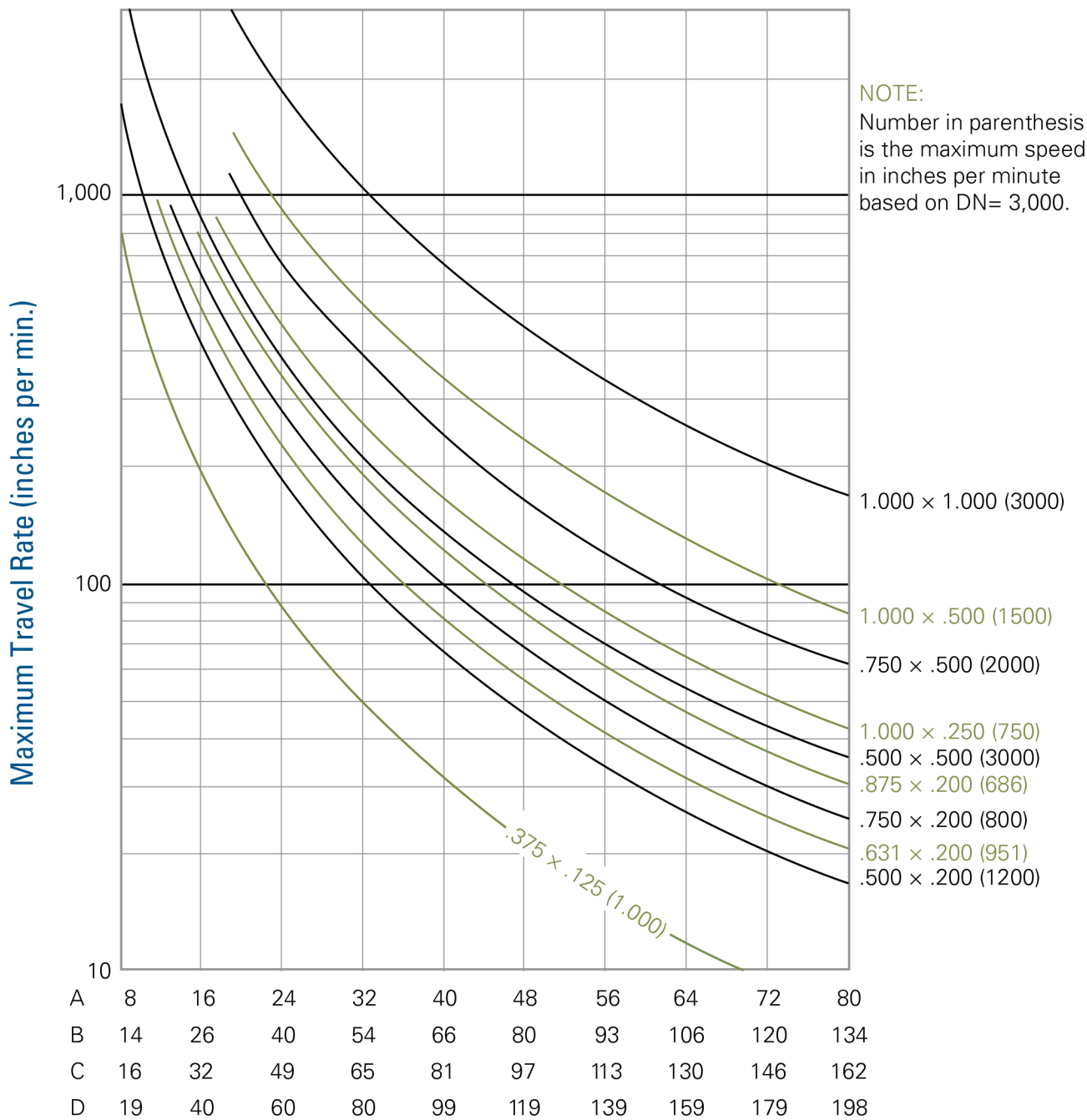


Critical Speed

Critical speed is the speed at which the screw may start to vibrate dangerously. It depends on factors such as length, diameter, and end support conditions. Operating a ball screw above its critical speed can lead to resonance, causing excessive vibration and potential failure. It is essential to calculate and consider the critical speed to ensure safe and reliable operation.



Maximum Length Between Bearings (in)
see next page for descriptions of ABCD end fixity

End Fixity

End fixity describes the type of support provided at the ends of the ball screw. Common types include fixed, floating, and supported ends. End fixity affects the screw's critical speed, buckling resistance, and overall stability. Properly selecting and implementing end fixity is crucial for ensuring reliable ball screw operation.

Figure 1

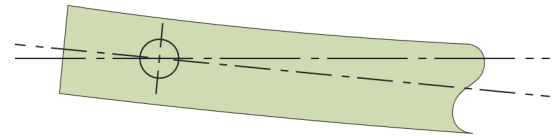
Free

No support



Simple

Restrained against radial and/or axial loads



Fixed

Shaft rigidly restrained against radial, axial and moment loads

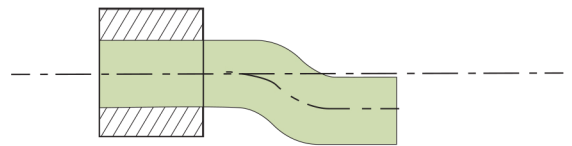
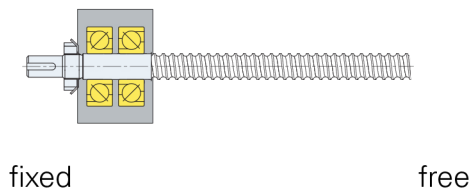


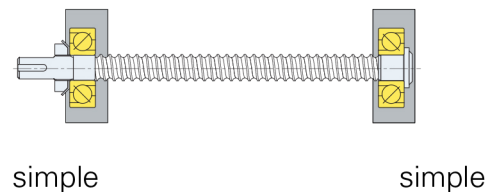
Figure 2

BEARING MOUNT CONFIGURATIONS

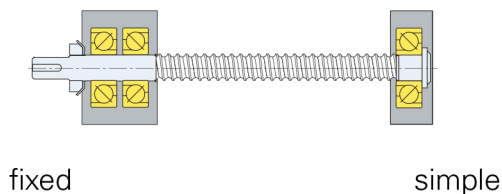
Fixed/Free (A)



Simple/Simple (B)



Fixed/Simple (C)



Fixed/Fixed (D)

