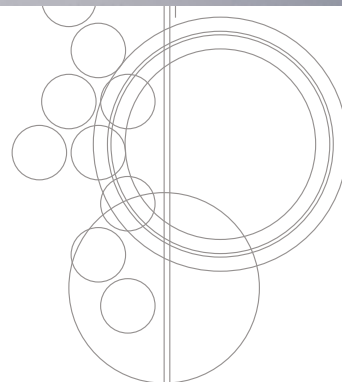


Cross Tapered Roller Bearings

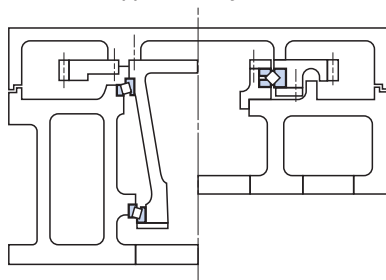
XRN Series/XRG Series



A bearing that provides functions equivalent to a duplex tapered roller bearing, but in the size of a single bearing. The rolling elements are arranged in alternating orientation between the separable ring and the primary ring.

Features

- A bearing that can stand up to radial loads, axial loads, and moment loads.
- Bearing applications can be simplified, fewer components reduce weight and size, reduced assembly time.
- Shaft thermal expansion has minimal affect on bearing preload promoting machine accuracy.
- Tapered rollers are used and the center of rotation is maintained for smooth rotation, even under preload.
- Polyamide resin spacers are inserted between rollers to minimize roller-to-roller friction (except XRGV Type).
- Angle of contact is approximately 45°.



Duplex Tapered Roller Bearings Cross Tapered Roller Bearings

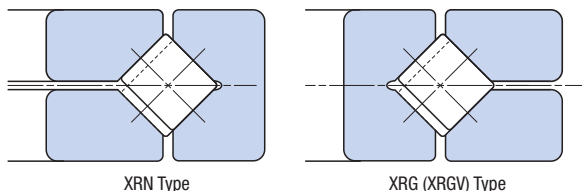
Installation Example of Tapered Roller Bearing and Cross Tapered Roller Bearing

Accuracy

Nachi defines its own accuracy standards. See page 9 for details.

Mechanism

The XRN Series is a separable inner ring, primary outer ring type bearing, intended mainly for applications where the focus is on outer ring accuracy under outer ring rotation. The XRG Series, on the other hand mainly is used where the focus is on inner ring rotation accuracy during inner ring rotation.



XRN Type

XRG (XRGV) Type

Main Applications

- Work table of a machining center, grinding machine, etc.
- Work spindle of a lathe, grinding machine, etc.
- Large-scale milling machine, drilling machine, or other indexing machine.
- Pivot of parabolic antenna, etc.

Nomenclature of Bearing Number

300 XRN 40

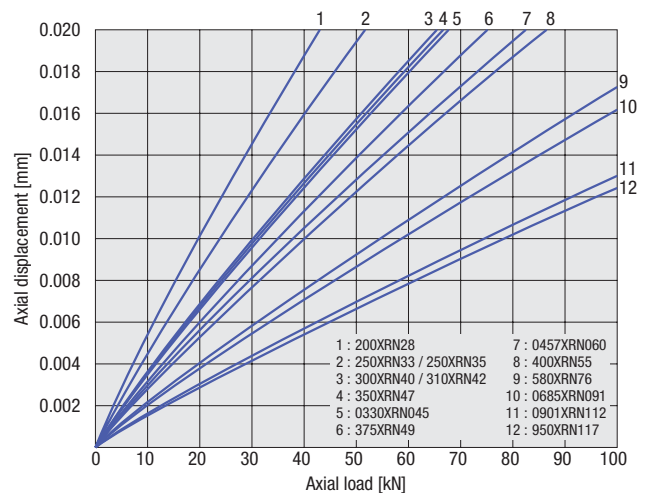
Outside diameter value
Outside diameter divided by 10

Bearing type
XRN : XRN Series Inner ring separable type
XRG : XRG Series Outer ring separable type
XRGV: XRG Series Outer ring separable type, no spacer

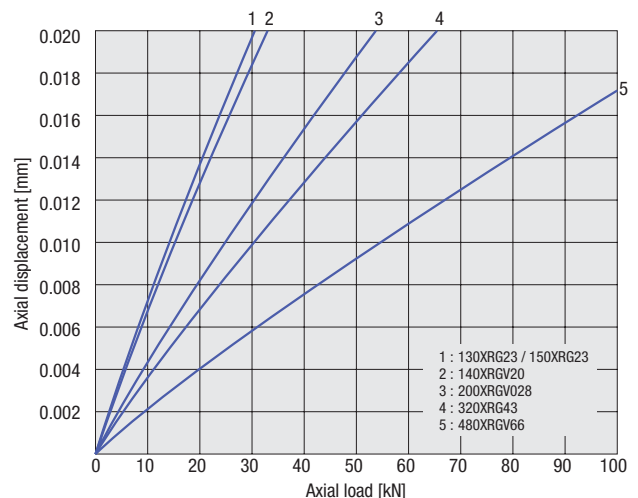
Bore dimension (mm)

Axial Load and Axial Displacement

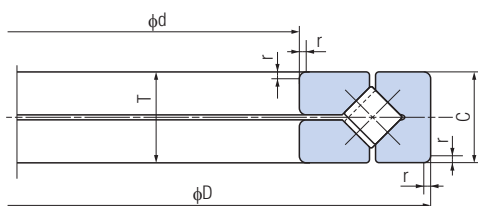
XRN Series



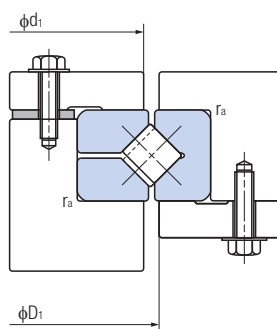
XRG Series



Cross Tapered Roller Bearings XRN Series

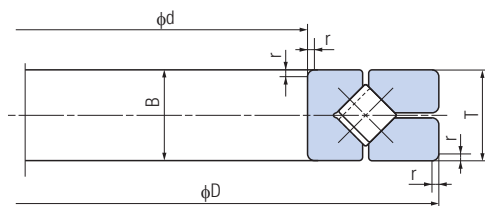


Bearing no.	Boundary dimensions (mm)					Basic dynamic load rating C_a (kN)	Basic static load rating C_{0a} (kN)
	d	D	T	C	r		
150XRN23	150	230	30	30	1.5	105	335
200XRN28	200	280	30	30	1.5	144	520
250XRN33	250	330	30	30	1	164	650
250XRN35	250	350	40	40	3	170	680
300XRN40	300	400	38	38	3	268	985
310XRN42	310	420	40	40	2.5	260	1070
0330XRN045	330.2	457.2	63.5	63.5	3.3	400	1540
350XRN47	350	470	50	50	3	284	1230
375XRN49	375	490	45	45	2.5	290	1280
400XRN55	400	550	60	60	3.5	365	1900
0457XRN060	457.2	609.6	63.5	63.5	3.3	370	1670
580XRN76	580	760	80	80	6.4	830	3800
0685XRN091	685.8	914.4	79.375	79.375	3.3	1090	5000
950XRN117	950	1170	85	85	3	1440	7400

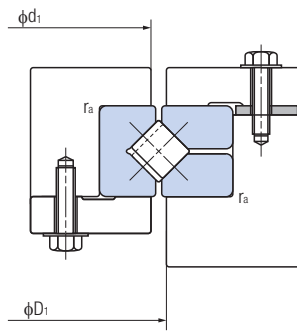


Rotation speed limit (rpm)		Corner radius (mm)			Mass (kg) (Reference)	Bearing no.
Grease lubrication	Oil lubrication	d_1 (Min)	D_1 (Max)	r_a (Max)		
600	1200	182	197	1	5.11	150XRN23
480	950	235	249	1	6.43	200XRN28
400	800	285	298	1	7.77	250XRN33
400	800	302	312	1.5	13.6	250XRN35
330	650	345	369	2.5	14.8	300XRN40
320	630	358	380	2	18.1	310XRN42
290	580	380	409	2	35.4	0330XRN045
280	560	410	424	1.5	27.7	350XRN47
260	530	430	445	1.5	25.5	375XRN49
250	500	475	492	1.5	48.8	400XRN55
220	440	535	554	2	57.1	0457XRN060
170	340	667	691	4	108	580XRN76
140	280	807	834	2	161	0685XRN091
100	200	1050	1084	2.5	218	950XRN117

Cross Tapered Roller Bearings XRG Series



Bearing no.	Boundary dimensions (mm)					Basic dynamic load rating C_a (kN)	Basic static load rating C_{0a} (kN)
	d	D	T	B	r		
130XRG23	130	230	30	30	1.5	105	335
140XRGV20	140	200	25	25	1.5	89	299
150XRG23	150	230	30	30	1.5	105	335
200XRGV028	200	285	30	30	1	170	655
320XRG43	320	430	40	40	2.5	260	1070
480XRGV66	480	660	50	49.5	4	405	2110



Rotation speed limit (rpm)		Corner radius (mm)			Mass (kg) (Reference)	Bearing no.
Grease lubrication	Oil lubrication	d_1 (Min)	D_1 (Max)	r_a (Max)		
650	1250	182	197	1	5.97	130XRG23
680	1350	162	176	1	2.86	140XRGV20
600	1200	182	197	1	5.11	150XRG23
480	950	235	249	1	7.13	200XRGV028
300	600	358	382	2	18.9	320XRG43
200	400	550	572	3	61.0	480XRGV66

NACHI

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