

# BALL SCREW SUPPORT BEARING BLOCKS

What is this ?



Here's a breakdown of what they are and their function:

- **Linear Bearings:** These are mechanical components that provide low-friction, straight-line motion. They are essential in many automated systems, robotics, CNC machines, and 3D printers.
- **Ball Screws:** These are a type of linear actuator that translates rotational motion to linear motion with very high efficiency and precision. They consist of a screw shaft with helical grooves and a nut that travels along the screw.
- **Support Bearing Blocks (BK & BF):**  
These blocks are designed to support the ends of a ball screw.
  - **BK (Fixed End):** This block typically houses angular contact ball bearings and is responsible for taking both axial and radial loads. It's crucial for maintaining the rigidity and precision of the ball screw assembly. It's often called the "fixed" end because it prevents axial movement.
  - **BF (Floating End):** This block typically uses a deep groove ball bearing and is designed to allow for some axial movement (float). This is important to accommodate thermal expansion of the ball screw and minor misalignments, preventing binding in the system.

**In summary:** The "BK" and "BF" are complementary bearing blocks used to support a ball screw. They work together to ensure smooth, precise, and stable linear motion in machinery.