

Folded-Over Motorized Linear Rail System



The Kerk® RGS/RGW linear rail platform by Haydon Kerk Motion Solutions now includes a 180° folded-over motorized design. This design allows for a small footprint linear actuator system perfect for precision motion applications where space is at a premium.

The folded-over linear rail contains all the components needed for a complete motion subassembly, including the stepper motor, belt and pulley, precision lead screw, bearing supports, and rail with load carriage. The rail also contains the capability of mounting sensors within the integrated dovetail grooves. The standard drive ratios available from the motor to the screw are 2:1, 1:1, and 1:2, using lightweight aluminum pulleys and a fiberglass reinforced neoprene timing belt. Screw leads available range from 0.050 in/rev to 1.2 in/rev. When using a 2:1 ratio, a 0.050 in/rev lead screw, and a 200 step/rev stepper motor, a positioning resolution of 0.125 thousandths is possible. For high-speed applications, a 1:2 pulley ratio and a 1.2 in/rev lead screw provides a max speed of over 7 in/s.

All RGS and RGW linear rails feature standard wear-compensating anti-backlash driven carriages to insure repeatable and accurate positioning. The splined aluminum guide rail and 303 stainless steel lead screw is coated using Kerkote® TFE coating, providing a permanently lubricated surface. Maximum load capability of the folded-over motorized RGS is 35 lbs in the “Z” direction and 35 lbs in the hanging/gantry load position. Maximum “roll” and “yaw” moment is 3.25 in-lbs and maximum “pitch” moment is 5.66 in-lbs.

Source URL (retrieved on 01/28/2015 - 8:49pm):

<http://www.mdtmag.com/product-releases/2011/10/folded-over-motorized-linear-rail-system>

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Published on Medical Design Technology (<http://www.mdtmag.com>)
