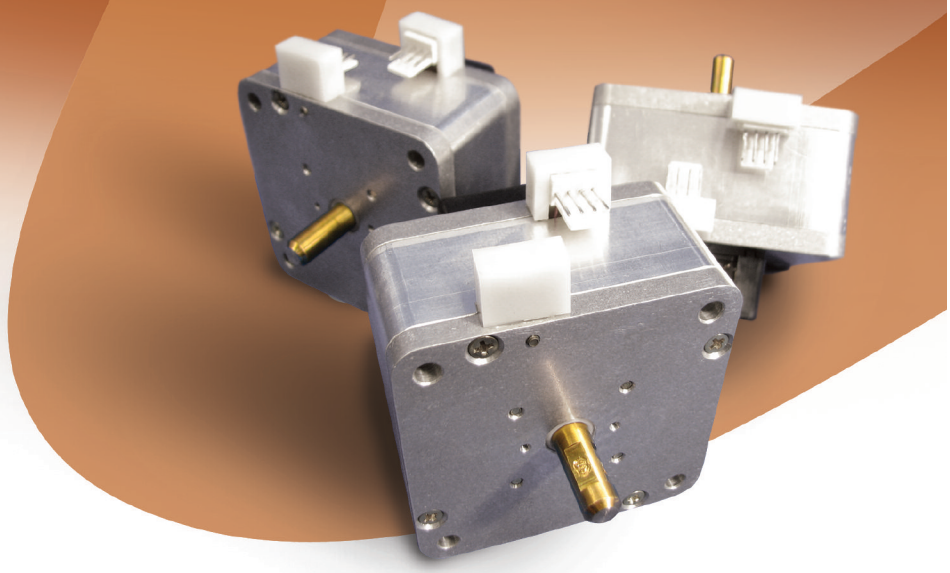
Direct Drive™

Ultrasonic Motors

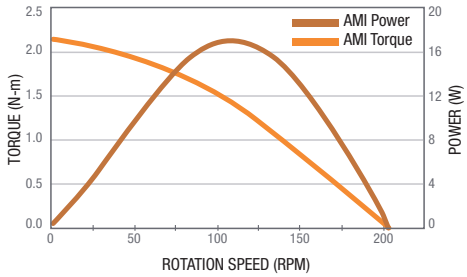


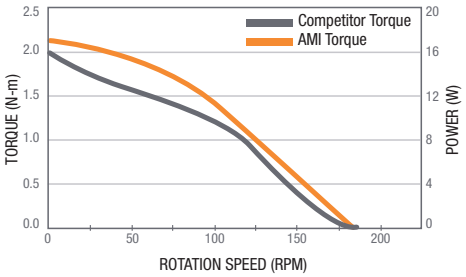
Helps eliminate complex, expensive, and energy consuming gear trains.

Ultrasonic Motors are a unique type of motor that take advantage of high frequency displacement and piezoelectric energy to operate in ultrasonic frequency ranges. The piezoelectric elements are combined with metallic components to form a stator assembly. The piezoelectric, upon activation, induces a wave motion that travels continuously through the stator and drives the rotor.

Ultrasonic motors have the fundamental advantages of:

- + High torque / low speed output ideal for direct drive implementation – eliminating complex, expensive, and energy consuming gear trains.
- + 100% non-magnetic – enables use in telecommunications, magnetic resonance imaging (MRI), and other electromagnetic sensitive applications.
- + Motor will hold position securely when not in use – no need to integrate brake/clutch system or stopping mechanism.
- + Quieter than equivalent electromagnetic motors and gear systems.
- + Scalable to small and large sizes without efficiency degradation.





Actuated Medical can design and build Ultrasonic Motors with a wide range of performance possibilities. One example is shown below:

Specifications Example	
Size (LxWxH - not including shaft)	2.7 x 2.7 x 1.4 inches
Frequency	40 - 45 kHz
Maximum Speed	225 RPM
Stall Torque	≥ 2.0 N·m
Torque @ 100 RPM	≥ 1.5 N·m
Max. Power Output	17 W
Control/ Tracking	500 PPR encoder available

Performance characteristics can be designed for optimum:

- + *Speed*
- + *Torque*
- + *Size*
- + *Longevity*

Depending on the customers application. All work is conducted under strict ISO-compliant design controls and traceability.

ACTUATED MEDICAL

Innovative motion + Positive outcomes

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