# Linear Rail System

Haydon Kerk Motion Solutions, a brand of AMETEK Precision Motion Control, introduces the latest addition to the new BGS (Ball Guide Screw) linear rail product line. The BGS08 is designed to position heavy loads and maintain tight accuracy and repeatability even in applications requiring significant cantilevered loading.

The BGS08 was designed specifically for high loading capability. Maximum roll, pitch, and yaw moments are 22.5 lb-ft (30.5 Nm), 19.4 lb-ft (26.3 Nm), and 22.3 lb-ft (30.2 Nm) respectively. Maximum horizontal load is 225 lbf (1,000N). Lead screw resolution available for the BGS08 ranges from 0.098-in (2.50mm) to 1.00-in (25.40mm) per revolution. When combined with a 200 step/rev stepper motor, linear positioning resolution is greatly enhanced to a range of 0.00049-in (0.0125mm) to 0.005-in (0.127mm) per input pulse. Stroke length of the BGS08 is 1-in (25mm) to 30-in (760mm).

At the heart of the BGS08 is a Haydon™ size 23 (56.4mm) linear actuator driving a Kerk® 303 stainless steel precision lead screw. The screw is coated with Black Ice® TFE coating providing a permanent wear-resistant dry lubrication. The lead screw drives an anti-backlash nut embedded in a machined aluminum carriage mounted to a stainless steel ball rail. The result is a rigid, smooth operating motion system. Depending on the load requirements, the BGS08 linear rail is available with the size 23 single stack or double stack stepper motor.

The IDEA™ drive system is an available option resulting in an integrated linear rail, actuator, and stepper motor drive package. By combining technologies into a single preassembled unit, Haydon Kerk Motion Solutions is able to improve system integration for the equipment OEM or end user. The overall cost for the customer is also lowered by offering a complete solution as it eliminates the need for rotary-to-linear conversion resulting in simplified product development.

A cornerstone of the Haydon Kerk Motion Solutions advantage is design and

manufacturing flexibility. The BGS08 can be further customized to better suit a customers' unique design. This includes, but is not limited to, custom wire harnesses, load carriages, and mounting configurations.

**Haydon Kerk Motion Solutions Inc.**
203-756-7441; www.haydonkerk.com [1]

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