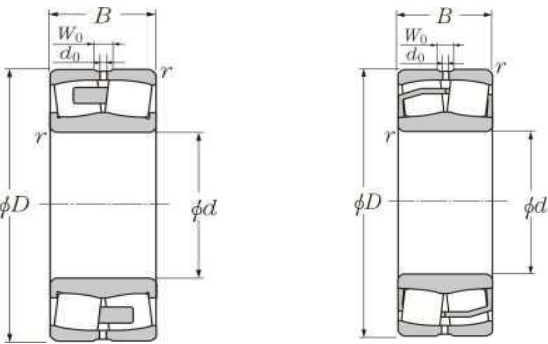


# • Spherical Roller Bearings



Cylindrical bore(CC type)

Tapered bore(CA type)

d 25 ~ 50mm

d	Boundary dimensions				Basic load ratings				Limiting speeds		Bearing numbers		Constant		Axial load factors			Mass (approx.)		
	mm				dynamic		static		min-1		mm							kg		
	D	B	r	(mi C r)	Cor	C r	Cor	grease	oil	cylindrical bore	tapered bore	( da min	Da max	ras max	e	Y1	Y <sub>2</sub>	Y <sub>0</sub>	cylindric	tapered bore
<b>25</b>	52	18	1	57.3	46.1	5840	4700	10400	13000	<b>22205CA</b>	<b>22205CAK</b>	30	46	1	0.34	2	2.98	1.96	0.173	0.169
	52	18	1	57.3	46.1	5840	4700	10400	13000	<b>22205CC</b>	<b>22205CCK</b>	30	46	1	0.34	2	2.98	1.96	0.174	0.171
<b>30</b>	62	20	1	75.7	64.5	7720	6580	8800	11000	<b>22206CA</b>	<b>22206CAK</b>	36	56	1	0.31	2.15		2.1	0.278	0.272
	62	20	1	75.7	64.5	7720	6580	8800	11000	<b>22206CC</b>	<b>22206CCK</b>	36	56	1	0.31	2.15		2.1	0.281	0.275
<b>35</b>	72	23	1.1	100	92	10200	9380	7500	9400	<b>22207CA</b>	<b>22207CAK</b>	42	65	1.1	0.31	2.21	3.29	2.16	0.438	0.43
	72	23	1.1	100	92	10200	9380	7500	9400	<b>22207CC</b>	<b>22207CCK</b>	42	65	1.1	0.31	2.21	3.29	2.16	0.442	0.433
<b>40</b>	80	23	1.1	116	105	11800	10700	6800	8500	<b>22208CA</b>	<b>22208CAK</b>	47	73	1.1	0.27	2.47	3.67	2.41	0.528	0.518
	80	23	1.1	110	98	11200	10000	6800	8500	<b>22208CC</b>	<b>22208CCK</b>	47	73	1.1	0.27	2.47	3.67	2.41	0.529	0.519
	90	23	1.5	88	90	8950	9150	4900	6400	<b>21308C</b>	<b>21308CK</b>	48.5	81.5	1.5	0.26	2.55		2.5	0.705	0.694
	90	33	1.5	169	152	17200	15500	5400	6600	<b>22308CA</b>	<b>22308CAK</b>	49	81	1.5	0.36	1.87	2.79	1.83	1.02	1
<b>45</b>	90	33	1.5	169	152	17200	15500	5400	6600	<b>22308CC</b>	<b>22308CCK</b>	49	81	1.5	0.36	1.87	2.79	1.83	1.03	1.01
	85	23	1.1	121	113	12300	11500	6100	7700	<b>22209CA</b>	<b>22209CAK</b>	52	78	1.1	0.26	2.64	3.93	2.58	0.572	0.561
	85	23	1.1	116	106	11800	10800	6100	7700	<b>22209CC</b>	<b>22209CCK</b>	52	78	1.1	0.26	2.64	3.93	2.58	0.577	0.566
	100	25	1.5	102	106	10400	10800	4400	5700	<b>21309C</b>	<b>21309CK</b>	53.5	91.5	1.5	0.26	2.6	3.87	2.54	0.927	0.912
	100	36	1.5	206	187	21000	19100	4600	5700	<b>22309CA</b>	<b>22309CAK</b>	54	91	1.5	0.36	1.9	2.83	1.86	1.37	1.34
<b>50</b>	100	36	1.5	206	187	21000	19100	4600	5700	<b>22309CC</b>	<b>22309CCK</b>	54	91	1.5	0.36	1.9	2.83	1.86	1.38	1.35
	90	23	1.1	130	124	13300	12600	5700	7200	<b>22210CA</b>	<b>22210CAK</b>	57	83	1.1	0.24	2.84	4.23	2.78	0.614	0.602
	90	23	1.1	125	117	12700	11900	5700	7200	<b>22210CC</b>	<b>22210CCK</b>	57	83	1.1	0.24	2.84	4.23	2.78	0.616	0.604
	110	27	2	118	127	12000	12900	4000	5200	<b>21310C</b>	<b>21310CK</b>	60	100	2	0.26	2.64	3.93	2.58	1.21	1.19
	110	40	2	250	232	25400	23700	4300	5300	<b>22310CA</b>	<b>22310CAK</b>	61	99	2	0.36	1.87	2.79	1.83	1.82	1.79
	110	40	2	250	232	25400	23700	4300	5300	<b>22310CC</b>	<b>22310CCK</b>	61	99	2	0.36	1.87	2.79	1.83	1.84	1.8

1) Bearing part numbers with are **ULTAGE Series** and have outer ring oil holes and oil groove as standard.

2) "K" indicates bearings have tapered bore with a taper ratio of 1: 12. 3) Smallest allowable dimension for chamfer dimension r.

d 55 ~ 85mm



	Boundary dimensions				Basic load ratings				Limiting speeds		Bearing numbers		Constant	Axial load factors			Mass (approx.)			
	mm				dynamic	static	dynamic	static	min-1		mm						kg			
					kN		kgf													
<b>55</b>	100	25	1.5	155	148	15800	15100	5300	6700	<b>22211CA</b>	<b>22211CAK</b>	64	91	1.5	0.23	2.95	2.89	0.83	0.814	
	100	25	1.5	148	140	15100	14300	5300	6700	<b>22211CC</b>	<b>22211CCK</b>	64	91	1.5	0.23	2.95	2.89	0.827	0.811	
	120	29	2	145	163	14800	16600	3700	4800	<b>21311</b>	<b>21311K</b>	65	110	2	0.25	2.69	2.63	1.71	1.69	
	120	43	2	296	274	30200	28000	3900	4800	<b>22311CA</b>	<b>22311CAK</b>	66	109	2	0.36	1.87	2.79	1.83	2.31	2.26
	120	43	2	296	274	30200	28000	3900	4800	<b>22311CC</b>	<b>22311CCK</b>	66	109	2	0.36	1.87	2.79	1.83	2.34	2.29
<b>60</b>	110	28	1.5	187	181	19100	18400	4800	6000	<b>22212CA</b>	<b>22212CAK</b>	69	101	1.5	0.24	2.84	4.23	2.78	1.14	1.12
	110	28	1.5	179	171	18300	17400	4800	6000	<b>22212CC</b>	<b>22212CCK</b>	69	101	1.5	0.24	2.84	4.23	2.78	1.15	1.13
	130	31	2.1	167	191	17100	19500	3400	4400	<b>21312</b>	<b>21312K</b>	72	118	2	0.25	2.69	2.63	2.1	2.07	
	130	46	2.1	340	319	34700	32600	3600	4600	<b>22312CA</b>	<b>22312CAK</b>	72	118	2.1	0.35	1.95	1.91	2.86	2.8	
	130	46	2.1	340	319	34700	32600	3600	4600	<b>22312CC</b>	<b>22312CCK</b>	72	118	2.1	0.35	1.95	1.91	2.91	2.85	
<b>65</b>	120	31	1.5	226	224	23100	22900	4400	5500	<b>22213CA</b>	<b>22213CAK</b>	74	111	1.5	0.24	2.79	4.15	2.73	1.49	
	120	31	1.5	217	212	22100	21600	4400	5500	<b>22213CC</b>	<b>22213CCK</b>	74	111	1.5	0.24	2.79	4.15	2.73	1.5	
	140	33	2.1	194	228	19800	23200	3100	4000	<b>21313</b>	<b>21313K</b>	77	128	2	0.25	2.69	2.63	2.51		
	140	48	2.1	369	343	37600	35000	3300	4100	<b>22313CA</b>	<b>22313CAK</b>	77	128	2.1	0.33	2.06	3.06	2.01	3.41	
	140	48	2.1	369	343	37600	35000	3300	4100	<b>22313CC</b>	<b>22313CCK</b>	77	128	2.1	0.33	2.06	3.06	2.01	3.43	
<b>70</b>	125	31	1.5	235	240	24000	24400	4100	5200	<b>22214CA</b>	<b>22214CAK</b>	79	116	1.5	0.22	3.01	4.48	2.94	1.61	1.58
	125	31	1.5	235	240	24000	24400	4100	5200	<b>22214CC</b>	<b>22214CCK</b>	79	116	1.5	0.22	3.01	4.48	2.94	1.64	1.6
	150	35	2.1	220	262	22400	26800	2900	3800	<b>21314</b>	<b>21314K</b>	82	138	2	0.25	2.69	2.63	3.18	3.14	
	150	51	2.1	420	396	42800	40400	3000	3800	<b>22314CA</b>	<b>22314CAK</b>	82	138	2.1	0.34	2	2.98	1.96	4.25	4.16
	150	51	2.1	420	396	42800	40400	3000	3800	<b>22314CC</b>	<b>22314CCK</b>	82	138	2.1	0.34	2	2.98	1.96	4.31	4.22
<b>75</b>	130	31	1.5	244	249	24800	25400	4000	5000	<b>22215CA</b>	<b>22215CAK</b>	84	121	1.5	0.22	3.14	4.67	3.07	1.67	1.64
	130	31	1.5	244	249	24800	25400	4000	5000	<b>22215CC</b>	<b>22215CCK</b>	84	121	1.5	0.22	3.14	4.67	3.07	1.71	1.67
	160	37	2.1	239	287	24300	29300	2700	3500	<b>21315</b>	<b>21315K</b>	87	148	2	0.24	2.84	4.23	2.78	3.81	3.76
	160	55	2.1	491	467	50100	47600	2900	3600	<b>22315CA</b>	<b>22315CAK</b>	87	148	2.1	0.34	2	2.98	1.96	5.18	5.07
	160	55	2.1	491	467	50100	47600	2900	3600	<b>22315CC</b>	<b>22315CCK</b>	87	148	2.1	0.34	2	2.98	1.96	5.27	5.16
<b>80</b>	140	33	2	278	287	28400	29300	3700	4600	<b>22216CA</b>	<b>22216CAK</b>	91	129	2	0.22	3.14	4.67	3.07	2.09	2.05
	140	33	2	267	272	27300	27700	3700	4600	<b>22216CC</b>	<b>22216CCK</b>	91	129	2	0.22	3.14	4.67	3.07	2.11	2.07
	170	39	2.1	260	315	26500	32000	2500	3300	<b>21316</b>	<b>21316K</b>	92	158	2	0.23	2.95	2.89	4.53	4.47	
	170	58	2.1	541	522	55200	53200	2700	3400	<b>22316CA</b>	<b>22316CAK</b>	92	158	2.1	0.34	2	2.98	1.96	6.12	5.99
	170	58	2.1	541	522	55200	53200	2700	3400	<b>22316CC</b>	<b>22316CCK</b>	92	158	2.1	0.34	2	2.98	1.96	6.28	6.15
<b>85</b>	150	36	2	324	330	33000	33600	3400	4300	<b>22217CA</b>	<b>22217CAK</b>	96	139	2	0.22	3.07	4.57	3	2.59	2.54
	150	36	2	324	330	33000	33600	3400	4300	<b>22217CC</b>	<b>22217CCK</b>	96	139	2	0.22	3.07	4.57	3	2.67	2.62
	180	41	3	289	355	29500	36000	2400	3100	<b>21317</b>	<b>21317K</b>	99	166	2.5	0.25	2.69	2.63	5.35	5.28	
	180	60	3	599	604	61100	61600	2600	3200	<b>22317CA</b>	<b>22317CAK</b>	99	166	3	0.32	2.09	3.11	2.04	7.18	7.04
	180	60	3	599	604	61100	61600	2600	3200	<b>22317CC</b>	<b>22317CCK</b>	99	166	3	0.32	2.09	3.11	2.04	7.29	7.15

- 1) Bearing part numbers with are **ULTAGE Series** and have outer ring oil holes and oil groove as standard.  
 2) "**K**" indicates bearings have tapered bore with a taper ratio of 1: 12. 3) Smallest allowable dimension for chamfer dimension *r*:

d 90 ~ 120mm



Boundary dimensions				Basic load ratings				Limiting speeds		Bearing numbers		Constant		Axial load factors			Mass (approx.)			
mm				dynamic	static	dynamic	static	min-1		mm							kg			
				kN		kgf														
90	160	40	2	384	398	39200	40600	3200	4000	22218CA	22218CAK	101	149	2	0.23	2.9	4.31	2.83	3.34	3.27
	160	40	2	384	398	39200	40600	3200	4000	22218CC	22218CCK	101	149	2	0.23	2.9	4.31	2.83	3.43	3.37
	160	52.4	2	467	513	47700	52300	2600	3200	23218CC	23218CCK	101	149	2	0.3	2.25	3.34	2.2	4.43	4.31
	190	43	3	320	400	32500	40500	2300	3000	21318	21318K	104	176	2.5	0.24	2.84	4.23	2.78	6.3	6.21
	190	64	3	668	652	68100	66400	2500	3000	22318CA	22318CAK	104	176	3	0.33	2.06	3.06	2.01	8.42	8.25
	190	64	3	668	652	68100	66400	2500	3000	22318CC	22318CCK	104	176	3	0.33	2.06	3.06	2.01	8.53	8.35
95	170	43	2.1	416	417	42400	42600	3000	3800	22219CA	22219CAK	107	158	2.1	0.23	2.95	2.89	3.98	3.9	
	170	43	2.1	416	417	42400	42600	3000	3800	22219CC	22219CCK	107	158	2.1	0.23	2.95	2.89	4.06	3.98	
95	200	45	3	335	420	34000	43000	2100	2700	21319	21319K	109	186	3	0.22	3.01	2.94		7	
	200	67	3	732	751	74600	76500	2300	2800	22319CA	22319CAK	109	186	3	0.32	2.09	2.04		9.71	
	200	67	3	732	751	74600	76500	2300	2800	22319CC	22319CCK	109	186	3	0.32	2.09	2.04	10.0	9.82	
100	165	52	2	464	563	47300	57400	2400	3000	23120CA	23120CAK	111	154	3	0.28	2.39	2.34	4.37	4.24	
	165	52	2	480	590	49000	60100	2400	3000	23120CC	23120CCK	111	154	3	0.28	2.39	2.34	4.45	4.32	
	180	46	2.1	472	495	48100	50500	2800	3600	22220CA	22220CAK	112	168	3	0.24	2.84	2.78	4.9	4.8	
	180	46	2.1	472	495	48100	50500	2800	3600	22220CC	22220CCK	112	168	3	0.24	2.84	2.78	5.02	4.93	
	180	60.3	2.1	586	661	59800	67400	2300	2900	23220CC	23220CCK	112	168	3	0.31	2.18	2.13	6.51	6.33	
	215	47	3	370	465	37500	47500	2000	2600	21320	21320K	114	201	3	0.22	3.01	2.94	8.89	8.78	
	215	73	3	827	844	84300	86100	2100	2600	22320CA	22320CAK	114	201	3	0.34	1.98	1.93	12.6	12.3	
	215	73	3	827	844	84300	86100	2100	2600	22320CC	22320CCK	114	201	3	0.34	1.98	1.93	12.9	12.7	
110	170	45	2	417	517	42500	52700	2600	3300	23022CA	23022CAK	119	161	3	0.23	2.95	2.89	3.66	3.55	
	170	45	2	417	517	42500	52700	2600	3300	23022CC	23022CCK	119	161	3	0.23	2.95	2.89	3.66	3.55	
	180	56	2	547	669	55800	68200	2200	2800	23122CA	23122CAK	121	169	3	0.28	2.43	2.37	5.66	5.49	
	180	56	2	547	669	55800	68200	2200	2800	23122CC	23122CCK	121	169	3	0.28	2.43	2.37	5.53	5.36	
	180	69	2	622	769	63400	78400	2200	2700	24122CC	24122CCK30D1	121	169	3	0.36	1.9	1.86	6.75	6.65	
	200	53	2.1	602	643	61400	65600	2600	3300	22222CA	22222CAK	122	188	3	0.25	2.69	2.63	7.1	6.95	
	200	53	2.1	602	643	61400	65600	2600	3300	22222CC	22222CCK	122	188	3	0.25	2.69	2.63	7.3	7.15	
	200	69.8	2.1	752	869	76700	88600	2100	2600	23222CC	23222CCK	122	188	3	0.32	2.12	3.15	2.07	9.14	
	240	50	3	495	615	50500	62500	1800	2300	21322	21322K	124	226	3	0.21	3.2	4.77	3.13	11.2	11.1
	240	80	3	975	972	99500	99100	2000	2400	22322CA	22322CAK	124	226	3	0.32	2.09	3.11	2.04	17	16.6
240	80	3	975	972	99500	99100	2000	2400	22322CC	22322CCK	124	226	3	0.32	2.09	3.11	2.04	17.4	17.1	
120	180	46	2	446	577	45500	58900	2400	3100	23024CA	23024CAK	129	171	2	0.22	3.14	4.67	3.07	4.02	3.9
	180	46	2	446	577	45500	58900	2400	3100	23024CC	23024CCK	129	171	2	0.22	3.14	4.67	3.07	4.02	3.9
	180	60	2	526	726	53700	74100	2100	2600	24024CC	24024CCK30D1	129	171	2	0.29	2.32	3.45	2.26	5.28	5.21
	200	62	2	663	820	67600	83600	2000	2500	23124CA	23124CAK	131	189	2	0.28	2.43	3.61	2.37	7.72	7.49
	200	62	2	663	820	67600	83600	2000	2500	23124CC	23124CCK	131	189	2	0.28	2.43	3.61	2.37	7.77	7.54
	200	80	2	756	991	77100	101000	1900	2500	24124CC	24124CCK30D1	131	189	2	0.37	1.84	2.74	1.8	10	9.87
	215	58	2.1	688	753	70100	76800	2400	3000	22224CA	22224CAK	132	203	2.1	0.25	2.74	4.08	2.68		8.68

1) Bearing part numbers with are **ULTAGE Series** and have outer ring oil holes and oil groove as standard.

2) Bearings appended with **"K"** have a tapered bore ratio of 1:12; bearings appended with **"K30"** have a tapered bore ratio of 1:30.

3) Smallest allowable dimension for chamfer dimension *r*.