The ball spline is a linear motion mechanism utilizing the rotational motion of ball elements. It can be used in a wide variety of applications including robotics and transport type equipment.

STRUCTURE AND ADVANTAGES

New

The ball spline consists of a spline shaft with raceway grooves and a spline nut. The spline nut consists of an outer cylinder (main body), retainer, side rings, and ball elements. Designed and manufactured to achieve a reliably smooth motion.

High Load Capacity and Long Travel Life:
The raceway grooves are machined to a radius close to that of the ball elements. The large ball contact surface results in high load capacity and long travel life.

Wide Variety of Configurations:
A total of 16 shafts with diameters ranging from 4mm to 100mm are available. Several different types of nuts are available: cylindrical type, flange type and block type. They can be specified to suit various applications.

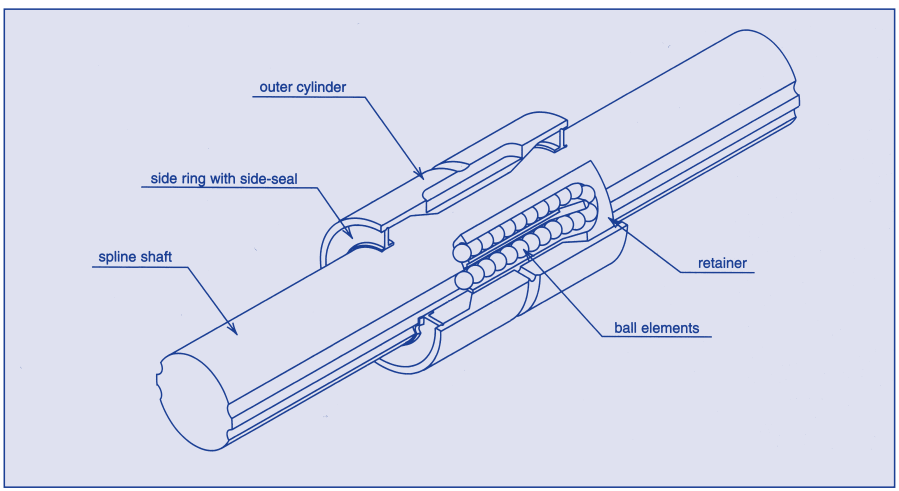
Transmission of Torque:
Ball splines can sustain loads in several directions simultaneously. They can be used as a single shaft system and can transmit (or resist) torque.

Zero Clearance in Rotational Direction:
The contact angle of the ball elements is such that a pre-load can be applied that allows zero clearance in the rotational direction, resulting in increased rigidity.

Ease of Additional Custom Machining:
Since a round shaft with raceway grooves is used, ball spline shafts can be machined easily to customized specifications.

High Speed Motion and High-Speed Rotation: The outer cylinder is compact and well balanced, resulting in good performance at high speed.

Figure B-1 Basic Structure of Ball Spline



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