FRAMELESS SERVO MOTOR – K SERIES

Smaller. Stronger. Smarter.
The Advantage of Parker K Series Motors

Parker's K Series frameless motors offer a high-performance solution for machine designs that require power and efficiency in a compact form. By eliminating traditional mechanical transmission components such as couplings, belts, and pulleys, these motors enable direct integration, reducing size, complexity, and compliance while improving system reliability. The result is a stiffer, more responsive motion system with significantly reduced inertia mismatches – up to 100 times greater than conventional designs.

Six frame sizes with multiple stack lengths

With the ability to achieve mechanical speeds of up to 50,000 RPM and torque levels reaching 9.7 Nm, K Series motors provide OEMs with a cost-effective alternative to traditional shaft-to-shaft configurations. Direct drive technology not only simplifies the design process but also enhances performance, making these motors ideal for applications that demand precision, durability, and space savings. Whether in robotics, medical equipment, or industrial automation, Parker's K Series frameless motors deliver a superior combination of compactness, efficiency, and high torque output.

Advantages:

- Low voltage
- Compact size (length)
- Large hollow shaft
- Integrated Hall Effect sensor as an option
- Global cost reduction
- Increased reliability and reduced maintenance

Technical Characteristics Overview

Cooling	Natural cooling
Rated Power [kW]	0.06...2
Rated Torque [Nm]	0.07...23
Max Mechanical Speed* [min^{-1}]	12500
Number of poles	4 (K32) / 6 (K44) / 8 (K64) / 12 (K89) / 18 (K178)
Diameter [mm]	32/44/64/89/178
Power supply [V*C]	12/24/48/96 VDC 240 VAC only for size K178

Higher RPM available with sleeved rotor.

Parker

When to Use:

- A significant cost savings
- Reduced mechanical complexity
- Greater design flexibility
- High performance in a compact package
- Improved dynamic response and settling
- Minimum motor size per application spage
- Low cogging for smooth operation
- Low inertia for high acceleration

Advantages of Direct Drive Frameless Motors Over Traditional Coupled Motors

In the ever-evolving landscape of industrial automation and precision engineering, the demand for efficient, reliable, and compact motor solutions has never been greater. Parker's Direct Drive Frameless Motors represent a cutting-edge advancement in motion control technology, specifically designed to meet the rigorous demands of modern applications. These motors consist of three key components:

- Stator and Winding
- Rotor with High-Energy Neodymium Magnets
- Hall Sensor Device for Motor Commutation

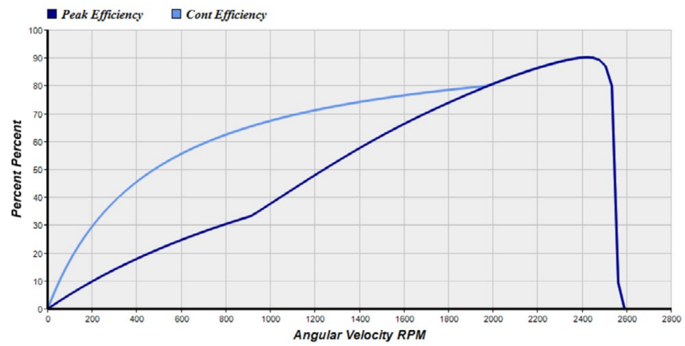
Unlike traditional coupled-drive systems, which rely on couplings, motor mounting brackets, and additional bearings, direct drive motors minimize potential reliability and performance issues. By eliminating the compliance associated with shaft attachments, direct drive motors provide higher dynamic stiffness.

The construction of direct drive motors offers significant benefits for equipment designers, including reduced costs, enhanced reliability, and improved performance. Our Frameless Kit Motors are among the most cost-effective direct drive solutions available.

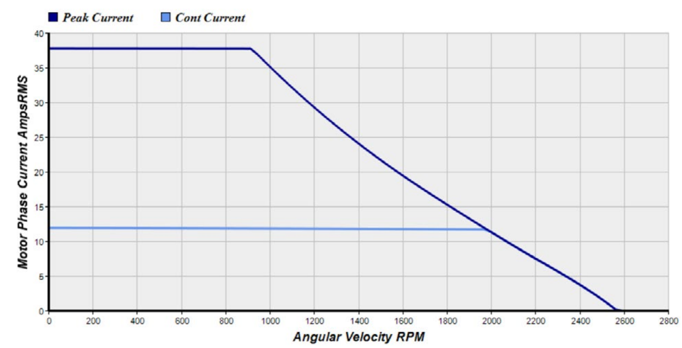
Additionally, kit motors optimize space in applications by removing the need for couplings, mounting brackets, and extra bearings typically found in coupled systems. With fewer moving parts, the direct drive kit motor design results in a more reliable and compact solution.

As industries increasingly prioritize sustainability and performance, Parker's Direct Drive Frameless Motors emerge as the ideal choice for those looking to optimize their equipment for the future. Discover the advantages of our direct drive technology and see how it can transform your applications into models of efficiency and reliability.

Simulated Efficiency Speed Curves



Simulated Current Speed Curves



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