

APPLICATION PROFILE

ROBOTIC SURGICAL HAND TOOL - JOINT RECONSTRUCTION

Orthopedic surgeons utilize advanced robotic technologies to carefully sculpt and remove bone during joint reconstruction surgeries. Hand tools with pencil-like grips are used to precisely sculpt bone according to a predefined plan, while the robotic system employs a real-time navigation tracking system to both monitor the position of the tool and enforce the safety zones, which are the bone areas that should not be removed.

A medical device manufacturer was searching for a miniature motor supplier to provide improved motor technology for their sculpting tool; specific requirements included a faster, lighter-weight motor that would simultaneously ensure safer surgical procedures and improve surgeon comfort. They selected Portescap as the supplier, based on its significant experience in handheld surgical tool applications and broad portfolio of potential motor solutions. Upon receiving the request, the Portescap team selected the B0512N brushless DC slotted SMS motor with gearhead for the sculpting tool and delivered prototypes to the customer within 48 hours. With its high-power density and 15:1 gearhead, the solution was an ideal fit for the hand tool, providing the necessary speed and torque and meeting the endurance requirements through multiple autoclave cycling.



B0512N BLDC Slotted Motor
With Gearhead



Motor Highlights

- BLDC slotted technology
- High power density
- Reduced axial length
- Autoclavable
- Low noise level

Application Assistance

Complete list of global sales offices: portescap.com/en/contact-portescap

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