

# UNDERSTANDING INTERNAL CLEARANCE

Bearings are designed with a specific internal clearance that measures the space between the rings and the rolling elements. This clearance enables smooth rotation of the rolling elements, compensates for thermal expansion, and ensures optimal load distribution.

Internal clearance in bearings can be classified into two types: radial and axial clearances. Radial clearance is determined by the difference between the diameter of the ball or roller and the space between the inner and outer rings. It is measured perpendicular to the shaft and changes as the bearing rings expand or contract.

Axial clearance, on the other hand, refers to the total displacement that can occur between the rings in an axial direction. As the radial clearance increases, so does the axial clearance. A larger radial clearance means there is more room between the balls and rings, allowing greater freedom of movement for the individual elements in relation to each other.

## UNMOUNTED RADIAL INTERNAL CLEARANCE FOR 6205

Deep Groove Ball Bearing - 25mm bore

	MAX	MIN
C2		
STD	0.00005	- 0.00045
C3	0.0002	- 0.0008
C4	0.0005	- 0.0011
C4	0.0009	- 0.0016
	0.0012	- 0.0021

## ABEC BEARING TOLERANCE FOR 6205

Deep Groove Ball Bearing - 25mm bore

	MAX	MIN	SHAFT TOLERANCE
ABEC 1	0.9843	0.9839	.9847 - .9844
ABEC 3	0.9843	0.9841	Call for tolerance
ABEC 5	0.9843	0.9841	Call for tolerance
ABEC 7	0.9843	0.98415	Call for tolerance

