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Celera Motion Unveils New Omni+ Direct Drive Motor for Robots

Celera Motion debuts new larger version of the world's most advanced direct drive frameless motor, ideal for surgical robots, exoskeletons, AGVs/AMRs and other applications

BEDFORD, Mass. (June 28, 2023) — Celera Motion, an [award-winning](#) business unit of Novanta Inc., today announced a new version of its innovative direct drive motor platform, the Omni+™ Series.

The Omni+ 130 mm motor becomes the largest of the series, known as the world's most advanced direct drive frameless motor kits. All offer the highest torque density and ultra-low cogging in a low profile and large aperture design.

“The Omni+ Series is a game-changing product line designed specifically for surgical robotics and other high-precision applications,” said Facundo Lay, Motors and Mechatronics Product Manager at Celera Motion. “This groundbreaking series offers an unmatched combination of raw power, exceptional smoothness, and integration flexibility, setting a new standard for excellence in the precision-motion field. With Omni+, manufacturers can attain smoother, more accurate movements with less noise and vibration, all while optimizing space and simplifying their design.”

Designed with customers' needs in mind, this exceptional product line offers a range of axial lengths and winding options, providing the flexibility to achieve optimal system integration effortlessly. Whether in the field of surgical robotics, robot joints, automated guided vehicles and autonomous mobile robots (AGVs/AMRs), metrology, UAV satellite communications, collaborative robots, exoskeletons, or lab automation, this series is pre-engineered to meet the most extreme requirements.

Customization allows designers to meet the unique needs of each application, allowing for more tailored and effective solutions. The Omni+ Series also offers:

- The highest torque density on the market, providing unrivaled power and precision.
- A low profile that allows manufacturers to design compact, lightweight robots that can fit into tighter spaces.



- A large aperture design that's easy to incorporate into robot joints without sacrificing performance.
- Ultra-low cogging that ensures the motor operates smoothly and quietly, without any unwanted vibrations or noise.
- Precise and accurate movements that enable collaborative robots to work with humans more safely and effectively.
- Efficient power usage so applications can run longer before battery replacement or recharging.
- A large ID-to-OD ratio for convenient routing of cables, optics and other system elements.

“Our commitment to innovation drives us to push boundaries and deliver cutting-edge solutions to our customers constantly,” Lay said. “The Omni+ series is a testament to our dedication to providing motor solutions that exceed expectations, enabling our customers to unlock new levels of performance and efficiency in their applications.”

In addition to the Omni+ 130 mm model, Celera Motion offers the OMNI+ 100 mm, OMNI+ 70 mm and the OMNI+ 60 mm.

To learn more about the Omni+ Series, visit www.celeramotion.com/omni-plus-series/.

About Celera Motion

Celera Motion, headquartered in Bedford, Mass., is a market-leading provider of motion-control components and subsystems for OEMs serving a variety of medical and advanced industrial markets. Celera Motion offers precision encoders, motors and customized mechatronic solutions that help customers solve challenging motion-control problems. For more information, visit www.celeramotion.com

About Novanta

Novanta is a trusted technology partner to OEMs in the medical and advanced industrial technology markets, with deep proprietary expertise in precision medicine and manufacturing, medical solutions, and robotics and automation technologies. For more information, visit www.novanta.com.

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