

U3 COMPACT - HIGH-PERFORMANCE MOTORS

The **U3 Series** delivers exceptional high-torque density and low inertia, making it perfect for highly dynamic control systems. Designed for precision and efficiency, these motors feature multiple cooling options and a robust construction, ensuring outstanding performance and durability in the most demanding industrial applications.

Advantages

High Dynamics: Increased operating speed for exceptional performance.

Positioning Precision: Accurate and reliable motion control.

Compactness: Space-saving design with high power density.

Wide Range: Extensive variety of sizes and options.

Customization: Tailored solutions are available, including windings, casing, and shafts adaptable to your specific applications.

Key Features

Cooling Methods: Natural convection, fan cooling, water cooling.

Shaft Types: Round shaft for interference mounting, keyed shaft option available.

Feedback Sensors: Heidenhain absolute encoders (single or multi-turn), optical encoders, resolvers for cost-effective applications.

Safety Brakes: Optional permanent magnet safety brake.

Applications

Industrial Automation

Machine Tools: CNC systems, positioning systems.

Robotics

Packaging Systems

Plastic and Metal Forming

Precision Equipment requiring high torque and dynamic response.

Simulators: Driving and flight simulators.

Automation Systems: Seamless integration for fast and reliable production lines.

Aerospace: Lightweight design contributing to efficiency.

Medical Devices: Accurate control for delicate operations.

Technical highlights

Flange Sizes: 6 standard sizes, from 75x75 mm² to 360x360 mm², with various lengths available for each size

Cooling Options: Natural convection, forced ventilation, or liquid cooling

Nominal Torque: From 1 Nm to 1500 Nm – 310 kW (S1) and up to 3500 Nm at peak

High Dynamics: The lowest inertias for exceptional performance

High Efficiency: Typically >97%

Torque and Power Density: High output in a compact form factor

Cogging Torque: Very low for smooth operation

Torque Ripple: Very low for precise motion control

Front Bearings: Oversized for durability and reliability

Maximum Speed: Depending on size, from 3000 to 6000 rpm

