

APPLICATION PROFILE

SURGICAL HAND TOOL - ORBITAL ATHERECTOMY SYSTEM



Orbital Atherectomy Systems, or tools that assist surgeons in critical care of patients with arterial calcium build up, help guide a mechanism through the artery to remove plaque buildup and to prepare for stent insertion. A motor-powered, rotating device uses a combination of centrifugal force and sanding to remove the plaque from patients' arteries.

A large medical device manufacturer approached Portescap to design an electric motor solution to replace the pneumatic system currently being used by their orbital atherectomy system. The motor needed to operate efficiently, produce high speeds and exhibit minimal heating. The pneumatic system required connection to a compressed air network, making it inefficient and bulky to use. It also was plagued by continual air leaks, which resulted in lost energy and time, as well as a high cost of ownership.

To meet the customer's needs and timeframe, Portescap's prototype team quickly developed an initial motor design in under three weeks. By using the Ultra EC™ 16ECS brushless slotless motor, the tool operated within the required temperature specifications and at the required high speed and torque levels. Reducing the handheld tool temperature was also instrumental in increasing operator comfort.

Motor Highlights

- Slotless BLDC design
- High speed
- Long life
- Smooth operation
- Compact, efficient package

Application Assistance

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