



ThinGap's Direct Drive LS Slotless Motor
Highest torque density with high power capability
and low thermal resistance.

Tech Demonstrator

Direct Drive Motor featuring ThinGap's Slotless Technology

Perfect for applications in Photonics, Semiconductor, Metrology, Medical Imaging, and Surgery where large through hole and smooth operation is paramount.

Camarillo, CA (May 25, 2021) – ThinGap has made available a Direct Drive Motor assembly intended as a Technology Demonstrator and featuring LS Series of slotless motors. Using a low profile, 150 gram, 75 mm-OD motor kit, the new "H-LSI 75-12" includes ThinGap's high-performance cogless motor, a precision bearing set, and a 20-bit absolute encoder from Renishaw. The part aims to demonstrate the superior performance of ThinGap's motor technology and offers customers a chance to purchase the assembly as a test unit, demonstrator, in support of rapid prototyping, or even low-rate production applications needing a turnkey solution.

Most OEMs come to ThinGap in need of a motor kit, wanting to take advantage of the low profile, lightweight, large aperture, and frameless architecture that is ideal for deep system integration. Yet, the time and cost of engineering a housed solution are not lost on program managers and developers, so in some cases, the availability of a fully engineered, direct drive assembly provides a real advantage.



LSI 75-12 Frameless Motor Kit

The LS Series of standard and semi-custom slotless motor kits by ThinGap is based on the industry-standard approach of using a steel lamination stack to retain the stator coil, providing an excellent thermal path when clamped or bonded into a housing. The LS slotless offering shares the same high-torque at low-speed characteristics of other torquer motors, but in the case of ThinGap's slotless architecture, without the cogging torque, added weight and performance hit typical of a slotted design.

ThinGap's TG Series' ironless stator and air core design allow for convective cooling that avoids saturation at higher speeds like a traditional iron-core motor. TG motors improve their efficiency as they rotate faster, making them well suited for high-speed actuation, or in some cases, when used as a generator. To facilitate demonstration and integration of the TG style of motors, ThinGap has long offered a "framed" version of the product line, as shown in the image. Whereas the LS line is typically integrated in a housing, the TG type is retained by a hub or spoke with a shaft and small bearing set.



ThinGap's Framed TG Series
A high-speed cogless motor with hub, shaft and bearing.

About ThinGap

For over twenty years, ThinGap has been an Industry Leader in the design and manufacturing of USA-made, high performance frameless electric motor and generator kits.