Four-row Tapered Roller Bearings

Design and Features

Four-row Tapered Roller Bearings are used for the roll necks of rolling mills and are designed to provide the maximum load capacity within a limited envelope size while allowing ease of inspection and maintenance.
Pin-type cages and hollow rollers are used in some of the larger bore sizes to maximize load capacity.

Recommended Fit (cylindrical bore)

Metric series Table 1 and 2
Inch series Table 3 and 4

Bearing Clearance

Cylindrical-bore, Four-row Tapered Roller Bearings used for rolling mill roll necks have a C2 or smaller clearance. If selection of special radial clearance is required for special service conditions, contact NACHI.
Bearing clearance for Four-row Tapered roller bearings is factory-adjusted as a set and the individual parts of a set must be mounted according to the set marks.

Table 1. Four-row Bearing Roll Neck Fits (Metric Series)

Unit : μm

Nominal bearing bore diameter d (mm)		Single plane mean bore diameter deviation Δ_{dmp}		Roll neck diameter deviation		Fit clearance		Wear limit of roll neck (Reference)
Over	Incl.	High	Low	High	Low	Min	Max	
80	120	0	−20	−120	−150	100	150	300
120	180	0	−25	−150	−175	125	175	350
180	250	0	−30	−175	−200	145	200	400
250	315	0	−35	−210	−240	175	240	480
315	400	0	−40	−240	−300	200	300	600
400	500	0	−45	−245	−300	200	300	600
500	630	0	−50	−250	−300	200	300	600

Table 2. Four-row Bearing Chock Fits (Metric Series)

Unit : μm

Nominal bearing outside diameter D (mm)		Single plane mean bore diameter deviation Δ_{Dmp}		Chock inside diameter deviation		Fit clearance		Wear limit of chock inside diamater (Reference)
Over	Incl.	High	Low	High	Low	Min	Max	
120	150	0	−20	+ 60	+25	25	80	160
150	180	0	−25	+125	+50	50	150	300
180	250	0	−30	+120	+50	50	150	300
250	315	0	−35	+115	+50	50	150	300
315	400	0	−40	+110	+50	50	150	300
400	500	0	−45	+105	+50	50	150	300
500	630	0	−50	+100	+50	50	150	300
630	800	0	−75	+150	+75	75	225	450

Table 3. Four-row Bearing Roll Neck Fits (Inch Series)

Unit : μm

Nominal bearing bore diameter d (mm)				Single plane mean bore diameter deviation Δ_{ds}		Roll neck diameter deviation		Fit clearance		Wear limit of roll neck (Reference)
Over		Incl.								
(mm)	(inch)	(mm)	(inch)	High	Low	High	Low	Min	Max	
127.000	5.0000	152.400	6.0000	+25	0	−120	−150	120	175	300
152.400	6.0000	203.200	8.0000	+25	0	−150	−175	150	200	400
203.200	8.0000	304.800	12.0000	+25	0	−175	−200	175	225	450
304.800	12.0000	609.600	24.0000	+51	0	−200	−250	200	301	600
609.600	24.0000	914.400	36.0000	+76	0	−250	−325	250	401	800

Table 4. Four-row Bearing Chock Fits (Inch Series)

Unit : μm

Nominal bearing outside diameter D (mm)				Single plane mean outside diameter deviation Δ_{Ds}		Chock inside diameter deviation		Fit clearance		Wear limit of chock inside diamater (Reference)
Over		Incl.								
(mm)	(inch)	(mm)	(inch)	High	Low	High	Low	Min	Max	
–	–	304.800	12.0000	+25	0	+ 75	+ 50	25	75	300
304.800	12.0000	609.600	24.0000	+51	0	+150	+100	49	150	300
609.600	24.0000	914.400	36.0000	+76	0	+225	+150	74	225	450