



# Miniature Bearings Australia

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## Bearing Speed

The limiting speed is the speed at which a bearing can operate at light loads and normal operating conditions without failing prematurely. It is a guide only, and application speeds can vary widely.

Bearings in dental handpieces for example often run at speeds up to 3 times their limiting speed, however they are not expected to last as long as bearings in less demanding applications.

Listed limiting speeds apply to applications involving a rotating shaft. Speeds for applications involving a rotating housing can be up to 30% lower.

Many factors combine to affect the attainable speed and expected life of a bearing. Factors affecting speed and life include [load](#), [vibration](#), [lubrication](#), [retainer type](#), operating temperature, internal [clearance](#), [material](#), moisture, [contaminants](#), mounting arrangement, [Precision](#) and [closure](#) type.

The MBA data listings include an adjusted nominal limiting speed which is a simple calculation based on the mechanical limiting speed for the bearing size and taking into consideration the bearings seals, precision, material, clearance, and retainer type.

The adjusted limiting speed should be used with caution. The bearing may be able to achieve higher than the listed nominal speeds in some applications. In other applications the bearing may not be able to achieve the listed speeds.

For a more technical look at bearing speed considerations we recommend the [SKF website](#).

