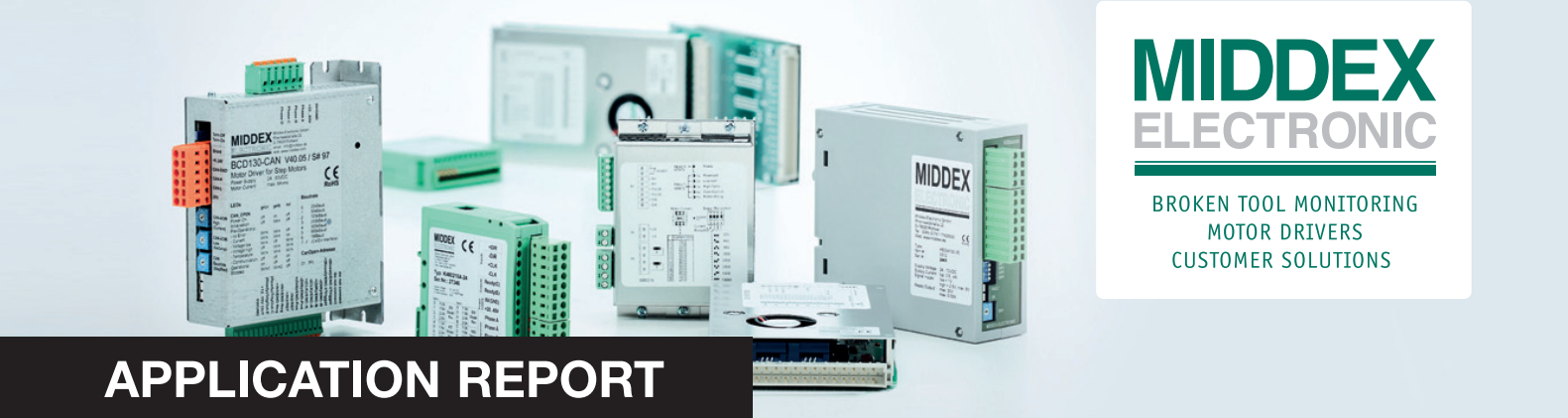




APPLICATION REPORT

MIDDEX // STEPPER MOTOR CONTROLS

Customer: Active Medical Xcellence GmbH (AMX)

MIDDEX stepper motor controls as a central component of the peristaltic pump in the Morcellator activeCut

Data

Middex Product

Stepper motor control

Function:
Pump drive for precise dosing and controlled material conveying

AMX-Product

Morcellator activeCut

Function:
minimally invasive tissue sampling in clinical applications

Cutting-edge medicine requires cutting-edge technology. And that’s why we’re delighted to be collaborating in the field of medical technology: Active Medical Xcellence GmbH (AMX) from Jena uses the precise motor controls of Middex for its innovative medical devices.

As a specialised spin-off of Active Fiber Systems GmbH, the AMX team develops pioneering solutions for urology. Specifically designed for everyday clinical use, the **Morcellator activeCut**, a system for minimally invasive tissue removal that places the highest demands on safety and control, was launched in 2026 and is in use throughout Europe.

This is precisely where Middex's drive expertise comes in: Our motor controls in the **activeCut** ensure the precise, reliable and sensitive control that surgeons need in the operating room.

Together, we are setting new standards for minimally invasive surgery and patient safety. Find out more about the technical details of this collaboration and how Middex technology drives innovation below.



Why Middex is the perfect choice for controlling motors

Stepper motors are perfect for medical technology, offering controlled, reproducible and safe movements. Advantages:

- Accurate dosage:**
precise microsteps ensure the smallest possible delivery volumes
- High repeatability:**
reliable function thanks to thousands of cycles in pump systems
- Strong performance:**
high power at low speeds for smooth movements
- Quiet operation:**
low vibration and noise for sensitive medical environments
- Compliant:**
easy validation and long-term stability for rigorous audits

Why Middex controls make the difference:

- Finely tuned current control**
for perfect microstep quality
- Resonance optimisation**
for extremely quiet pump movements
- Thermally stable control**
for continuous operation with no loss of performance
- Long-term availability**
and high vertical integration
- Result:** maximum precision, minimal deviation, maximum reliability

Conclusion:

In summary, the application in the **Morcellator activeCut** shows that the combination of AMX's device technology and Middex's motor controls meets the high demands of medical technology in terms of precision, reliability and process safety. The control system was custom-tailored to the requirements of AMX and its intended use in the **activeCut**. The reliable control of the pump drive supports stable and reproducible operation in clinical use and thus contributes significantly to the performance of the overall system.