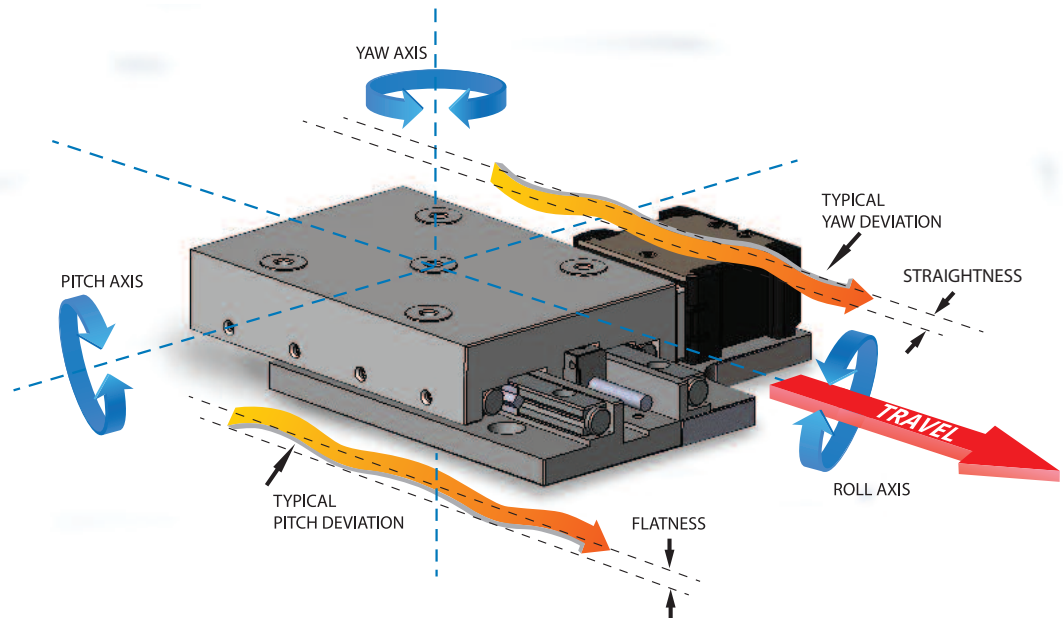


# FB Series

## Motion Accuracy



This illustration depicts the various elements that contribute to error. A given axis has linear errors, in the form of straightness & flatness and angular errors in the form of pitch, yaw & roll.

A linear axis has six degrees of freedom that can create potential errors in motion. There are 3 degrees of linear errors, considering the linear displacement (travel), Straightness of motion, & Flatness of motion. There are 3 degrees of angular error, which consist of Pitch, Yaw, and Roll.

1. The movement in the direction of translation, which is the actual motion displacement. This accuracy is governed by the precision of the feedback device and the ability of the motor/servo system to control the displacement of motion.
2. Straightness & Flatness are linear errors related to deviations in motion in a vertical plane or left/right plane.

3. Pitch & Yaw are angular errors that result in inclination (pitch) or twisting (yaw) of the moving surface, about the direction of travel.
4. Roll is an angular error that results in the tilting of the moving surface, off to the side, of the direction of motion.

**Nanomotion's FB Linear Series uses precision crossed roller bearings, yielding high stiffness, low friction and minimizing the linear and angular errors. The mounting surfaces for the bearings are precision machined aluminum, designed to reflect the bearing accuracy.**