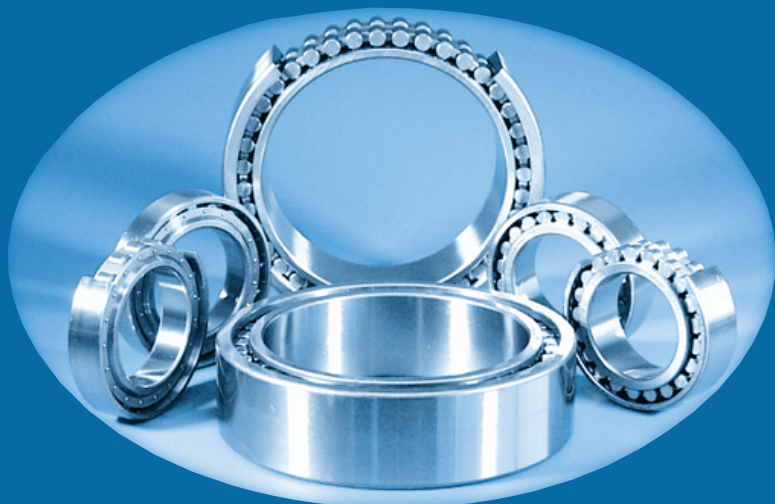


Precision Cylindrical Roller Bearings in the Machine Tool Industry



Cylindrical roller bearings use a line contact between the rollers and the raceways. This design allows for the highest combination of radial load capacity available. Other features of a precision cylindrical roller bearing include high rigidity, vibration and shock resistance, and precise rotational accuracy. All precision cylindrical roller bearings are manufactured to ABEC 5 or higher tolerances.

A cylindrical roller bearing used for the main spindle of a machine tool can either have a single or double-row configuration. Certain sizes can be specified with a tapered bore to enable the adjustment of the radial internal clearance by how tightly the bearing is placed on the shaft.

There are three types of cylindrical bearings that are often used for Machine Tools. The single row N series and the double row NN series have a ribbed inner ring with a separate (floating) outer ring. The NNU series has ribbed outer rings with a floating inner ring. The choice between NN and NNU depends on the assembly preference. This will vary due to the machine component design.

FEATURES & BENEFITS

high radial load capacity

highest speed capacity

high rigidity

vibration and shock resistance

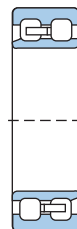
high rotational accuracy

single or double row

NTN

Precision Cylindrical Roller Bearing Specifications

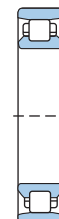
Bearing Type	Bore Diameter (mm)	Copper Alloy Cage	Resin Cage
N:	20 - 500	✓	(1013 - 1030)
NN:	25 - 460	✓	(3013 - 3030)
NNU:	100 - 500	✓	N/A



NNU type



NN type



N10HS type

Cylindrical Type		NN	-	30	20	HS	T2	K	CONA	P4
Basic #	Series	←		←	←					
	Bore Diameter	←		←	←					
	Internal Design	←		←	←	←				
	Cage	←		←	←	←	←			
	Bore Type	←		←	←	←	←	←		
	Clearance	←		←	←	←	←	←	←	
	Tolerance	←		←	←	←	←	←	←	←

Type

NN—Double row with ribbed inner ring
 NNU—Double row with ribbed outer ring
 N—Single row with ribbed inner ring

Internal Modification

HS—High-speed spec.
 No symbol—Standard spec.

Cage

T2—Resin molded cage
 No symbol—copper alloy (See table above)

Internal Clearance

(Main spindles of lathes)
 C9NA, C0NA, C1NA, C2NA, NA, C3NA —tapered bore
 C2, C3, C4, C5 —cylindrical bore

Tolerance

P5—ISO class 5 (ABEC 5)
 P4—ISO class 4 (ABEC 7)
 P2—ISO class 2 (ABEC 9)
 UP—Special high precision

Bore Type

K—¹/₁₂ tapered bore
 No symbol—Cylindrical

Ask for NTN Precision Cylindrical Roller Bearings for your replacement needs!

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