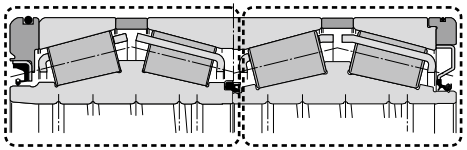
The ULTAGE series sealed four-row tapered roller bearings [CROU···LL type] are designed to provide "high-load capacity," "high static load capacity," and "high sealing performance." These traits are required for steel rolling mill roll neck applications neck applications to improve reliability with a longer operating life.

1. Features

1) High-load capacity design
Higher load capacity and longer operating life are achieved by maximizing the size and number of rollers in the bearing.



Conventional specification | ULTAGE specification

2) World class static load capacity
Static load capacity is greatly improved due to optimized crowning of the rolling elements, reducing edge stress in the application under heavy loads.

3) Compact seal design with high sealing performance
The ULTAGE series four-row tapered roller bearing utilizes a specially designed fluorine rubber seal for high sealing performance, while minimizing the volume of the seal within the bearing.

Optimizing the tension force of the main seal lip and the overall design of the seal to minimize contamination ingress, reduces the internal water immersion by 50% or more while preventing grease from flowing out from the sub lip.

4) Standard adoption of long-life grease
This bearing is filled with an ample amount of long-life grease to avoid the need for cleaning or filling the bearing with grease before assembling into the application.

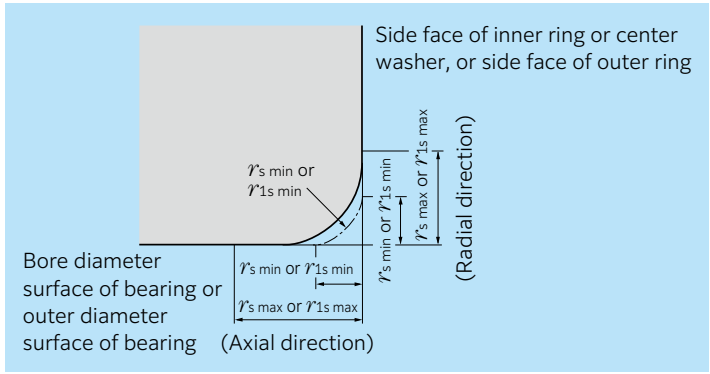
2. Part number

(A-) CROU- 6001 LLA1X PX1

- Tolerance code
- Seal code
- Bearing bore diameter No. + serial No.
- Bearing type (ULTAGE series four-row tapered roller bearing)
- Option (special heat treatment*)

* austenite-strengthening treatment

3. Chamfer dimension



Unit: mm

r's min or r1s min	Nominal bearing bore diameter d Over	Incl.	r's max or r1s max Radial direction	Axial direction
1	50	—	1.9	3
1.5	120	250	2.8	3.5
	250	—	3.5	4
2.5	120	250	4	5.5
	250	—	4.5	6
3	120	250	4.5	6.5
	250	400	5	7
	400	—	5.5	7.5

4. Operating temperature range

−20～120°C

5. Bearing fits (recommended)

Metric series : Shaft d6/housing G7
Inch series : Contact **NTN** Engineering.

6. Standard grease fill

Brand : Kyodo Yushi Palmax RBG (L373)
Amount : Space volume ratio 35%

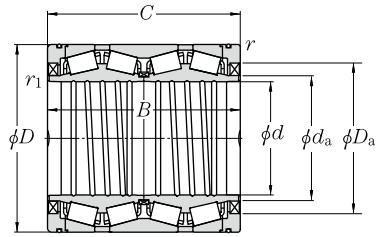
7. Allowable speed

$d_m \cdot n \leqq 30 \times 10^4$
d_m : Roller pitch diameter (mm) ≒ $(d+D)/2$
d : Bearing bore diameter (mm)
D : Bearing outside diameter (mm)
n : Rotational speed (min^{-1})

The above are approximate standard values and may not be appropriate depending on the usage condition. For details, please contact **NTN** Engineering.

8. Material

Inner and outer rings : Case hardened steel
Rolling elements : Bearing steel
(* mark in the dimension table indicates case hardened steel.)



Series	Boundary dimensions mm						(approx.) Standard radial clearance 2)	Standard axial clearance 2)
	d	D	B	C	$r_{1s\,min}$ 1)	$r_{s\,min}$ 1)	mm	mm
Metric series	220	295	315	315	1	2.5	0.093 ～ 0.106	0.420 ～ 0.480
	225	320	230	230	1	2.5	0.099 ～ 0.115	0.360 ～ 0.420
	240	338	248	248	1	2.5	0.104 ～ 0.118	0.450 ～ 0.510
	240	338	340	340	1	2.5	0.107 ～ 0.123	0.400 ～ 0.460
	250	365	270	270	1	2.5	0.113 ～ 0.129	0.420 ～ 0.480
	260	365	340	340	1	2.5	0.115 ～ 0.131	0.430 ～ 0.490
	300	420	310	310	1	2.5	0.131 ～ 0.147	0.490 ～ 0.550
	310	430	350	350	1	2.5	0.136 ～ 0.154	0.520 ～ 0.590
	410	546	400	400	1.5	2.5	0.173 ～ 0.188	0.780 ～ 0.850
	440	590	480	480	1.5	2.5	0.188 ～ 0.204	0.850 ～ 0.920
	440	620	454	454	3	2.5	0.195 ～ 0.211	0.880 ～ 0.950
	530	780	570	570	3	2.5	0.244 ～ 0.259	1.100 ～ 1.170
Inch series	220.662	314.325	239.712	239.712	1	2.5	0.098 ～ 0.111	0.450 ～ 0.510
	254.000	358.775	269.875	269.875	1	2.5	0.111 ～ 0.127	0.430 ～ 0.490
	304.902	412.648	266.700	266.700	1	2.5	0.130 ～ 0.150	0.450 ～ 0.520
	343.052	457.098	254.000	254.000	1	2.5	0.136 ～ 0.158	0.430 ～ 0.500
	343.052	457.098	299.000	299.000	1	2.5	0.143 ～ 0.163	0.500 ～ 0.570
	501.650	711.200	520.700	520.700	3	2.5	0.206 ～ 0.226	0.730 ～ 0.800
	595.312	844.550	615.950	615.950	3	2.5	0.266 ～ 0.282	1.200 ～ 1.270

1) Smallest allowable dimension for chamfer dimension r.
2) Consult with **NTN** Engineering because the appropriate value may change depending on the use conditions.

Dynamic equivalent radial load
$P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	Y_1	0.67	Y_2

Static equivalent radial load
$P_{0r} = F_r + Y_0F_a$
For values of e, Y_1, Y_2 and Y_0 see the table below.

Basic load rating kN		Bearing number 3)	Installation-related dimensions mm		Constant	Axial load factors		
dynamic C_r	static C_{0r}		d_a	D_a	e	Y_1	Y_2	Y_0
1 890	4 650	**CROU-4401LLA1X**	235	267	0.33	2.03	3.02	1.98
1 870	3 700	**CROU-4501LLA1X**	241	294	0.41	1.64	2.44	1.60
2 320	4 600	**CROU-4801LLA1X**	257	309	0.35	1.95	2.90	1.91
2 970	6 850	**CROU-4802LLA1X**	257	309	0.40	1.68	2.50	1.64
2 760	5 300	**CROU-5001LLA1X**	272	333	0.40	1.68	2.50	1.64
3 350	7 450	**CROU-5201LLA1X**	275	327	0.40	1.68	2.50	1.64
3 600	7 650	**CROU-6001LLA1X**	318	382	0.40	1.68	2.50	1.64
4 050	8 900	**CROU-6201LLA1X**	329	388	0.39	1.72	2.56	1.68
5 500	13 300	**CROU-8201LLA1X**	434	504	0.33	2.03	3.02	1.98
6 600	16 200	**CROU-8801LLA1X**	462	540	0.33	2.03	3.02	1.98
7 650	16 700	**CROU-8802LLA1X**	473	570	0.33	2.03	3.02	1.98
13 500	29 400	**CROU-10601LLA1X***	581	710	0.33	2.03	3.02	1.98
2 240	4 350	**CROU-4402LLA1X**	240	290	0.33	2.07	3.09	2.03
2 770	5 700	**CROU-5101LLA1X**	274	328	0.39	1.74	2.59	1.70
2 810	5 850	**CROU-6101LLA1X**	323	379	0.43	1.56	2.32	1.52
2 830	5 950	**CROU-6901LLA1X**	364	423	0.47	1.43	2.12	1.40
3 500	8 150	**CROU-6902LLA1X**	364	423	0.43	1.57	2.34	1.53
10 100	23 900	**CROU-10001LLA1X***	542	642	0.42	1.60	2.38	1.56
14 000	33 000	**CROU-11901LLA1X**	638	770	0.33	2.03	3.02	1.98

3) Bearing numbers marked "*" use rolling elements made of case hardened steel.

Special Application Bearings