

Motion control by Bosch Rexroth

Bosch Rexroth is a leading supplier of components and systems for industrial and factory automation, offering comprehensive drive and control technologies, from mechanics, hydraulics and pneumatics through to electronics. Customers utilize Rexroth's unique technological know-how to implement innovative and future-oriented systems and machine concepts. The business unit Semiconductors and Medical (formerly Nyquist, based in Eindhoven), is a leading supplier of motion control systems, components and sub-systems.

BR serves complex markets in Semiconductors and Medical, where innovation is transformational, with high impact on environment or quality of life. Not only does customer equipment focus on front-end semiconductor manufacturing or back-end assembly, but also on solar cell production, or medical diagnostics and treatment. Machine performance depends upon the embedded control systems. All these markets have in common that continuous availability, as well as future-proof and industry-standard solutions, are mandatory for optimizing yield and efficiency, as well as reducing risk and cost of ownership.

Expertise

The ability to source from a single company which can supply the whole motion control system as well as related components, ensures compatibility, interoperability and consistency of customer equipment performance throughout its lifetime – and into the next generation. BR's key expertise involves designing to customer processes, integrating with external applications where useful, such



as robotics. Competence in mechatronics specifies and controls desired machine performance with the required speed and precision. Kinematics defines the correct movement and positioning within the physical movement of equipment, in relation to a given process (such as a surgical procedure) to be performed safely. All processes from design and development to testing, installation and field service are provided. Expertise includes open software and hardware system design, embedded systems, connectivity methods, integration of components and sub-systems fully into customers' operating environments. Expertise in design for manufacturing offers continuity and consistency in serial production. Design-in and support services worldwide, help customers become quickly operational, and keep them competitive throughout the lifetime of their equipment.

Motion-control system

Rexroth's NYCe 4000 is a modular, compact, and open motion-control system with integrated drive technology and configurable functionality. It is designed for a range of customer environments, where applications vary from high speed with high precision, down to nanometre speed and precision. Conditions may include (high/low) vacuum operations. With everything necessary to control a complex machine in a single unit, the system is designed with a miniscule footprint to fit into tight machine spaces, significantly reducing system and integration costs. Open software design includes machine specific features, avoiding unnecessarily 'special' proprietary dependencies while offering the ability to engineer applications on all software levels. The system supports a wide variety of motors, for instance stepper, servo, linear and piezo, all controllable with a single, universal drive. Extensive, user-friendly professional software tools offer the flexibility of multiple options: machine tuning for optimum motion, diagnostics to continuously monitor behavior, simulation tools to facilitate development and testing of an application without the need for the machine itself. Highly configurable, Rexroth's NYCe 4000 enables innovative, modular machine concepts.

Information

www.boschrexroth.com