

## More Information

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www.cugroup.com.tw

# C&U® BEARINGS

# C&U

Cooperation and Unity



## POWER BICYCLE BEARING

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## C&U COMPANY LIMITED



1. C&U ranks as China's largest bearing manufacturer and is among the top 10 global bearing producers.
2. In 2022, C&U's bearing division reported a turnover of 9,389 million RMB and employed 14,044 individuals.
3. C&U offers a comprehensive range of bearings, including ball, taper, cylindrical, needle, spherical, thrust ball, slewing, water pump, and wheel hub bearings, alongside specialized automotive and industrial designs.
4. Bore sizes ranging from an inner diameter of 1mm to an outer diameter exceeding 6,000mm, encompassing over 30,000 unique part numbers.
5. C&U has been instrumental in establishing or contributing to over 34 national bearing industry standards and boasts over 2,030 patents in China.
6. C&U offers maximum flexibility on the products for our customers. The bearings are designed according to the customers' application. In this brochure we focused on some C&U product solution examples used in the power bicycle segment.

Bicycle bearing applications are classified into E-Bike, bottom bracket, hub, pedal, headset, guide wheel, etc.







Ebike components are motor + reduction mechanism-all-in-one models. Most of them are required to be light, thin, small, and have the smallest appearance, and they must be able to meet the needs of high-precision and high-torque integration.






Bicycle components, for comfortable, safe and smooth riding, require high-precision bearings and the best sealing options to protect the bearings from being easily affected by rain, dirt, and foreign matter that affect the operation of the bearings.

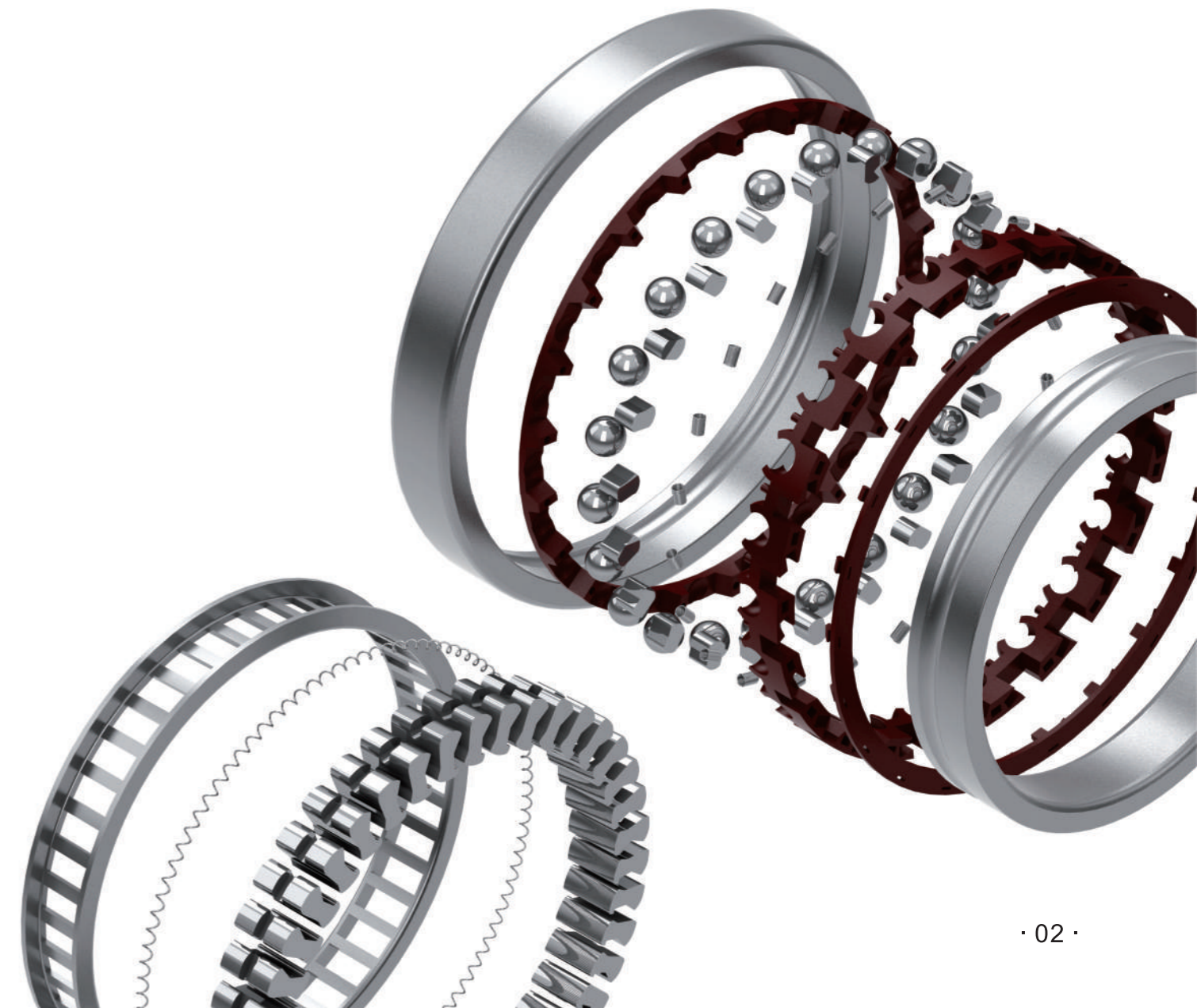
C&U has the control of applied materials and provides the selection of high-rigidity bearing steel, corrosion-resistant stainless steel, and sealing rubber materials. Provide optimized usage options for bearings with different structures, including needle rollers, ball bearings, thrust bearings, and One-Way bearings. To achieve high performance, we can also provide the design of ceramic balls to achieve the application of Hybrid Ceramic Bearings.

C&U adheres to joint development with customers, and has materials, design, technology, production, and sales services to meet customer needs and achieve a Win-Win situation with customers!

Global Presence

 H&Q	Headquarters	1		Production Bases	8
 R&D	R&D Centers	1		Sales Companies	20
 Warehouses	Warehouses	13		Engineering Center	4

					
Germany		1	1	1	
China	1	1	17	7	8
Japan			1	1	1
America		1		2	1
Philippines			1	1	1



CERTIFICATIONS



BICYCLE PARTS

(1) Hub



(2) Head set Part



(3) Bottom Bracket



(4) Pedal



Experimental equipment

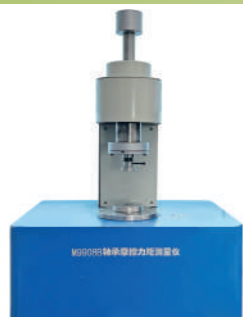


Material research  
Metal material research and design  
Sealing material research  
Lubricating material research



Rust resistance test  
The salt spray test can verify the selected bearing's ability to resist corrosion in the natural environment. In the simulated test, it can be effectively verified that the customer's usage requirements are met.

Torque test: static torque and dynamic torque test



Static torque test  
Through static torque testing, it can be verified that the one-way bearing can withstand the maximum torque value and ensure the reliability of the selected product.



Dynamic impact torque test  
Check the reverse braking performance of one-way bearing  
Impact torque test, mainly for one-way bearings, performs forward and reverse fatigue endurance tests to test the design performance and stopping ability of the bearings

BICYCLE MOTOR

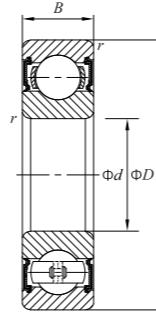
(1) Rear-Hub Motor



(2) Mid-Drive Motor

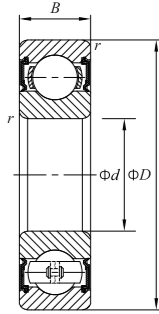


# Deep Groove Ball Bearing



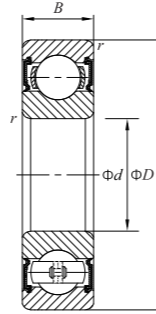
Bearing type	Boundary dimensions(mm)				Basic load ratings(KN)		Limiting speeds(r/min)		
	d	D	B	rmin	Cr	Cor	Contact type	Non-contact type	
673	3	6	2	0.08	0.240	0.090	60000	71000	
683		7	2	0.1	0.392	0.131	58000	68000	
693		8	3	0.15	0.563	0.180	54000	63000	
603		9	3	0.15	0.638	0.218	50000	59000	
623		10	4	0.15	0.644	0.223	50000	58000	
633		13	5	0.2	1.300	0.485	44000	54000	
674	4	7	2	0.08	0.252	0.106	58000	67000	
684		9	2.5	0.15	0.641	0.226	49000	57000	
694		11	4	0.15	0.714	0.276	45000	52000	
604	5	12	4	0.2	0.959	0.347	43000	51000	
624		13	5	0.2	1.306	0.487	42000	49000	
634		16	5	0.3	1.735	0.671	37000	44000	
675		8	2	0.08	0.274	0.130	49000	57000	
685	5	11	3	0.15	0.714	0.276	43000	51000	
695		13	4	0.2	1.074	0.422	40000	47000	
605		14	5	0.2	1.329	0.508	39000	46000	
625		16	5	0.3	1.735	0.671	37000	44000	
635		19	6	0.3	2.805	1.060	34000	40000	
676		6	10	2.5	0.1	0.457	0.194	45000	53000
686			13	3.5	0.15	1.175	0.511	39000	46000
696		15	5	0.2	1.735	0.671	37000	44000	
606		6	17	6	0.3	2.265	0.839	35000	42000
626			19	6	0.3	2.805	1.060	34000	40000
636	22		7	0.3	3.300	1.370	30000	36000	
677	7		11	2.5	0.1	0.449	0.199	40000	47000
687		14	3.5	0.15	1.175	0.511	37000	44000	
697		17	5	0.3	1.610	0.715	35000	41000	
607	7	19	6	0.3	2.238	0.911	34000	40000	
627		22	7	0.3	3.350	1.398	32000	37000	
637		26	9	0.3	4.050	1.620	28000	34000	
678		8	12	2.5	0.1	0.506	0.249	38000	45000
688	16		4	0.2	1.606	0.712	35000	41000	
698	19		6	0.3	2.463	1.059	33000	39000	
608	8	22	7	0.3	3.297	1.368	32000	37000	
628		24	8	0.3	3.997	1.590	31000	36000	
638		28	9	0.3	4.550	1.970	28000	34000	
679	9	14	3	0.1	0.920	0.465	36000	42000	
689		17	4	0.2	1.718	0.818	33000	39000	
699		20	6	0.3	2.482	1.091	32000	38000	

# Deep Groove Ball Bearing



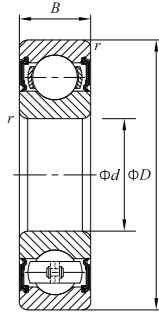
Bearing type	Boundary dimensions(mm)				Basic load ratings(KN)		Limiting speeds(r/min)		
	d	D	B	rmin	Cr	Cor	Contact type	Non-contact type	
609	10	24	7	0.3	3.401	1.452	31000	36000	
629		26	8	0.6	4.551	1.957	30000	35000	
639		30	10	0.6	5.100	2.390	24000	30000	
61700		15	3	0.1	0.861	0.438	6400	12000	
61800		19	5	0.3	1.829	0.930	24000	38000	
61900		22	6	0.3	2.698	1.272	21000	36000	
6000		26	8	0.3	4.551	1.969	21000	34000	
6200		30	9	0.6	5.101	2.393	18000	30000	
6300		35	11	0.6	8.103	3.451	16000	27000	
61701		12	18	4	0.2	1.007	0.698	6000	9500
61801	21		5	0.3	1.918	1.042	20000	35000	
61901	12	24	6	0.3	2.891	1.462	19000	32000	
16001		28	7	0.3	5.103	2.370	19000	30000	
6001		28	8	0.3	5.103	2.370	18000	30000	
6201		32	10	0.6	6.824	3.061	16000	26000	
6301		37	12	1	9.698	4.202	15000	24000	
61702		15	21	4	0.2	0.942	0.581	4900	7600
61802			24	5	0.3	2.101	1.252	17000	31000
61902		28	7	0.3	4.297	2.302	16000	28000	
16002		32	8	0.3	5.597	2.837	15000	26000	
6002		32	9	0.3	5.597	2.837	15000	26000	
6202	35	11	0.6	7.598	3.703	15000	23000		
6302	42	13	1	11.398	5.432	12000	21000		
61902/16	16	28	7	0.3	4.297	2.302	16000	28000	
61703		17	23	4	0.2	0.997	0.660	3800	6700
61803	26		5	0.3	2.196	1.502	15000	28000	
61903	30		7	0.3	4.596	2.597	14000	26000	
16003	35		8	0.3	5.998	3.248	14000	24000	
6003	35		10	0.3	5.998	3.248	14000	24000	
6203	40		12	0.6	9.568	4.803	12000	21000	
6303	47		14	1	13.597	6.603	11000	19000	
6403	62		17	1.1	28.797	10.602	10000	16000	
61903/18	18		30	7	0.3	4.596	2.597	14000	26000
61704			20	27	4	0.2	1.038	0.732	3600
61804	32	7		0.3	3.498	2.200	13000	25000	
61904	37	9		0.3	6.399	3.703	12000	23000	
16004	42	8		0.3	6.301	3.798	11000	21000	
6004	42	12		0.6	9.378	5.028	11000	21000	
6204	47	14		1	12.797	6.598	10000	18000	

# Deep Groove Ball Bearing



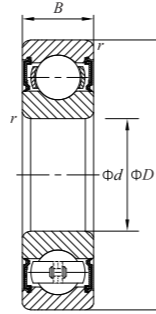
Bearing type	Boundary dimensions(mm)				Basic load ratings(KN)		Limiting speeds(r/min)		
	d	D	B	rmin	Cr	Cor	Contact type	Non-contact type	
<b>6404</b>	<b>25</b>	72	19	1.1	28.500	13.902	9000	14000	
<b>61705</b>		32	4	0.2	1.890	1.497	3100	4600	
<b>61805</b>		37	7	0.3	4.297	2.949	10000	21000	
<b>61905</b>		42	9	0.3	7.020	4.530	9800	19000	
<b>16005</b>		47	8	0.3	6.996	4.602	9400	18000	
<b>6005</b>		47	12	0.6	10.070	5.821	9400	18000	
<b>6205</b>		52	15	1	13.997	7.878	8900	15000	
<b>6305</b>		62	17	1.1	20.598	11.188	8100	14000	
<b>6405</b>		80	21	1.5	34.499	17.502	7500	12000	
<b>61706</b>		<b>30</b>	37	4	0.2	1.140	0.949	2500	3800
<b>61806</b>	42		7	0.3	4.957	3.622	8800	18000	
<b>61906</b>	47		9	0.3	7.240	4.998	8400	17000	
<b>16006</b>	55		9	0.3	9.198	6.287	7700	15000	
<b>6006</b>	55		13	1	13.202	8.271	7700	15000	
<b>6206</b>	62		16	1	19.498	11.302	7300	13000	
<b>6306</b>	72		19	1.1	26.696	14.997	6600	12000	
<b>6406</b>	90		23	1.5	43.498	23.898	6000	10000	
<b>61707</b>	<b>35</b>		44	5	0.3	1.900	1.600	2200	3400
<b>61807</b>			47	7	0.3	4.200	3.500	7600	16000
<b>61907</b>		55	10	0.6	9.600	6.800	7100	15000	
<b>16007</b>		62	9	0.3	12.197	8.800	6800	14000	
<b>6007</b>		62	14	1	12.197	8.800	6800	14000	
<b>6207</b>		72	17	1.1	25.696	15.298	6300	11000	
<b>6307</b>		80	21	1.5	33.500	19.197	6000	10000	
<b>6407</b>		100	25	1.5	54.996	31.003	5700	9100	
<b>61708</b>		<b>40</b>	50	6	0.3	2.500	2.200	2000	3000
<b>61808</b>			52	7	0.3	5.070	4.370	6700	14000
<b>61908</b>	62		12	0.6	13.700	9.900	6300	13000	
<b>16008</b>	68		9	0.3	12.600	9.650	6100	12000	
<b>6008</b>	68		15	1	16.800	11.500	6100	12000	
<b>6208</b>	80		18	1.1	30.800	19.800	5600	10000	
<b>6308</b>	90		23	1.5	40.700	23.995	5300	9200	
<b>6408</b>	110		27	2	52.500	32.200	5000	8200	
<b>61709</b>	<b>45</b>		55	6	0.3	2.600	2.400	1800	2700
<b>61809</b>			58	7	0.3	5.350	4.950	5900	12000
<b>61909</b>		68	12	0.6	14.100	10.900	5600	12000	
<b>16009</b>		75	10	0.6	15.600	12.200	5400	11000	
<b>6009</b>		75	16	1	19.900	14.000	5400	11000	
<b>6209</b>		85	19	1.1	31.200	20.300	5200	9200	

# Deep Groove Ball Bearing



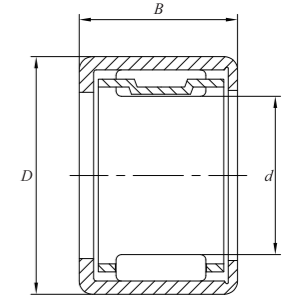
Bearing type	Boundary dimensions(mm)				Basic load ratings(KN)		Limiting speeds(r/min)		
	d	D	B	rmin	Cr	Cor	Contact type	Non-contact type	
<b>6304</b>	<b>55</b>	52	15	1.1	15.878	7.797	10000	17000	
<b>6309</b>		100	25	1.5	52.800	31.800	4700	8200	
<b>6409</b>		120	29	2	77.400	45.060	4300	7400	
<b>61810</b>		65	7	0.3	6.580	6.080	5300	11000	
<b>61910</b>		72	12	0.6	16.100	13.100	5300	11000	
<b>16010</b>		80	10	0.6	16.100	13.100	4800	10000	
<b>6010</b>		80	16	1	21.800	16.600	4800	10000	
<b>6210</b>		90	20	1.1	35.000	23.200	4700	8300	
<b>6310</b>		110	27	2	62.000	38.500	4200	7500	
<b>6410</b>		130	31	2.1	83.000	49.500	3800	6700	
<b>61811</b>	<b>60</b>	72	9	0.3	9.100	8.500	5000	10000	
<b>61911</b>		80	13	1	15.960	13.250	4800	9600	
<b>16011</b>		90	11	0.6	19.400	16.300	4500	9000	
<b>6011</b>		90	18	1.1	30.900	22.400	4500	9000	
<b>6211</b>		100	21	1.5	43.400	29.200	4300	7600	
<b>6311</b>		120	29	2	71.500	44.600	3900	6800	
<b>6411</b>		140	33	2.1	100.700	62.500	3700	6100	
<b>61812</b>		<b>65</b>	78	10	0.3	9.100	8.700	4400	9400
<b>61912</b>			85	13	1	19.900	17.200	4300	8900
<b>16012</b>			95	11	0.6	28.700	17.500	4100	8300
<b>6012</b>	95		18	1.1	30.700	22.700	4100	8300	
<b>6212</b>	110		22	1.5	52.400	35.900	3800	7000	
<b>6312</b>	130		31	2.1	81.800	51.800	3600	6300	
<b>6412</b>	150		35	2.1	102.000	64.500	3200	5700	
<b>61813</b>	<b>70</b>		85	10	0.6	11.900	11.500	4100	8600
<b>61913</b>			90	13	1	17.400	16.100	4000	8300
<b>16013</b>			100	11	0.6	20.500	18.700	3900	7000
<b>6013</b>		100	18	1.1	29.200	23.500	3900	7000	
<b>6213</b>		120	23	1.5	57.200	40.000	3600	6300	
<b>6313</b>		140	33	2.1	92.700	59.800	3300	5300	
<b>6413</b>		160	37	2.1	111.000	72.500	3000	5000	
<b>61814</b>		<b>75</b>	90	10	0.6	12.200	11.900	3800	7500
<b>61914</b>			100	16	1	23.700	21.100	3700	7000
<b>16014</b>			110	13	0.6	26.800	23.600	3600	6700
<b>6014</b>	110		20	1.1	38.600	30.400	3600	6700	
<b>6214</b>	125		24	1.5	62.200	44.000	3400	6000	
<b>6314</b>	150		35	2.1	104.100	68.000	3100	5000	
<b>6414</b>	180	42	3	128.000	89.500	2800	4500		
<b>61815</b>	95	10	0.6	12.500	12.800	3600	7000		

## Deep Groove Ball Bearing



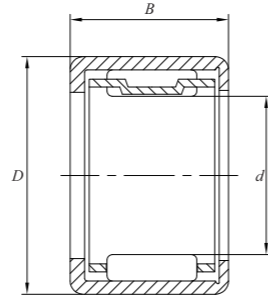
Bearing type	Boundary dimensions(mm)				Basic load ratings(KN)		Limiting speeds(r/min)	
	d	D	B	rmin	Cr	Cor	Contact type	Non-contact type
61915		105	16	1	24.300	22.500	3500	6700
16015		115	13	0.6	27.600	25.300	3300	6300
6015		115	20	1.1	40.100	33.100	3300	6300
6215		130	25	1.5	66.200	49.300	3200	5600
6315		160	37	2.1	114.000	76.500	2900	4800
6415		190	45	3	153.200	113.700	2700	4300
61816	80	100	10	0.6	12.600	12.700	3400	6700
61916		110	16	1	25.000	23.900	3200	6300
16016		125	14	0.6	31.900	29.600	3100	6000
6016		125	22	1.1	47.500	39.800	3100	6000
6216		140	26	2	72.700	53.000	3000	5300
6316		170	39	2.1	90.400	89.600	2700	4500
6416		200	48	3	163.200	124.500	2500	4000
61817	85	110	13	1	19.800	19.200	3100	6300
61917		120	18	1.1	31.900	29.700	3000	6000
16017		130	14	0.6	32.800	31.500	2900	5600
6017		130	22	1.1	52.800	44.500	2900	5600
6217		150	28	2	83.300	63.800	2800	5000
6317		180	41	3	132.700	96.600	2600	4300
6417		210	52	4	173.000	136.000	2300	3800

## Stamped needle roller bearings



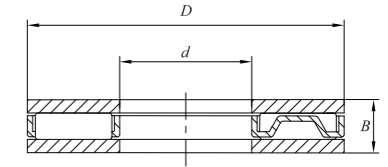
Bearing type	Boundary dimensions(mm)				Basic load ratings(KN)		Limiting speeds(r/min)
	d	D	B	rmin	Cr	Cor	oil lubrication
HK0306	3	6.5	6	0.13	0.095	0.095	6000
HK0408	4	8	8	0.15	0.1	0.1	40000
HK0509	5	9	9	0.22	0.17	0.17	36000
HK0609	6	10	9	0.265	0.24	0.24	30000
HK0608		10	8	0.18	0.15	0.15	32000
HK0709	7	11	9	0.28	0.21	0.21	27000
HK071208		12	8	0.33	0.25	0.25	-
HK0808	8	12	8	0.25	0.24	0.24	21000
HK0810		12	10	0.37	0.34	0.34	21000
HK081410		14	10	0.38	0.39	0.39	21000
HK091308	9	13	8	0.36	0.40	0.40	20000
HK091312		13	12	0.5	0.6	0.6	20000
HK1010	10	14	10	0.39	0.48	0.48	19000
HK1012		14	12	0.5	0.63	0.63	19000
HK1015		14	15	0.67	0.78	0.78	19000
HK101610		16	10	0.68	0.88	0.88	18000
HK101612		16	12	0.68	0.88	0.88	18000
HK101715		17	15	0.72	0.8	0.8	18000
HK101812		18	12	0.72	0.8	0.8	18000
HK1210	12	16	10	0.45	0.581	0.581	15000
HK1212		16	12	0.43	0.52	0.52	15000
HK121712		17	12	0.51	0.7	0.7	15000
HK121715		17	15	0.21	0.7	0.7	15000
HK121812		18	12	0.55	0.63	0.63	15000
HK121912		19	12	0.68	0.74	0.74	15000
HK1312	13	19	12	0.62	0.74	0.74	14000
HK1410	14	20	10	0.997	0.660	0.660	14000
HK1416		20	16	0.73	0.9	0.9	14000
HK152016	15	20	16	0.6	0.62	0.62	14000
HK152012		20	12	0.58	0.6	0.6	14000
HK1512		21	12	0.7	0.84	0.84	14000
HK1510		21	10	0.65	0.78	0.78	14000
HK1516		21	16	0.98	1.14	1.14	13000
HK1520		21	20	1	1.1	1.1	13000
HK1522		21	22	1.04	1.65	1.65	13000
HK152212		22	12	1.3	1.5	1.5	13000
HK1610	16	22	10	0.7	0.89	0.89	12000
HK1612		22	12	0.71	0.92	0.92	12000
HK1616		22	16	1.01	1.43	1.43	12000

## Stamped needle roller bearings



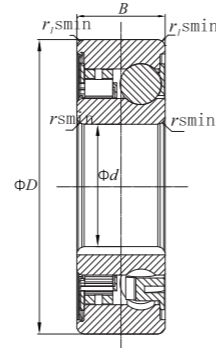
Bearing type	Boundary dimensions(mm)				Basic load ratings(KN)		Limiting speeds(r/min)
	d	D	B	rmin	Cr	Cor	oil lubrication
HK1614		22	14	0.88	0.99	0.99	12000
HK1620		22	20	1.05	1.56	1.56	11000
HK1622		22	22	1.11	1.74	1.74	11000
HK1712	17	23	12	0.69	0.93	0.93	10000
HK1714		23	14	0.7	1	1	10000
HK172320		23	20	1	1.18	1.18	10000
HK172420		24	20	1.11	1.2	1.2	10000
HK1812	18	24	12	0.72	0.99	0.99	10000
HK1816		24	16	0.78	0.98	0.98	10000
HK1820		24	20	1.03	1.53	1.53	10000
HK2012	20	26	12	0.76	1.01	1.01	10000
HK2014		26	14	0.97	1.87	1.87	9000
HK2016		26	16	1.17	2.91	2.91	9000
HK2020		26	20	1.37	2.4	2.4	9000
HK202625		26	25	1.6	2	2	9000
HK202630		26	30	2.18	4	4	9000
HK2210	22	28	10	0.72	0.95	0.95	9000
HK2212		28	12	0.81	1.04	1.04	9000
HK222930		29	30	1.94	3.4	3.4	8000
Hk223016		30	16	1.78	3.2	3.2	800

## Thrust needle roller bearing



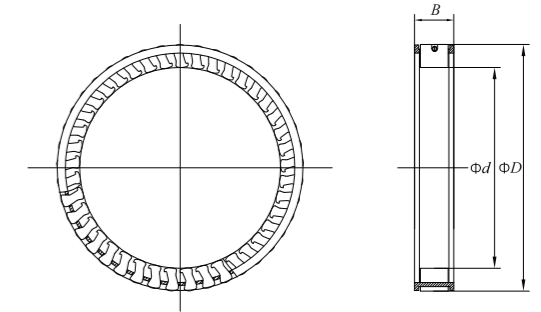
Bearing type	Boundary dimensions(mm)				Basic load ratings(KN)		Limiting speeds(r/min)
	d	D	B	Gasket thickness	Cr	Cor	oil lubrication
AXK0821+2AS	8	21	4	1	7.8	1934	18000
AXK1024+2AS	10	24	4	1	9.2	25.5	17000
AXK1226+2AS	12	26	4	1	9.9	29	15000
AXK1226+2AS	12	26	3.8	0.8	9.5	26	15000
AXK1528+2AS	15	28	4	1	11.3	36	13000
AXK1730+2AS	17	30	4	1	11.9	39.5	12000
AXK2035+2AS	20	35	4	1	13.1	46.5	10000
AXK2542+2AS	25	42	4	1	14.7	58	8500
AXK3047+2AS	30	47	4	1	16.3	70	7500
AXK3552+2AS	35	52	4	1	17.8	81	6500
AXK4060+2AS	40	60	5	1	28	114	6000
AXK4565+2AS	45	65	5	1	30	128	5000

## One-way bearing



Bearing type	Boundary dimensions(mm)			Basic load ratings(KN)		Torque(NM)
	d	D	B	Cr	Cor	
OW6200	10	30	9	5.46	2.3	9
OW6201	12	32	10	6	2.7	9
OW6202	15	35	11	6.78	3.32	13.5
OW6203	17	40	12	7.92	4.42	24.5
OW6203KTN1	17	40	12	7.38	3.89	70
OW6203X2	17	40	16	7.38	3.89	70
OW6204	20	47	14	12.8	6.62	68
OW6204X2	20	47	15	12.8	6.62	68
OW6205/ 6205LB	25	52	15	14	7.9	120
OW6205R1	25	52	15	14	7.9	200
OW6206	30	62	16	13.1	8.44	120
OW6206B1	30	62	16	12.5	8.33	250
OW6007X11	35	62	10	16.8	10.2	160
OW6205E	25	52	15	10.69	6.58	160
OW6207	35	72	17	13.6	10	200
OW6208X2	40	80	22	15.5	12.2	320
OW6005	25	47	12	10.1	5.9	60
OW6006	30	55	14	13.2	8.3	80
OW6007X2	35	62	18.5	11.7	8.17	230
OW6007X11	35	62	11	9.4	6.94	250
OW6308X2	40	90	30	23.3	16.6	350
OW6309X2	45	100	30	24.2	18.4	400
OW6312X2	60	130	40	40.7	32.6	750
OW6313X2	65	140	40	42.3	35.7	830
OW6314X2	70	150	45	55.7	45.7	1000

## One-way bearing



Bearing type	d	D	B	Torque(NM)
67Q75	67	75	7	65
CSK26. 2×64×15	26.2	64	15	320
CSK144×170×18	144	170	18	320
CSK20×42×10-6.3	20	42	10	180
CSK108×126×14.4	108	126	14.4	180
FE422	14	22	The standard type is 11 or 6.3mm and the remaining sizes can be developed on demand	36~48
FE423	15	23		40~55
FE425	17	25		50~68
FE427	19	27		59~80
FE428	20	28		64~87
FE430	22	30		75~101
FE432	24	32		86~116
FE433	25	33		92~124
FE435	27	35		104~141
FE437	29	37		117~158
FE438	30	38		124~168
FE442	34	42		152~207
FE448	40	48		201~272
FE453	45	53		246~333
FE458	50	58		290~400
FE463	55	63		348~472
FE468	60	68	405~550	
FE470	62	70	429~583	
FE478	70	78	532~722	
FE488	80	88	674~914	