

World's smallest linear bearing performs micro-photonic positioning

For micro-photonic positioning applications in the medical, research, and defense markets, MPS Micro Precision Systems AG (Biel/Bienne, Switzerland) has extended its product range of ball screws, linear ball bearings, and electromechanical microsystems with the smallest linear ball bearing in the world.

With an inner diameter of 1.5 mm and outer diameter of 3.0 mm, it is fitted with four rows of 20 balls each (0.3 mm in diameter) for a total length of 4 mm. The "Grade 3" balls - the highest quality defined by the ISO 3290/DIN 5401 standard - and high-precision execution of the cage and housing reduce friction and eliminate the stick-slip effect.

MPS also produces high-precision miniature lens actuators with a 6 mm micromotor, pre-loaded screw-nut system, and linear guideway for eye tomography and cataract operations that require precise focus of a laser beam; for example, finding the zero point with a precision of 1 µm between each measurement. *Reference:* <http://www.mps-microsystems.com/en.html>

